TRAFFIC MODELING AND ANALYSIS
TECHNICAL MEMORANDUM

for

Tri-County Parkway Location Study
Reevaluation and Final Environmental Impact Statement

State Project No.: R000-95A-102, PE-101
Federal Project No.: STP-5401 (385)
Prince William, Fairfax, and Loudoun Counties

Virginia Department of Transportation
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1.1 PROJECT BACKGROUND

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is conducting an environmental Reevaluation and Final Environmental Impact Statement (FEIS) for the Tri-County Parkway Location Study to update findings of the Draft Environmental Impact Statement (DEIS) that was completed and approved in 2005.

The Tri-County Parkway (TCP) is a proposed four-lane limited access highway that connects Interstate 66 (I-66) and US 50 in Prince William and Loudoun Counties in Virginia. This technical memorandum summarizes the travel demand forecasting and traffic operations analyses that were performed in support of the Reevaluation and Final Environmental Impact Statement, and it documents existing (2013) conditions and design year (2040) No-Build and Build conditions.

1.2 TRAFFIC ANALYSIS AREA

Figure 1 depicts the study area defined in the DEIS and the location of the proposed project, identified as Alternative West Two, which was approved by the Commonwealth Transportation Board on November 17, 2005. **Figure 2** shows the Traffic Analysis Area that was used for the purposes of the analyses in this memorandum. The Traffic Analysis Area includes the following facilities:

- Balls Ford Road
- Braddock Road (VA 620)
- Catharpin Road
- Gum Spring Road (VA 659)
- Heathcote Boulevard
- I-66
- Loudoun County Parkway (VA 606)
- Pleasant Valley Road (VA 609)
- Prince William Parkway (VA 234 Bypass)
- Sudley Road (VA 234)
- US 15 (James Madison Highway)
- US 28 (Sully Road)
- US 29 (Lee Highway)
- US 50 (Lee Jackson Memorial Highway)

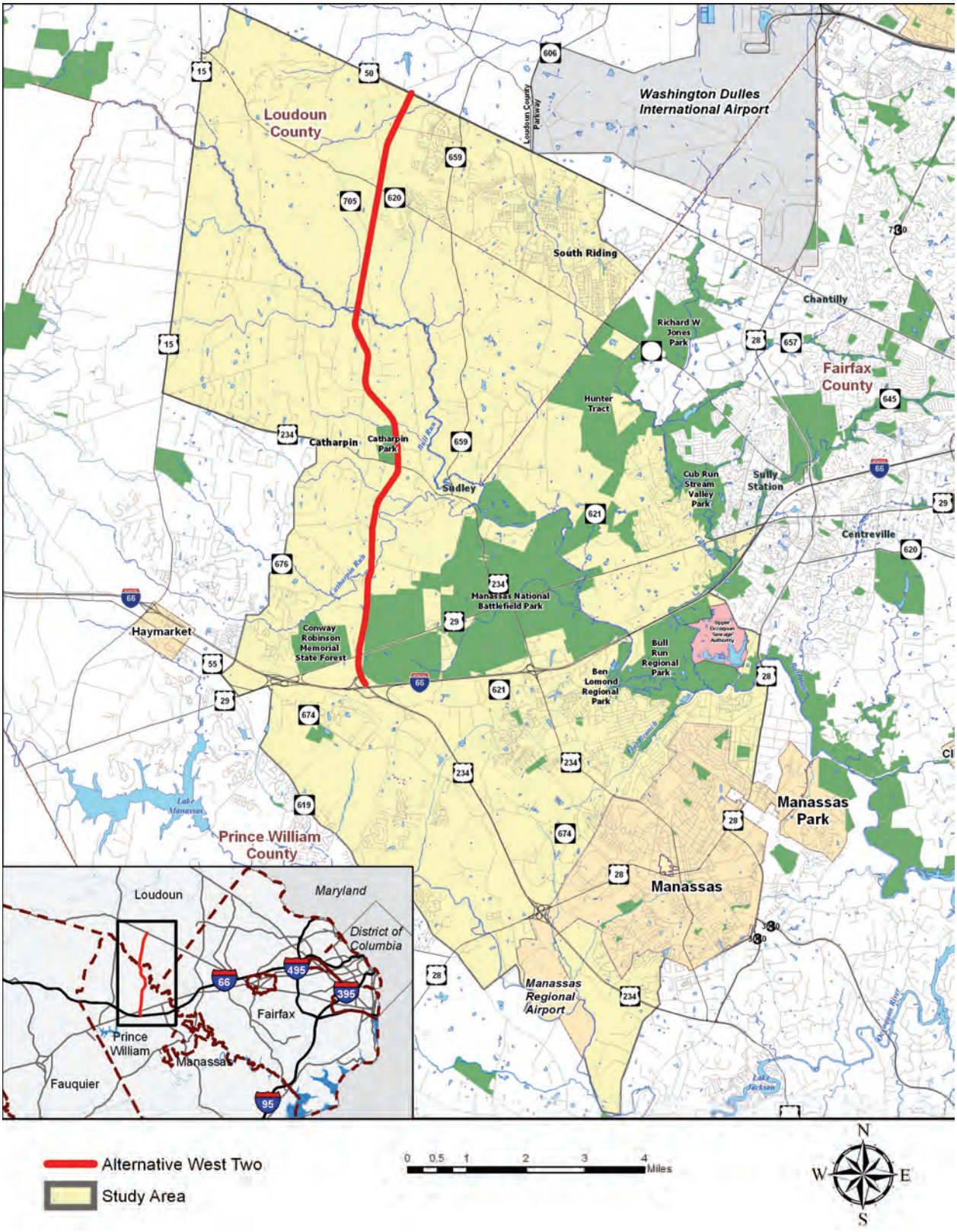


Figure 1. DEIS Study Area and Alternative West Two Location

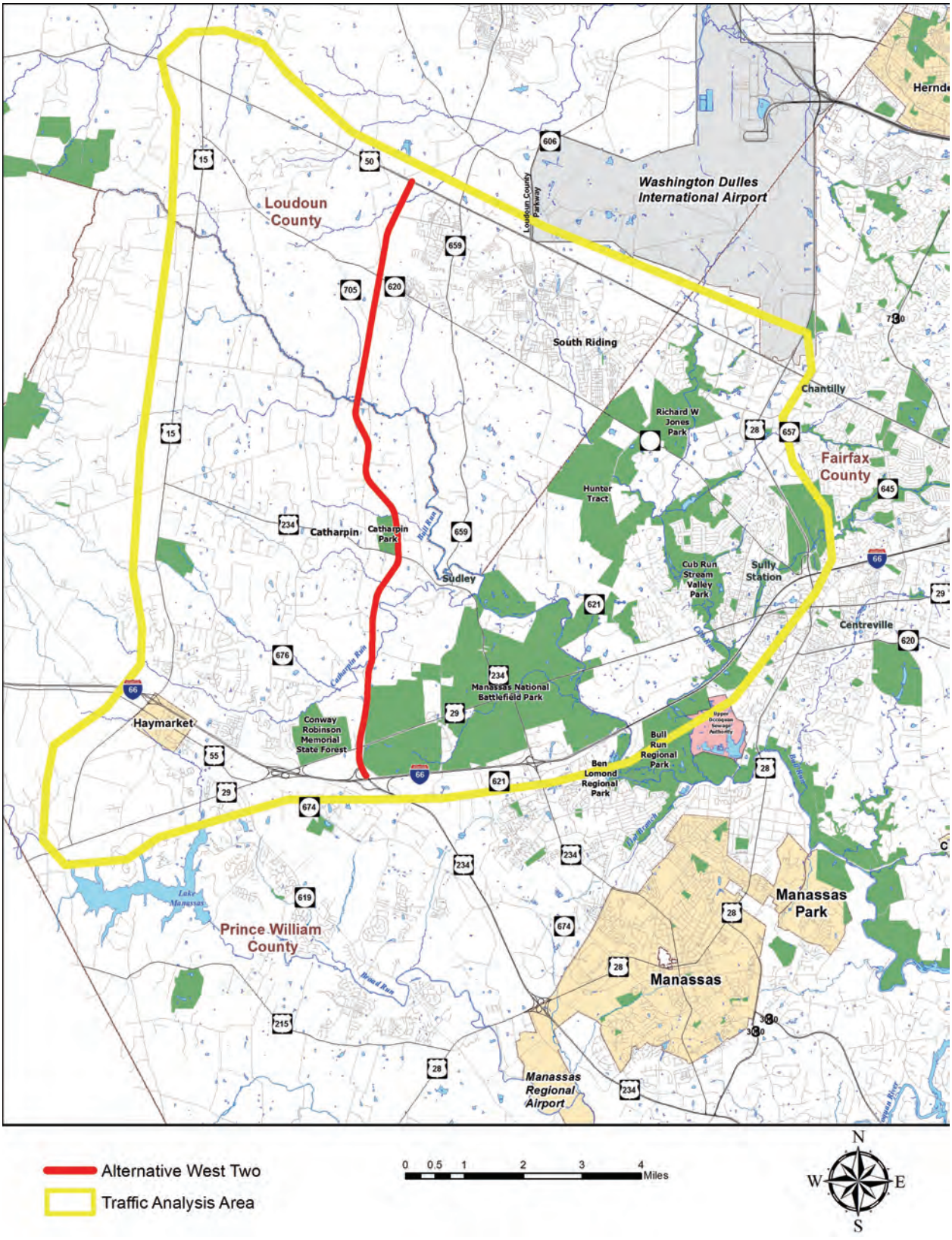


Figure 2. Traffic Analysis Area

2.1 REFERENCE DOCUMENTS

The following documents were utilized in the transportation analysis to provide data on existing conditions and to allow for comparisons of current traffic forecasts with those developed for previous studies of the corridor.

- **Tri-County Parkway Location Study Draft Environmental Impact Statement** (Tri-County Parkway DEIS), prepared by FHWA and VDOT, approved on March 6, 2005. This study included 2005 as the existing year and 2030 as the design year for traffic analyses.

- **Tier 1 Draft Environmental Impact Statement for Interstate 66** (I-66 Tier 1 DEIS), prepared by FHWA, VDOT, and the Virginia Department of Rail and Public Transportation (VDRPT), approved on February 12, 2013. This document included 2011 as the existing year and 2040 as the design year for traffic analyses.

2.2 DATA SOURCES

The following sources were used to provide data on existing conditions, such as intersection turning movement data, daily counts, and vehicle classification data, and on future forecasts, such as population and employment estimates:

- VDOT's *Average Daily Traffic Volumes and Vehicle Classification Data on Interstate, Arterial, and Primary Routes*[1] for daily traffic volume estimates.
- I-66 Tier 1 DEIS, as referenced in Section 2.1 above, for count data. Daily volume counts were conducted in 15-minute increments with classification data on each direction of I-66 at two locations:
  - Between US 15 (milepost 40) and US 29 (milepost 43)
  - Between VA 234 Business (milepost 47) and US 29 (milepost 52)

  Daily volume counts without classification data were taken on the ramps at the following interchanges:

  - US 29 (milepost 43)
  - VA 234 Bypass (milepost 44)
  - VA 234 Business (milepost 47)
  - US 29 (milepost 52)

  Additionally, turning movement counts were conducted in 15-minute increments during both peak periods, without classification data, at the following locations:

  - US 29 at Heathcote Boulevard and the WB I-66 exit ramp
  - Balls Ford Road at VA 234 Bypass
  - Balls Ford Road at VA 234 Business
- Intersection turning movement counts performed in February 2013 as part of this study (data is provided in **Appendix A**). Three-hour intersection turning movement counts

[1] *Daily Traffic Volume Estimates Including Vehicle Classification Estimates* (Special Locality Reports), prepared by the Virginia Department of Transportation, Traffic Engineering Division, in cooperation with the U.S. Department of Transportation, Federal Highway Administration. http://www.virginiadot.org/info/ct-trafficcounts.asp.

were conducted in 15-minute increments during both peak periods on a typical weekday (Tuesday through Thursday) at the following locations:
  - Braddock Road at Gum Spring Road
  - Braddock Road at Loudoun County Parkway
  - Heathcote Boulevard at Catharpin Road
  - Sudley Road at Gum Spring Road
  - US 15 at Sudley Road
  - US 29 at Pleasant Valley Road
  - US 50 at Gum Spring Road
  - US 50 at Loudoun County Parkway
- Metropolitan Washington Council of Governments (MWCOG) regional travel demand forecasting model, used to perform travel demand forecasting for the study year of 2040. This study used the *TPB Travel Forecasting Model*, Version 2.3 Build 39 (obtained from MWCOG on November 1, 2012). The Round 8.1 Cooperative Forecasts were used for population and employment estimates.

2.3 NO-BUILD AND BUILD CONDITIONS

The travel demand modeling effort entailed developing forecasts for the No-Build Alternative reflecting only projects that are included in the region's 2012 Financially Constrained Long Range Plan (CLRP), as well as a single Build Alternative that assumes the Tri-County Parkway is in place with an interchange at US 29 providing access to and from the west. Projects near the Tri-County Parkway that are included in the CLRP are listed in **Table 1**.

On January 17, 2013, a draft version of additions to the CLRP was made available. Of the projects proposed to be added in the 2013 CLRP, only the construction of the Dulles Air Cargo, Passenger and Metro Access Highway (DACPMAH) was considered to be within an area of influence so that it was included in the modeling efforts. The CLRP contains an option for a four-lane facility which extends from US 50 at TCP north, then turns to the east, terminating at Loudoun County Parkway; a second option includes a new grade-separated four-lane facility along the existing US 50 alignment from TCP to Loudoun County Parkway and a new, at-grade four-lane limited access Loudoun County Parkway north of US 50. Per the draft changes to the 2013 CLRP, the expected cost of the first DACPMAH option is $153 million, and $813 million for the second option. Due to the difference in cost, as well as the more significant change to the network, only the first option was considered for modeling purposes. Based on the project description, the DACPMAH was assumed to terminate at Loudoun County Parkway. This project was included in both the No-Build and Build scenarios.

It is important to note that the No-Build Alternative, which includes all projects in the 2012 CLRP with the exception of the Tri-County Parkway, incorporates the Manassas National Battlefield Park Bypass, as well as the associated closure of VA 234 and US 29 through Manassas National Battlefield Park. A portion of the Manassas National Battlefield Park Bypass shares the same alignment with a portion of the proposed Tri-County Parkway. Consequently, even in the No-Build scenario, a north-south four-lane parkway is included between VA 234 (Sudley Rd) and US 29 in the vicinity of Pageland Lane.

Table 1. Projects in CLRP Located Near Tri-County Parkway

CLRP Project ID	Year	Project
VI1W	2020	Widen I-66 to eight lanes and convert between US 15 and US 29 (Gainesville) to allow HOV lanes during peak periods
VP12O	2035	Construct Tri-County Parkway as four-lane parkway. *Note: The No-Build scenario for this study does not include this project*
FED3A	2035	Construct Manassas National Battlefield Park Bypass (four-lane parkway) from US 29 west of Centreville to I-66 east of Gainesville (with co-location along VA 234)
FED3B	2035	Close US 29 through Manassas National Battlefield Park, from Pageland Lane to bridge over Bull Run
FED 3C	2035	Close VA 234 (Sudley Park) through Manassas National Battlefield Park, from Pageland Lane to bridge over Bull Run
NA	2020	Convert HOV lanes on I-66 from HOV2+ to HOV3+ along their entire length
VP7R	2014	Widen US 29 to six lanes between Virginia Oaks Drive and I-66
VP7S	2014	Add NB lane on US 29 between I-66 and entrance to Conway Robinson Memorial State Forest
VSP57A	2040	Construct parallel route to US 29 near Somerset Crossing Drive
VP8C, VP8R, VP8Q	2014, 2025	Widen US 50 to six lanes between Rte 28 and VA 742 (Poland Rd) (2014) and then to VA 659 Relocated (2025)
VP4E	2040	Widen US 15 (James Madison Highway) to four lanes between US 29 and I-66
VSF25AA, VSF25EA, VSF25E, VSF25Y, VSF25Z	2035	Widen/convert VA 7100 (Fairfax County Parkway) to accommodate peak period HOV lanes between I-66 and Dulles Toll Road
VSP23D	2040	Widen VA 3000 (Prince William Parkway) to six lanes between VA 776 (Liberia Avenue) and Hoadly Road
VP6E	2025	Widen VA 28 to eight lanes from I-66 to VA 7
VP6EC	2011	Construct/upgrade intersection on VA 28 at Warp Drive
VP6KB, VP6KA, VP6H	2013 - 2030	Widen VA 28 to six lanes between VA 619 (Linton Hall Road) and VA 215 (Vint Hill Road) (2013) and to four lanes between VA 215 and VA 652 (Fitzwater Drive) (2020) and then to Fauquier County Line (2030)
VP6MA	2017	Widen VA 28 (Nokesville Road) to six lanes between Godwin Drive and Manassas western city limits
NA	2020	Widen/upgrade VA 215 (Vint Hill Road) to four lanes between VA 28 (Nokesville Road) and Schaeffer Lane
VU45	2011	Widen VA 234 (Dumfries Road) to four lanes between Manassas southern corporate limits to Hastings Drive
VSL1B	2020	Widen/upgrade VA 606 (Loudoun County Parkway/Old Ox Road) to four-lane minor arterial between VA 634 and VA 621
VSL10C	2015	Construct VA 607 (Loudoun County Parkway) as four-lane minor arterial between VA 606 / VA 842 (at Old Ox Road) and VA 772 / VA 607
VSF8J	2025	Construct/widen VA 620 (New Braddock Road) as four-lane minor arterial from VA 28 to US 29
VSP3A, VSP3B	2040	Widen/upgrade VA 621 (Balls Ford Road) to four-lane minor arterial between VA 234 Bypass to VA 234 (Sudley Road)
VSF16G, FFX11A	2013, 2020	Widen VA 645 (Stringfellow Road) to four lanes from VA 7735 (Fair Lakes Boulevard) to US 50 (2013), then to VA 7100 (Fairfax County Parkway) (2020)
VSF18C	2040	Widen VA 657 (Centreville Road) to six lanes between VA 8390 (Metrotech Drive) and VA 668 (McLearen Road)
VSL4E, VSL4F	2015, 2035	Widen/upgrade VA 659 (Gum Spring Road) four-lane minor arterial between US 50 and VA 620 (Braddock Road) and then to Prince William County Line (2035)
VSP17B	2035	Widen VA 674 (Wellington Road) to four lanes between VA 621 (Devlin Road) and VA 668 (Rixlew Lane)
VSP18	2040	Widen VA 676 (Catharpin Road) to four lanes between VA 55 and Heathcote Boulevard
VSL53	2015	Construct Tall Cedars Parkway as four-lane collector between Pinebrook Road and Gum Springs Road
VSP47D, VSP47E	2014,	Construct University Boulevard as four-lane minor arterial between Wellington

Table 1. Projects in CLRP Located Near Tri-County Parkway

CLRP Project ID	Year	Project
	2016	Road and VA 619 (at Rollins Ford Road)
VSP62	2013	Construct Rollins Ford Road as four-lane minor arterial between Songsparrow Drive and VA 215 (Vint Hill Road)
VU14A	2017	Widen Liberia Avenue to six lanes between Rte 28 and Quarry Road

2.4 TRAVEL DEMAND MODELING

The MWCOG travel demand model (as described in Section 2.2) was used for forecasting traffic for this study. This model was developed and validated by MWCOG; for purposes of this study, this model was used "as is," with no adjustments made to the underlying assumptions for land use, trip generation, trip distribution, or mode split. Changes were made to the modeled network to accurately reflect both existing conditions as well as future conditions with the CLRP, as well as changes to include the proposed Tri-County Parkway to the Build Alternative network. The Tri-County Parkway was coded as a four-lane, limited access expressway which, per the MWCOG TDM configuration, assumes more capacity and higher free-flow speeds than a major arterial but less than a freeway. In addition to coding Tri-County Parkway into the model for the Build Alternative, additional detail was added to the coded roadway network near the proposed project.

The standard MWCOG modeling structure was used in the analysis. For the forecast year, this included a transit constraint (i.e., transit trips to the Washington, D.C. core area are restricted to the volume of trips estimated for the year 2020 based on Metrorail system constraints) and two-step highway assignment (the first step assumes HOT3+ facilities are only available to HOV3+ vehicles and the second step opens the facilities to paying lower occupancy vehicles).

The travel demand model was executed using Cube Voyager, version 5.1.3. The model utilizes "distributed processing" (splitting a particular process step into groups and assigning them to multiple computer processers in parallel) for the more time-consuming steps in the process, such as traffic assignment. For the purposes of this modeling effort, four cores were used for each modeling run.

Travel demand model runs were performed for a base year of 2010 (volumes were then extrapolated to the existing year of 2013, as described in Section 2.5) and design year of 2040 (No-Build and Build conditions). The final output of the travel demand model included traffic assignments for all links coded within the network. The traffic assignment provided peak period as well as daily totals, with the daily traffic being the primary data utilized for this study. Refinements of the model data are discussed in the next section.

The development of interim year traffic forecasts was necessary to support environmental air and noise impact analyses. In addition, a scenario in the interim year assuming that the Manassas National Battlefield Park Bypass is not constructed prior to the Tri-County Parkway was developed given the indefinite schedule of the Manassas National Battlefield Park Bypass and the associated closure of VA 234 and US 29 through the Manassas National Battlefield Park. This scenario assumes that the Tri-County Parkway does not have direct access to US 29; the proposed roadway would consequently have no access points between I-66 and VA 234. The interim year data for the standard Build Alternative and a Build scenario without access to US 29 are included in **Appendix E**. Details on the methodology used to develop the interim year traffic are included in Section 2.7.

2.5 ANALYSIS VOLUMES

Due to the size of the Traffic Analysis Area and the presence of many local roadways and access points, traffic volumes were not forecasted for every section of roadway, nor balanced throughout the analysis area. Rather, the focus was placed on forecasting traffic for the Tri-County Parkway, I-66 and its associated ramps, and roadways in proximity to the project that were most likely to be affected.

Traffic volumes were produced for the base year (2013), 2040 No-Build, and 2040 Build conditions. Base year traffic reflects a common year of 2013. As noted in Section 2.2, traffic counts for this study were performed in February 2013. Data from other sources, including the VDOT count tables available on the VDOT website, was adjusted by either one or two years (to reflect the common year of 2013) based on comparisons of year-on-year growth from the VDOT count information.

The 2040 No-Build and Build daily volumes were developed on a link-by-link basis within the model using standard post-processing methods that correct for localized assignment errors. As such, the model output was processed using the methodology described in National Cooperative Highway Research Program (NCHRP) Report 255[2]. This methodology involves comparing existing count data and a corresponding existing year model run to develop corrections to the travel demand model results to more closely match the actual count information; these corrections are then applied to the future year traffic assignments. The forecasts result from the average of two calculations, per NCHRP 255: a "ratio" adjustment and a "difference" adjustment. The "ratio" adjustment factors future year travel demand model results by the ratio of existing year model results to existing year traffic counts. The "difference" adjustment modifies the future year model results according to the difference in existing year model results and existing year traffic counts.

The addition of the Tri-County Parkway in the Build scenario necessitates further processing since no existing data for this facility is available to compare to the model results, as outlined in the NCHRP 255 methodology. The methodology does outline a screenline[3] procedure for adjusting forecasts based on count data for existing roadway and model output for volume and relative link capacities. This procedure was conducted by treating the group of roadways in the screenline as a single corridor and following similar NCHRP 255 ratio and difference adjustments for the sum of traffic on all roadways that cross the screenline. This factored corridor volume was used to proportion the volume on all links, including the new Tri-County Parkway, based on the relative volume estimated by the travel demand model.

Since some links were adjusted manually as described above, additional adjustments were made to traffic volumes to ensure reasonableness and to balance or "smooth" volumes at intersections or interchanges, i.e., correct for unrealistic growth in the travel demand model or unbalanced volumes at intersections.

Following the production of daily volumes, peak hour volumes were developed to conduct the traffic operations analysis. K-factors (ratio of peak hour traffic to daily traffic) and directional factors (percent of traffic traveling in the peak direction during the peak hour) derived from VDOT count data, travel demand model data, and engineering judgment were applied to the

[2] *Highway Traffic Data for Urbanized Area Project Planning and Design*, **National Cooperative Highway Research Program** (NCHRP) Report 255, Pedersen, N.J. and Samdahl, D.R., 1982.

[3] A line drawn on a map of the highway network, which typically bisects a study area or region. The existing and forecasted traffic volume is summed across all links that intersect the screenline and compared, in order to assess reasonableness of assignments from one part of the study area or region to another.

processed daily forecasts to estimate peak hour traffic. As with the daily volumes, the peak hour volumes required manual adjustments to ensure reasonableness.

Traffic operations analysis, as well as environmental (air and noise) impact analysis, requires hourly traffic volumes by direction and by movement (i.e., turn movements at intersections). Existing traffic count data provides information such as the percentage of traffic occurring by hour of the day; directional distribution of traffic during peak periods; the pattern of vehicles turning left, through, and right for each leg of an intersection; and vehicle composition. This data was used, in conjunction with the 2040 forecasts of daily traffic, to develop the following data sets:

- Diurnal (hour-by-hour) traffic volumes by segment by direction.
- Peak hour traffic volume by direction for the morning and evening peak hours.
- Peak hour intersection turning movements. Turn movements were estimated using an iterative matrix factoring and balancing process based on a standard transportation engineering technique known as Fratar. The Fratar technique was implemented using a spreadsheet-based process.
- Composition of traffic (truck percentages).

2.6 OPERATIONS ANALYSIS

Findings from the traffic operations analysis are reported in terms of level of service (LOS). LOS is a "grading" of the operations of roadway segments and junctions (intersection and interchanges) using a scale from A to F, with A representing excellent traffic flow with minimal delays and F representing high levels of delay. Two distinct forms of operational analyses were conducted for this study: freeway and intersection. Additional details on each of the methodologies for the operational analysis of freeway segments and intersections, as well as specific inputs to the LOS analysis, are provided below.

Freeway LOS analyses were performed for both the AM and PM peak periods at the following five locations:

- US 15 to US 29 Gainesville
- US 29 Gainesville to VA 234 Bypass
- VA 234 Bypass to VA 234 Business
- VA 234 Business to US 29 Centreville
- US 29 Centreville to VA 28

In addition, ramp LOS was performed during the same time periods at the following locations:

- US 29 Gainesville: 5 ramps (2 eastbound, 3 westbound)
- VA 234 Bypass: No-Build Alternative - 4 ramps; West Two Alternative - 5 ramps, 1 weave
- VA 234 Business: 5 ramps
- US 29 Centreville: 5 ramps

Intersection LOS analyses were performed for both the AM and PM peak periods at the following twelve locations:

- VA 620 (Braddock Road) at VA 659 (Gum Spring Road)
- VA 620 (Braddock Road) at VA 606 (Loudoun County Parkway)
- Heathcote Boulevard at Catharpin Road
- VA 234 (Sudley Road) at VA 659 (Gum Spring Road)
- US 15 at VA 234 (Sudley Road)

- US 29 at VA 609 (Pleasant Valley Road)
- US 50 at VA 659 (Gum Spring Road)
- US 50 at VA 606 (Loudoun County Parkway)
- Rte 234 Bypass at Balls Ford Road
- Rte 234 Sudley Road at Balls Ford Road
- Rte 15 at Heathcote Boulevard
- Westbound I-66 exit at US 29 and Heathcote Boulevard

2.6.1 Freeway Analysis

LOS analysis was performed using the methods outlined in the Highway Capacity Manual 2010 (HCM). Freeway analysis within the Tri-County Parkway Traffic Analysis Area was separated into the following distinct categories:

- Basic freeway segment
- Freeway ramp (diverge and merge sections)
- Freeway weave

The LOS criteria for the different facility segments are shown in **Table 2.**

Table 2. LOS Criteria – Freeway and Ramp Segments

Level of Service	Basic Freeway Segments[1]	Merge and Diverge Segments[2]	Freeway Weaving Segments[3]
	Density (pc/mi/ln)	*Density (pc/mi/ln)*	*Density (pc/mi/ln)*
A	0 - 11	<= 10	<= 10
B	> 11 - 18	> 10 - 20	> 10 - 20
C	> 18 - 26	> 20 - 28	> 20 - 28
D	> 26 - 35	> 28 - 35	> 28 - 35
E	> 35 - 45	> 35	> 35
F	> 45	Demand Exceeds Capacity	Demand Exceeds Capacity

Sources from HCM 2010:
1: Exhibit 11-5; 2: Exhibit 13-2; 3: Exhibit 12-10

The LOS for freeway and ramp segments is dependent on the passenger car density of the facility in all cases. For freeway segments on I-66 that contain managed lanes (i.e., HOV lanes), it was assumed that vehicles are distributed across the lanes equally. A more in-depth analysis would require separate forecasts for HOV and non-HOV vehicles, as well as microsimulation to accurately study the effects of the managed lanes. For multi-lane and two-lane highways, the HCM analysis is typically applied to segments that are removed from intersections or control points. While this condition does not necessarily apply in all cases for this analysis, the HCM methodology was used nonetheless as it provides a metric of operations based on the general volume to capacity ratio of the facility.

2.6.2 Intersection Analysis

The traffic analysis software Synchro (Synchro 8, Build 804, Revision 77) was used for the intersection analysis. Intersection geometrics and traffic control device configurations were identified based on field visits by project staff and count crews. Intersection configuration data includes the number of lanes, lane channelization, and signal phasing/operations.

Cycle lengths were determined by using the optimization features of the Synchro software, with a maximum allowable cycle length of 120 seconds. Signal phasing (allocation of green time to the various movements) was optimized using the Synchro optimization modules as well as engineering judgment. To remain consistent with the methodology for future year intersection

analysis, the existing analysis also assumed optimized cycle lengths and phase splits. Intersection LOS results were extracted from Synchro using the *HCM Signalized Intersection* report, which follows the procedures outlined in the Highway Capacity Manual (HCM) 2010. LOS criteria for signalized intersections are shown in **Table 3**.

Table 3. LOS Criteria - Intersections

Level of Service	Signalized Intersections
	Control Delay Per Vehicle (sec/veh)
A	<= 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80

2.6.3 Traffic Analysis Input Parameters

The traffic input parameters that were used for the HCM and Synchro analyses are presented in **Table 4** and **Table 5**, respectively. Truck percentages were developed from traffic counts (with the exception of some intersections, where an average of nearby intersections – 5% for the AM peak and 2% for the PM peak – was used). The higher westbound truck percentages during the AM peak on the freeway reflect that the westbound is the off-peak direction during this time.

Table 4. Freeway Parameters

Type	Location		Freeway Lanes	Ramp Lanes	% Trucks		Freeway speed inputs			Ramp speed (mph)
	From	*To*			*AM*	*PM*	*Lane width (ft)*	*Right-side clearance (ft)*	*Ramp density (ramps/mile)*	
Eastbound										
Freeway Segment	US 15 (Milepost 40)	US 29 [Gainesville] (Milepost 43)	2	-	9%	11%	12	6	0.83	-
Diverge	EB I-66	US 29 [Gainesville]	2	2	9%	11%	-	-	-	50
Merge	US 29 [Gainesville]	EB I-66	4	2	6%	6%	-	-	-	50
Freeway Segment	US 29 [Gainesville] (Milepost 43)	VA 234 Byp./TCP (Milepost 44)	5	-	6%	6%	12	6	0.67	-
Diverge	EB I-66	SB VA 234 Byp.	5	1	6%	6%	-	-	-	45
Weave	Entrance from SB TCP	Exit to NB TCP	5	-	6%	6%	-	-	-	-
Merge	NB VA 234 Byp.	EB I-66	4	1	6%	6%	-	-	-	45
Freeway Segment	VA 234 Byp./TCP (Milepost 44)	VA 234 Business (Milepost 47)	4	-	6%	6%	12	6	1.17	-
Diverge	EB I-66	VA 234 Bus.	4	1	6%	6%	-	-	-	45
Merge	VA 234 Bus.	EB I-66	4	2	4%	4%	-	-	-	45
Freeway Segment	VA 234 Business (Milepost 47)	US 29 [Centreville] (Milepost 52)	4	-	4%	4%	12	6	1.00	-
Diverge	EB I-66	US 29 [Centreville]	4	1	4%	4%	-	-	-	45
Merge	US 29 [Centreville]	EB I-66	4	1	4%	4%	-	-	-	45
Freeway Segment	US 29 [Centreville] (Milepost 52)	VA 28 (Milepost 53)	4	-	4%	4%	12	6	0.83	-

Table 4. Freeway Parameters

Type	Location		Freeway Lanes	Ramp Lanes	% Trucks		Freeway speed inputs			Ramp speed (mph)
	From	*To*			*AM*	*PM*	*Lane width (ft)*	*Right-side clearance (ft)*	*Ramp density (ramps/mile)*	
Westbound										
Freeway Segment	VA 28 (Milepost 53)	US 29 [Centreville] (Milepost 52)	4	-	14%	6%	12	6	1.17	-
Diverge	WB I-66	US 29 [Centreville]	4	1	14%	6%	-	-	-	30
Merge	WB US 29 [Centreville]	WB I-66	4	1	14%	6%	-	-	-	30
Merge	EB US 29 [Centreville]	WB I-66	4	1	14%	6%	-	-	-	45
Freeway Segment	US 29 [Centreville] (Milepost 52)	VA 234 Business (Milepost 47)	4	-	14%	6%	12	6	1.33	-
Diverge	WB I-66	NB VA 234 Bus.	4	1	14%	6%	-	-	-	45
Diverge	WB I-66	SB VA 234 Bus.	4	2	14%	6%	-	-	-	30
Merge	VA 234 Bus.	WB I-66	4	2	15%	5%	-	-	-	35
Freeway Segment	VA 234 Business (Milepost 47)	VA 234 Byp./TCP (Milepost 44)	4	-	15%	5%	12	6	1.50	-
Diverge	WB I-66	NB TCP	4	1	15%	5%	-	-	-	0
Diverge	WB I-66	SB VA 234 Byp.	4	1	15%	5%	-	-	-	35
Merge	VA 234 Byp./TCP	WB I-66	4	1	15%	5%	-	-	-	35
Freeway Segment	VA 234 Byp./TCP (Milepost 44)	US 29 [Gainesville] (Milepost 43)	5	-	15%	5%	12	6	1.00	-
Diverge	WB I-66	NB US 29, Heathcote	4	1	15%	5%	-	-	-	35
Diverge	WB I-66	US 29 [Gainesville]	5	2	15%	5%	-	-	-	45
Merge	US 29 [Gainesville]	WB I-66	2	1	18%	4%	-	-	-	45
Freeway Segment	US 29 [Gainesville] (Milepost 43)	US 15 (Milepost 40)	2	-	18%	4%	12	6	1.17	-

Note: All locations assume a Peak Hour Factor of 0.92 and level terrain.

Table 5. Intersection Parameters

Intersection	Intersection Type	% Trucks (AM/PM)	Peak Hour Factor	Cycle Length (sec) (AM/PM)		
				Existing 2013	No-Build 2040	Build 2040
US 50 at VA 659 (Gum Spring Rd)	Semi-Actuated & Uncoordinated	7%/3%	0.92	55/80	60/80	60/70
US 50 at VA 606 (Loudoun County Pkwy)	Semi-Actuated & Uncoordinated	4%/1%	0.92	65/60	120/50	120/120
VA 620 (Braddock Rd) at VA 659 (Gum Spring Rd)	Semi-Actuated & Uncoordinated	8%/2%	0.92	45/55	40-60	80/70
VA 620 (Braddock Rd) at VA 606 (Loudoun County Pkwy)	Semi-Actuated & Uncoordinated	1%/1%	0.92	45/45	70/120	70/110
US 15 at VA 234 (Sudley Rd)	Semi-Actuated & Uncoordinated	8%/4%	0.92	70/60	40/90	75/75
VA 234 (Sudley Rd) at VA 659 (Gum Spring Rd)	Semi-Actuated & Uncoordinated	6%/4%	0.92	60/55	120/120	75/60
US 29 at VA 609 (Pleasant Valley Rd)	Semi-Actuated & Uncoordinated	2%/1%	0.92	120/55	120/65	120/120
VA 15 at Heathcote Blvd	Semi-Actuated & Uncoordinated	5%/2%	0.92	75/100	40/90	90/120

Table 5. Intersection Parameters

Intersection	Intersection Type	% Trucks (AM/PM)	Peak Hour Factor	Cycle Length (sec) (AM/PM)		
				Existing 2013	No-Build 2040	Build 2040
Heathcote Blvd at Catharpin Rd	Semi-Actuated & Uncoordinated	5%/2%	0.92	40/50	40/60	60/80
Heathcote Blvd/I-66 WB Exit at US 29	Semi-Actuated & Uncoordinated	5%/2%	0.92	48/48	120/63	120/120
VA 234 Bypass at Balls Ford Rd	Semi-Actuated & Uncoordinated	5%/2%	0.92	50/50	50/60	120/120
VA 234 (Sudley Rd) at Balls Ford Rd	Semi-Actuated & Uncoordinated	5%/2%	0.92	45/50	75/50	120/120

2.7 ENVIRONMENTAL TRAFFIC DATA

Preparation of environmental traffic data requires the following inputs:

- Diurnal hour-by-hour data (discussed in Section 2.5), with each hourly volume expressed as a percentage of the daily volume.
- Daily truck percentages by link type.
- Length of each link.
- Daily volumes for all Traffic Analysis Area links for Existing, No-Build 2040, and Build 2040. Traffic volumes are expressed by direction for each analysis segment.
- Number of lanes on each link, roadway capacity (as defined by the regional model), and free-flow speed (typically 5 mph over posted speed limit or assumed model link speed).
- Factors to compute speeds by hour based on standard traffic engineering formulas that calculate planning-level speeds based on free-flow speeds and the effects of congestion based on volume to capacity (V/C) ratios for each hour.

Typical 24-hour diurnal curves were developed for each segment where recent counts were available from the I-66 Tier 1 study. These counts were performed on I-66 ramps and intersecting roadways. For other surface roads, an average of these curves were used along with an adjustment to reflect the k-factors during the peak hours estimated for existing conditions.

Air and noise impact analyses are performed for both a design year (2040) as well as an interim year. For this study, an interim year of 2020 was chosen and the traffic data items listed above were developed. Interim year 2020 forecasts were calculated using the linear interpolation method between the existing 2013 counts and the horizon year 2040 forecasts – for the interim year No-Build scenario, the 2040 No-Build scenario was used in the interpolation, while the 2040 Build scenario was used for the interpolation for the 2020 Build scenario. In the event that TCP is constructed before the MNBPB, a second build scenario was forecasted without MNBPB and with no connection between US 29 and TCP, and this was used to estimate interim year traffic for that situation. The linear extrapolation was applied to each link within the study area. Because growth rates varied between links, turning movement counts were forecasted using iterative Fratar methodology.

The focus of the analysis for this study is the design year, with interim year data needed for the air and nose analyses. The methodology of interpolating between the existing and design year of 2040 in order to develop the interim year forecasts was used, rather than separate interim year model runs, because of the difficulty of identifying particular opening years of various CLRP projects. It was determined that making assumptions about timing of projects would have the

potential for introducing more error rather than less to the forecasting process; the interpolation for interim year forecasts was, therefore, considered appropriate for this study.

3.1 EXISTING AND FORECAST TRAFFIC VOLUMES

Existing and design year traffic volumes were developed using the data sources and methodology as presented in Section 2. **Table 6** shows the daily volumes for the existing and design year No-Build and Build conditions for the roadway links within the Traffic Analysis Area, and **Figure 3, Figure 4,** and **Figure 5** present the daily and peak hour intersection turning movement volumes for existing, No-Build, and Build conditions, respectively.

Table 6, Figure 4, and **Figure 5** indicate that the proposed Tri-County Parkway would serve 44,000 and 61,000 vehicles per day; serving travel demands as part of the network grid that encompasses both north-south and east-west facilities. By providing an alternative roadway to accommodate north-south demand, it would provide relief to both US 15 and VA 659 (Gum Spring Road) which would be overburdened by the year 2040. The proposed roadway would have lesser effects on east-west traffic volumes, indicating, for the most part, that these east-west routes do not provide attractive connections to alternative north-south routes (based on distance to other routes and/or heavy congestion on east-west routes by 2040).

Table 6. Existing, No-Build, and Build Daily Traffic Volumes

	Existing 2013	No-Build 2040		Build 2040		
Facility / Location	**Volume**	**Volume**	**Growth *(vs 2013)***	**Volume**	**Growth *(vs 2013)***	**Difference *(vs No-Build)***
Tri-County Parkway (TCP)						
Between US 50 and VA 620	-	-	-	44,600	-	-
Between VA 620 and VA 234	-	-	-	48,800	-	-
Between VA 234 and US 29*	-	32,600	-	61,000	-	87%
Between US 29 and I-66	-	-	-	55,600	-	-
VA 234 Bypass (Prince William Parkway)						
South of Balls Ford Rd	38,000	55,000	45%	63,800	68%	16%
US 15						
North of US 50	12,000	16,600	38%	16,800	40%	1%
South of US 50	14,000	23,000	64%	20,600	47%	-10%
South of Braddock Rd	12,400	16,000	29%	13,600	10%	-15%
North of VA 234	18,400	22,000	20%	18,400	0%	-16%
North of Heathcote Blvd	42,400	51,200	21%	46,000	8%	-10%
VA 659 (Gum Spring Road)						
South of US 50	17,200	30,200	76%	17,800	3%	-41%
North of Braddock Rd	10,400	22,400	115%	7,400	-29%	-67%
South of Braddock Rd	11,600	25,000	116%	12,000	3%	-52%
North of VA 234	13,800	25,200	83%	12,400	-10%	-51%
Loudoun County Parkway						
North of US 50	30,000	55,800	86%	53,200	77%	-5%
South of US 50	13,000	25,000	92%	21,400	65%	-14%
North of Braddock Rd	6,200	14,400	132%	10,800	74%	-25%
VA 28						
North of US 50	110,000	172,800	57%	171,000	55%	-1%
North of I-66	103,000	185,400	80%	181,000	76%	-2%
US 50						
East of US 15	16,600	27,400	65%	27,600	66%	1%
West of VA 659	25,400	45,600	80%	41,800	65%	-8%

Table 6. Existing, No-Build, and Build Daily Traffic Volumes

Facility / Location	Existing 2013	No-Build 2040		Build 2040		
	Volume	Volume	Growth *(vs 2013)*	Volume	Growth *(vs 2013)*	Difference *(vs No-Build)*
Between VA 659 and Loudoun County Pkwy	31,000	51,800	67%	49,200	59%	-5%
East of Loudoun County Pkwy	37,400	66,200	77%	65,400	75%	-1%
VA 620 (Braddock Rd)						
East of US 15	1,400	7,800	457%	9,200	557%	18%
West of VA 659	4,600	12,600	174%	8,000	74%	-37%
East of VA 659	9,600	14,000	46%	12,800	33%	-9%
VA 234 (Sudley Rd)						
East of US 15	8,000	17,800	123%	17,400	118%	-2%
West of VA 705 (Sanders Ln)	7,600	18,200	139%	20,400	168%	12%
Between Pageland Ln and VA 659	8,800	21,800	148%	22,800	159%	5%
Between VA 659 and US 29	11,000	17,600	60%	16,200	47%	-8%
Between US 29 and I-66	26,400	33,200	26%	33,200	26%	0%
South of Balls Ford Rd	61,600	60,200	-2%	63,200	3%	5%
US 29						
West of I-66	60,000	68,400	14%	73,600	23%	8%
Between I-66 and Pageland Ln	11,200	34,800	211%	37,800	238%	9%
Between Pageland Ln and VA 234	11,000	0	-100%	0	-100%	-
Between VA 234 and VA 609	16,400	19,200	17%	18,400	12%	-4%
Between VA 609 and I-66	27,600	26,200	-5%	25,000	-9%	-5%
I-66						
Between US 15 and US 29 (Gainesville)	62,000	118,600	91%	114,200	84%	-4%
Between US 29 (Gainesville) and VA 234 Bypass/Future TCP	108,000	157,800	46%	142,400	32%	-10%
Between VA 234 Bypass/Future TCP and VA 234 Business	113,800	165,000	45%	162,600	43%	-1%
Between VA 234 Business and US 29 (Centreville)	133,800	192,800	44%	189,600	42%	-2%
Between US 29 (Centreville) and VA 28	133,800	183,800	37%	182,000	36%	-1%

** Co-located with the Manassas National Battlefield Park Bypass in the No-Build condition.*
Note: The Manassas National Battlefield Park Bypass is included in both the No-Build and Build conditions.

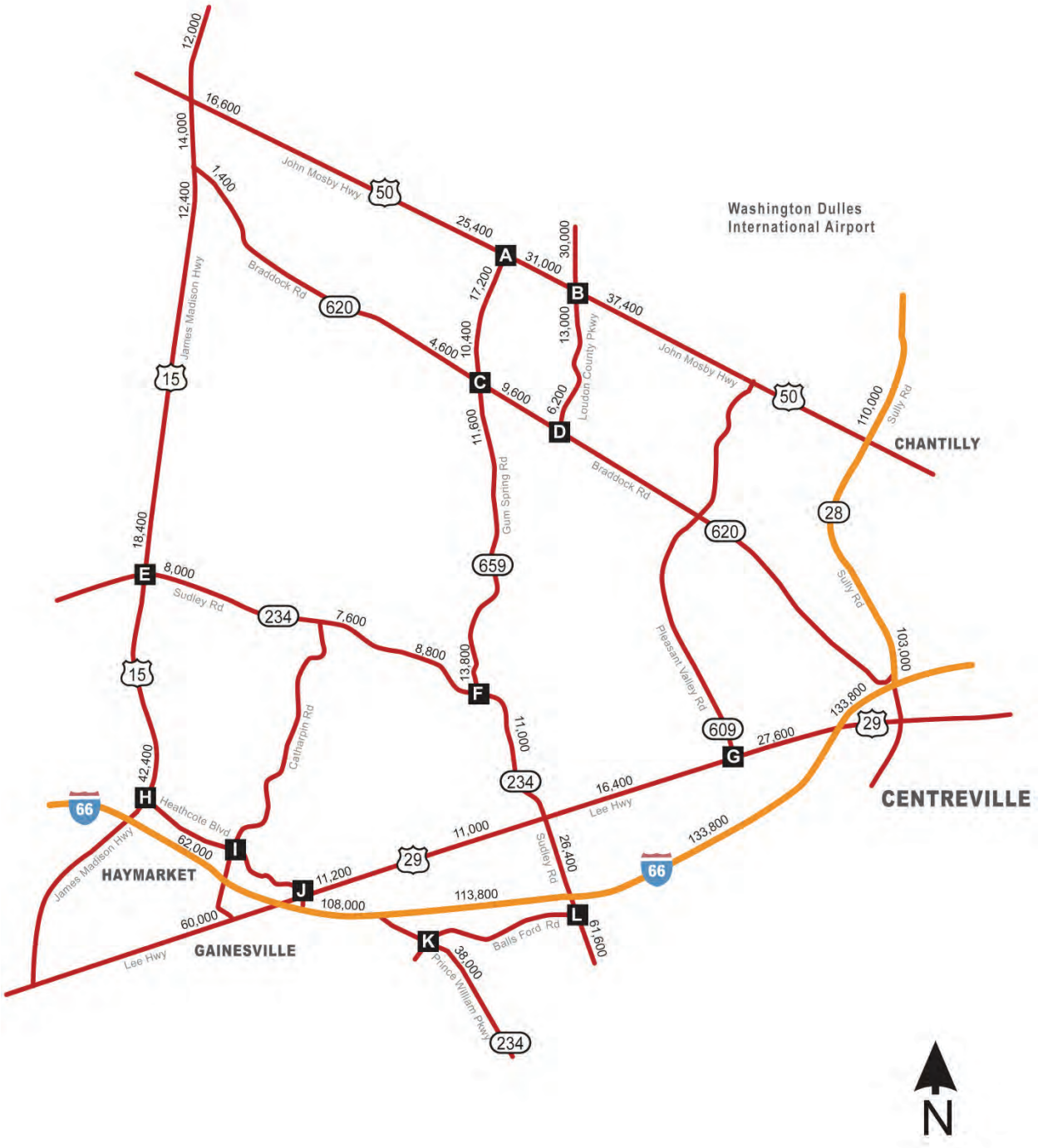


Figure 3A. Existing (2013) Volumes: Traffic Analysis Area Daily Bi-Directional Counts

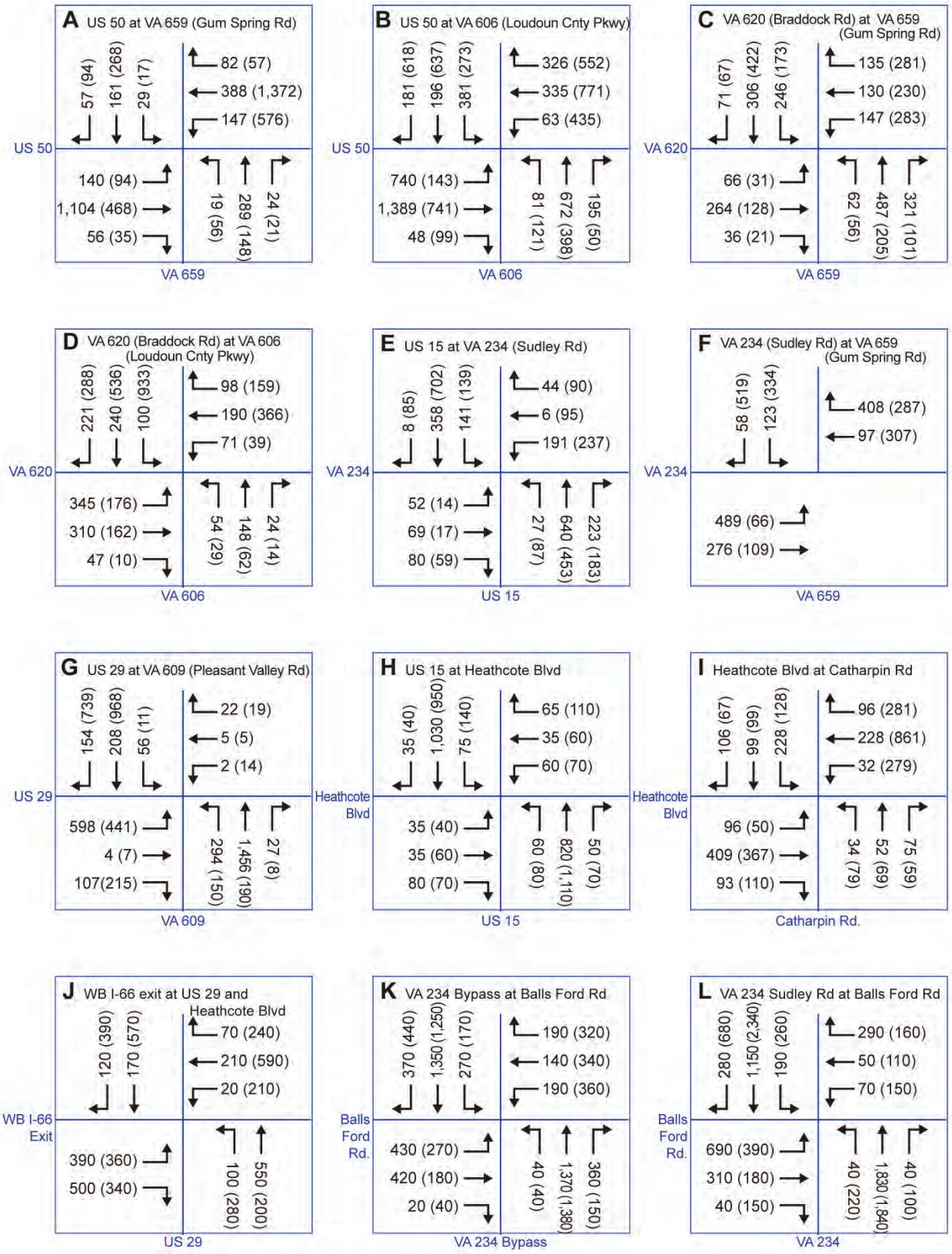


Figure 3B. Existing (2013) Volumes: AM / PM Peak Hour Intersection Turning Movement Counts

Note: Location and orientation of intersections as shown in Figure 3A.

Figure 4A. No-Build (2040) Volumes: Traffic Analysis Area Daily Bi-Directional Counts

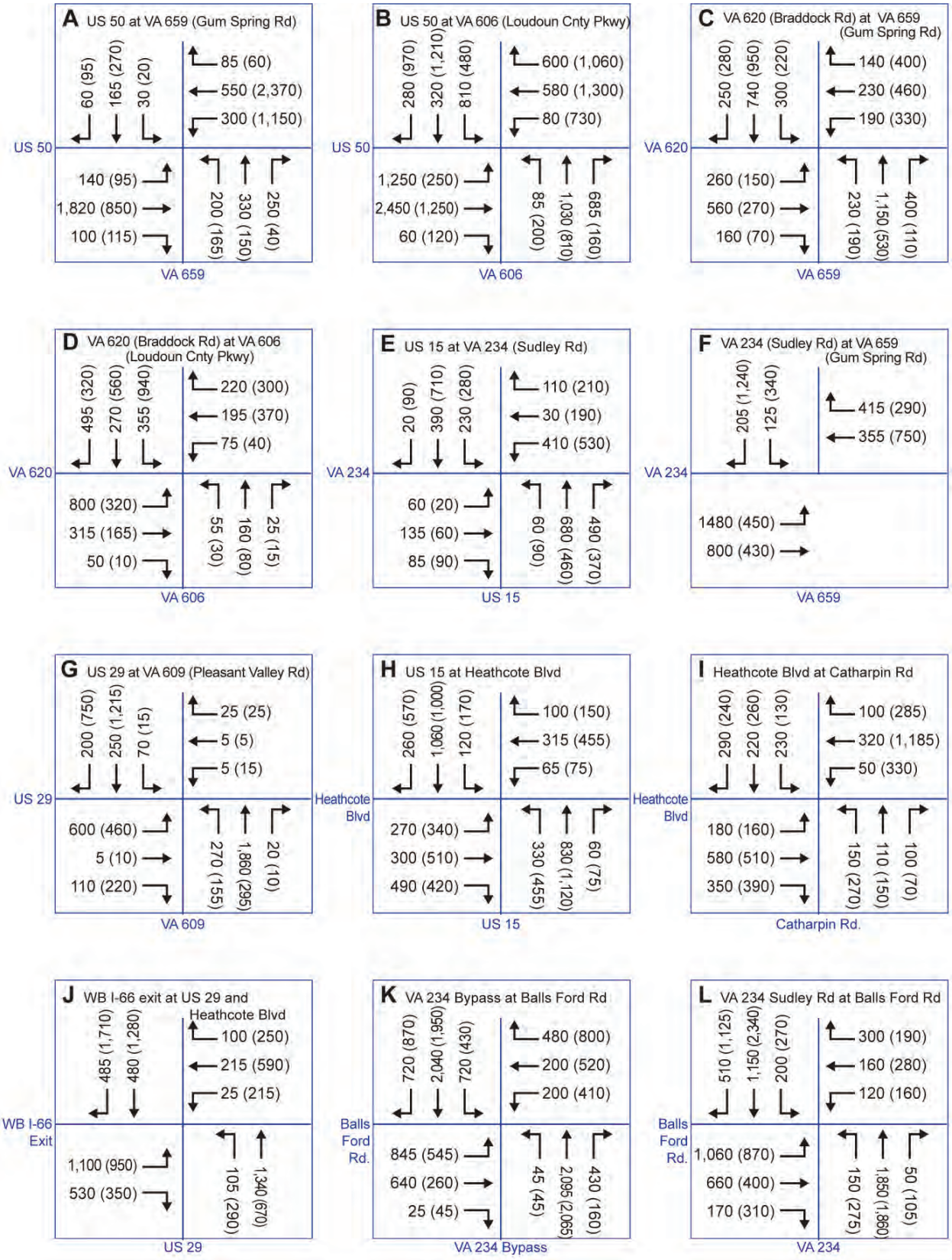


Figure 4B. No-Build (2040) Volumes: AM / PM Peak Hour Intersection Turning Movement Counts

Note: Location and orientation of intersections as shown in Figure 4A.

Figure 5A. Build (2040) Volumes: Traffic Analysis Area Daily Bi-Directional Counts

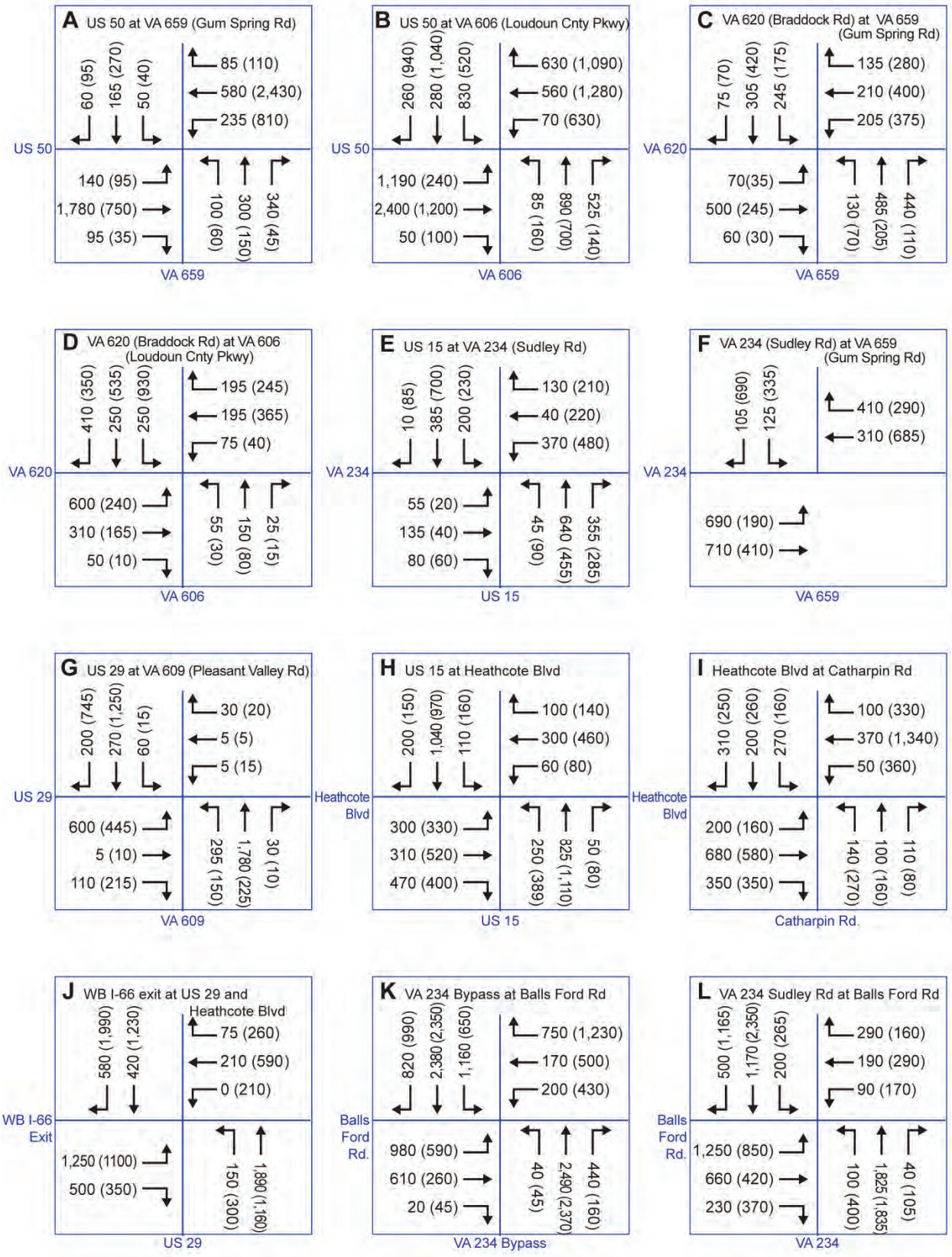


Figure 5B. Build (2040) Volumes: AM / PM Peak Hour Intersection Turning Movement Counts

Note: Location and orientation of intersections as shown in Figure 5A.

3.2 TRAFFIC OPERATIONS

Traffic operations analysis was completed according to the methodology described in Section 2.6. The following sections present the results of the analysis for freeway segments and intersections, respectively. Figures presenting the overall operations of all intersections and freeway sections are included at the end of this section. The full analysis reports for both freeway and intersections are included in **Appendix B** and **Appendix C**, respectively. For ease in identification of operations, LOS F has been highlighted in red, LOS E in orange, and LOS D in yellow within all tables in this section.

3.2.1 Freeway Operations

The measures of effectiveness (MOE) results of the freeway analysis for the AM and PM peak hours are presented in **Table 7** and **Table 8**, respectively.

Table 7. I-66 Freeway MOEs – AM Peak Hour

From	To	Segment Type	Existing		2040 No Build		2040 Build	
			Density	*LOS*	*Density*	*LOS*	*Density*	*LOS*
Eastbound								
US 15	US 29 [Gainesville]	Freeway	26.6	D	24.9	C	24.6	C
Exit 43 Off Ramp		Diverge	19.1	B	11.8	B	10.9	B
Exit 43 On Ramp		Merge	10.0	A	17.9	B	12.9	B
US 29 [Gainesville]	VA 234 Byp./TCP	Freeway	16.1	B	25.4	C	23.1	C
Exit 44 Off Ramp		Diverge	17.8	B	31.2	F	23.5	C
Exit 44 Weave (2040 Build)		Weave	-	-	-	-	22.3	C
Exit 44 On Ramp		Merge	24.4	C	38.3	E	33.5	D
VA 234 Byp./TCP	VA 234 Bus.	Freeway	22.1	C	37.9	E	36.8	E
Exit 47 Off Ramp		Diverge	13.0	B	22.4	C	21.9	C
Exit 47 On Ramp		Merge	17.8	B	31.2	D	30.6	D
VA 234 Bus.	US 29 [Centreville]	Freeway	28.0	D	57.2	F	54.7	F
Exit 52 Off Ramp		Diverge	29.4	D	44.2	F	43.3	F
Exit 52 On Ramp		Merge	24.2	C	33.0	D	32.6	D
US 29 [Centreville]	VA 28	Freeway	26.7	D	49.2	F	47.9	F
Westbound								
VA 28	US 29 [Centreville]	Freeway	11.0	A	15.0	B	14.9	B
Exit 52 Off Ramp		Diverge	3.8	A	8.0	A	8.0	A
Exit 52 On Ramp (from US 29 Westbound)		Merge	10.1	B	15.6	B	15.4	B
Exit 52 On Ramp (from US 29 Eastbound)		Merge	11.0	B	14.6	B	14.3	B
US 29 [Centreville]	VA 234 Bus.	Freeway	11.5	B	16.6	B	16.3	B
Exit 47 Off Ramp (VA 234 Northbound)		Diverge	10.0	B	15.7	B	15.4	B
Exit 47 Off Ramp (VA 234 Southbound)		Diverge	3.2	A	9.2	A	9.1	A
Exit 47 On Ramp		Merge	0.0	A	0.0	A	0.0	A
VA 234 Bus.	VA 234 Byp./TCP	Freeway	8.5	A	12.3	B	12.1	B
Exit 44 Off Ramp (2040 Build to TCP)		Diverge	-	-	-	-	11.6	B
Exit 44 Off Ramp (Existing to VA 234 Bypass)		Diverge	9.5	A	16.5	B	12.2	B
Exit 44 On Ramp		Merge	9.6	A	15.3	B	13.4	B
VA 234 Byp./TCP	US 29 [Gainesville]	Freeway	7.0	A	10.2	A	9.2	A
Exit 43 Off Ramp (Heathcote Blvd)		Diverge	8.5	A	12.7	B	10.5	B
Exit 43 Off Ramp (US 29)		Diverge	0.0	A	0.0	A	0.0	A
Exit 43 On Ramp		Merge	7.2	A	8.7	A	8.3	A
US 29 [Gainesville]	US 15	Freeway	10.1	A	9.7	A	9.3	A

Table 8. I-66 Freeway MOEs – PM Peak Hour

From	To	Segment Type	Existing		2040 No-Build		2040 Build	
			Density	*LOS*	*Density*	*LOS*	*Density*	*LOS*
Eastbound								
US 15	US 29 [Gainesville]	Freeway	10.6	A	10.2	A	10.5	A
Exit 43 Off Ramp		Diverge	1.8	A	0.0	A	0.0	A
Exit 43 On Ramp		Merge	0.0	A	0.0	A	0.0	A
US 29 [Gainesville]	VA 234 Byp./TCP	Freeway	7.6	A	11.1	B	10.7	A
Exit 44 Off Ramp		Diverge	6.1	A	12.6	B	10.0	A
Exit 44 Weave (2040 Build)		Weave	-	-	-	-	9.6	A
Exit 44 On Ramp		Merge	12.2	B	19.3	B	16.6	B
VA 234 Byp./TCP	VA 234 Bus.	Freeway	10.8	A	15.6	B	15.4	B
Exit 47 Off Ramp		Diverge	2.8	A	7.6	A	7.6	A
Exit 47 On Ramp		Merge	2.6	A	9.5	A	9.2	A
VA 234 Bus.	US 29 [Centreville]	Freeway	12.5	B	18.1	C	17.8	B
Exit 52 Off Ramp		Diverge	13.6	B	21.1	C	20.7	C
Exit 52 On Ramp		Merge	11.6	B	14.4	B	14.3	B
US 29 [Centreville]	VA 28	Freeway	11.1	B	15.3	B	15.1	B
Westbound								
VA 28	US 29 [Centreville]	Freeway	28.1	D	50.6	F	49.3	F
Exit 52 Off Ramp		Diverge	22.6	C	32.9	F	32.6	F
Exit 52 On Ramp (US 29 Westbound)		Merge	22.3	C	34.4	D	33.5	D
Exit 52 On Ramp (US 29 Eastbound)		Merge	22.7	C	36.8	E	35.5	E
US 29 [Centreville]	VA 234 Bus.	Freeway	26.9	D	52.7	F	50.4	F
Exit 47 Off Ramp (VA 234 Northbound)		Diverge	24.9	C	38.6	F	37.2	F
Exit 47 Off Ramp (VA 234 Southbound)		Diverge	16.1	B	28.1	F	27.6	F
Exit 47 On Ramp		Merge	6.1	A	15.8	B	15.5	B
VA 234 Bus.	VA 234 Byp./TCP	Freeway	21.0	C	34.8	D	33.9	D
Exit 44 Off Ramp (2040 Build to TCP)		Diverge	-	-	-	-	31.6	D
Exit 44 Off Ramp (Existing to VA 234 Bypass)		Diverge	25.3	C	40.7	F	33.0	D
Exit 44 On Ramp		Merge	19.4	B	32.8	D	26.4	C
VA 234 Byp./TCP	US 29 [Gainesville]	Freeway	16.4	B	25.0	C	22.1	C
Exit 43 Off Ramp (Heathcote Blvd)		Diverge	24.4	C	34.1	D	28.2	D
Exit 43 Off Ramp (US 29)		Diverge	0.0	A	0.5	A	0.0	A
Exit 43 On Ramp		Merge	24.6	C	22.1	C	20.9	C
US 29 [Gainesville]	US 15	Freeway	27.7	D	26.1	D	24.8	C

As could be expected from the summary of traffic volumes shown in **Table 6, Figure 4,** and **Figure 5**, the effects of the proposed Tri-County Parkway on operations on east-west I-66 are limited because the proposed roadway is expected to affect east-west travel only to a limited degree. For the AM peak hour on eastbound I-66, six roadway sections (three freeway and three ramps) would operate at LOS E or F in the No-Build, while four roadway sections (three freeway and one ramp) would operate at LOS E or F in the Build. In the PM peak on westbound I-66, seven roadway sections (two freeway and five ramps) would operate at LOS E or F in the No-Build, while six roadway sections (two freeway and four ramps) would operate at LOS E or F in the Build.

3.2.2 Intersection Operations

Table 9 and **Table 10** present the MOEs for the twelve Traffic Analysis Area intersections during the AM and PM peak hours, respectively. Full details of the analysis, including expanded tables showing approach-level LOS for each intersection, are included in Appendix C.

Table 9. Intersection MOEs – AM Peak Hour

	Intersection Name	Existing 2013		No-Build 2040		Build 2040	
		Delay	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
A	US 50 at VA 659 (Gum Spring Rd)	15.6	B	44.9	D	30.7	C
B	US 50 at VA 606 (Loudoun County Pkwy)	21.4	C	248.0	F	199.1	F
C	VA 620 (Braddock Rd) at VA 659 (Gum Spring Rd)	67.6	E	637.5	F	497.8	B
D	VA 620 (Braddock Rd) at VA 606 (Loudoun County Pkwy)	11.1	B	92.3	F	24.4	C
E	US 15 at VA 234 (Sudley Rd)	22.6	B	41.5	D	30.5	C
F	VA 234 (Sudley Rd) at VA 659 (Gum Spring Rd)	76.7	E	182.4	F	23.8	C
G	US 29 at VA 609 (Pleasant Valley Rd)	152.3	F	239.0	F	236.9	F
H	US 15 at Heathcote Blvd	10.2	B	37.5	B	41.1	D
I	Heathcote Blvd at Catharpin Rd	8.4	A	9.9	A	20.1	C
J	Heathcote Blvd at US 29/ WB I-66 Exit	44.7	D	43.9	D	102.0	F
K	US 234 Byp at Balls Ford Rd	15.8	B	151.2	F	387.9	F
L	US 234 (Sudley Rd) at Balls Ford Rd	17.8	B	55.7	E	97.7	F

Table 10. Intersection MOEs – PM Peak Hour

	Intersection Name	Existing 2013		No-Build 2040		Build 2040	
		Delay	*LOS*	*Delay*	*LOS*	*Delay*	*LOS*
A	US 50 at VA 659 (Gum Spring Rd)	19.7	B	69.4	E	26.7	C
B	US 50 at VA 606 (Loudoun County Pkwy)	20.5	C	163.8	F	151.2	F
C	VA 620 (Braddock Rd) at VA 659 (Gum Spring Rd)	529.6	F	932.3	F	1484.5	F
D	VA 620 (Braddock Rd) at VA 606 (Loudoun County Pkwy)	69.2	E	110.5	F	112.3	F
E	US 15 at VA 234 (Sudley Rd)	14.8	B	44	D	23.2	C
F	VA 234 (Sudley Rd) at VA 659 (Gum Spring Rd)	56.9	E	181.6	F	32.8	C
G	US 29 at VA 609 (Pleasant Valley Rd)	37.2	D	70.2	E	86.5	F
H	US 15 at Heathcote Blvd	14.0	B	96.9	F	63.4	E
I	Heathcote Blvd at Catharpin Rd	9.4	A	17.5	B	27.3	C
J	Heathcote Blvd at US 29/ WB I-66 Exit	81.4	F	509.9	F	325.3	F
K	US 234 Byp at Balls Ford Rd	14.2	B	119.9	F	403.6	F
L	US 234 (Sudley Rd) at Balls Ford Rd	25.1	C	91.1	F	150.8	F

As shown in the tables, the proposed Tri-County Parkway would improve LOS at intersections along those north-south routes that are expected to have decreased traffic with the Build Alternative (as compared to the No-Build). These include the two analyzed intersections on Gum Springs Road (at both US 50 and VA 620) and on US 15 at VA 234 and at Heathcote

Boulevard (decreased or increased delay under the Build Alternative depends on the peak period at these two locations).

3.2.3 Summary Figures of Overall Operations

The LOS results included in Tables 7 through 10 are shown graphically in **Figure 6** for the existing (2013) and design year (2040) No-Build and Build conditions. These figures include the results of the analysis of operations for intersections, ramp junctions, weave segments, and freeway sections.

3.3 ENVIRONMENTAL TRAFFIC DATA

The environmental traffic data was prepared following the process described in Section 2.7. The data was prepared for all Traffic Analysis Area roadways for existing, No-Build, and Build conditions (both 2020 and 2040). Outputs include hourly volumes, truck hourly volumes, and speeds for each hour. The data is included in **Appendix D**.

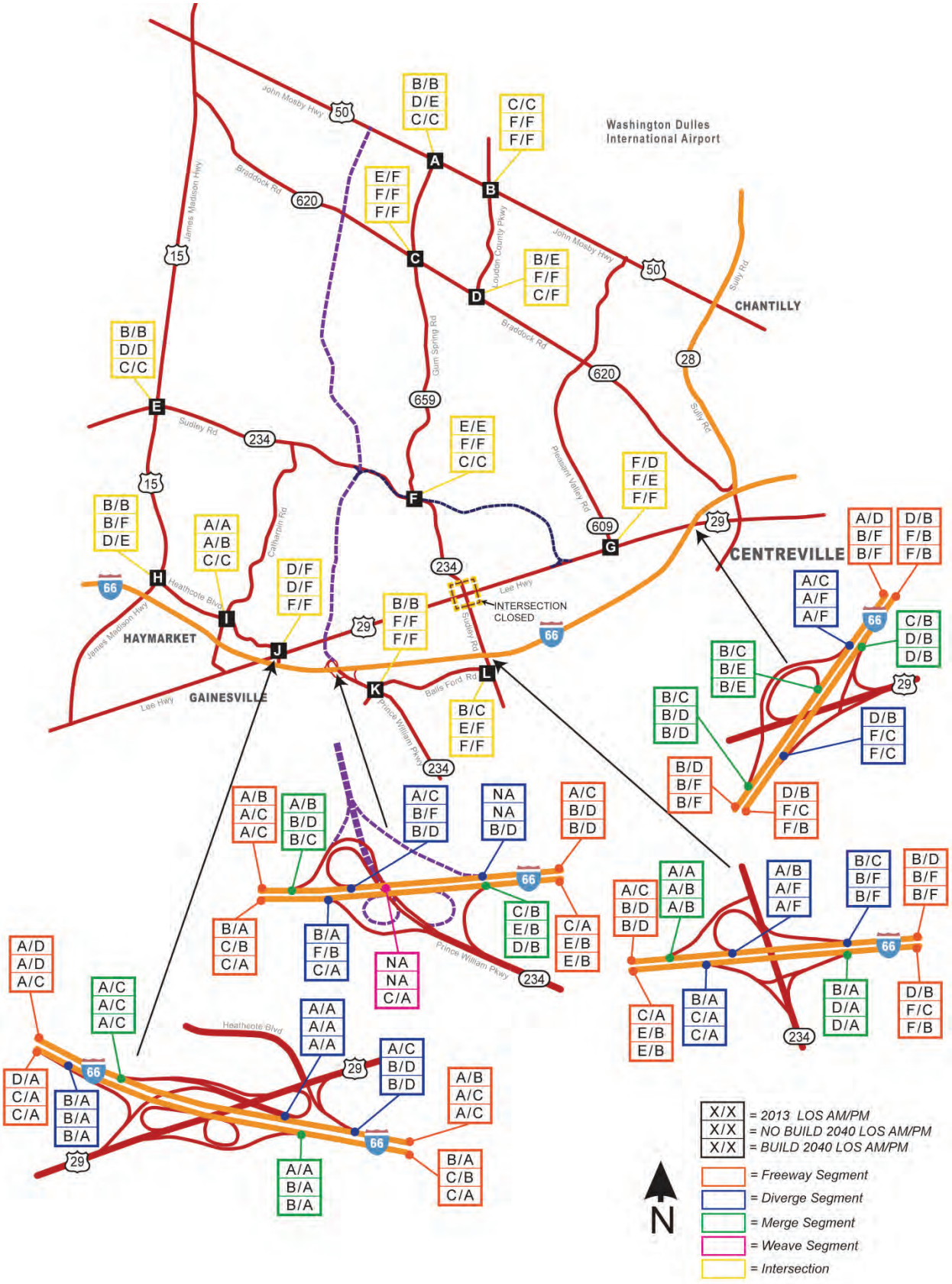


Figure 6. Summary LOS of Traffic Analysis Area – Existing (2013), No-Build (2040), and Build (2040)

APPENDIX A

TURNING MOVEMENT COUNT DATA

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Braddock Rd at Gum Spring Rd
Site Code : 00000033
Start Date : 2/26/2013
Page No : 1

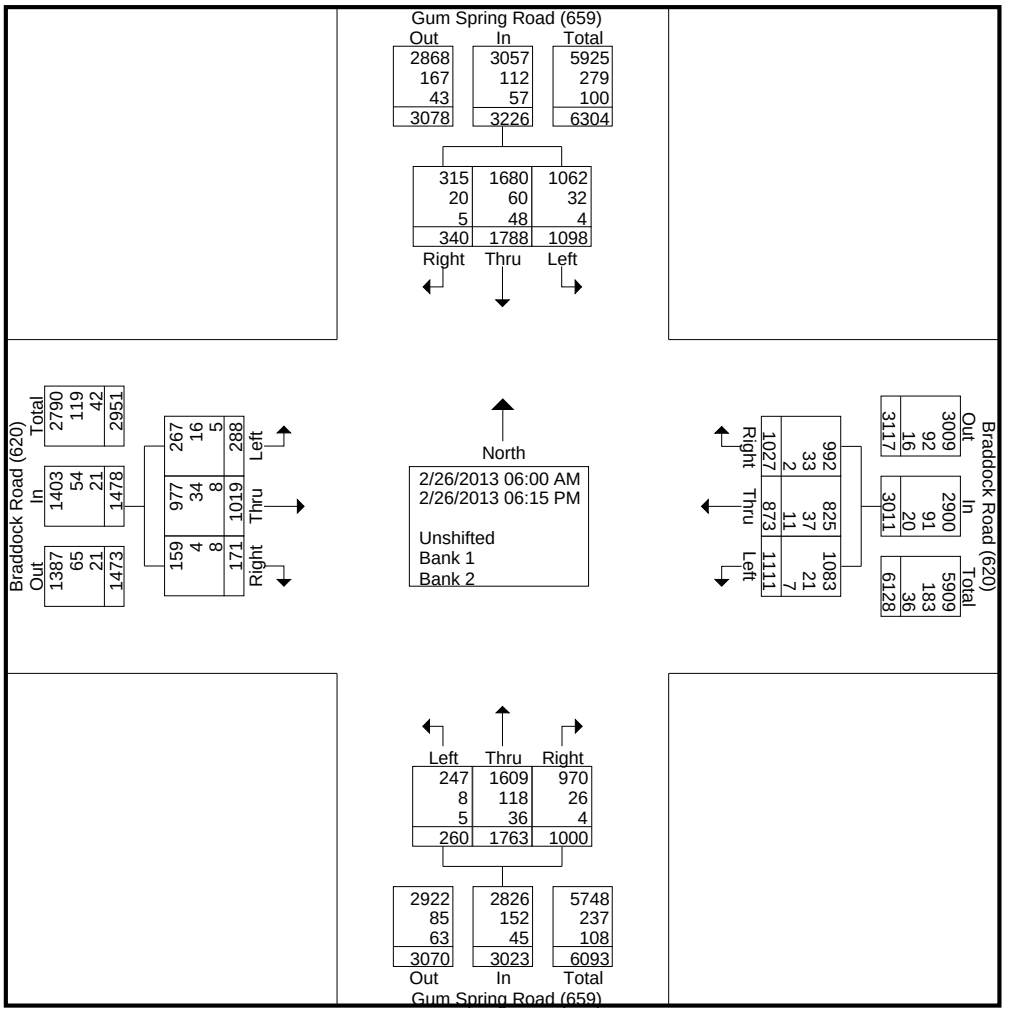
Groups Printed- Unshifted - Bank 1 - Bank 2

	Gum Spring Road (659) From North			Braddock Road (620) From East			Gum Spring Road (659) From South			Braddock Road (620) From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	18	19	3	9	5	16	9	71	23	13	26	1	213
06:15 AM	26	48	4	6	3	10	11	91	52	12	33	7	303
06:30 AM	30	28	7	16	9	10	10	123	59	16	38	7	353
06:45 AM	40	42	6	18	10	10	11	130	58	21	51	7	404
Total	114	137	20	49	27	46	41	415	192	62	148	22	1273
07:00 AM	46	54	9	18	39	21	10	116	79	16	50	8	466
07:15 AM	67	77	23	35	37	34	16	119	89	9	79	13	598
07:30 AM	60	108	23	44	26	42	20	127	85	22	65	9	631
07:45 AM	73	67	16	50	28	38	16	125	68	19	70	6	576
Total	246	306	71	147	130	135	62	487	321	66	264	36	2271
08:00 AM	51	48	9	29	30	19	4	78	59	14	64	4	409
08:15 AM	79	51	14	24	28	26	3	87	53	24	63	12	464
08:30 AM	72	54	16	25	30	31	9	85	51	18	48	7	446
08:45 AM	70	50	10	22	30	22	8	78	56	10	68	7	431
Total	272	203	49	100	118	98	24	328	219	66	243	30	1750
03:30 PM	44	81	13	46	36	34	7	38	20	2	45	5	371
03:45 PM	46	109	29	67	41	75	13	48	8	10	26	8	480
Total	90	190	42	113	77	109	20	86	28	12	71	13	851
04:00 PM	24	101	13	74	41	59	4	33	10	6	31	10	406
04:15 PM	26	125	22	71	32	62	6	35	11	14	28	5	437
04:30 PM	40	88	17	76	39	65	10	40	27	5	22	5	434
04:45 PM	41	101	11	86	45	62	13	56	24	7	22	6	474
Total	131	415	63	307	157	248	33	164	72	32	103	26	1751
05:00 PM	49	113	13	62	68	77	12	44	30	6	29	5	508
05:15 PM	42	88	22	73	70	75	14	56	18	8	43	3	512
05:30 PM	41	120	21	62	47	67	17	49	29	10	34	7	504
05:45 PM	39	63	14	71	44	64	12	62	29	8	29	2	437
Total	171	384	70	268	229	283	55	211	106	32	135	17	1961
06:00 PM	45	85	14	66	86	49	13	44	41	10	27	12	492
06:15 PM	29	68	11	61	49	59	12	28	21	8	28	15	389
Grand Total	1098	1788	340	1111	873	1027	260	1763	1000	288	1019	171	10738
Apprch %	34	55.4	10.5	36.9	29	34.1	8.6	58.3	33.1	19.5	68.9	11.6	
Total %	10.2	16.7	3.2	10.3	8.1	9.6	2.4	16.4	9.3	2.7	9.5	1.6	
Unshifted	1062	1680	315	1083	825	992	247	1609	970	267	977	159	10186
% Unshifted	96.7	94	92.6	97.5	94.5	96.6	95	91.3	97	92.7	95.9	93	94.9
Bank 1	32	60	20	21	37	33	8	118	26	16	34	4	409
% Bank 1	2.9	3.4	5.9	1.9	4.2	3.2	3.1	6.7	2.6	5.6	3.3	2.3	3.8
Bank 2	4	48	5	7	11	2	5	36	4	5	8	8	143
% Bank 2	0.4	2.7	1.5	0.6	1.3	0.2	1.9	2	0.4	1.7	0.8	4.7	1.3

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Braddock Rd at Gum Spring Rd
Site Code : 00000033
Start Date : 2/26/2013
Page No : 2

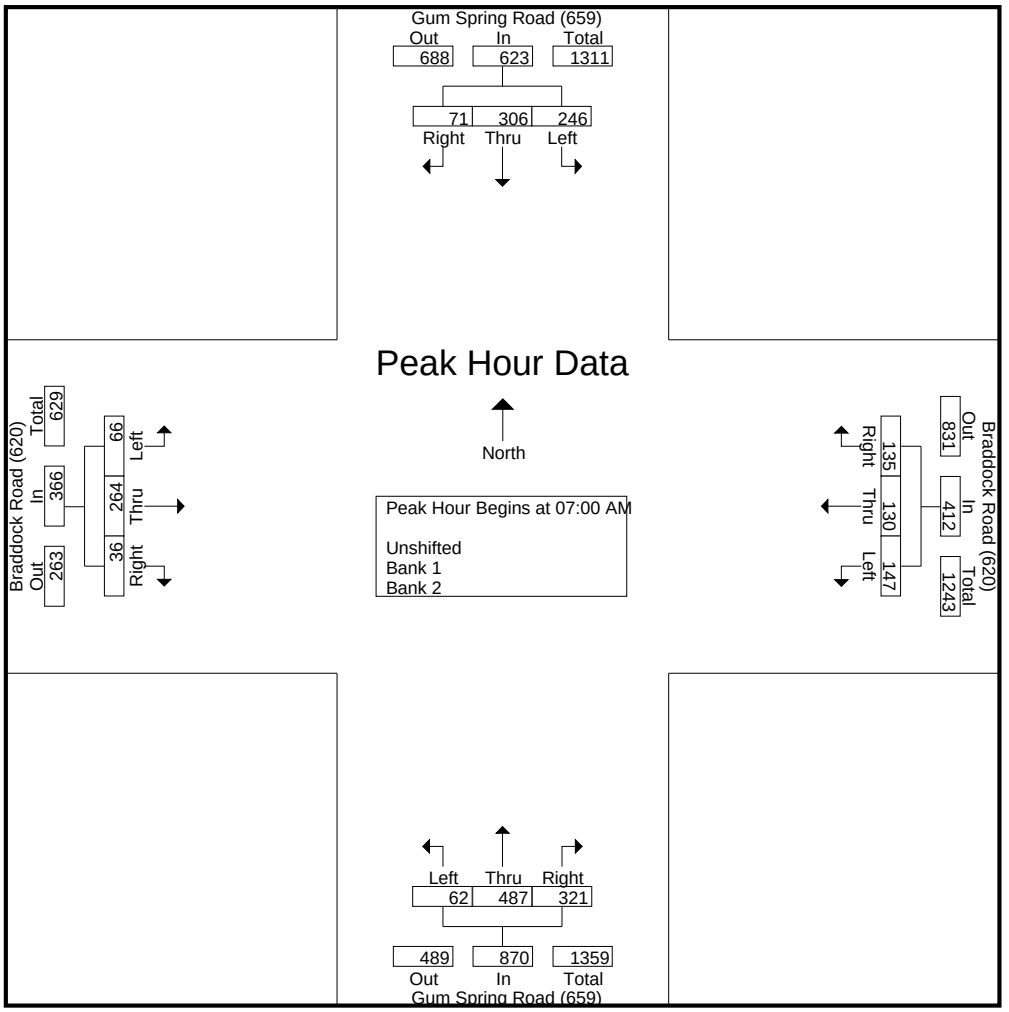


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Braddock Rd at Gum Spring Rd
Site Code : 00000033
Start Date : 2/26/2013

	Gum Spring Road (659) From North				Braddock Road (620) From East				Gum Spring Road (659) From South				Braddock Road (620) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	46	54	9	109	18	**39**	21	78	10	116	79	205	16	50	8	74	466
07:15 AM	67	77	**23**	167	35	37	34	106	16	119	**89**	224	9	**79**	**13**	**101**	598
07:30 AM	60	**108**	23	**191**	44	26	**42**	112	**20**	**127**	85	**232**	**22**	65	9	96	**631**
07:45 AM	**73**	67	16	156	**50**	28	38	**116**	16	125	68	209	19	70	6	95	576
Total Volume	246	306	71	623	147	130	135	412	62	487	321	870	66	264	36	366	2271
% App. Total	39.5	49.1	11.4		35.7	31.6	32.8		7.1	56	36.9		18	72.1	9.8		
PHF	.842	.708	.772	.815	.735	.833	.804	.888	.775	.959	.902	.938	.750	.835	.692	.906	.900

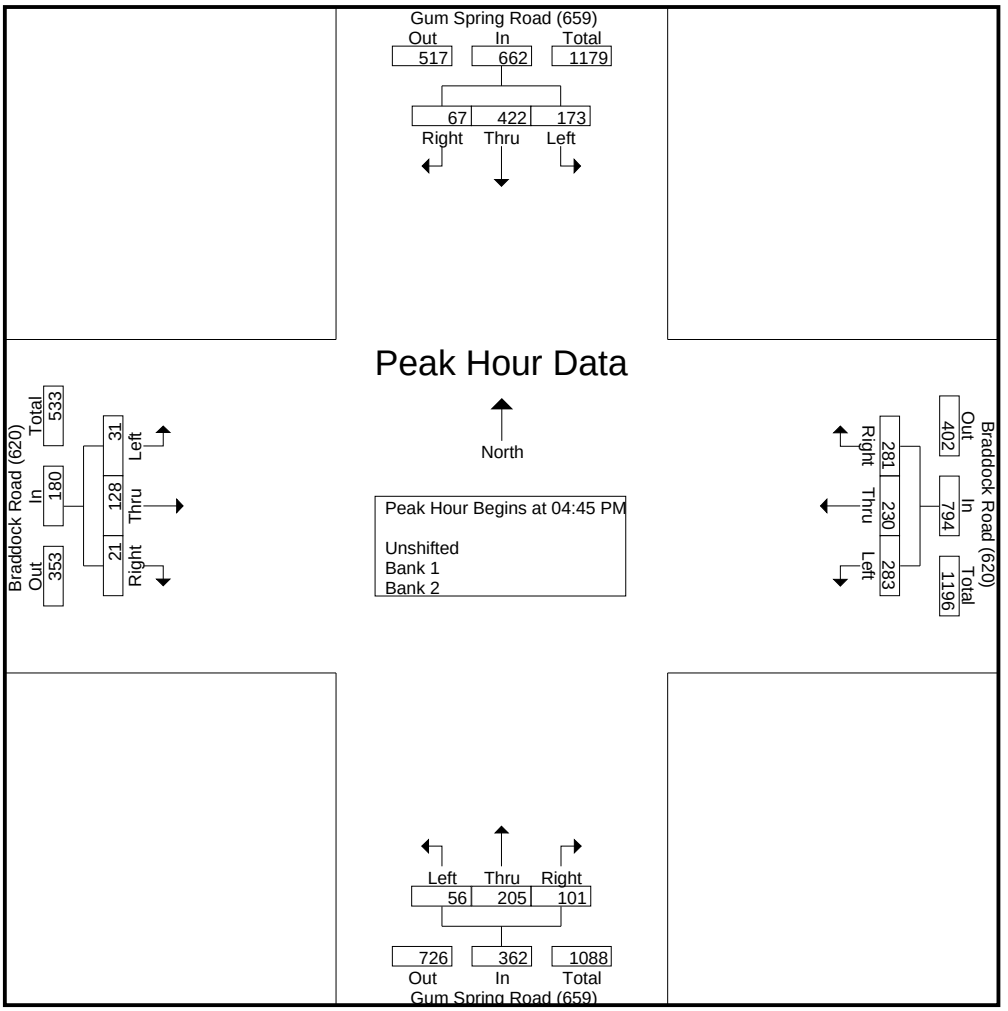


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Braddock Rd at Gum Spring Rd
Site Code : 00000033
Start Date : 2/26/2013
Page No : 4

	Gum Spring Road (659) From North				Braddock Road (620) From East				Gum Spring Road (659) From South				Braddock Road (620) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	41	101	11	153	**86**	45	62	193	13	**56**	24	93	7	22	6	35	474
05:00 PM	**49**	113	13	175	62	68	**77**	207	12	44	**30**	86	6	29	5	40	508
05:15 PM	42	88	**22**	152	73	**70**	75	**218**	14	56	18	88	8	**43**	3	**54**	**512**
05:30 PM	41	**120**	21	**182**	62	47	67	176	**17**	49	29	**95**	**10**	34	**7**	51	504
Total Volume	173	422	67	662	283	230	281	794	56	205	101	362	31	128	21	180	1998
% App. Total	26.1	63.7	10.1		35.6	29	35.4		15.5	56.6	27.9		17.2	71.1	11.7		
PHF	.883	.879	.761	.909	.823	.821	.912	.911	.824	.915	.842	.953	.775	.744	.750	.833	.976



MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : braddock rd at loudoun county pkwy
Site Code : 00000011
Start Date : 2/27/2013
Page No : 1

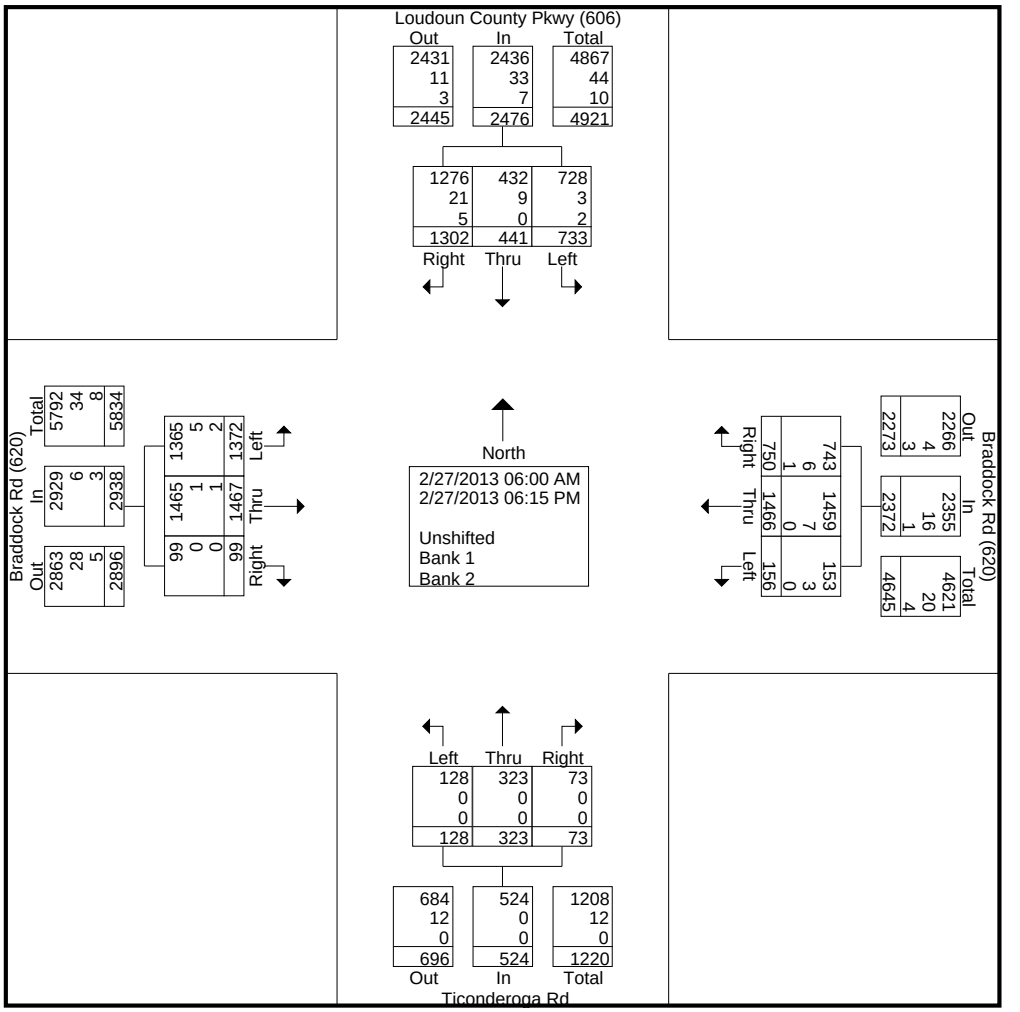
Groups Printed- Unshifted - Bank 1 - Bank 2

	Loudoun County Pkwy (606) From North			Braddock Rd (620) From East			Ticonderoga Rd From South			Braddock Rd (620) From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	4	0	6	3	13	18	0	1	0	20	56	1	122
06:15 AM	14	3	6	0	13	19	0	5	1	37	55	0	153
06:30 AM	29	4	7	1	11	25	1	3	2	55	91	1	230
06:45 AM	27	10	27	1	18	24	0	4	2	58	77	3	251
Total	74	17	46	5	55	86	1	13	5	170	279	5	756
07:00 AM	21	2	32	3	31	24	8	12	3	65	86	0	287
07:15 AM	19	7	32	1	49	26	1	8	1	96	99	4	343
07:30 AM	13	13	66	9	69	30	2	7	6	100	94	8	417
07:45 AM	20	27	65	8	30	25	2	15	7	115	90	4	408
Total	73	49	195	21	179	105	13	42	17	376	369	16	1455
08:00 AM	22	63	41	13	43	22	5	21	9	81	88	18	426
08:15 AM	28	110	50	41	35	21	28	72	5	78	74	17	559
08:30 AM	30	40	65	9	82	30	19	40	3	71	58	8	455
08:45 AM	20	8	75	5	73	19	3	10	3	62	82	6	366
Total	100	221	231	68	233	92	55	143	20	292	302	49	1806
03:30 PM	37	17	57	5	61	42	18	25	6	38	55	8	369
03:45 PM	21	15	51	8	56	42	7	4	3	38	36	1	282
Total	58	32	108	13	117	84	25	29	9	76	91	9	651
04:00 PM	25	16	71	2	74	25	2	6	2	49	45	6	323
04:15 PM	55	29	73	24	77	28	11	9	3	54	34	5	402
04:30 PM	34	14	71	9	93	45	14	41	5	32	35	2	395
04:45 PM	51	10	66	4	98	43	2	8	4	45	38	3	372
Total	165	69	281	39	342	141	29	64	14	180	152	16	1492
05:00 PM	48	7	78	2	98	43	2	4	2	45	55	0	384
05:15 PM	58	19	70	2	72	44	2	10	5	35	44	0	361
05:30 PM	34	10	63	1	90	43	0	8	0	46	49	3	347
05:45 PM	48	11	78	0	78	42	1	5	1	52	31	0	347
Total	188	47	289	5	338	172	5	27	8	178	179	3	1439
06:00 PM	40	4	79	3	104	36	0	3	0	49	47	1	366
06:15 PM	35	2	73	2	98	34	0	2	0	51	48	0	345
Grand Total	733	441	1302	156	1466	750	128	323	73	1372	1467	99	8310
Apprch %	29.6	17.8	52.6	6.6	61.8	31.6	24.4	61.6	13.9	46.7	49.9	3.4	
Total %	8.8	5.3	15.7	1.9	17.6	9	1.5	3.9	0.9	16.5	17.7	1.2	
Unshifted	728	432	1276	153	1459	743	128	323	73	1365	1465	99	8244
% Unshifted	99.3	98	98	98.1	99.5	99.1	100	100	100	99.5	99.9	100	99.2
Bank 1	3	9	21	3	7	6	0	0	0	5	1	0	55
% Bank 1	0.4	2	1.6	1.9	0.5	0.8	0	0	0	0.4	0.1	0	0.7
Bank 2	2	0	5	0	0	1	0	0	0	2	1	0	11
% Bank 2	0.3	0	0.4	0	0	0.1	0	0	0	0.1	0.1	0	0.1

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : braddock rd at loudoun county pkwy
Site Code : 00000011
Start Date : 2/27/2013
Page No : 2

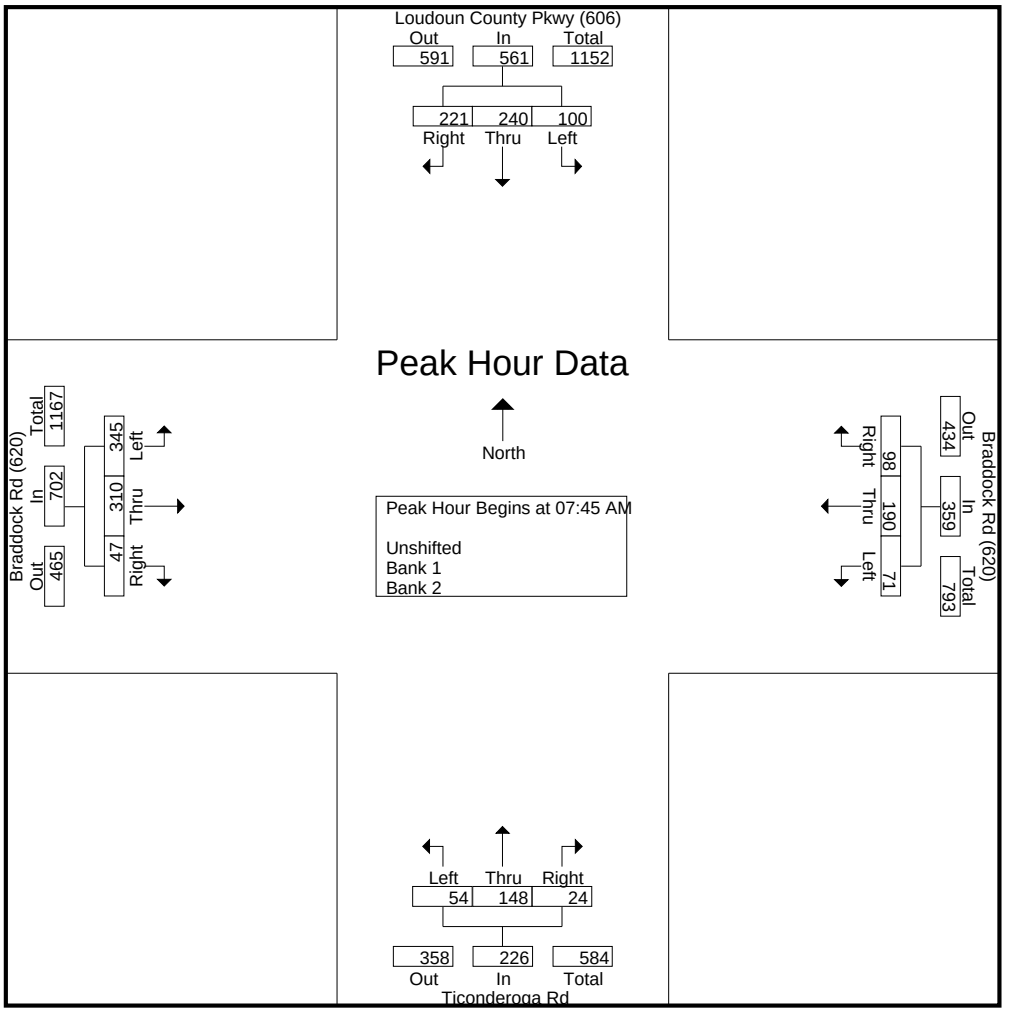


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : braddock rd at loudoun county pkwy
Site Code : 00000011
Start Date : 2/27/2013

	Loudoun County Pkwy (606) From North				Braddock Rd (620) From East				Ticonderoga Rd From South				Braddock Rd (620) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	20	27	**65**	112	8	30	25	63	2	15	7	24	**115**	**90**	4	**209**	408
08:00 AM	22	63	41	126	13	43	22	78	5	21	**9**	35	81	88	**18**	187	426
08:15 AM	28	**110**	50	**188**	**41**	35	21	97	**28**	**72**	5	**105**	78	74	17	169	**559**
08:30 AM	**30**	40	65	135	9	**82**	**30**	**121**	19	40	3	62	71	58	8	137	455
Total Volume	100	240	221	561	71	190	98	359	54	148	24	226	345	310	47	702	1848
% App. Total	17.8	42.8	39.4		19.8	52.9	27.3		23.9	65.5	10.6		49.1	44.2	6.7		
PHF	.833	.545	.850	.746	.433	.579	.817	.742	.482	.514	.667	.538	.750	.861	.653	.840	.826

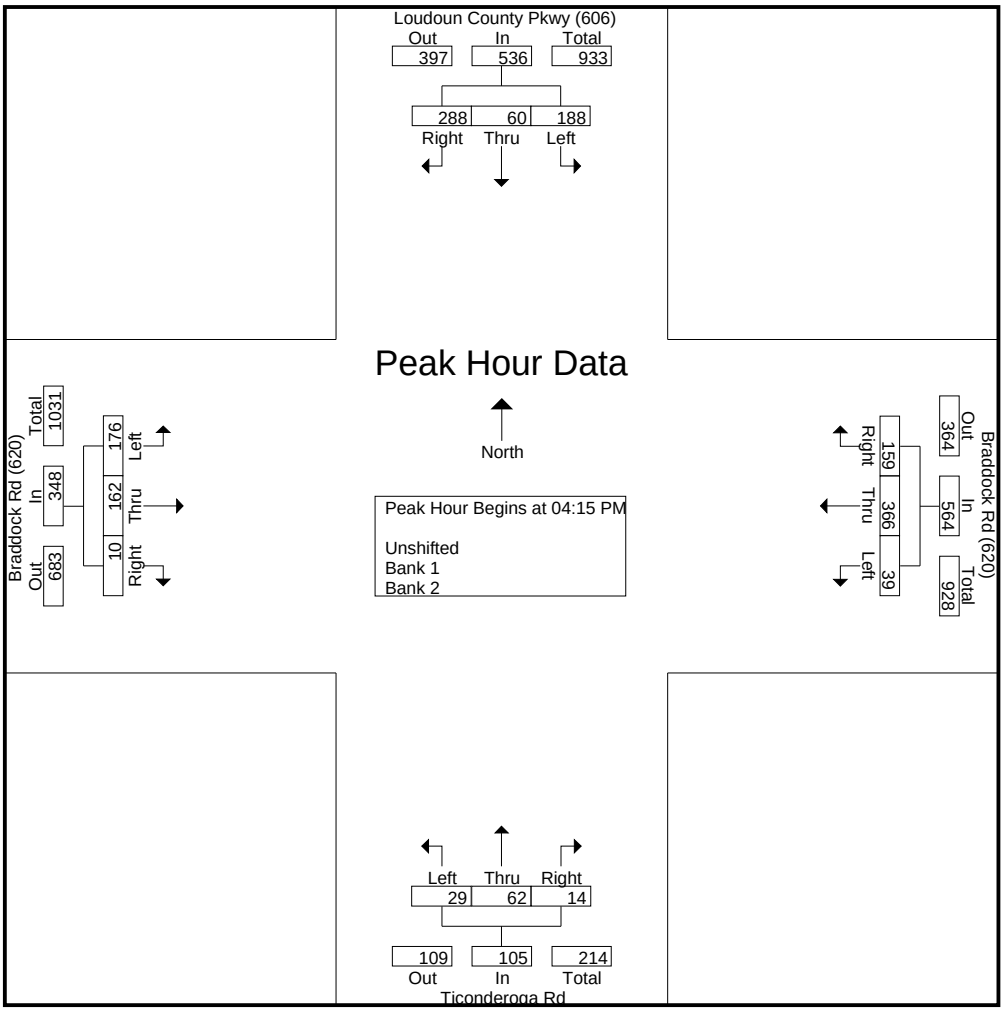


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : braddock rd at loudoun county pkwy
Site Code : 00000011
Start Date : 2/27/2013
Page No : 4

	Loudoun County Pkwy (606) From North				Braddock Rd (620) From East				Ticonderoga Rd From South				Braddock Rd (620) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**55**	**29**	73	**157**	**24**	77	28	129	11	9	3	23	**54**	34	**5**	93	**402**
04:30 PM	34	14	71	119	9	93	**45**	**147**	**14**	**41**	**5**	**60**	32	35	2	69	395
04:45 PM	51	10	66	127	4	**98**	43	145	2	8	4	14	45	38	3	86	372
05:00 PM	48	7	**78**	133	2	98	43	143	2	4	2	8	45	**55**	0	**100**	384
Total Volume	188	60	288	536	39	366	159	564	29	62	14	105	176	162	10	348	1553
% App. Total	35.1	11.2	53.7		6.9	64.9	28.2		27.6	59	13.3		50.6	46.6	2.9		
PHF	.855	.517	.923	.854	.406	.934	.883	.959	.518	.378	.700	.438	.815	.736	.500	.870	.966



MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Heathcote Blvd at Catharpin Rd
Site Code : 00000033
Start Date : 2/26/2013
Page No : 1

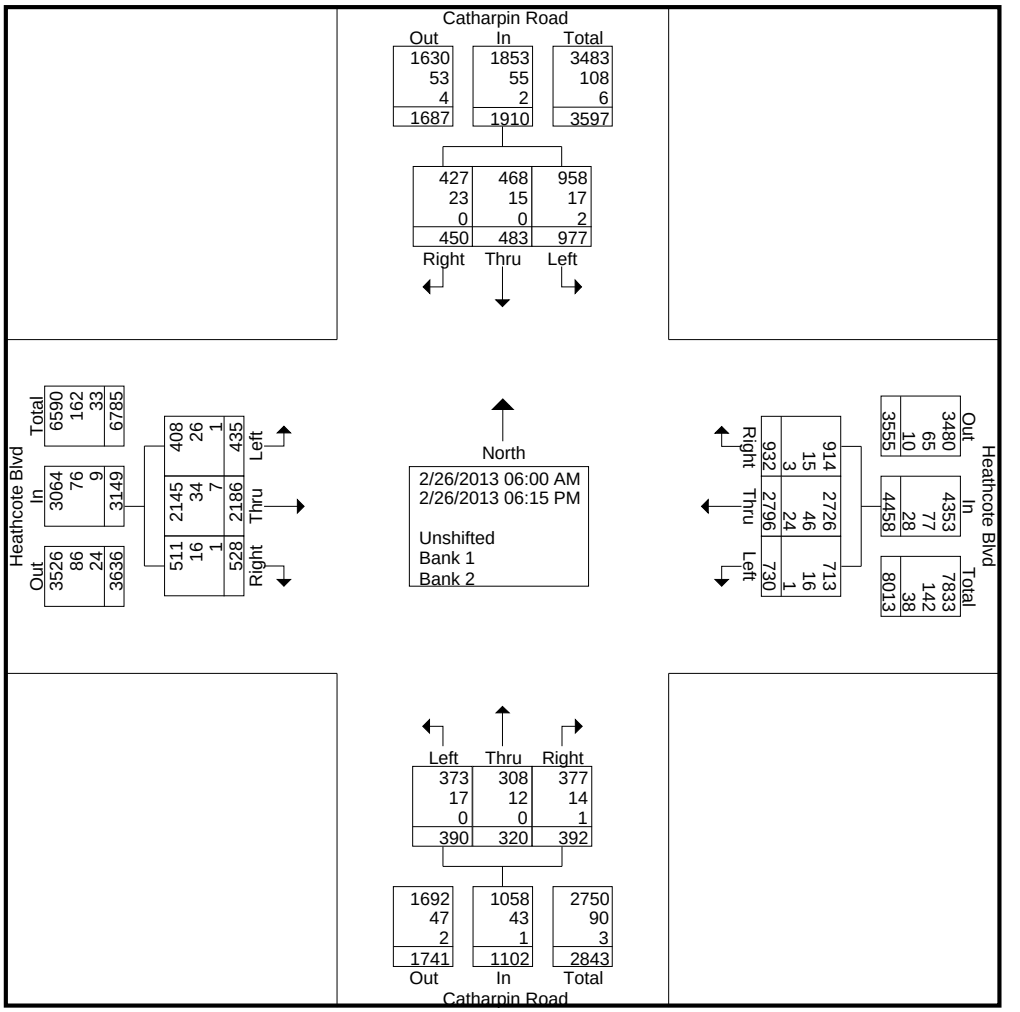
Groups Printed- Unshifted - Bank 1 - Bank 2

	Catharpin Road From North			Heathcote Blvd From East			Catharpin Road From South			Heathcote Blvd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	25	3	4	3	10	5	4	4	12	10	70	7	157
06:15 AM	30	5	4	6	38	10	9	7	14	20	85	9	237
06:30 AM	38	3	20	2	50	12	15	5	21	15	86	8	275
06:45 AM	47	9	21	6	50	9	24	6	18	20	83	11	304
Total	140	20	49	17	148	36	52	22	65	65	324	35	973
07:00 AM	53	11	19	5	35	21	14	12	14	25	111	16	336
07:15 AM	62	20	12	14	36	10	5	13	18	22	128	15	355
07:30 AM	58	15	10	5	43	21	5	12	23	18	124	23	357
07:45 AM	58	22	11	4	51	38	7	18	23	29	95	20	376
Total	231	68	52	28	165	90	31	55	78	94	458	74	1424
08:00 AM	55	32	48	9	61	23	13	17	15	38	89	16	416
08:15 AM	57	17	29	9	63	21	6	12	17	17	121	24	393
08:30 AM	58	28	18	10	53	14	8	5	20	12	104	33	363
08:45 AM	56	30	23	10	48	17	17	12	21	9	81	51	375
Total	226	107	118	38	225	75	44	46	73	76	395	124	1547
03:30 PM	26	20	16	36	123	64	24	17	14	15	53	23	431
03:45 PM	29	16	11	41	170	46	27	15	11	24	70	28	488
Total	55	36	27	77	293	110	51	32	25	39	123	51	919
04:00 PM	30	21	19	36	185	46	21	16	15	22	77	15	503
04:15 PM	36	21	18	63	161	61	23	9	10	23	93	26	544
04:30 PM	27	29	31	50	187	63	21	12	21	13	92	29	575
04:45 PM	32	28	21	42	199	47	31	27	17	20	80	27	571
Total	125	99	89	191	732	217	96	64	63	78	342	97	2193
05:00 PM	40	26	28	55	187	45	24	15	20	14	91	18	563
05:15 PM	33	31	16	74	222	62	26	20	16	15	99	32	646
05:30 PM	36	24	21	66	238	68	19	15	22	9	90	22	630
05:45 PM	30	21	19	79	215	77	19	16	10	9	84	28	607
Total	139	102	84	274	862	252	88	66	68	47	364	100	2446
06:00 PM	29	23	11	60	186	74	15	18	11	17	94	28	566
06:15 PM	32	28	20	45	185	78	13	17	9	19	86	19	551
Grand Total	977	483	450	730	2796	932	390	320	392	435	2186	528	10619
Apprch %	51.2	25.3	23.6	16.4	62.7	20.9	35.4	29	35.6	13.8	69.4	16.8	
Total %	9.2	4.5	4.2	6.9	26.3	8.8	3.7	3	3.7	4.1	20.6	5	
Unshifted	958	468	427	713	2726	914	373	308	377	408	2145	511	10328
% Unshifted	98.1	96.9	94.9	97.7	97.5	98.1	95.6	96.2	96.2	93.8	98.1	96.8	97.3
Bank 1	17	15	23	16	46	15	17	12	14	26	34	16	251
% Bank 1	1.7	3.1	5.1	2.2	1.6	1.6	4.4	3.8	3.6	6	1.6	3	2.4
Bank 2	2	0	0	1	24	3	0	0	1	1	7	1	40
% Bank 2	0.2	0	0	0.1	0.9	0.3	0	0	0.3	0.2	0.3	0.2	0.4

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Heathcote Blvd at Catharpin Rd
Site Code : 00000033
Start Date : 2/26/2013

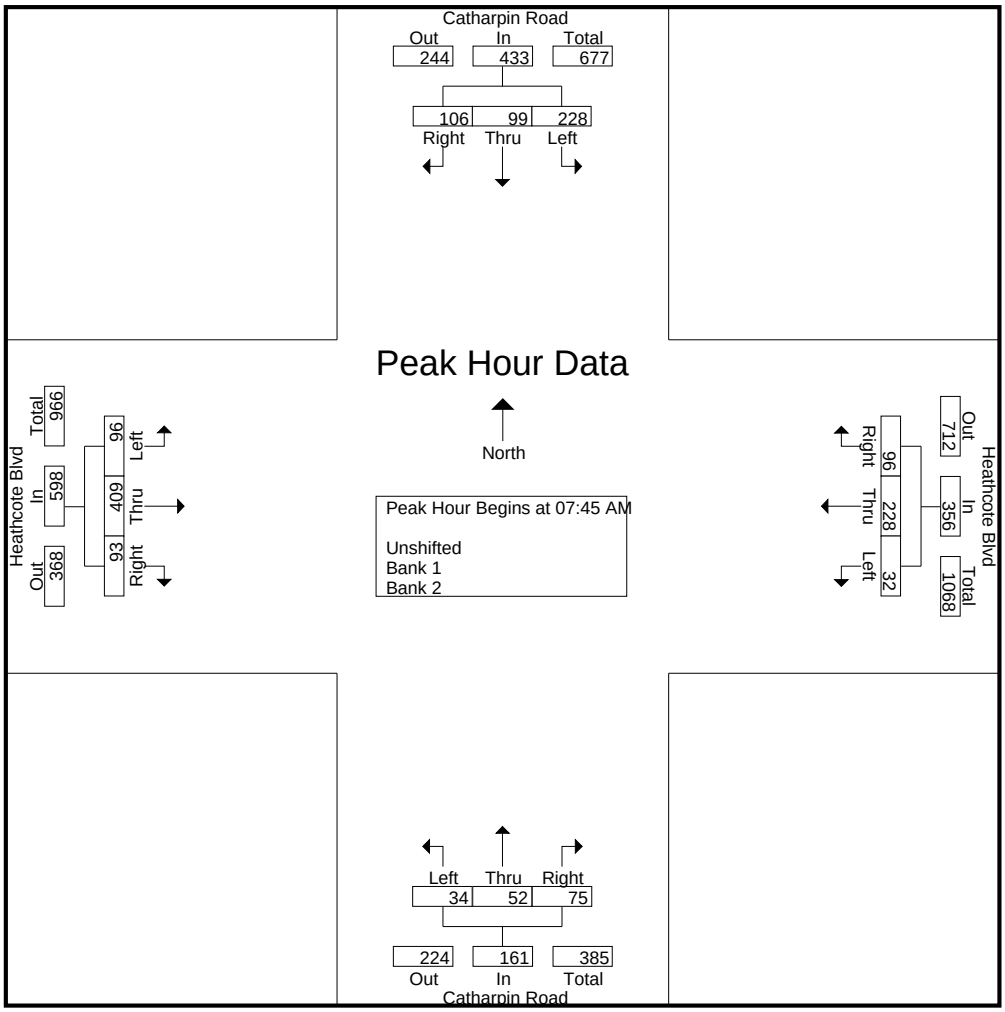


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Heathcote Blvd at Catharpin Rd
Site Code : 00000033
Start Date : 2/26/2013
Page No : 3

	Catharpin Road From North				Heathcote Blvd From East				Catharpin Road From South				Heathcote Blvd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**58**	22	11	91	4	51	**38**	**93**	7	**18**	**23**	**48**	29	95	20	144	376
08:00 AM	55	**32**	**48**	**135**	9	61	23	93	**13**	17	15	45	**38**	89	16	143	**416**
08:15 AM	57	17	29	103	9	**63**	21	93	6	12	17	35	17	**121**	24	**162**	393
08:30 AM	58	28	18	104	**10**	53	14	77	8	5	20	33	12	104	**33**	149	363
Total Volume	228	99	106	433	32	228	96	356	34	52	75	161	96	409	93	598	1548
% App. Total	52.7	22.9	24.5		9	64	27		21.1	32.3	46.6		16.1	68.4	15.6		
PHF	.983	.773	.552	.802	.800	.905	.632	.957	.654	.722	.815	.839	.632	.845	.705	.923	.930

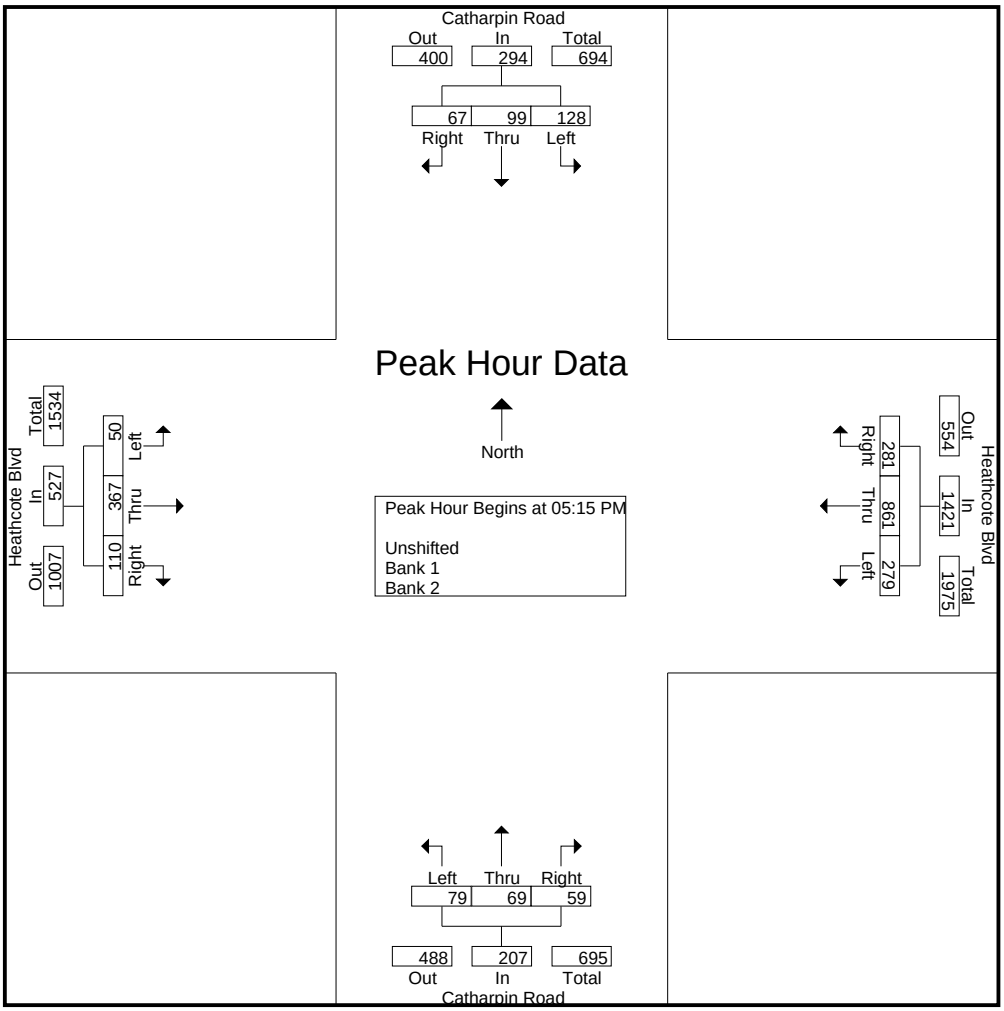


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Heathcote Blvd at Catharpin Rd
Site Code : 00000033
Start Date : 2/26/2013
Page No : 4

	Catharpin Road From North				Heathcote Blvd From East				Catharpin Road From South				Heathcote Blvd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	33	**31**	16	80	74	222	62	358	**26**	**20**	16	**62**	15	**99**	**32**	**146**	**646**
05:30 PM	**36**	24	**21**	**81**	66	**238**	68	**372**	19	15	**22**	56	9	90	22	121	630
05:45 PM	30	21	19	70	**79**	215	**77**	371	19	16	10	45	9	84	28	121	607
06:00 PM	29	23	11	63	60	186	74	320	15	18	11	44	**17**	94	28	139	566
Total Volume	128	99	67	294	279	861	281	1421	79	69	59	207	50	367	110	527	2449
% App. Total	43.5	33.7	22.8		19.6	60.6	19.8		38.2	33.3	28.5		9.5	69.6	20.9		
PHF	.889	.798	.798	.907	.883	.904	.912	.955	.760	.863	.670	.835	.735	.927	.859	.902	.948



MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Sudley Rd at Gum Spring Rd
Site Code : 00000011
Start Date : 2/27/2013
Page No : 1

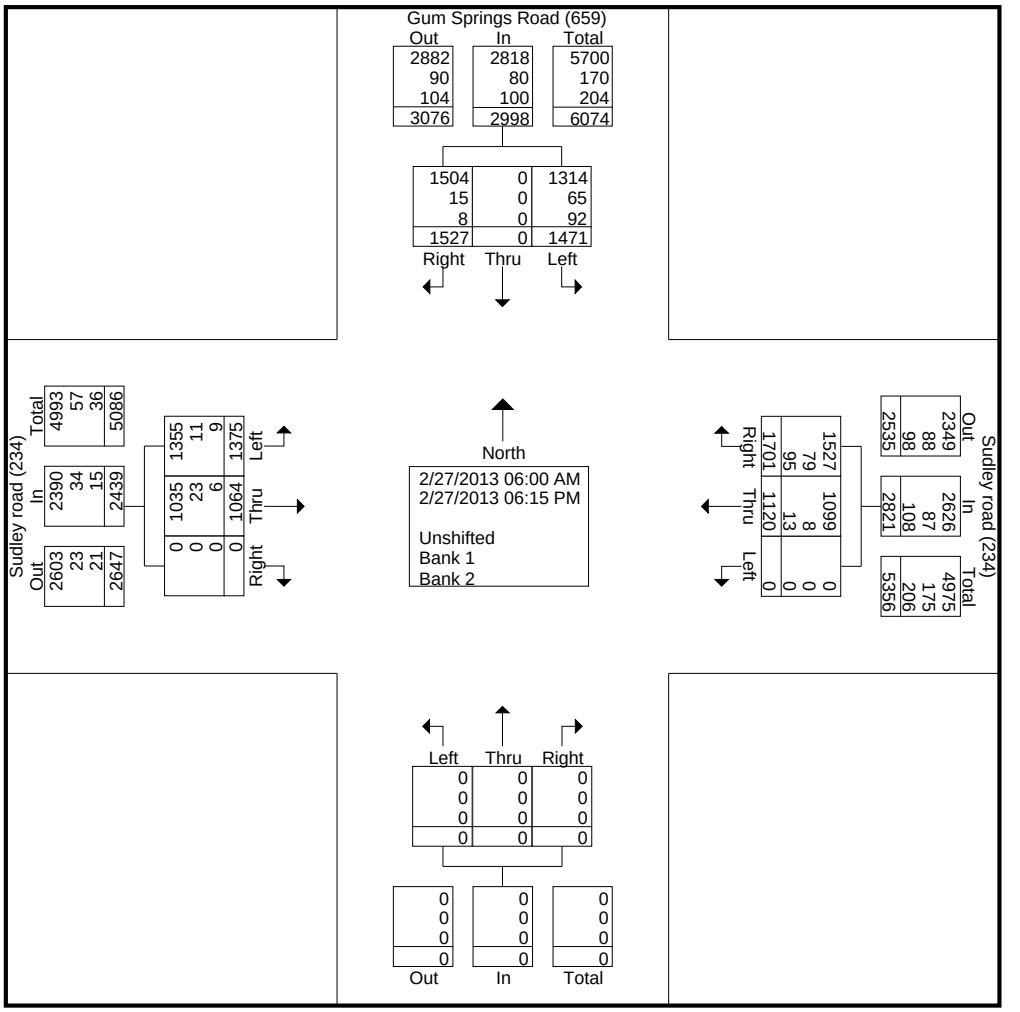
Groups Printed- Unshifted - Bank 1 - Bank 2

	Gum Springs Road (659) From North			Sudley road (234) From East			From South			Sudley road (234) From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	21	0	6	0	23	83	0	0	0	80	55	0	268
06:15 AM	24	0	9	0	17	83	0	0	0	92	87	0	312
06:30 AM	32	0	14	0	21	101	0	0	0	133	68	0	369
06:45 AM	22	0	4	0	30	104	0	0	0	113	75	0	348
Total	99	0	33	0	91	371	0	0	0	418	285	0	1297
07:00 AM	37	0	22	0	28	103	0	0	0	114	65	0	369
07:15 AM	32	0	18	0	18	100	0	0	0	129	68	0	365
07:30 AM	46	0	13	0	10	80	0	0	0	121	52	0	322
07:45 AM	45	0	27	0	23	84	0	0	0	113	58	0	350
Total	160	0	80	0	79	367	0	0	0	477	243	0	1406
08:00 AM	55	0	21	0	21	72	0	0	0	72	29	0	270
08:15 AM	51	0	17	0	18	62	0	0	0	96	59	0	303
08:30 AM	47	0	20	0	20	49	0	0	0	61	60	0	257
08:45 AM	61	0	32	0	29	59	0	0	0	44	49	0	274
Total	214	0	90	0	88	242	0	0	0	273	197	0	1104
03:30 PM	74	0	56	0	62	44	0	0	0	16	32	0	284
03:45 PM	79	0	84	0	80	53	0	0	0	9	22	0	327
Total	153	0	140	0	142	97	0	0	0	25	54	0	611
04:00 PM	90	0	103	0	67	59	0	0	0	13	30	0	362
04:15 PM	76	0	113	0	66	43	0	0	0	23	18	0	339
04:30 PM	73	0	107	0	66	83	0	0	0	18	25	0	372
04:45 PM	93	0	117	0	86	60	0	0	0	14	28	0	398
Total	332	0	440	0	285	245	0	0	0	68	101	0	1471
05:00 PM	66	0	120	0	79	57	0	0	0	21	33	0	376
05:15 PM	102	0	175	0	76	87	0	0	0	13	23	0	476
05:30 PM	82	0	115	0	59	52	0	0	0	20	40	0	368
05:45 PM	91	0	117	0	74	64	0	0	0	25	27	0	398
Total	341	0	527	0	288	260	0	0	0	79	123	0	1618
06:00 PM	72	0	126	0	73	66	0	0	0	14	26	0	377
06:15 PM	100	0	91	0	74	53	0	0	0	21	35	0	374
Grand Total	1471	0	1527	0	1120	1701	0	0	0	1375	1064	0	8258
Apprch %	49.1	0	50.9	0	39.7	60.3	0	0	0	56.4	43.6	0	
Total %	17.8	0	18.5	0	13.6	20.6	0	0	0	16.7	12.9	0	
Unshifted	1314	0	1504	0	1099	1527	0	0	0	1355	1035	0	7834
% Unshifted	89.3	0	98.5	0	98.1	89.8	0	0	0	98.5	97.3	0	94.9
Bank 1	65	0	15	0	8	79	0	0	0	11	23	0	201
% Bank 1	4.4	0	1	0	0.7	4.6	0	0	0	0.8	2.2	0	2.4
Bank 2	92	0	8	0	13	95	0	0	0	9	6	0	223
% Bank 2	6.3	0	0.5	0	1.2	5.6	0	0	0	0.7	0.6	0	2.7

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Sudley Rd at Gum Spring Rd
Site Code : 00000011
Start Date : 2/27/2013
Page No : 2

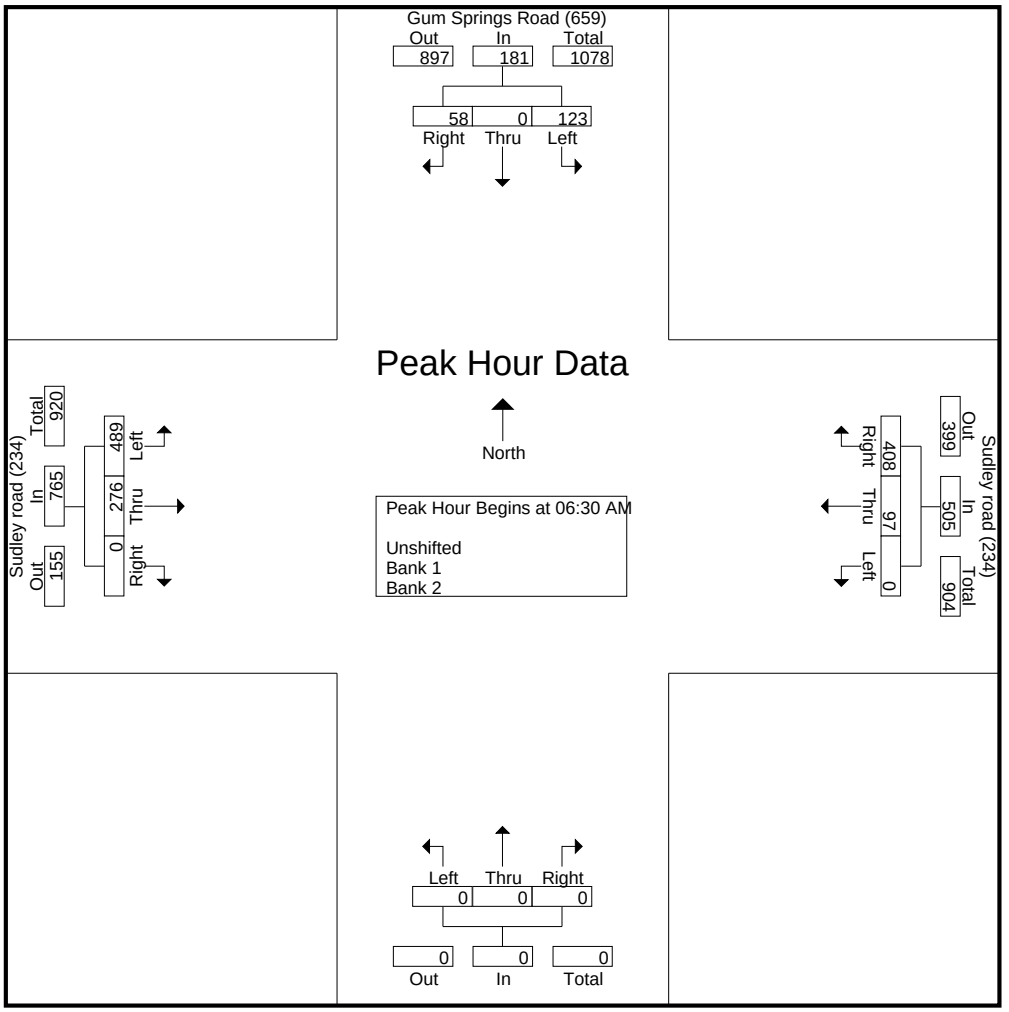


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Sudley Rd at Gum Spring Rd
Site Code : 00000011
Start Date : 2/27/2013
Page No : 3

	Gum Springs Road (659) From North				Sudley road (234) From East				From South				Sudley road (234) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30 AM																	
06:30 AM	32	0	14	46	0	21	101	122	0	0	0	0	**133**	68	0	**201**	**369**
06:45 AM	22	0	4	26	0	**30**	**104**	**134**	0	0	0	0	113	**75**	0	188	348
07:00 AM	**37**	0	**22**	**59**	0	28	103	131	0	0	0	0	114	65	0	179	369
07:15 AM	32	0	18	50	0	18	100	118	0	0	0	0	129	68	0	197	365
Total Volume	123	0	58	181	0	97	408	505	0	0	0	0	489	276	0	765	1451
% App. Total	68	0	32		0	19.2	80.8		0	0	0		63.9	36.1	0		
PHF	.831	.000	.659	.767	.000	.808	.981	.942	.000	.000	.000	.000	.919	.920	.000	.951	.983

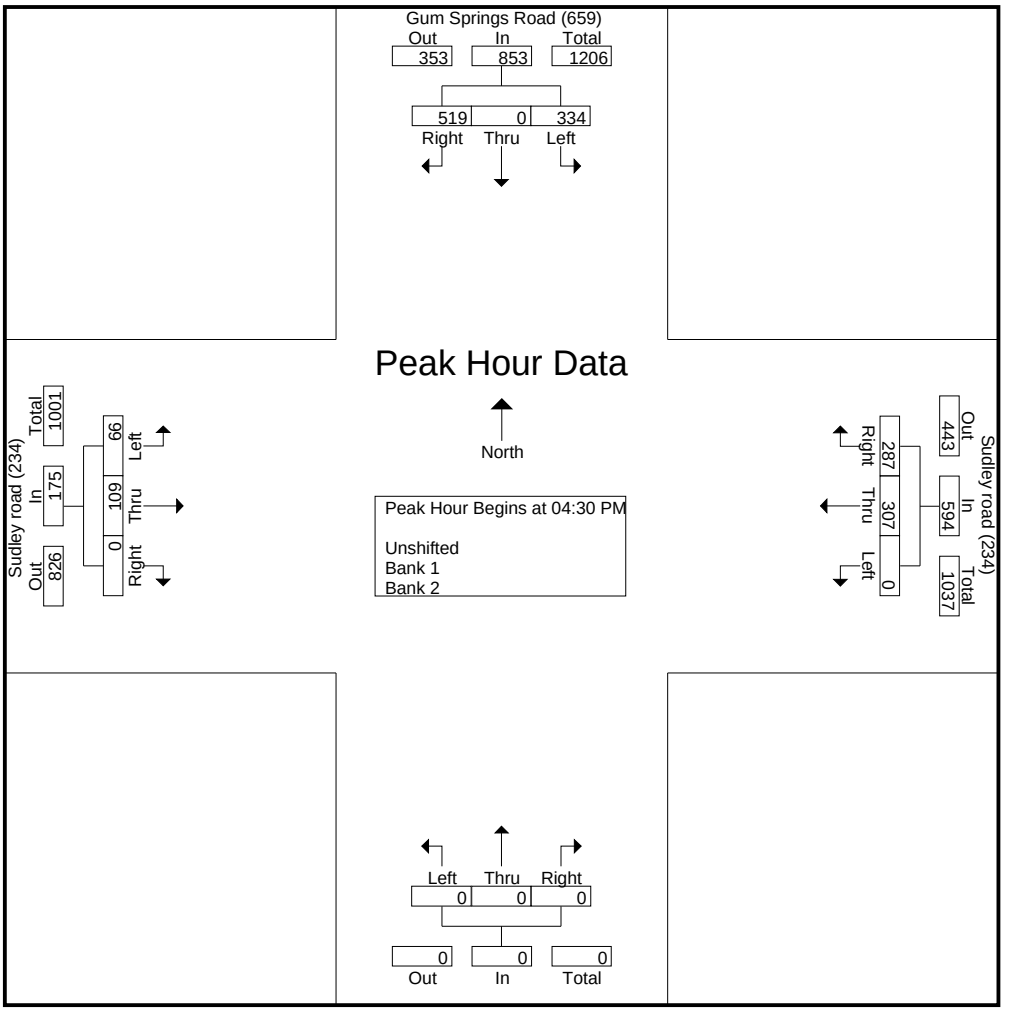


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : Sudley Rd at Gum Spring Rd
Site Code : 00000011
Start Date : 2/27/2013
Page No : 4

	Gum Springs Road (659) From North				Sudley road (234) From East				From South				Sudley road (234) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	73	0	107	180	0	66	83	149	0	0	0	0	18	25	0	43	372
04:45 PM	93	0	117	210	0	**86**	60	146	0	0	0	0	14	28	0	42	398
05:00 PM	66	0	120	186	0	79	57	136	0	0	0	0	**21**	**33**	0	**54**	376
05:15 PM	**102**	0	**175**	**277**	0	76	**87**	**163**	0	0	0	0	13	23	0	36	**476**
Total Volume	334	0	519	853	0	307	287	594	0	0	0	0	66	109	0	175	1622
% App. Total	39.2	0	60.8		0	51.7	48.3		0	0	0		37.7	62.3	0		
PHF	.819	.000	.741	.770	.000	.892	.825	.911	.000	.000	.000	.000	.786	.826	.000	.810	.852



MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US15 at Sudley Road
Site Code : 00000033
Start Date : 2/28/2013
Page No : 1

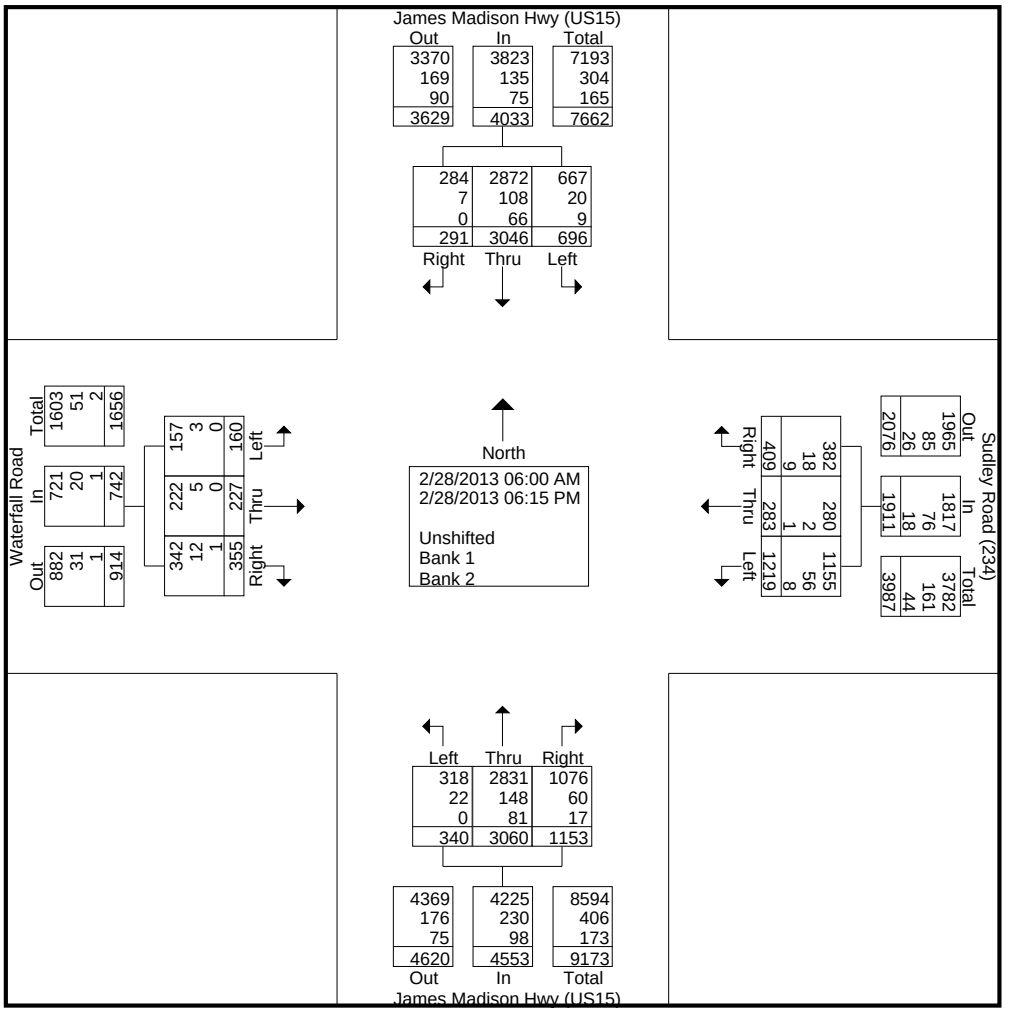
Groups Printed- Unshifted - Bank 1 - Bank 2

	James Madison Hwy (US15) From North			Sudley Road (234) From East			James Madison Hwy (US15) From South			Waterfall Road From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	23	52	0	6	2	11	2	114	46	8	11	7	282
06:15 AM	24	55	1	29	1	10	2	141	44	5	9	3	324
06:30 AM	29	74	1	34	1	13	2	180	45	11	16	14	420
06:45 AM	17	113	1	78	2	12	5	132	68	10	11	28	477
Total	93	294	3	147	6	46	11	567	203	34	47	52	1503
07:00 AM	45	91	0	55	1	7	8	185	55	15	17	29	508
07:15 AM	31	86	5	42	1	15	10	144	72	8	12	16	442
07:30 AM	30	95	1	41	2	7	1	148	51	15	20	8	419
07:45 AM	35	113	2	53	2	15	8	163	45	14	20	27	497
Total	141	385	8	191	6	44	27	640	223	52	69	80	1866
08:00 AM	18	84	1	55	4	10	11	165	58	6	9	20	441
08:15 AM	22	85	0	43	4	29	11	153	52	5	8	10	422
08:30 AM	20	121	2	58	7	14	9	171	35	12	14	7	470
08:45 AM	21	76	0	58	5	12	7	119	42	8	12	29	389
Total	81	366	3	214	20	65	38	608	187	31	43	66	1722
03:30 PM	20	147	16	67	15	25	21	98	58	6	5	16	494
03:45 PM	32	183	8	39	17	19	30	101	45	1	2	17	494
Total	52	330	24	106	32	44	51	199	103	7	7	33	988
04:00 PM	35	169	15	54	16	14	22	104	63	4	4	10	510
04:15 PM	30	152	37	47	30	16	24	108	44	5	9	8	510
04:30 PM	37	177	20	66	26	25	15	108	43	2	1	16	536
04:45 PM	44	190	21	80	24	20	22	112	43	6	4	15	581
Total	146	688	93	247	96	75	83	432	193	17	18	49	2137
05:00 PM	25	154	25	49	25	20	25	107	51	3	3	8	495
05:15 PM	33	181	19	42	20	25	25	126	46	3	9	20	549
05:30 PM	33	177	58	43	16	26	16	85	39	5	12	11	521
05:45 PM	28	159	20	64	25	20	21	98	37	3	10	15	500
Total	119	671	122	198	86	91	87	416	173	14	34	54	2065
06:00 PM	28	159	24	57	16	22	20	102	35	4	4	10	481
06:15 PM	36	153	14	59	21	22	23	96	36	1	5	11	477
Grand Total	696	3046	291	1219	283	409	340	3060	1153	160	227	355	11239
Apprch %	17.3	75.5	7.2	63.8	14.8	21.4	7.5	67.2	25.3	21.6	30.6	47.8	
Total %	6.2	27.1	2.6	10.8	2.5	3.6	3	27.2	10.3	1.4	2	3.2	
Unshifted	667	2872	284	1155	280	382	318	2831	1076	157	222	342	10586
% Unshifted	95.8	94.3	97.6	94.7	98.9	93.4	93.5	92.5	93.3	98.1	97.8	96.3	94.2
Bank 1	20	108	7	56	2	18	22	148	60	3	5	12	461
% Bank 1	2.9	3.5	2.4	4.6	0.7	4.4	6.5	4.8	5.2	1.9	2.2	3.4	4.1
Bank 2	9	66	0	8	1	9	0	81	17	0	0	1	192
% Bank 2	1.3	2.2	0	0.7	0.4	2.2	0	2.6	1.5	0	0	0.3	1.7

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US15 at Sudley Road
Site Code : 00000033
Start Date : 2/28/2013
Page No : 2

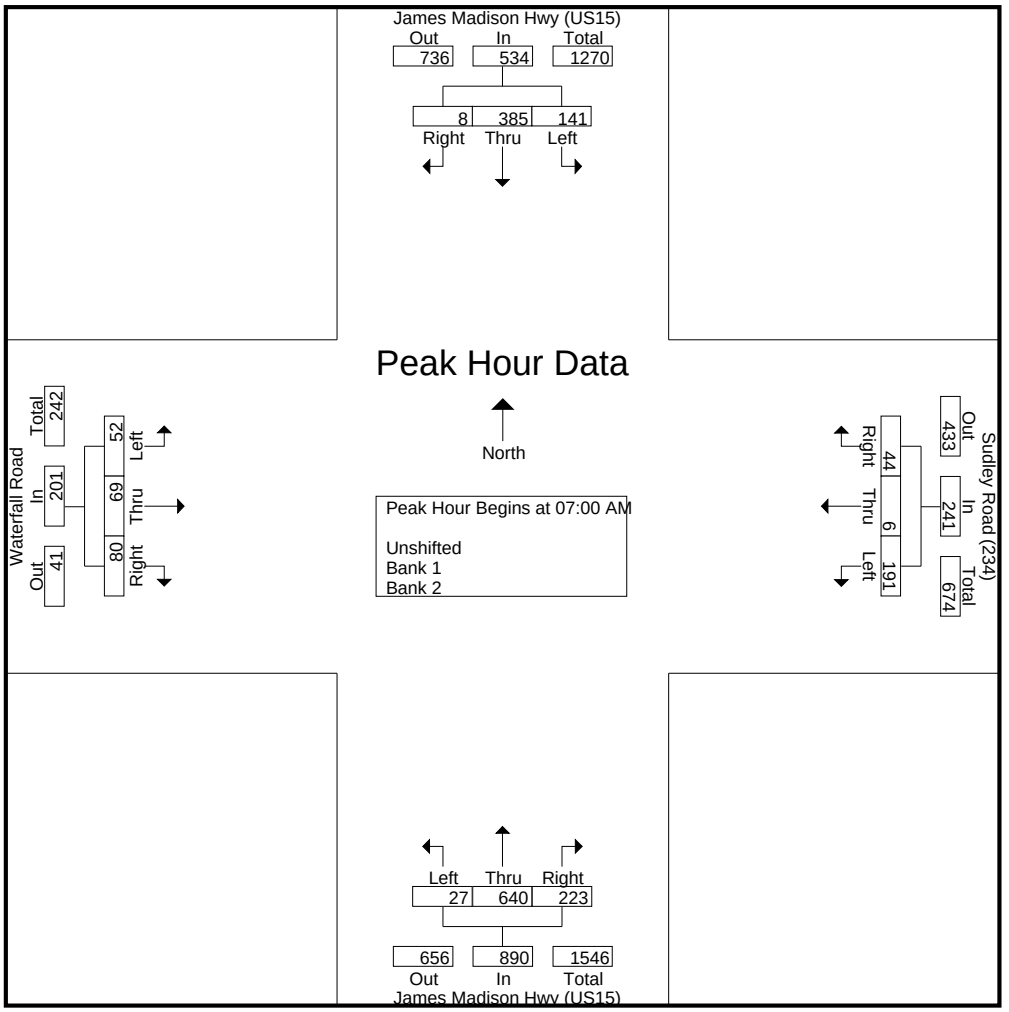


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US15 at Sudley Road
Site Code : 00000033
Start Date : 2/28/2013
Page No : 3

	James Madison Hwy (US15) From North				Sudley Road (234) From East				James Madison Hwy (US15) From South				Waterfall Road From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**45**	91	0	136	**55**	1	7	63	8	**185**	55	**248**	**15**	17	**29**	**61**	**508**
07:15 AM	31	86	**5**	122	42	1	**15**	58	**10**	144	**72**	226	8	12	16	36	442
07:30 AM	30	95	1	126	41	**2**	7	50	1	148	51	200	15	**20**	8	43	419
07:45 AM	35	**113**	2	**150**	53	2	15	**70**	8	163	45	216	14	20	27	61	497
Total Volume	141	385	8	534	191	6	44	241	27	640	223	890	52	69	80	201	1866
% App. Total	26.4	72.1	1.5		79.3	2.5	18.3		3	71.9	25.1		25.9	34.3	39.8		
PHF	.783	.852	.400	.890	.868	.750	.733	.861	.675	.865	.774	.897	.867	.863	.690	.824	.918

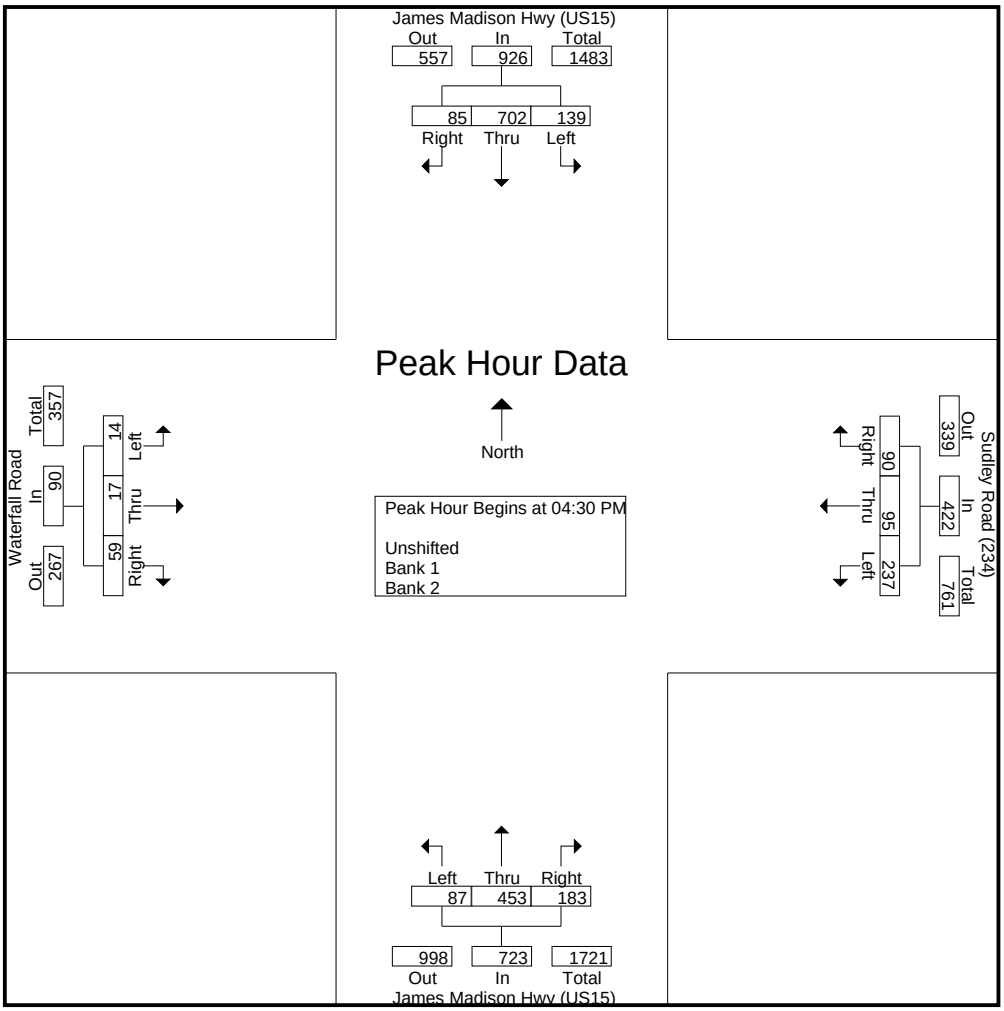


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US15 at Sudley Road
Site Code : 00000033
Start Date : 2/28/2013
Page No : 4

	James Madison Hwy (US15) From North				Sudley Road (234) From East				James Madison Hwy (US15) From South				Waterfall Road From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	37	177	20	234	66	**26**	**25**	117	15	108	43	166	2	1	16	19	536
04:45 PM	**44**	**190**	21	**255**	**80**	24	20	**124**	22	112	43	177	**6**	4	15	25	**581**
05:00 PM	25	154	**25**	204	49	25	20	94	**25**	107	**51**	183	3	3	8	14	495
05:15 PM	33	181	19	233	42	20	25	87	25	**126**	46	**197**	3	**9**	**20**	**32**	549
Total Volume	139	702	85	926	237	95	90	422	87	453	183	723	14	17	59	90	2161
% App. Total	15	75.8	9.2		56.2	22.5	21.3		12	62.7	25.3		15.6	18.9	65.6		
PHF	.790	.924	.850	.908	.741	.913	.900	.851	.870	.899	.897	.918	.583	.472	.738	.703	.930



MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US29 at Pleasant Valley Rd
Site Code : 00000011
Start Date : 2/28/2013
Page No : 1

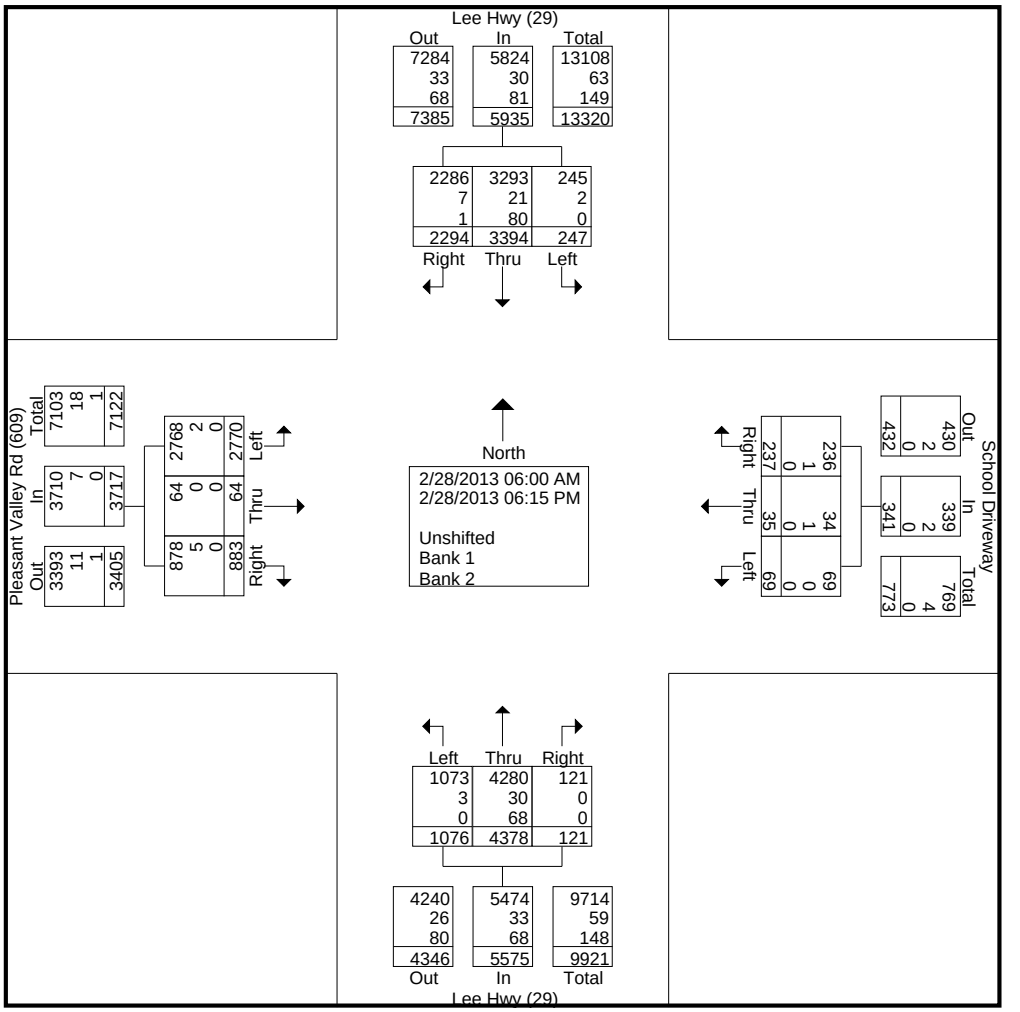
Groups Printed- Unshifted - Bank 1 - Bank 2

	Lee Hwy (29) From North			School Driveway From East			Lee Hwy (29) From South			Pleasant Valley Rd (609) From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	0	14	3	0	0	3	29	264	2	67	0	3	385
06:15 AM	0	27	8	0	0	1	38	289	4	75	0	14	456
06:30 AM	0	20	23	0	0	2	50	279	0	117	0	9	500
06:45 AM	2	28	17	0	2	2	56	283	2	175	3	19	589
Total	2	89	51	0	2	8	173	1115	8	434	3	45	1930
07:00 AM	4	21	27	0	2	5	57	273	3	168	2	20	582
07:15 AM	8	42	25	0	2	7	52	312	7	146	0	32	633
07:30 AM	8	59	34	1	1	2	88	406	5	153	0	34	791
07:45 AM	14	62	36	0	1	6	89	385	8	164	4	19	788
Total	34	184	122	1	6	20	286	1376	23	631	6	105	2794
08:00 AM	26	45	59	1	1	7	65	353	7	135	0	22	721
08:15 AM	13	37	36	1	1	9	70	323	7	117	1	16	631
08:30 AM	13	59	48	0	0	5	58	313	17	150	18	21	702
08:45 AM	40	66	46	0	2	2	94	271	27	140	19	19	726
Total	92	207	189	2	4	23	287	1260	58	542	38	78	2780
03:30 PM	17	222	119	6	5	19	22	47	1	74	0	46	578
03:45 PM	25	231	123	9	6	22	18	58	2	90	2	52	638
Total	42	453	242	15	11	41	40	105	3	164	2	98	1216
04:00 PM	8	213	152	14	3	58	33	64	1	83	0	52	681
04:15 PM	5	211	157	7	2	10	25	62	0	125	2	87	693
04:30 PM	6	252	160	3	1	7	20	53	4	82	1	48	637
04:45 PM	7	269	163	1	0	8	26	46	1	64	0	41	626
Total	26	945	632	25	6	83	104	225	6	354	3	228	2637
05:00 PM	20	285	156	0	0	5	18	46	7	102	2	55	696
05:15 PM	20	243	163	12	1	38	18	61	8	102	3	59	728
05:30 PM	5	224	161	8	1	9	43	49	3	104	0	60	667
05:45 PM	2	233	174	2	0	1	29	52	2	88	1	48	632
Total	47	985	654	22	2	53	108	208	20	396	6	222	2723
06:00 PM	3	270	207	2	3	6	38	43	1	120	3	53	749
06:15 PM	1	261	197	2	1	3	40	46	2	129	3	54	739
Grand Total	247	3394	2294	69	35	237	1076	4378	121	2770	64	883	15568
Apprch %	4.2	57.2	38.7	20.2	10.3	69.5	19.3	78.5	2.2	74.5	1.7	23.8	
Total %	1.6	21.8	14.7	0.4	0.2	1.5	6.9	28.1	0.8	17.8	0.4	5.7	
Unshifted	245	3293	2286	69	34	236	1073	4280	121	2768	64	878	15347
% Unshifted	99.2	97	99.7	100	97.1	99.6	99.7	97.8	100	99.9	100	99.4	98.6
Bank 1	2	21	7	0	1	1	3	30	0	2	0	5	72
% Bank 1	0.8	0.6	0.3	0	2.9	0.4	0.3	0.7	0	0.1	0	0.6	0.5
Bank 2	0	80	1	0	0	0	0	68	0	0	0	0	149
% Bank 2	0	2.4	0	0	0	0	0	1.6	0	0	0	0	1

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US29 at Pleasant Valley Rd
Site Code : 00000011
Start Date : 2/28/2013
Page No : 2

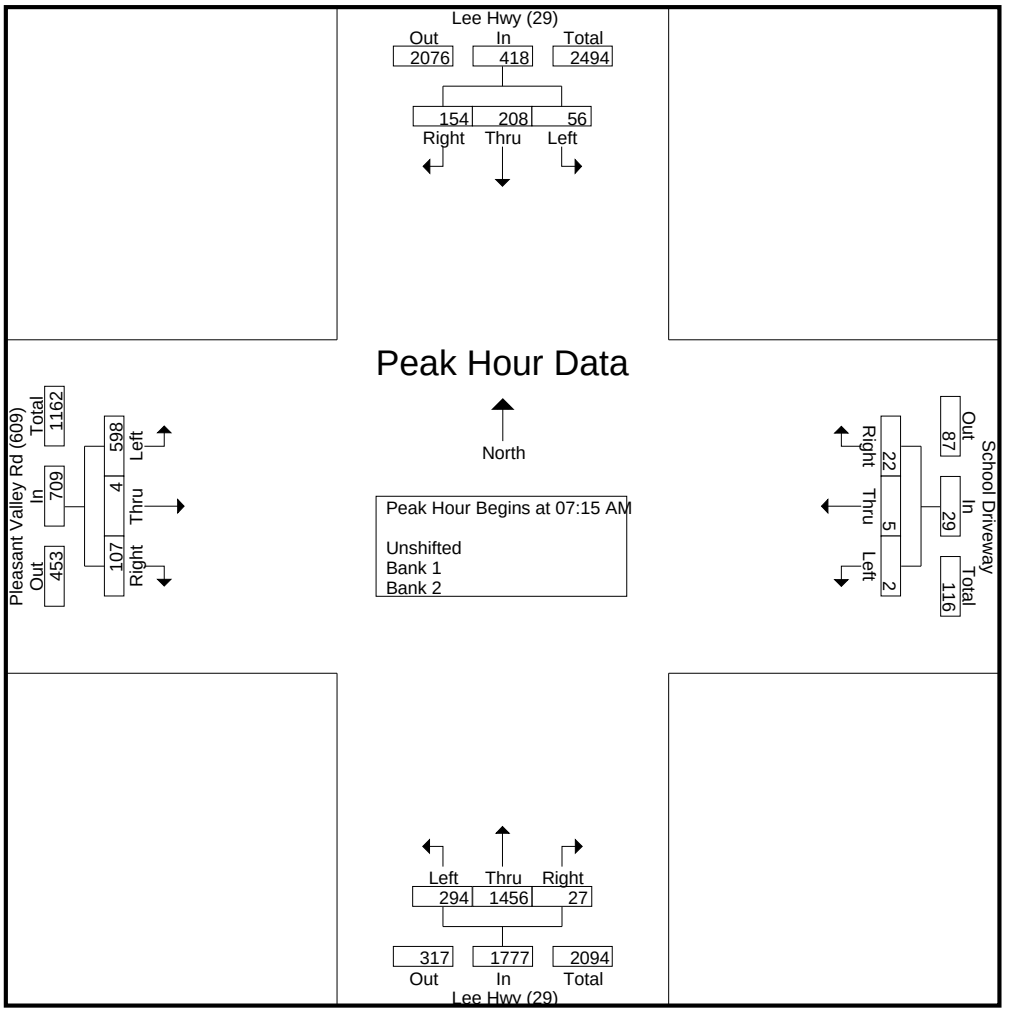


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US29 at Pleasant Valley Rd
Site Code : 00000011
Start Date : 2/28/2013
Page No : 3

	Lee Hwy (29) From North				School Driveway From East				Lee Hwy (29) From South				Pleasant Valley Rd (609) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	8	42	25	75	0	**2**	**7**	**9**	52	312	7	371	146	0	32	178	633
07:30 AM	8	59	34	101	**1**	1	2	4	88	**406**	5	**499**	153	0	**34**	**187**	**791**
07:45 AM	14	**62**	36	112	0	1	6	7	**89**	385	**8**	482	**164**	**4**	19	187	788
08:00 AM	**26**	45	**59**	**130**	1	1	7	9	65	353	7	425	135	0	22	157	721
Total Volume	56	208	154	418	2	5	22	29	294	1456	27	1777	598	4	107	709	2933
% App. Total	13.4	49.8	36.8		6.9	17.2	75.9		16.5	81.9	1.5		84.3	0.6	15.1		
PHF	.538	.839	.653	.804	.500	.625	.786	.806	.826	.897	.844	.890	.912	.250	.787	.948	.927

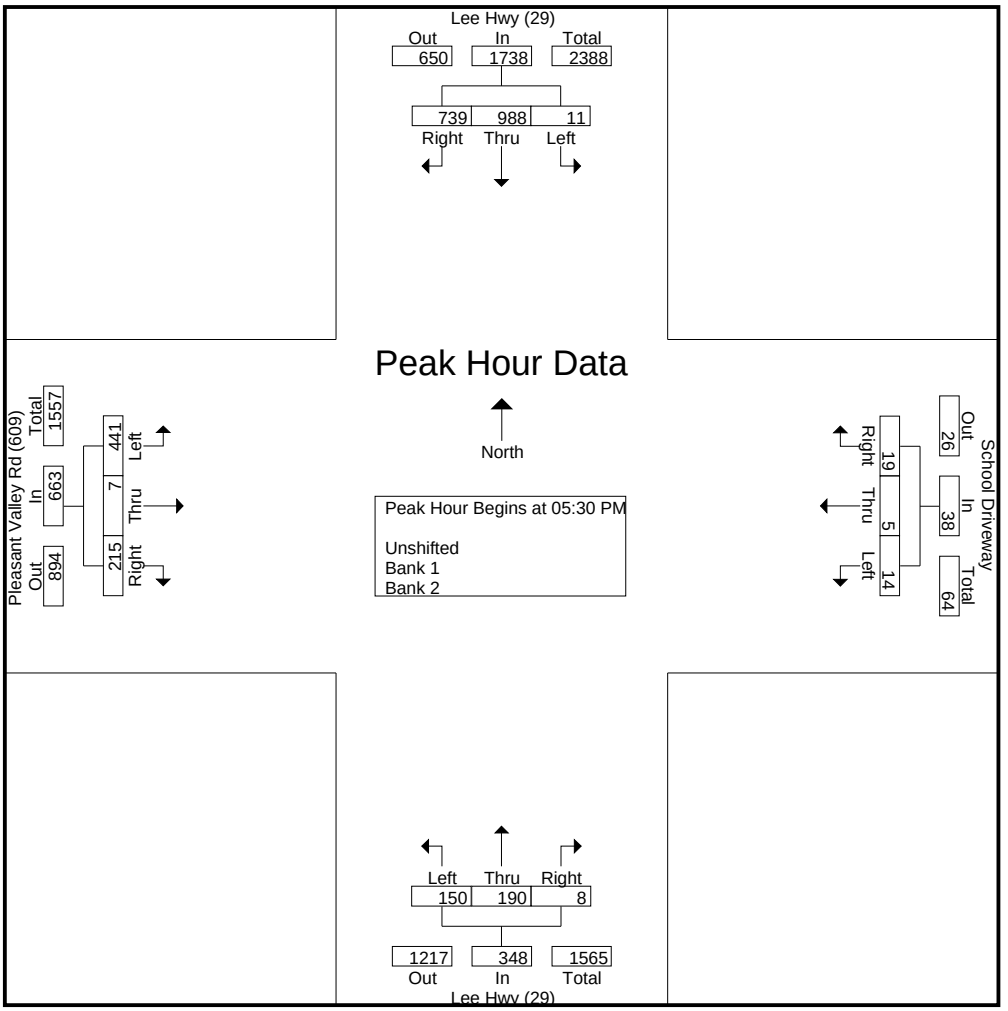


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : US29 at Pleasant Valley Rd
Site Code : 00000011
Start Date : 2/28/2013

	Lee Hwy (29) From North				School Driveway From East				Lee Hwy (29) From South				Pleasant Valley Rd (609) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	**5**	224	161	390	**8**	1	**9**	**18**	**43**	49	**3**	**95**	104	0	**60**	164	667
05:45 PM	2	233	174	409	2	0	1	3	29	**52**	2	83	88	1	48	137	632
06:00 PM	3	**270**	**207**	**480**	2	**3**	6	11	38	43	1	82	120	**3**	53	176	**749**
06:15 PM	1	261	197	459	2	1	3	6	40	46	2	88	**129**	3	54	**186**	739
Total Volume	11	988	739	1738	14	5	19	38	150	190	8	348	441	7	215	663	2787
% App. Total	0.6	56.8	42.5		36.8	13.2	50		43.1	54.6	2.3		66.5	1.1	32.4		
PHF	.550	.915	.893	.905	.438	.417	.528	.528	.872	.913	.667	.916	.855	.583	.896	.891	.930



MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at gum spring road
Site Code : 00000033
Start Date : 2/27/2013
Page No : 1

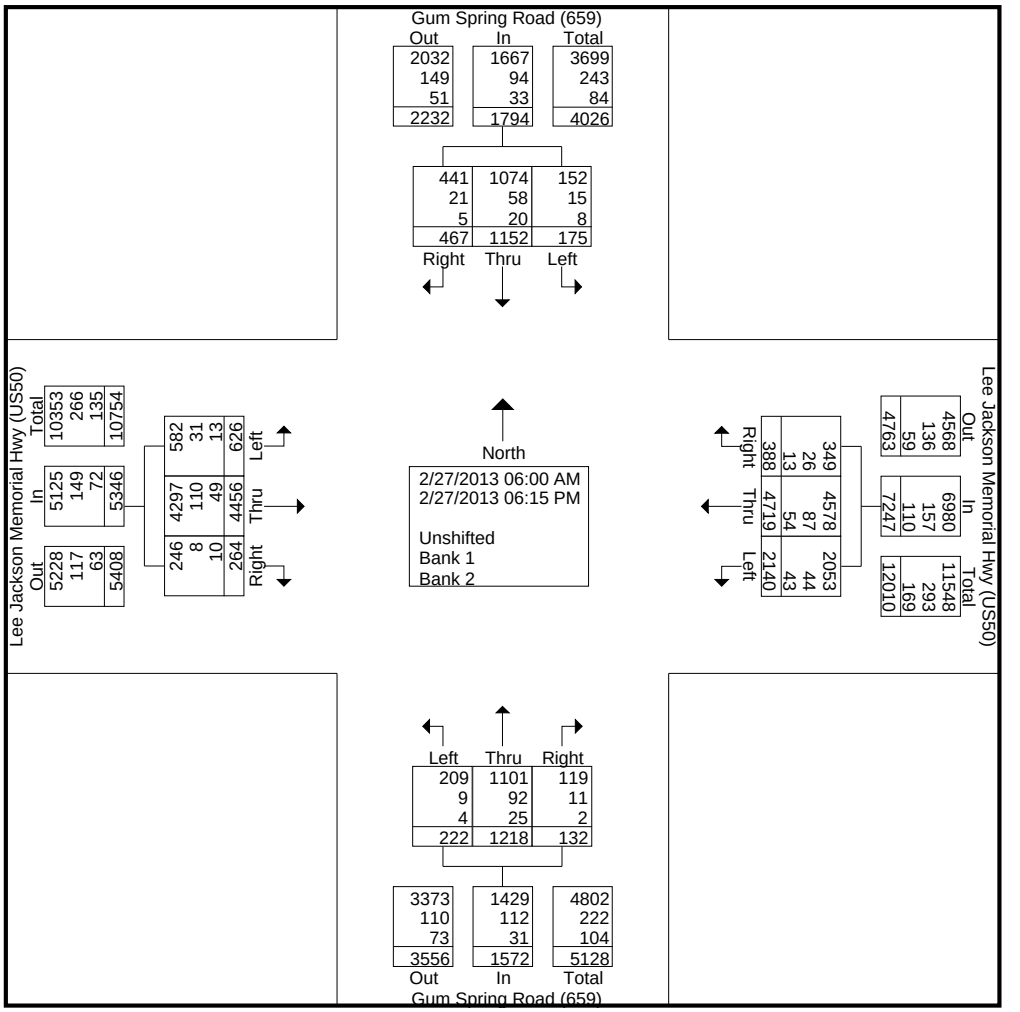
Groups Printed- Unshifted - Bank 1 - Bank 2

	Gum Spring Road (659) From North			Lee Jackson Memorial Hwy (US50) From East			Gum Spring Road (659) From South			Lee Jackson Memorial Hwy (US50) From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	7	13	6	12	40	9	5	27	6	12	189	4	330
06:15 AM	12	18	7	24	38	17	3	47	8	19	277	8	478
06:30 AM	8	18	7	29	63	36	9	85	8	20	303	1	587
06:45 AM	11	29	10	20	76	17	2	73	1	26	319	7	591
Total	38	78	30	85	217	79	19	232	23	77	1088	20	1986
07:00 AM	16	41	12	28	55	12	4	70	7	30	313	10	598
07:15 AM	10	44	10	38	90	18	6	71	8	30	310	16	651
07:30 AM	5	43	11	34	102	17	2	73	6	32	256	12	593
07:45 AM	7	30	21	33	101	21	8	63	7	42	298	15	646
Total	38	158	54	133	348	68	20	277	28	134	1177	53	2488
08:00 AM	7	44	15	42	95	26	3	82	3	36	240	13	606
08:15 AM	12	31	22	45	83	24	5	76	8	37	234	9	586
08:30 AM	17	38	14	37	101	6	8	68	6	35	240	14	584
08:45 AM	12	37	8	34	85	11	16	43	9	24	173	11	463
Total	48	150	59	158	364	67	32	269	26	132	887	47	2239
03:30 PM	10	40	20	152	267	19	13	34	2	24	102	15	698
03:45 PM	5	63	30	152	305	10	13	31	4	16	101	15	745
Total	15	103	50	304	572	29	26	65	6	40	203	30	1443
04:00 PM	9	53	22	128	327	17	13	34	5	20	99	12	739
04:15 PM	10	64	23	133	326	14	17	36	6	25	112	9	775
04:30 PM	4	72	24	148	340	11	17	39	5	18	105	7	790
04:45 PM	1	62	23	155	367	15	7	39	5	24	124	8	830
Total	24	251	92	564	1360	57	54	148	21	87	440	36	3134
05:00 PM	2	70	24	140	339	17	15	34	5	27	127	11	811
05:15 PM	5	67	27	157	274	20	22	34	5	20	106	11	748
05:30 PM	0	71	33	165	303	13	7	49	3	26	121	10	801
05:45 PM	2	65	37	159	286	8	13	42	4	26	100	13	755
Total	9	273	121	621	1202	58	57	159	17	99	454	45	3115
06:00 PM	2	60	28	145	297	15	7	43	6	31	93	20	747
06:15 PM	1	79	33	130	359	15	7	25	5	26	114	13	807
Grand Total	175	1152	467	2140	4719	388	222	1218	132	626	4456	264	15959
Apprch %	9.8	64.2	26	29.5	65.1	5.4	14.1	77.5	8.4	11.7	83.4	4.9	
Total %	1.1	7.2	2.9	13.4	29.6	2.4	1.4	7.6	0.8	3.9	27.9	1.7	
Unshifted	152	1074	441	2053	4578	349	209	1101	119	582	4297	246	15201
% Unshifted	86.9	93.2	94.4	95.9	97	89.9	94.1	90.4	90.2	93	96.4	93.2	95.3
Bank 1	15	58	21	44	87	26	9	92	11	31	110	8	512
% Bank 1	8.6	5	4.5	2.1	1.8	6.7	4.1	7.6	8.3	5	2.5	3	3.2
Bank 2	8	20	5	43	54	13	4	25	2	13	49	10	246
% Bank 2	4.6	1.7	1.1	2	1.1	3.4	1.8	2.1	1.5	2.1	1.1	3.8	1.5

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at gum spring road
Site Code : 00000033
Start Date : 2/27/2013

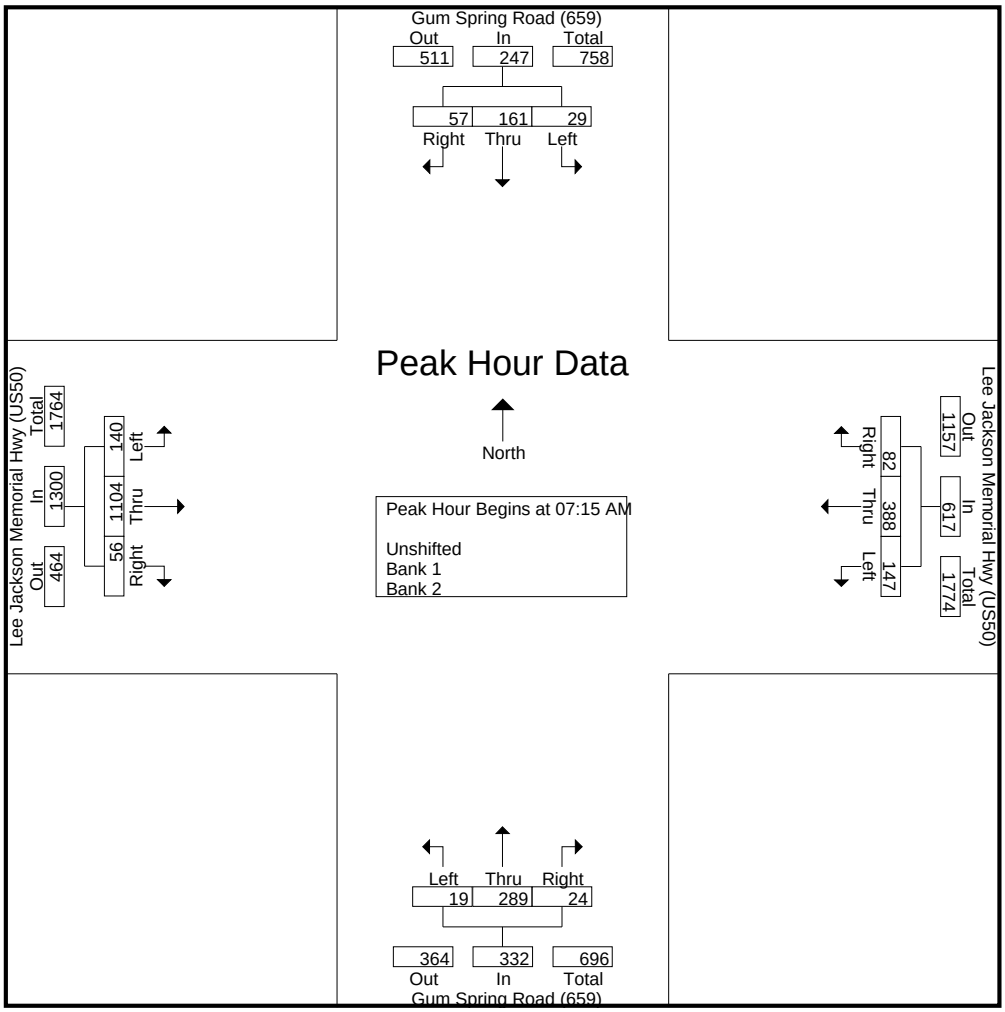


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at gum spring road
Site Code : 00000033
Start Date : 2/27/2013
Page No : 3

	Gum Spring Road (659) From North				Lee Jackson Memorial Hwy (US50) From East				Gum Spring Road (659) From South				Lee Jackson Memorial Hwy (US50) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**10**	**44**	10	64	38	90	18	146	6	71	**8**	85	30	**310**	**16**	**356**	**651**
07:30 AM	5	43	11	59	34	**102**	17	153	2	73	6	81	32	256	12	300	593
07:45 AM	7	30	**21**	58	33	101	21	155	**8**	63	7	78	**42**	298	15	355	646
08:00 AM	7	44	15	**66**	**42**	95	**26**	**163**	3	**82**	3	**88**	36	240	13	289	606
Total Volume	29	161	57	247	147	388	82	617	19	289	24	332	140	1104	56	1300	2496
% App. Total	11.7	65.2	23.1		23.8	62.9	13.3		5.7	87	7.2		10.8	84.9	4.3		
PHF	.725	.915	.679	.936	.875	.951	.788	.946	.594	.881	.750	.943	.833	.890	.875	.913	.959

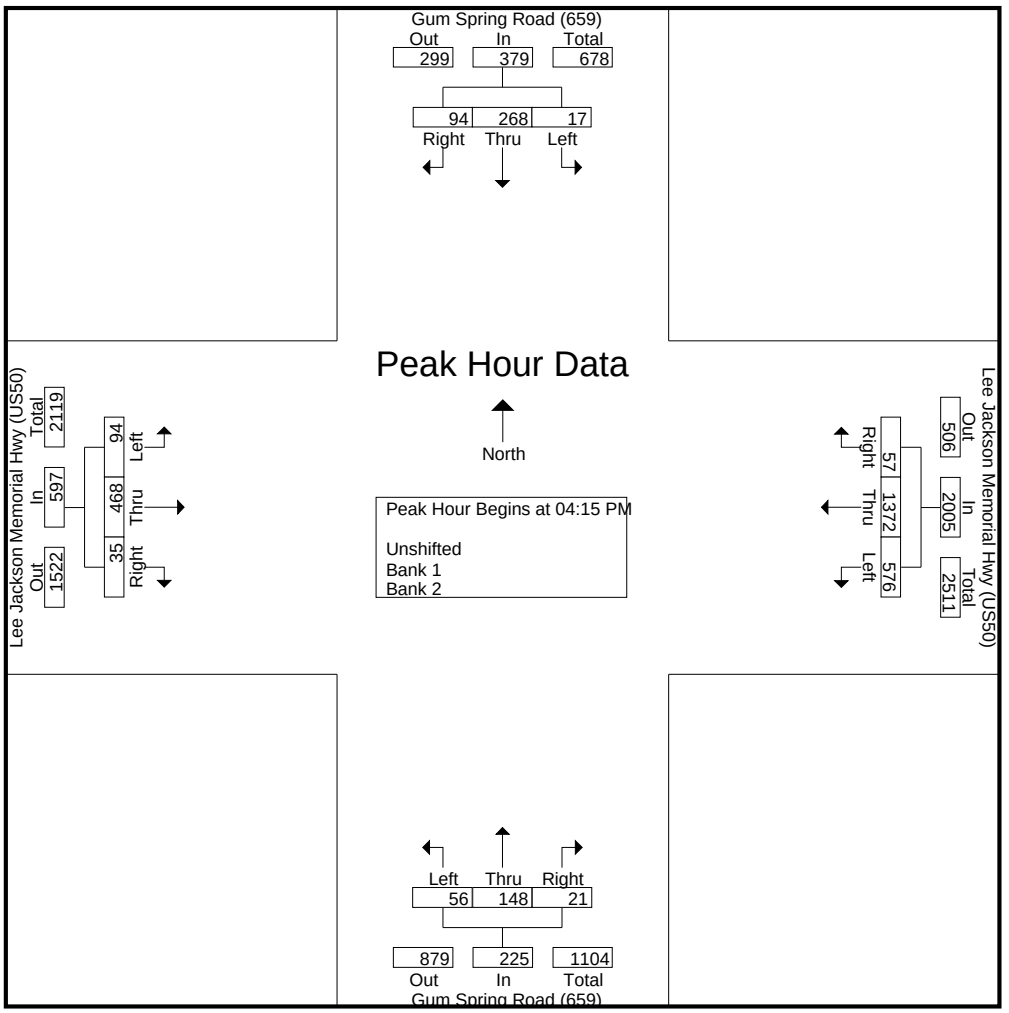


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at gum spring road
Site Code : 00000033
Start Date : 2/27/2013
Page No : 4

	Gum Spring Road (659) From North				Lee Jackson Memorial Hwy (US50) From East				Gum Spring Road (659) From South				Lee Jackson Memorial Hwy (US50) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**10**	64	23	97	133	326	14	473	**17**	36	**6**	59	25	112	9	146	775
04:30 PM	4	**72**	**24**	**100**	148	340	11	499	17	**39**	5	**61**	18	105	7	130	790
04:45 PM	1	62	23	86	**155**	**367**	15	**537**	7	39	5	51	24	124	8	156	**830**
05:00 PM	2	70	24	96	140	339	**17**	496	15	34	5	54	**27**	**127**	**11**	**165**	811
Total Volume	17	268	94	379	576	1372	57	2005	56	148	21	225	94	468	35	597	3206
% App. Total	4.5	70.7	24.8		28.7	68.4	2.8		24.9	65.8	9.3		15.7	78.4	5.9		
PHF	.425	.931	.979	.948	.929	.935	.838	.933	.824	.949	.875	.922	.870	.921	.795	.905	.966



MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at loudoun county pkwy
Site Code : 00000000
Start Date : 2/26/2013
Page No : 1

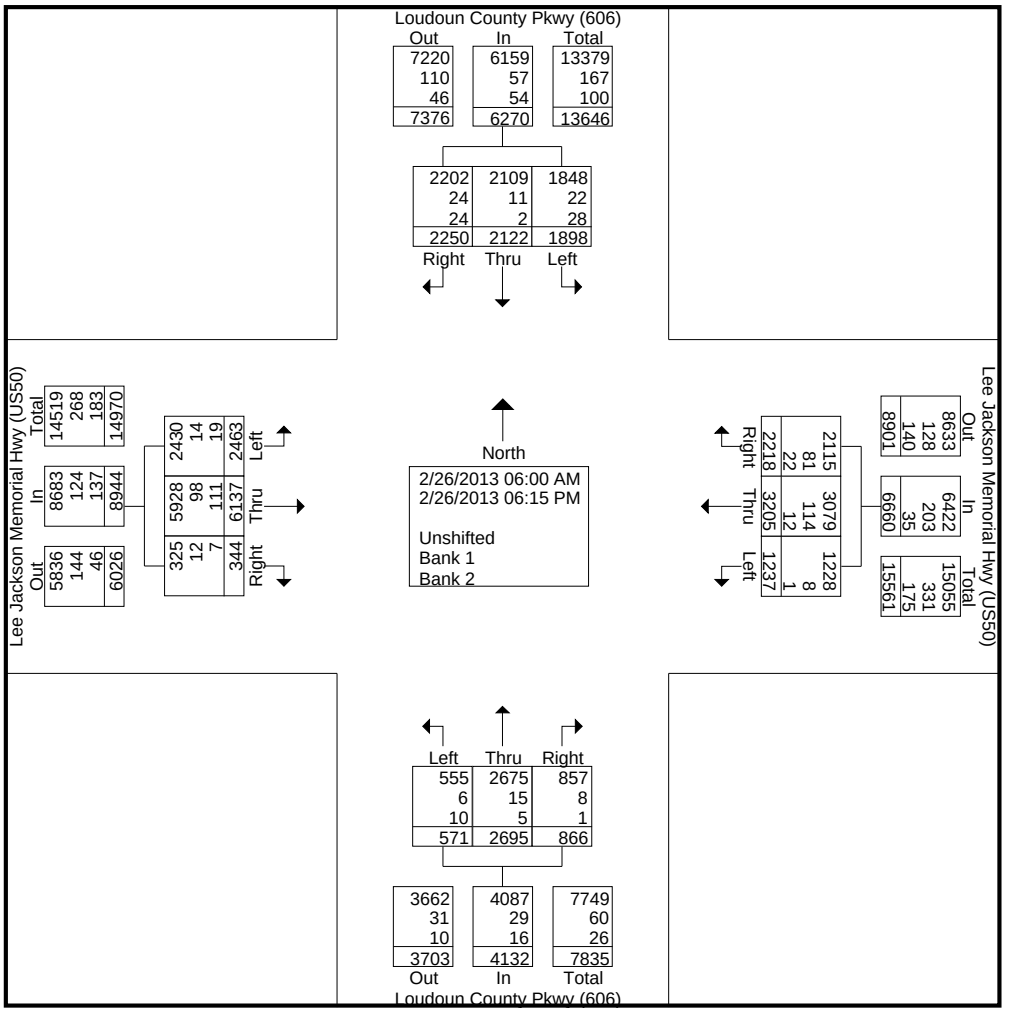
Groups Printed- Unshifted - Bank 1 - Bank 2

	Loudoun County Pkwy (606) From North			Lee Jackson Memorial Hwy (US50) From East			Loudoun County Pkwy (606) From South			Lee Jackson Memorial Hwy (US50) From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
06:00 AM	95	11	34	9	58	36	11	68	62	102	244	3	733
06:15 AM	91	20	44	10	70	55	9	92	67	152	380	6	996
06:30 AM	93	34	50	4	81	73	12	128	97	176	339	6	1093
06:45 AM	135	31	43	13	83	85	15	173	86	178	460	7	1309
Total	414	96	171	36	292	249	47	461	312	608	1423	22	4131
07:00 AM	100	52	34	17	95	78	2	101	75	188	300	10	1052
07:15 AM	103	43	37	9	97	79	15	123	74	173	368	11	1132
07:30 AM	102	58	52	7	91	72	22	180	49	149	315	12	1109
07:45 AM	92	42	50	12	94	96	14	199	41	236	328	18	1222
Total	397	195	173	45	377	325	53	603	239	746	1311	51	4515
08:00 AM	84	53	42	35	53	79	30	170	31	182	378	7	1144
08:15 AM	102	63	34	16	58	64	17	128	38	154	271	14	959
08:30 AM	73	43	33	20	55	72	21	107	43	157	267	13	904
08:45 AM	85	42	26	25	86	74	18	126	41	155	341	18	1037
Total	344	201	135	96	252	289	86	531	153	648	1257	52	4044
03:30 PM	54	91	107	61	172	55	30	63	17	65	121	22	858
03:45 PM	66	112	135	80	197	100	36	86	8	30	195	15	1060
Total	120	203	242	141	369	155	66	149	25	95	316	37	1918
04:00 PM	66	104	136	71	200	123	50	75	0	41	146	16	1028
04:15 PM	55	151	163	75	241	126	44	76	0	43	155	15	1144
04:30 PM	70	142	161	112	145	140	43	65	8	44	131	12	1073
04:45 PM	71	153	193	124	181	97	21	99	12	30	176	49	1206
Total	262	550	653	382	767	486	158	315	20	158	608	92	4451
05:00 PM	77	166	124	107	205	135	31	70	7	40	238	24	1224
05:15 PM	61	138	167	116	180	178	29	119	18	29	165	15	1215
05:30 PM	64	180	134	88	205	142	40	110	13	44	162	11	1193
05:45 PM	44	133	148	73	203	115	17	117	39	42	180	17	1128
Total	246	617	573	384	793	570	117	416	77	155	745	67	4760
06:00 PM	61	118	132	82	151	96	27	101	19	14	218	15	1034
06:15 PM	54	142	171	71	204	48	17	119	21	39	259	8	1153
Grand Total	1898	2122	2250	1237	3205	2218	571	2695	866	2463	6137	344	26006
Apprch %	30.3	33.8	35.9	18.6	48.1	33.3	13.8	65.2	21	27.5	68.6	3.8	
Total %	7.3	8.2	8.7	4.8	12.3	8.5	2.2	10.4	3.3	9.5	23.6	1.3	
Unshifted	1848	2109	2202	1228	3079	2115	555	2675	857	2430	5928	325	25351
% Unshifted	97.4	99.4	97.9	99.3	96.1	95.4	97.2	99.3	99	98.7	96.6	94.5	97.5
Bank 1	22	11	24	8	114	81	6	15	8	14	98	12	413
% Bank 1	1.2	0.5	1.1	0.6	3.6	3.7	1.1	0.6	0.9	0.6	1.6	3.5	1.6
Bank 2	28	2	24	1	12	22	10	5	1	19	111	7	242
% Bank 2	1.5	0.1	1.1	0.1	0.4	1	1.8	0.2	0.1	0.8	1.8	2	0.9

MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at loudoun county pkwy
Site Code : 00000000
Start Date : 2/26/2013
Page No : 2

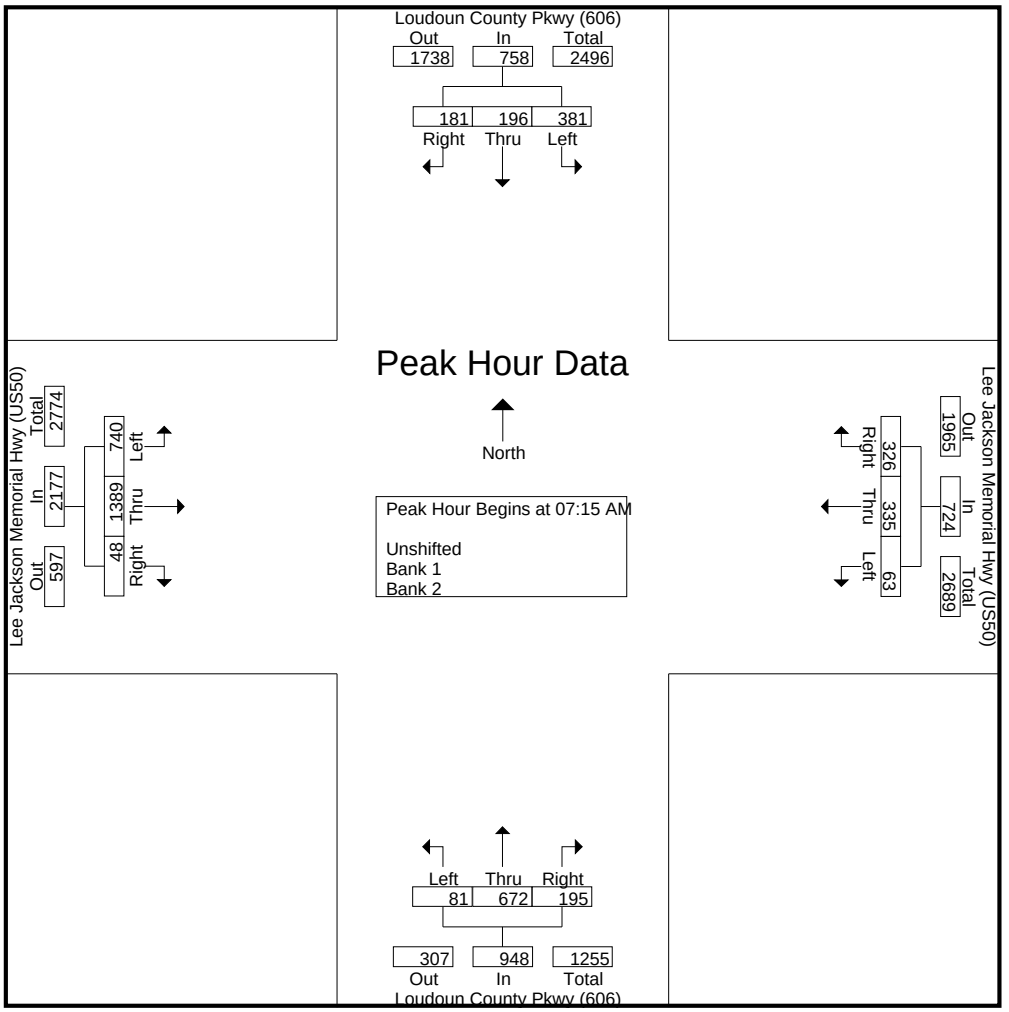


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at loudoun county pkwy
Site Code : 00000000
Start Date : 2/26/2013
Page No : 3

	Loudoun County Pkwy (606) From North				Lee Jackson Memorial Hwy (US50) From East				Loudoun County Pkwy (606) From South				Lee Jackson Memorial Hwy (US50) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**103**	43	37	183	9	**97**	79	185	15	123	**74**	212	173	368	11	552	1132
07:30 AM	102	**58**	**52**	**212**	7	91	72	170	22	180	49	251	149	315	12	476	1109
07:45 AM	92	42	50	184	12	94	**96**	**202**	14	**199**	41	**254**	**236**	328	**18**	**582**	**1222**
08:00 AM	84	53	42	179	**35**	53	79	167	**30**	170	31	231	182	**378**	7	567	1144
Total Volume	381	196	181	758	63	335	326	724	81	672	195	948	740	1389	48	2177	4607
% App. Total	50.3	25.9	23.9		8.7	46.3	45		8.5	70.9	20.6		34	63.8	2.2		
PHF	.925	.845	.870	.894	.450	.863	.849	.896	.675	.844	.659	.933	.784	.919	.667	.935	.943

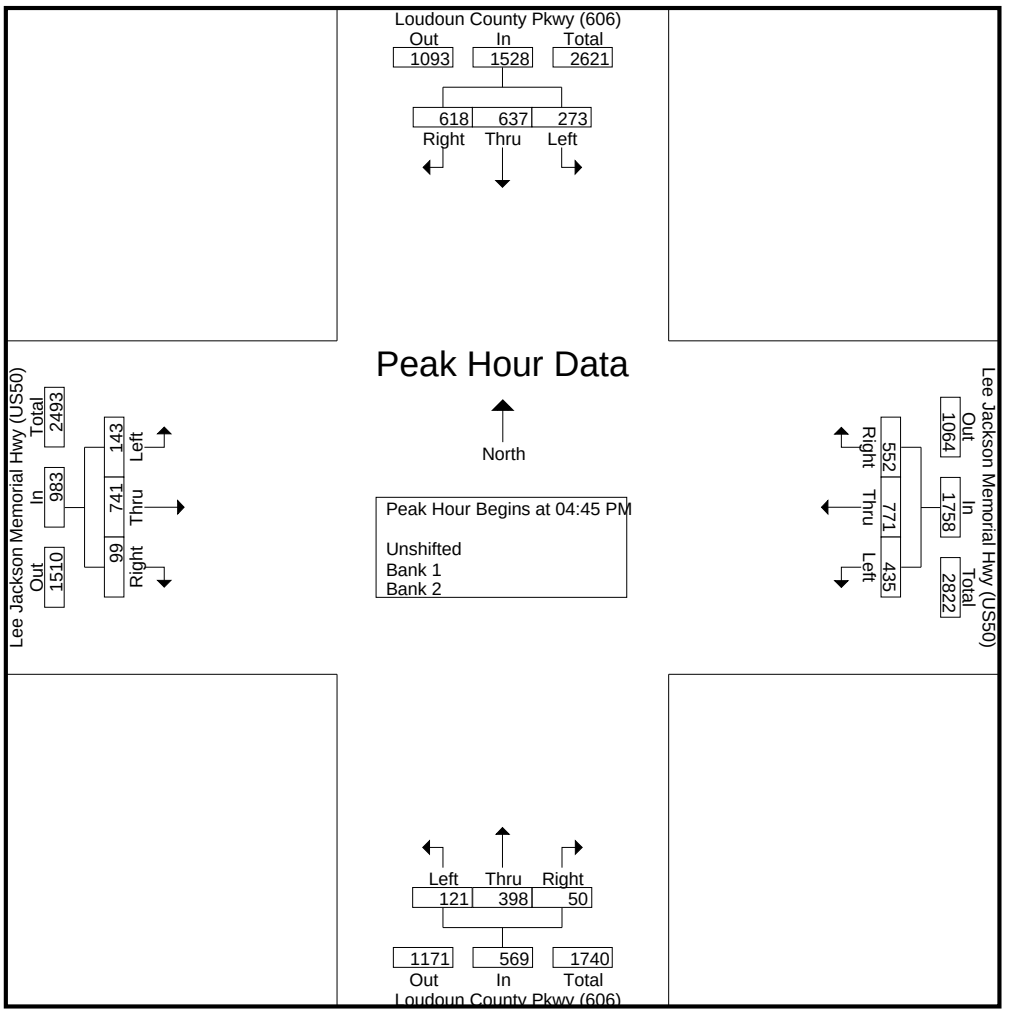


MCV Associates, Inc.

4605-C Pinecrest Office Park Dr
Alexandria, VA 22312
703-914-4850

File Name : us50 at loudoun county pkwy
Site Code : 00000000
Start Date : 2/26/2013
Page No : 4

	Loudoun County Pkwy (606) From North				Lee Jackson Memorial Hwy (US50) From East				Loudoun County Pkwy (606) From South				Lee Jackson Memorial Hwy (US50) From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	71	153	**193**	**417**	**124**	181	97	402	21	99	12	132	30	176	**49**	255	1206
05:00 PM	**77**	166	124	367	107	**205**	135	447	31	70	7	108	40	**238**	24	**302**	**1224**
05:15 PM	61	138	167	366	116	180	**178**	**474**	29	**119**	**18**	**166**	29	165	15	209	1215
05:30 PM	64	**180**	134	378	88	205	142	435	**40**	110	13	163	**44**	162	11	217	1193
Total Volume	273	637	618	1528	435	771	552	1758	121	398	50	569	143	741	99	983	4838
% App. Total	17.9	41.7	40.4		24.7	43.9	31.4		21.3	69.9	8.8		14.5	75.4	10.1		
PHF	.886	.885	.801	.916	.877	.940	.775	.927	.756	.836	.694	.857	.813	.778	.505	.814	.988



APPENDIX B

SYNCHRO TRAFFIC DATA

Summary Table: Measures of Effectiveness (Delay, V/C and LOS)

Intersection No	Intersection Name	Existing Conditions 2013				No-Build Conditions 2040				Build Conditions 2040			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
A	US 40 at VA 659 (Gum Spring Rd)	15.6	B	19.7	B	44.9	D	69.4	E	30.7	C	26.7	C
B	US 50 at VA 606 (Loudoun County Pkwy)	21.4	C	20.5	C	248.0	F	163.8	F	199.1	F	151.2	F
C	VA 620 (Braddock Rd) at VA 659 (Gum Spring Rd)	67.6	E	529.6	F	637.5	F	932.3	F	497.8	F	1484.5	F
D	VA 620 (Braddock Rd) at VA 606 (Loudoun County Pkwy)	11.1	B	69.2	E	92.3	F	110.5	F	24.4	C	112.3	F
E	US 15 at VA 234 (Sudley Rd)	22.6	B	14.8	B	41.5	D	44.0	D	30.5	C	23.2	C
F	VA 234 (Sudley Rd) at VA 659 (Gum Spring Rd)	76.7	E	56.9	E	182.4	F	181.3	F	23.8	C	32.8	C
G	US 29 at VA 609 (Pleasant Valley Rd)	152.3	F	37.2	D	239.0	F	70.2	E	236.9	F	86.5	F
H	US 15 at Heathcote Blvd	10.2	B	14.0	B	37.5	B	96.9	F	41.1	D	63.4	E
I	Heathcote Blvd at Catharpin Rd	8.4	A	9.4	A	9.9	A	17.5	B	20.1	C	27.3	C
J	Heathcote Blvd at US 29/ WB I-66 Exit	44.7	D	81.4	F	43.9	D	509.9	F	102.0	F	325.3	F
K	US 234 Byp at Balls Ford Rd	15.8	B	14.2	B	151.2	F	119.9	F	387.9	F	403.6	F
L	US 234 (Sudley Rd) at Balls Ford Rd	17.8	B	25.1	C	55.7	E	91.1	F	97.7	F	150.8	F

Full Table: Measures of Effectiveness (Delay, V/C and LOS)

Synchro No.	Intersection No	Intersection Name	Approach	Existing Conditions 2013								No-Build Conditions 2040								Build Conditions 2040							
				AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
				By Approach		By Intersection		By Approach		By Intersection		By Approach		By Intersection		By Approach		By Intersection		By Approach		By Intersection		By Approach		By Intersection	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3	A	US 40 at VA 659 (Gum Spring Rd)	EB	17.0	B	15.6	B	19.3	B	19.7	B	20.3	C	44.9	D	34.3	C	69.4	E	19.4	B	30.7	C	27.3	C	26.7	C
			WB	7.7	A			14.3	B			32.0	C			83.9	F			12.4	B			26.5	C		
			NB	22.0	C			34.0	C			132.6	F			66.1	E			85.1	F			27.1	C		
			SB	18.9	B			40.4	D			23.5	C			35.0	C			26.6	C			26.6	C		
6	B	US 50 at VA 606 (Loudoun County Pkwy)	EB	23.4	C	21.4	C	11.4	B	20.5	C	302.3	F	248.0	F	19.9	B	163.8	F	171.3	F	199.1	F	78.7	E	151.2	F
			WB	11.5	B			17.8	B			26.4	C			311.7	F			346.3	F			211.4	F		
			NB	26.6	C			18.7	B			228.2	F			19.1	B			168.6	F			89.2	F		
			SB	18.4	B			30.0	C			326.1	F			143.2	F			170.8	F			148.6	F		
9	C	VA 620 (Braddock Rd) at VA 659 (Gum Spring Rd)	EB	126.9	F	67.6	E	11.1	B	529.6	F	2335.1	F	637.5	F	694.5	F	932.3	F	568.1	F	497.8	F	25.4	C	1484.5	F
			WB	204.7	F			1308.5	F			525.4	F			2756.9	F			1573.8	F			3351.0	F		
			NB	11.6	B			16.5	B			125.2	F			45.5	D			139.0	F			27.9	C		
			SB	20.2	C			18.0	B			102.9	F			22.6	C			88.5	F			32.2	C		
10	D	VA 620 (Braddock Rd) at VA 606 (Loudoun County Pkwy)	EB	11.4	B	11.1	B	16.5	B	69.2	E	156.4	F	92.3	F	212.7	F	110.5	F	17.7	B	24.4	C	139.2	F	81.2	F
			WB	7.9	A			12.5	B			7.5	A			28.9	C			26.7	C			112.3	F		
			NB	11.3	B			8.0	A			22.2	C			17.4	B			19.7	B			9.9	A		
			SB	12.6	B			101.4	F			77.9	E			121.0	B			31.7	C			61.7	E		
19	E	US 15 at VA 234 (Sudley Rd)	EB	22.6	C	19.0	B	18.1	B	14.8	B	8.3	A	41.5	D	21.7	C	44.0	D	29.5	C	30.5	C	28.0	C	23.2	C
			WB	29.7	C			21.6	C			19.3	B			95.5	F			48.8	D			28.4	C		
			NB	17.1	B			11.3	B			38.9	D			14.5	B			31.6	C			28.3	C		
			SB	16.0	B			14.0	B			79.9	E			28.3	C			12.6	B			13.8	B		
5	F	VA 234 (Sudley Rd) at VA 659 (Gum Spring Rd)	EB	24.8	C	76.7	E	8.2	A	56.9	E	134.7	F	182.4	F	117.7	F	181.3	F	15.2	B	23.8	C	14.9	B	32.8	C
			WB	176.2	F			30.3	C			360.2	F			113.5	F			40.4	C			26.2	C		
			NB																								
			SB	18.6	B			85.4	F			97.2	F			261.4	F			24.5	C			49.6	D		
32	G	US 29 at VA 609 (Pleasant Valley Rd)	EB	171.0	F	152.3	F	31.2	C	37.2	D	199.1	F	239.0	F	53.5	D	70.2	E	402.6	F	236.9	F	160.7	F	86.5	F
			WB	32.0	C			14.0	B			29.8	C			17.3	B			54.6	D			49.4	D		
			NB	172.0	F			79.7	E			302.7	F			107.2	F			240.5	F			82.6	F		
			SB	44.8	D			31.4	C			44.0	D			68.6	E			12.4	B			63.2	E		
22	H	US 15 at Heathcote Blvd	EB	29.9	C	10.2	B	40.7	D	14.0	B	17.3	B	37.5	D	155.6	F	96.9	F	87.8	F	41.1	D	122.0	F	63.4	E
			WB	28.9	C			43.0	D			8.5	A			34.3	C			35.9	D			73.9	E		
			NB	5.7	A			9.2	A			93.1	F			154.0	F			16.9	B			40.4	D		
			SB	8.6	A			9.1	A			15.0	B			10.0	B			25.6	C			29.3	C		
25	I	Heathcote Blvd at Catharpin Rd	EB	9.8	B	8.4	A	7.2	A	9.4	A	10.5	B	9.9	A	10.0	B	17.5	B	23.7	C	20.1	C	24.9	C	27.3	C
			WB	9.3	B			8.9	A			8.7	A			11.8	B			18.7	B			26.3	C		
			NB	5.6	A			12.6	B			9.1	A			49.1	D			15.1	B			31.2	C		
			SB	6.9	A			13.2	B			10.1	B			22.1	C			17.4	B			31.0	C		
28	J	Heathcote Blvd at US 29/ WB I-66 Exit	EB	153.2	F	44.7	D	206.4	F	81.4	F	56.7	E	43.9	D	1485.4	F	509.9	F	175.0	F	102.0	F	499.0	F	325.3	F
			WB	16.3	B			94.2	F			54.7	D			100.7	F			54.0	D			385.3	F		
			NB	9.2	A			83.8	F			41.2	D			204.8	F			100.4	F			293.2	F		
			SB	7.9	A			19.3	B			29.5	C			442.2	F			27.7	C			252.5	F		
38	K	US 234 Byp at Balls Ford Rd	EB	20.6	C	15.8	B	19.0	B	14.2	B	121.2	F	151.2	F	175.8	F	119.9	F	433.9	F	387.9	F	421.8	F	403.6	F
			WB	17.4	B			17.7	B			48.4	D			157.9	F			589.3	F			437.9	F		
			NB	12.8	B			12.4	B			93.5	F			73.7	E			399.3	F			425.4	F		
			SB	16.0	B			12.6	B			232.8	F			117.5	F			311.5	F			366.9	F		
41	L	US 234 (Sudley Rd) at Balls Ford Rd	EB	17.7	B	17.8	B	15.7	B	25.1	C	109.9	F	55.7	E	127.8	F	91.1	F	123.6	F	97.7	F	153.4	F	150.8	F
			WB	13.2	B			15.1	B			22.2	C			16.8	B			154.7	F			107.9	F		
			NB	15.7	B			14.9	B			31.2	C			24.7	C			78.9	E			82.9	F		
			SB	21.6	C			35.1	D			38.1	D			127.9	F			70.4	E			192.9	F		

No approach

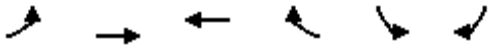
XX/YY Synchro node numbers, if only one #, same in both periods

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	1104	56	147	388	82	19	289	24	29	161	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	177.6	177.6	177.6	177.6	177.6	177.6	190.0	177.6	190.0	190.0	177.6	190.0
Lanes	1	2	1	1	2	1	0	1	0	0	1	0
Cap, veh/h	479	1455	618	303	1979	841	84	459	37	105	345	112
Arrive On Green	0.41	0.41	0.41	0.07	0.56	0.56	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	844	3551	1509	1691	3551	1509	46	1555	124	104	1168	381
Grp Volume(v), veh/h	152	1200	61	160	422	89	361	0	0	269	0	0
Grp Sat Flow(s),veh/h/ln	844	1776	1509	1691	1776	1509	1725	0	0	1653	0	0
Q Serve(g_s), s	7.0	16.3	1.3	2.7	3.2	1.5	1.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.0	16.3	1.3	2.7	3.2	1.5	10.0	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.06		0.07	0.12		0.23
Lane Grp Cap(c), veh/h	479	1455	618	303	1979	841	579	0	0	562	0	0
V/C Ratio(X)	0.32	0.82	0.10	0.53	0.21	0.11	0.62	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	491	1507	640	303	2031	863	579	0	0	562	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.5	14.3	9.8	11.5	6.0	5.6	17.0	0.0	0.0	16.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	3.8	0.1	1.7	0.1	0.1	5.0	0.0	0.0	2.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.3	6.9	0.5	2.2	1.1	0.5	4.8	0.0	0.0	3.2	0.0	0.0
Lane Grp Delay (d), s/veh	11.9	18.0	9.9	13.2	6.1	5.7	22.0	0.0	0.0	18.9	0.0	0.0
Lane Grp LOS	B	B	A	B	A	A	C			B		
Approach Vol, veh/h		1413			671			361			269	
Approach Delay, s/veh		17.0			7.7			22.0			18.9	
Approach LOS		B			A			C			B	

Timer												
Assigned Phs		4		3	8			2			6	
Phs Duration (G+Y+Rc), s		26.2		8.0	34.2			20.0			20.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		23.0		4.0	31.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		18.3		4.7	5.2			12.0			9.2	
Green Ext Time (p_c), s		3.9		0.0	15.1			1.5			2.2	

Intersection Summary		
HCM 2010 Ctrl Delay	15.6	
HCM 2010 LOS	B	

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	489	276	97	408	123	58
Number	7	4	8	18	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	179.2	179.2	179.2	190.0	179.2	179.2
Lanes	1	1	1	0	1	1
Cap, veh/h	572	1074	80	339	456	407
Arrive On Green	0.26	0.60	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1707	1792	301	1268	1707	1524
Grp Volume(v), veh/h	532	300	0	548	134	63
Grp Sat Flow(s),veh/h/ln	1707	1792	0	1569	1707	1524
Q Serve(g_s), s	13.8	4.8	0.0	16.0	3.7	1.9
Cycle Q Clear(g_c), s	13.8	4.8	0.0	16.0	3.7	1.9
Prop In Lane	1.00			0.81	1.00	1.00
Lane Grp Cap(c), veh/h	572	1074	0	419	456	407
V/C Ratio(X)	0.93	0.28	0.00	1.31	0.29	0.15
Avail Cap(c_a), veh/h	577	1078	0	419	456	407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	5.8	0.0	21.9	17.4	16.8
Incr Delay (d2), s/veh	21.7	0.1	0.0	154.3	1.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.3	1.7	0.0	23.8	1.7	0.8
Lane Grp Delay (d), s/veh	35.5	5.9	0.0	176.2	19.1	17.6
Lane Grp LOS	D	A		F	B	B
Approach Vol, veh/h		832	548		197	
Approach Delay, s/veh		24.8	176.2		18.6	
Approach LOS		C	F		B	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	19.8	39.8	20.0			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	16.0	36.0	16.0			
Max Q Clear Time (g_c+I1), s	15.8	6.8	18.0			
Green Ext Time (p_c), s	0.1	6.7	0.0			

Intersection Summary	
HCM 2010 Ctrl Delay	76.7
HCM 2010 LOS	E

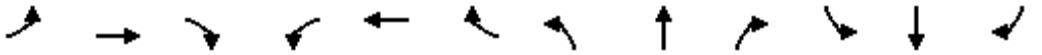
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	740	1389	48	63	335	326	81	672	195	381	196	181
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	833	2614	741	395	2614	741	705	956	406	568	1462	621
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.26	0.26	0.26	0.08	0.40	0.40
Sat Flow, veh/h	1390	5481	1553	625	5481	1553	1849	3654	1553	3375	3654	1553
Grp Volume(v), veh/h	804	1510	52	68	364	354	88	730	212	414	213	197
Grp Sat Flow(s),veh/h/ln	695	1827	1553	312	1827	1553	924	1827	1553	1688	1827	1553
Q Serve(g_s), s	28.6	12.9	1.2	5.7	2.4	10.0	2.4	12.0	7.6	5.0	2.4	5.7
Cycle Q Clear(g_c), s	31.0	12.9	1.2	18.7	2.4	10.0	2.4	12.0	7.6	5.0	2.4	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	833	2614	741	395	2614	741	705	956	406	568	1462	621
V/C Ratio(X)	0.97	0.58	0.07	0.17	0.14	0.48	0.12	0.76	0.52	0.73	0.15	0.32
Avail Cap(c_a), veh/h	833	2614	741	395	2614	741	705	956	406	568	1462	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	12.3	9.2	19.0	9.5	11.5	18.6	22.1	20.5	18.5	12.4	13.4
Incr Delay (d2), s/veh	23.0	0.3	0.0	0.2	0.0	0.5	0.4	5.8	4.7	4.7	0.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	9.0	5.3	0.4	0.4	0.9	3.4	0.6	5.9	3.3	2.5	1.0	2.2
Lane Grp Delay (d), s/veh	44.6	12.6	9.2	19.2	9.5	12.0	19.0	27.9	25.3	23.2	12.6	14.7
Lane Grp LOS	D	B	A	B	A	B	B	C	C	C	B	B
Approach Vol, veh/h		2366			786			1030			824	
Approach Delay, s/veh		23.4			11.5			26.6			18.4	
Approach LOS		C			B			C			B	

Timer												
Assigned Phs		4			8			2		1	6	
Phs Duration (G+Y+Rc), s		35.0			35.0			21.0		9.0	30.0	
Change Period (Y+Rc), s		4.0			4.0			4.0		4.0	4.0	
Max Green Setting (Gmax), s		31.0			31.0			17.0		5.0	26.0	
Max Q Clear Time (g_c+I1), s		33.0			20.7			14.0		7.0	7.7	
Green Ext Time (p_c), s		0.0			9.4			2.1		0.0	8.1	

Intersection Summary		
HCM 2010 Ctrl Delay	21.4	
HCM 2010 LOS	C	

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	66	264	36	147	130	135	62	487	321	246	306	71
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	175.9	175.9	190.0	175.9	175.9	175.9	175.9	190.0	175.9	175.9	175.9
Lanes	0	1	1	0	1	1	1	2	0	1	2	1
Cap, veh/h	96	198	532	123	69	532	537	925	610	322	1642	698
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	0	557	1495	0	193	1495	918	1982	1306	594	3519	1495
Grp Volume(v), veh/h	359	0	39	301	0	147	67	470	408	267	333	77
Grp Sat Flow(s),veh/h/ln	557	0	1495	193	0	1495	918	1759	1529	594	1759	1495
Q Serve(g_s), s	0.0	0.0	0.8	0.0	0.0	3.2	2.1	8.7	8.8	12.2	2.5	1.3
Cycle Q Clear(g_c), s	16.0	0.0	0.8	16.0	0.0	3.2	4.6	8.7	8.8	21.0	2.5	1.3
Prop In Lane	0.20		1.00	0.53		1.00	1.00		0.85	1.00		1.00
Lane Grp Cap(c), veh/h	294	0	532	191	0	532	537	821	713	322	1642	698
V/C Ratio(X)	1.22	0.00	0.07	1.58	0.00	0.28	0.12	0.57	0.57	0.83	0.20	0.11
Avail Cap(c_a), veh/h	294	0	532	191	0	532	537	821	713	322	1642	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	9.6	17.1	0.0	10.4	8.4	8.7	8.7	18.8	7.1	6.7
Incr Delay (d2), s/veh	126.2	0.0	0.1	282.5	0.0	0.3	0.5	2.9	3.3	21.3	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	12.4	0.0	0.2	17.0	0.0	1.0	0.5	3.7	3.3	4.7	0.9	0.4
Lane Grp Delay (d), s/veh	139.7	0.0	9.7	299.5	0.0	10.6	8.9	11.6	12.1	40.1	7.3	7.1
Lane Grp LOS	F		A	F		B	A	B	B	D	A	A
Approach Vol, veh/h		398			448			945			677	
Approach Delay, s/veh		126.9			204.7			11.6			20.2	
Approach LOS		F			F			B			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			25.0			25.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s		18.0			18.0			10.8			23.0	
Green Ext Time (p_c), s		0.0			0.0			6.4			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		67.6
HCM 2010 LOS		E

Notes

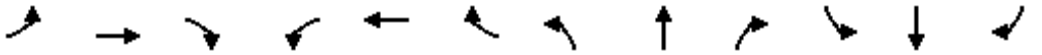
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	345	310	47	71	190	98	54	148	24	100	240	221
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	582	863	734	504	863	734	395	679	577	524	679	577
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1072	1881	1599	1001	1881	1599	902	1881	1599	1203	1881	1599
Grp Volume(v), veh/h	375	337	51	77	207	107	59	161	26	109	261	240
Grp Sat Flow(s),veh/h/ln	1072	1881	1599	1001	1881	1599	902	1881	1599	1203	1881	1599
Q Serve(g_s), s	14.5	5.2	0.8	2.4	3.0	1.7	2.3	2.7	0.5	3.1	4.6	5.0
Cycle Q Clear(g_c), s	17.5	5.2	0.8	7.7	3.0	1.7	6.9	2.7	0.5	5.7	4.6	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	582	863	734	504	863	734	395	679	577	524	679	577
V/C Ratio(X)	0.64	0.39	0.07	0.15	0.24	0.15	0.15	0.24	0.05	0.21	0.38	0.42
Avail Cap(c_a), veh/h	598	891	757	518	891	757	395	679	577	524	679	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	7.9	6.7	10.4	7.3	7.0	13.1	9.9	9.2	11.9	10.5	10.7
Incr Delay (d2), s/veh	2.3	0.3	0.0	0.1	0.1	0.1	0.8	0.8	0.1	0.9	1.6	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.5	1.9	0.2	0.5	1.1	0.6	0.5	1.2	0.2	0.9	2.1	2.0
Lane Grp Delay (d), s/veh	14.9	8.2	6.7	10.6	7.4	7.0	13.9	10.7	9.4	12.8	12.2	12.9
Lane Grp LOS	B	A	A	B	A	A	B	B	A	B	B	B
Approach Vol, veh/h		763			391			246			610	
Approach Delay, s/veh		11.4			7.9			11.3			12.6	
Approach LOS		B			A			B			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		24.4			24.4			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		21.0			21.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		19.5			9.7			8.9			7.7	
Green Ext Time (p_c), s		0.9			4.2			2.4			2.6	

Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	69	80	191	6	44	27	640	223	141	385	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	175.9	175.9	175.9	175.9	175.9	190.0	175.9	175.9	190.0	175.9	175.9	190.0
Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Cap, veh/h	356	402	342	326	44	304	597	820	285	229	1128	24
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1269	1759	1495	1151	194	1330	904	1249	434	562	1716	37
Grp Volume(v), veh/h	57	75	87	208	0	55	29	0	938	153	0	427
Grp Sat Flow(s),veh/h/ln	1269	1759	1495	1151	0	1524	904	0	1683	562	0	1753
Q Serve(g_s), s	2.6	2.4	3.3	12.4	0.0	2.0	1.1	0.0	30.2	15.8	0.0	7.7
Cycle Q Clear(g_c), s	4.7	2.4	3.3	14.8	0.0	2.0	8.8	0.0	30.2	46.0	0.0	7.7
Prop In Lane	1.00		1.00	1.00		0.87	1.00		0.26	1.00		0.02
Lane Grp Cap(c), veh/h	356	402	342	326	0	348	597	0	1106	229	0	1152
V/C Ratio(X)	0.16	0.19	0.25	0.64	0.00	0.16	0.05	0.00	0.85	0.67	0.00	0.37
Avail Cap(c_a), veh/h	356	402	342	326	0	348	597	0	1106	229	0	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	21.8	22.1	27.7	0.0	21.6	7.4	0.0	9.3	28.5	0.0	5.4
Incr Delay (d2), s/veh	0.2	0.2	0.4	4.1	0.0	0.2	0.2	0.0	8.1	14.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.8	1.0	1.2	3.9	0.0	0.8	0.2	0.0	12.4	3.5	0.0	2.9
Lane Grp Delay (d), s/veh	23.7	22.0	22.5	31.8	0.0	21.8	7.6	0.0	17.4	42.8	0.0	6.4
Lane Grp LOS	C	C	C	C		C	A		B	D		A
Approach Vol, veh/h		219			263			967			580	
Approach Delay, s/veh		22.6			29.7			17.1			16.0	
Approach LOS		C			C			B			B	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			50.0			50.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			46.0			46.0	
Max Q Clear Time (g_c+I1), s		6.7			16.8			32.2			48.0	
Green Ext Time (p_c), s		1.3			0.0			8.7			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			19.0									
HCM 2010 LOS			B									
Notes												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	35	80	60	35	65	60	820	50	75	1030	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	1	1	1	2	2	1	1	1	1	1	1	1
Cap, veh/h	221	179	152	409	357	152	307	1410	1198	434	1410	1198
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	1243	1810	1538	2376	3619	1538	469	1810	1538	574	1810	1538
Grp Volume(v), veh/h	38	38	87	65	38	71	65	891	54	82	1120	38
Grp Sat Flow(s),veh/h/ln	1243	1810	1538	1188	1810	1538	469	1810	1538	574	1810	1538
Q Serve(g_s), s	1.9	1.3	3.5	1.7	0.6	2.9	6.1	14.0	0.5	4.7	23.5	0.4
Cycle Q Clear(g_c), s	2.5	1.3	3.5	3.0	0.6	2.9	29.6	14.0	0.5	18.8	23.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	221	179	152	409	357	152	307	1410	1198	434	1410	1198
V/C Ratio(X)	0.17	0.21	0.57	0.16	0.11	0.47	0.21	0.63	0.05	0.19	0.79	0.03
Avail Cap(c_a), veh/h	402	442	376	755	885	376	307	1410	1198	434	1410	1198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	27.2	28.2	28.5	26.9	27.9	12.8	3.1	1.7	7.2	4.2	1.6
Incr Delay (d2), s/veh	0.4	0.6	3.4	0.2	0.1	2.2	1.6	2.2	0.1	1.0	4.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.6	0.6	1.5	0.5	0.3	1.2	0.8	4.6	0.1	0.7	8.1	0.1
Lane Grp Delay (d), s/veh	28.4	27.7	31.6	28.7	27.0	30.1	14.3	5.3	1.7	8.2	8.9	1.7
Lane Grp LOS	C	C	C	C	C	C	B	A	A	A	A	A
Approach Vol, veh/h		163			174			1010			1240	
Approach Delay, s/veh		29.9			28.9			5.7			8.6	
Approach LOS		C			C			A			A	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		10.5			10.5			55.0			55.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			51.0			51.0	
Max Q Clear Time (g_c+I1), s		5.5			5.0			31.6			25.5	
Green Ext Time (p_c), s		0.9			1.0			15.7			19.6	

Intersection Summary												
HCM 2010 Ctrl Delay			10.2									
HCM 2010 LOS			B									

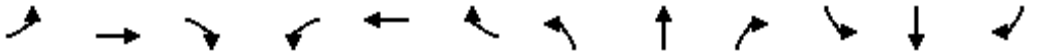
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	96	409	93	32	228	96	34	52	75	228	99	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	463	1114	473	383	1114	473	686	835	710	745	835	710
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	996	3619	1538	833	3619	1538	1120	1810	1538	1209	1810	1538
Grp Volume(v), veh/h	104	445	101	35	248	104	37	57	82	248	108	115
Grp Sat Flow(s),veh/h/ln	996	1810	1538	833	1810	1538	1120	1810	1538	1209	1810	1538
Q Serve(g_s), s	3.0	3.4	1.7	1.2	1.8	1.7	0.7	0.6	1.1	5.0	1.2	1.5
Cycle Q Clear(g_c), s	4.8	3.4	1.7	4.6	1.8	1.7	1.9	0.6	1.1	5.6	1.2	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	463	1114	473	383	1114	473	686	835	710	745	835	710
V/C Ratio(X)	0.22	0.40	0.21	0.09	0.22	0.22	0.05	0.07	0.12	0.33	0.13	0.16
Avail Cap(c_a), veh/h	616	1670	710	511	1670	710	686	835	710	745	835	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	9.5	8.9	11.3	8.9	8.9	5.9	5.2	5.3	6.7	5.3	5.4
Incr Delay (d2), s/veh	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.3	1.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.6	1.2	0.5	0.2	0.6	0.6	0.2	0.2	0.3	1.4	0.4	0.5
Lane Grp Delay (d), s/veh	10.9	9.7	9.1	11.4	9.0	9.1	6.0	5.3	5.6	7.9	5.7	5.9
Lane Grp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		650			387			176			471	
Approach Delay, s/veh		9.8			9.3			5.6			6.9	
Approach LOS		A			A			A			A	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		14.7			14.7			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		6.8			6.6			3.9			7.6	
Green Ext Time (p_c), s		3.9			4.0			2.1			1.7	

Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									

Notes

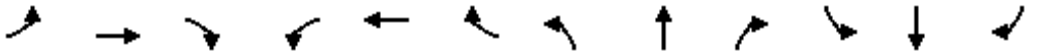


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	390	0	500	20	210	70	100	550	0	0	170	120
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	0.0	181.0	181.0	181.0	181.0	181.0	181.0	0.0	0.0	181.0	181.0
Lanes	2	0	1	1	1	1	1	2	0	0	2	1
Cap, veh/h	339	0	0	182	343	292	567	1467	0	0	1467	623
Arrive On Green	0.10	0.00	0.00	0.19	0.19	0.19	0.41	0.41	0.00	0.00	0.41	0.41
Sat Flow, veh/h	3343	424		835	1810	1538	1030	3619	0	0	3619	1538
Grp Volume(v), veh/h	424	153.2		22	228	76	109	598	0	0	185	130
Grp Sat Flow(s),veh/h/ln	1672	F		835	1810	1538	1030	1810	0	0	1810	1538
Q Serve(g_s), s	4.0			0.0	4.6	1.7	2.9	4.6	0.0	0.0	1.3	2.2
Cycle Q Clear(g_c), s	4.0			0.1	4.6	1.7	4.2	4.6	0.0	0.0	1.3	2.2
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	339			182	343	292	567	1467	0	0	1467	623
V/C Ratio(X)	1.25			0.12	0.66	0.26	0.19	0.41	0.00	0.00	0.13	0.21
Avail Cap(c_a), veh/h	339			362	733	623	567	1467	0	0	1467	623
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	17.7			16.1	14.8	13.6	8.7	8.4	0.0	0.0	7.4	7.6
Incr Delay (d2), s/veh	135.4			0.3	2.2	0.5	0.8	0.8	0.0	0.0	0.2	0.8
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.8			0.2	2.0	0.6	0.7	1.8	0.0	0.0	0.5	0.7
Lane Grp Delay (d), s/veh	153.2			16.3	17.1	14.1	9.4	9.2	0.0	0.0	7.5	8.4
Lane Grp LOS	F			B	B	B	A	A			A	A
Approach Vol, veh/h					326			707			315	
Approach Delay, s/veh					16.3			9.2			7.9	
Approach LOS					B			A			A	

Timer												
Assigned Phs	7				8			2			6	
Phs Duration (G+Y+Rc), s	8.0				11.5			20.0			20.0	
Change Period (Y+Rc), s	4.0				4.0			4.0			4.0	
Max Green Setting (Gmax), s	4.0				16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s	6.0				6.6			6.6			4.2	
Green Ext Time (p_c), s	0.0				1.1			4.1			4.8	

Intersection Summary			
HCM 2010 Ctrl Delay		44.7	
HCM 2010 LOS		D	

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	598	4	107	2	5	22	294	1456	27	56	208	154
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	502	1224	520	467	1224	520	605	1144	973	51	1144	973
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1375	3725	1583	1266	3725	1583	987	1863	1583	313	1863	1583
Grp Volume(v), veh/h	650	4	116	2	5	24	320	1583	29	61	226	167
Grp Sat Flow(s),veh/h/ln	1375	1863	1583	1266	1863	1583	987	1863	1583	313	1863	1583
Q Serve(g_s), s	45.9	0.1	7.4	0.1	0.1	1.4	29.5	86.0	1.0	0.0	7.5	6.4
Cycle Q Clear(g_c), s	46.0	0.1	7.4	0.2	0.1	1.4	36.9	86.0	1.0	86.0	7.5	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	502	1224	520	467	1224	520	605	1144	973	51	1144	973
V/C Ratio(X)	1.29	0.00	0.22	0.00	0.00	0.05	0.53	1.38	0.03	1.19	0.20	0.17
Avail Cap(c_a), veh/h	502	1224	520	467	1224	520	605	1144	973	51	1144	973
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	31.6	34.1	31.7	31.6	32.0	20.0	27.0	10.6	70.0	11.9	11.6
Incr Delay (d2), s/veh	146.8	0.0	0.2	0.0	0.0	0.0	3.3	178.0	0.1	184.8	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	38.9	0.0	3.0	0.0	0.1	0.6	7.8	95.1	0.4	4.5	3.5	2.5
Lane Grp Delay (d), s/veh	196.2	31.6	34.3	31.7	31.6	32.1	23.2	205.0	10.7	254.8	12.2	12.0
Lane Grp LOS	F	C	C	C	C	C	C	F	B	F	B	B
Approach Vol, veh/h		770			31			1932			454	
Approach Delay, s/veh		171.0			32.0			172.0			44.8	
Approach LOS		F			C			F			D	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		50.0			50.0			90.0			90.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		46.0			46.0			86.0			86.0	
Max Q Clear Time (g_c+I1), s		48.0			3.4			88.0			88.0	
Green Ext Time (p_c), s		0.0			3.0			0.0			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			152.3									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	430	420	20	190	140	190	40	1370	360	270	1350	370
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	2	1	1	2	1	1	1	2	1	2	2	1
Cap, veh/h	782	579	492	443	579	492	190	1882	800	372	1882	800
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1919	1810	1538	1719	1810	1538	237	3619	1538	454	3619	1538
Grp Volume(v), veh/h	467	457	22	207	152	207	43	1489	391	293	1467	402
Grp Sat Flow(s),veh/h/ln	960	1810	1538	859	1810	1538	237	1810	1538	227	1810	1538
Q Serve(g_s), s	11.9	11.5	0.5	4.5	3.1	5.3	9.0	16.8	8.2	9.2	16.4	8.5
Cycle Q Clear(g_c), s	15.1	11.5	0.5	16.0	3.1	5.3	25.3	16.8	8.2	26.0	16.4	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	782	579	492	443	579	492	190	1882	800	372	1882	800
V/C Ratio(X)	0.60	0.79	0.04	0.47	0.26	0.42	0.23	0.79	0.49	0.79	0.78	0.50
Avail Cap(c_a), veh/h	782	579	492	443	579	492	190	1882	800	372	1882	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	15.5	11.7	23.3	12.6	13.4	19.9	9.8	7.7	23.7	9.7	7.8
Incr Delay (d2), s/veh	1.2	7.2	0.0	0.8	0.2	0.6	2.8	3.5	2.1	15.5	3.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.7	5.7	0.2	1.3	1.3	1.9	0.6	6.7	2.9	2.5	6.6	3.1
Lane Grp Delay (d), s/veh	19.5	22.7	11.8	24.1	12.9	13.9	22.7	13.3	9.9	39.2	13.0	10.0
Lane Grp LOS	B	C	B	C	B	B	C	B	A	D	B	B
Approach Vol, veh/h		946			566			1923			2162	
Approach Delay, s/veh		20.8			17.4			12.8			16.0	
Approach LOS		C			B			B			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			30.0			30.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			26.0			26.0	
Max Q Clear Time (g_c+I1), s		17.1			18.0			27.3			28.0	
Green Ext Time (p_c), s		0.0			0.0			0.0			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	690	310	40	70	50	290	40	1830	40	190	1150	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	190.0	181.0	181.0	181.0	181.0	190.0	181.0	181.0	181.0
Lanes	2	1	1	0	2	1	2	3	0	1	3	1
Cap, veh/h	955	643	547	362	585	547	511	2471	53	189	2533	718
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1902	1810	1538	568	1647	1538	623	5294	114	202	5429	1538
Grp Volume(v), veh/h	750	337	43	76	54	315	43	1359	673	207	1250	304
Grp Sat Flow(s),veh/h/ln	951	1810	1538	568	1647	1538	312	1810	1789	202	1810	1538
Q Serve(g_s), s	15.0	6.6	0.8	3.0	1.0	7.5	2.3	14.4	14.5	6.5	7.2	5.9
Cycle Q Clear(g_c), s	16.0	6.6	0.8	9.7	1.0	7.5	9.5	14.4	14.5	21.0	7.2	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	955	643	547	362	585	547	511	1689	835	189	2533	718
V/C Ratio(X)	0.79	0.52	0.08	0.21	0.09	0.58	0.08	0.80	0.81	1.09	0.49	0.42
Avail Cap(c_a), veh/h	955	643	547	362	585	547	511	1689	835	189	2533	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	11.5	9.6	15.3	9.7	11.8	11.6	10.2	10.3	22.0	8.3	8.0
Incr Delay (d2), s/veh	4.4	0.8	0.1	0.3	0.1	1.5	0.3	4.2	8.2	92.6	0.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	4.4	2.7	0.3	0.7	0.3	2.6	0.2	6.1	6.9	6.8	2.7	2.1
Lane Grp Delay (d), s/veh	20.5	12.3	9.7	15.6	9.7	13.2	11.9	14.4	18.4	114.6	9.0	9.8
Lane Grp LOS	C	B	A	B	A	B	B	B	B	F	A	A
Approach Vol, veh/h		1130			445			2075			1761	
Approach Delay, s/veh		17.7			13.2			15.7			21.6	
Approach LOS		B			B			B			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			25.0			25.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s		18.0			11.7			16.5			23.0	
Green Ext Time (p_c), s		0.0			2.8			4.5			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									

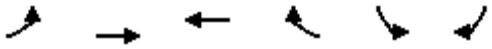
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	94	468	35	576	1372	57	56	148	21	17	268	94
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	184.5	184.5	184.5	184.5	184.5	184.5	190.0	184.5	190.0	190.0	184.5	190.0
Lanes	1	2	1	1	2	1	0	1	0	0	1	0
Cap, veh/h	212	1365	580	695	2341	995	106	242	30	57	340	116
Arrive On Green	0.37	0.37	0.37	0.21	0.63	0.63	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	328	3689	1568	1757	3689	1568	185	915	114	37	1286	437
Grp Volume(v), veh/h	102	509	38	626	1491	62	245	0	0	411	0	0
Grp Sat Flow(s),veh/h/ln	328	1845	1568	1757	1845	1568	1214	0	0	1760	0	0
Q Serve(g_s), s	22.6	8.0	1.2	17.0	19.7	1.2	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	22.6	8.0	1.2	17.0	19.7	1.2	14.6	0.0	0.0	17.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.25		0.09	0.04		0.25
Lane Grp Cap(c), veh/h	212	1365	580	695	2341	995	378	0	0	513	0	0
V/C Ratio(X)	0.48	0.37	0.07	0.90	0.64	0.06	0.65	0.00	0.00	0.80	0.00	0.00
Avail Cap(c_a), veh/h	215	1394	593	695	2371	1007	378	0	0	513	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.9	18.3	16.1	11.8	8.9	5.5	25.6	0.0	0.0	28.0	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.2	0.0	14.8	0.6	0.0	8.4	0.0	0.0	12.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.9	3.5	0.5	10.2	7.6	0.4	5.2	0.0	0.0	9.4	0.0	0.0
Lane Grp Delay (d), s/veh	24.5	18.4	16.2	26.6	9.5	5.5	34.0	0.0	0.0	40.4	0.0	0.0
Lane Grp LOS	C	B	B	C	A	A	C			D		
Approach Vol, veh/h		649			2179			245			411	
Approach Delay, s/veh		19.3			14.3			34.0			40.4	
Approach LOS		B			B			C			D	

Timer												
Assigned Phs		4		3	8			2			6	
Phs Duration (G+Y+Rc), s		33.4		21.0	54.4			25.0			25.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		30.0		17.0	51.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s		24.6		19.0	21.7			16.6			19.7	
Green Ext Time (p_c), s		4.8		0.0	19.9			1.6			0.6	

Intersection Summary												
HCM 2010 Ctrl Delay			19.7									
HCM 2010 LOS			B									

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	66	109	307	287	334	519
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	190.0	182.7	182.7
Lanes	1	1	1	0	1	1
Cap, veh/h	266	994	365	341	529	472
Arrive On Green	0.05	0.54	0.42	0.42	0.30	0.30
Sat Flow, veh/h	1740	1827	870	813	1740	1553
Grp Volume(v), veh/h	72	118	0	646	363	564
Grp Sat Flow(s),veh/h/ln	1740	1827	0	1683	1740	1553
Q Serve(g_s), s	1.1	1.7	0.0	19.1	9.7	16.0
Cycle Q Clear(g_c), s	1.1	1.7	0.0	19.1	9.7	16.0
Prop In Lane	1.00			0.48	1.00	1.00
Lane Grp Cap(c), veh/h	266	994	0	705	529	472
V/C Ratio(X)	0.27	0.12	0.00	0.92	0.69	1.20
Avail Cap(c_a), veh/h	312	1076	0	735	529	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	5.8	0.0	14.4	16.1	18.3
Incr Delay (d2), s/veh	0.5	0.1	0.0	15.9	7.1	107.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.4	0.6	0.0	9.9	4.8	14.0
Lane Grp Delay (d), s/veh	11.9	5.9	0.0	30.3	23.2	125.4
Lane Grp LOS	B	A		C	C	F
Approach Vol, veh/h		190	646		927	
Approach Delay, s/veh		8.2	30.3		85.4	
Approach LOS		A	C		F	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	6.6	32.7	26.1			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	4.0	31.0	23.0			
Max Q Clear Time (g_c+I1), s	3.1	3.7	21.1			
Green Ext Time (p_c), s	0.0	6.0	1.0			

Intersection Summary	
HCM 2010 Ctrl Delay	56.9
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	143	741	99	435	771	552	121	398	50	273	637	618
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	497	2540	720	668	2540	720	460	1066	453	809	1568	666
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.28	0.28	0.28	0.07	0.42	0.42
Sat Flow, veh/h	725	5644	1599	1193	5644	1599	778	3762	1599	3476	3762	1599
Grp Volume(v), veh/h	155	805	108	473	838	600	132	433	54	297	692	672
Grp Sat Flow(s),veh/h/ln	362	1881	1599	596	1881	1599	389	1881	1599	1738	1881	1599
Q Serve(g_s), s	10.5	5.5	2.4	21.5	5.8	19.8	8.8	5.6	1.5	3.5	7.9	25.0
Cycle Q Clear(g_c), s	16.3	5.5	2.4	27.0	5.8	19.8	8.8	5.6	1.5	3.5	7.9	25.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	497	2540	720	668	2540	720	460	1066	453	809	1568	666
V/C Ratio(X)	0.31	0.32	0.15	0.71	0.33	0.83	0.29	0.41	0.12	0.37	0.44	1.01
Avail Cap(c_a), veh/h	497	2540	720	668	2540	720	460	1066	453	809	1568	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	10.6	9.7	20.3	10.7	14.5	18.6	17.4	15.9	13.1	12.5	17.5
Incr Delay (d2), s/veh	0.4	0.1	0.1	3.5	0.1	8.4	1.6	1.2	0.5	0.3	0.9	37.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	2.3	0.8	3.7	2.3	8.5	0.9	2.6	0.6	1.3	3.5	15.7
Lane Grp Delay (d), s/veh	16.3	10.7	9.8	23.7	10.7	22.9	20.1	18.6	16.5	13.3	13.4	54.5
Lane Grp LOS	B	B	A	C	B	C	C	B	B	B	B	F
Approach Vol, veh/h		1068			1911			619			1661	
Approach Delay, s/veh		11.4			17.8			18.7			30.0	
Approach LOS		B			B			B			C	

Timer												
Assigned Phs		4			8			2		1	6	
Phs Duration (G+Y+Rc), s		31.0			31.0			21.0		8.0	29.0	
Change Period (Y+Rc), s		4.0			4.0			4.0		4.0	4.0	
Max Green Setting (Gmax), s		27.0			27.0			17.0		4.0	25.0	
Max Q Clear Time (g_c+I1), s		18.3			29.0			10.8		5.5	27.0	
Green Ext Time (p_c), s		7.8			0.0			4.8		0.0	0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	20.5	
HCM 2010 LOS	C	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	128	21	283	230	281	56	205	101	173	422	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	0	1	1	0	1	1	1	2	0	1	2	1
Cap, veh/h	78	267	864	102	2	864	315	739	351	376	1152	489
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	0	489	1583	0	4	1583	868	2389	1136	1043	3725	1583
Grp Volume(v), veh/h	173	0	23	558	0	305	61	172	161	188	459	73
Grp Sat Flow(s),veh/h/ln	489	0	1583	4	0	1583	868	1863	1662	1043	1863	1583
Q Serve(g_s), s	0.0	0.0	0.4	0.0	0.0	6.0	3.3	3.9	4.1	9.3	5.3	1.8
Cycle Q Clear(g_c), s	30.0	0.0	0.4	30.0	0.0	6.0	8.6	3.9	4.1	13.3	5.3	1.8
Prop In Lane	0.20		1.00	0.55		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	345	0	864	104	0	864	315	576	514	376	1152	489
V/C Ratio(X)	0.50	0.00	0.03	5.38	0.00	0.35	0.19	0.30	0.31	0.50	0.40	0.15
Avail Cap(c_a), veh/h	345	0	864	104	0	864	315	576	514	376	1152	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	5.8	26.9	0.0	7.0	18.4	14.5	14.5	19.6	15.0	13.8
Incr Delay (d2), s/veh	1.1	0.0	0.0	1992.9	0.0	0.2	1.4	1.3	1.6	4.7	1.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.0	0.0	0.1	58.8	0.0	1.9	0.8	1.8	1.7	2.7	2.4	0.7
Lane Grp Delay (d), s/veh	11.9	0.0	5.8	2019.8	0.0	7.3	19.7	15.8	16.1	24.3	16.0	14.4
Lane Grp LOS	B		A	F		A	B	B	B	C	B	B
Approach Vol, veh/h		196			863			394			720	
Approach Delay, s/veh		11.1			1308.5			16.5			18.0	
Approach LOS		B			F			B			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		34.0			34.0			21.0			21.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		30.0			30.0			17.0			17.0	
Max Q Clear Time (g_c+I1), s		32.0			32.0			10.6			15.3	
Green Ext Time (p_c), s		0.0			0.0			3.2			1.0	

Intersection Summary												
HCM 2010 Ctrl Delay			529.6									
HCM 2010 LOS			F									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	176	162	10	39	366	159	29	62	14	933	536	288
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	314	669	569	508	669	569	302	878	746	752	878	746
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	846	1881	1599	1203	1881	1599	625	1881	1599	1324	1881	1599
Grp Volume(v), veh/h	191	176	11	42	398	173	32	67	15	1014	583	313
Grp Sat Flow(s),veh/h/ln	846	1881	1599	1203	1881	1599	625	1881	1599	1324	1881	1599
Q Serve(g_s), s	8.2	3.0	0.2	1.2	7.8	3.5	1.9	0.9	0.2	20.1	10.8	5.8
Cycle Q Clear(g_c), s	16.0	3.0	0.2	4.2	7.8	3.5	12.7	0.9	0.2	21.0	10.8	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	669	569	508	669	569	302	878	746	752	878	746
V/C Ratio(X)	0.61	0.26	0.02	0.08	0.60	0.30	0.11	0.08	0.02	1.35	0.66	0.42
Avail Cap(c_a), veh/h	314	669	569	508	669	569	302	878	746	752	878	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	10.3	9.4	11.8	11.9	10.5	14.2	6.6	6.5	14.6	9.3	8.0
Incr Delay (d2), s/veh	3.3	0.2	0.0	0.1	1.4	0.3	0.7	0.2	0.0	165.8	4.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.3	1.2	0.1	0.3	3.3	1.2	0.3	0.4	0.1	42.3	4.8	2.2
Lane Grp Delay (d), s/veh	22.5	10.5	9.4	11.9	13.3	10.8	14.9	6.8	6.5	180.4	13.2	9.7
Lane Grp LOS	C	B	A	B	B	B	B	A	A	F	B	A
Approach Vol, veh/h		378			613			114			1910	
Approach Delay, s/veh		16.5			12.5			9.0			101.4	
Approach LOS		B			B			A			F	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			25.0			25.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s		18.0			9.8			14.7			23.0	
Green Ext Time (p_c), s		0.0			2.6			4.7			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			69.2									
HCM 2010 LOS			E									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	17	59	237	95	90	87	453	183	139	702	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	190.0	182.7	182.7	190.0	182.7	182.7	190.0
Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Cap, veh/h	287	446	379	428	211	200	294	765	310	393	989	119
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1154	1827	1553	1286	862	820	631	1238	501	735	1600	193
Grp Volume(v), veh/h	15	18	64	258	0	201	95	0	691	151	0	855
Grp Sat Flow(s),veh/h/ln	1154	1827	1553	1286	0	1682	631	0	1739	735	0	1793
Q Serve(g_s), s	0.7	0.4	1.9	11.2	0.0	6.0	7.5	0.0	14.7	9.5	0.0	20.3
Cycle Q Clear(g_c), s	6.6	0.4	1.9	11.6	0.0	6.0	27.8	0.0	14.7	24.2	0.0	20.3
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.29	1.00		0.11
Lane Grp Cap(c), veh/h	287	446	379	428	0	411	294	0	1075	393	0	1108
V/C Ratio(X)	0.05	0.04	0.17	0.60	0.00	0.49	0.32	0.00	0.64	0.38	0.00	0.77
Avail Cap(c_a), veh/h	322	502	427	467	0	462	294	0	1075	393	0	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	16.8	17.3	21.2	0.0	18.9	18.3	0.0	7.0	14.7	0.0	8.1
Incr Delay (d2), s/veh	0.1	0.0	0.2	1.9	0.0	0.9	2.9	0.0	3.0	2.8	0.0	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.2	0.2	0.7	3.6	0.0	2.4	1.3	0.0	5.9	1.9	0.0	8.7
Lane Grp Delay (d), s/veh	21.8	16.8	17.5	23.1	0.0	19.8	21.1	0.0	10.0	17.5	0.0	13.3
Lane Grp LOS	C	B	B	C		B	C		A	B		B
Approach Vol, veh/h		97			459			786			1006	
Approach Delay, s/veh		18.1			21.6			11.3			14.0	
Approach LOS		B			C			B			B	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		18.2			18.2			40.0			40.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			36.0			36.0	
Max Q Clear Time (g_c+I1), s		8.6			13.6			29.8			26.2	
Green Ext Time (p_c), s		1.5			0.6			4.9			7.3	
Intersection Summary												
HCM 2010 Ctrl Delay			14.8									
HCM 2010 LOS			B									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	60	70	70	60	110	80	1110	70	140	950	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	2	2	1	1	1	1	1	1	1
Cap, veh/h	184	198	168	331	395	168	375	1506	1281	273	1506	1281
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1194	1863	1583	2411	3725	1583	522	1863	1583	429	1863	1583
Grp Volume(v), veh/h	43	65	76	76	65	120	87	1207	76	152	1033	43
Grp Sat Flow(s),veh/h/ln	1194	1863	1583	1205	1863	1583	522	1863	1583	429	1863	1583
Q Serve(g_s), s	3.2	3.0	4.2	2.8	1.5	6.9	8.1	33.1	0.9	28.0	22.4	0.5
Cycle Q Clear(g_c), s	4.7	3.0	4.2	5.9	1.5	6.9	30.4	33.1	0.9	61.1	22.4	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	198	168	331	395	168	375	1506	1281	273	1506	1281
V/C Ratio(X)	0.23	0.33	0.45	0.23	0.16	0.71	0.23	0.80	0.06	0.56	0.69	0.03
Avail Cap(c_a), veh/h	261	317	270	486	634	270	375	1506	1281	273	1506	1281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	38.9	39.4	41.6	38.2	40.6	10.4	4.9	1.8	21.5	3.9	1.8
Incr Delay (d2), s/veh	0.6	1.0	1.9	0.3	0.2	5.5	1.4	4.6	0.1	8.0	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.0	1.5	1.8	0.9	0.7	3.0	1.1	12.3	0.3	3.5	8.0	0.1
Lane Grp Delay (d), s/veh	41.0	39.9	41.3	42.0	38.4	46.2	11.8	9.5	1.9	29.5	6.4	1.8
Lane Grp LOS	D	D	D	D	D	D	B	A	A	C	A	A
Approach Vol, veh/h		184			261			1370			1228	
Approach Delay, s/veh		40.7			43.0			9.2			9.1	
Approach LOS		D			D			A			A	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		14.0			14.0			80.0			80.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			76.0			76.0	
Max Q Clear Time (g_c+I1), s		6.7			8.9			35.1			63.1	
Green Ext Time (p_c), s		1.3			1.1			32.4			11.8	

Intersection Summary		
HCM 2010 Ctrl Delay	14.0	
HCM 2010 LOS	B	

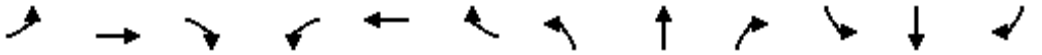
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	367	110	279	861	281	79	69	59	128	99	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	300	1882	800	540	1882	800	494	614	522	524	614	522
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	447	3725	1583	879	3725	1583	1198	1863	1583	1245	1863	1583
Grp Volume(v), veh/h	54	399	120	303	936	305	86	75	64	139	108	73
Grp Sat Flow(s),veh/h/ln	447	1863	1583	879	1863	1583	1198	1863	1583	1245	1863	1583
Q Serve(g_s), s	4.4	2.9	2.0	14.1	8.1	5.7	2.7	1.4	1.4	4.3	2.0	1.6
Cycle Q Clear(g_c), s	12.5	2.9	2.0	17.0	8.1	5.7	4.7	1.4	1.4	5.6	2.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	1882	800	540	1882	800	494	614	522	524	614	522
V/C Ratio(X)	0.18	0.21	0.15	0.56	0.50	0.38	0.17	0.12	0.12	0.27	0.18	0.14
Avail Cap(c_a), veh/h	314	1997	849	567	1997	849	494	614	522	524	614	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.0	6.6	6.4	11.4	7.9	7.4	13.2	11.3	11.4	13.3	11.6	11.4
Incr Delay (d2), s/veh	0.3	0.1	0.1	1.1	0.2	0.3	0.8	0.4	0.5	1.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.5	1.1	0.6	2.7	2.9	1.8	0.8	0.6	0.5	1.3	0.9	0.6
Lane Grp Delay (d), s/veh	12.3	6.7	6.5	12.5	8.1	7.7	14.0	11.8	11.8	14.5	12.2	12.0
Lane Grp LOS	B	A	A	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		573			1544			225			320	
Approach Delay, s/veh		7.2			8.9			12.6			13.2	
Approach LOS		A			A			B			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		28.5			28.5			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		26.0			26.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		14.5			19.0			6.7			7.6	
Green Ext Time (p_c), s		8.3			5.5			1.5			1.5	

Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	360	0	340	210	590	240	280	200	0	0	570	390
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	0.0	186.3	186.3	186.3	186.3	186.3	186.3	0.0	0.0	186.3	186.3
Lanes	2	0	1	1	1	1	1	2	0	0	2	1
Cap, veh/h	287	0	0	150	621	528	258	1242	0	0	1242	528
Arrive On Green	0.08	0.00	0.00	0.33	0.33	0.33	0.33	0.33	0.00	0.00	0.33	0.33
Sat Flow, veh/h	3442	391		1008	1863	1583	538	3725	0	0	3725	1583
Grp Volume(v), veh/h	391	206.4		228	641	261	304	217	0	0	620	424
Grp Sat Flow(s),veh/h/ln	1721	F		1008	1863	1583	538	1863	0	0	1863	1583
Q Serve(g_s), s	4.0			0.0	16.0	6.3	9.6	2.0	0.0	0.0	6.4	11.7
Cycle Q Clear(g_c), s	4.0			0.1	16.0	6.3	16.0	2.0	0.0	0.0	6.4	11.7
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	287			150	621	528	258	1242	0	0	1242	528
V/C Ratio(X)	1.36			1.52	1.03	0.49	1.18	0.17	0.00	0.00	0.50	0.80
Avail Cap(c_a), veh/h	287			150	621	528	258	1242	0	0	1242	528
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	22.0			16.1	16.0	12.8	22.0	11.3	0.0	0.0	12.8	14.6
Incr Delay (d2), s/veh	184.4			265.0	44.7	0.7	113.4	0.3	0.0	0.0	1.4	12.2
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.9			12.2	14.1	2.2	11.0	0.8	0.0	0.0	2.7	5.8
Lane Grp Delay (d), s/veh	206.4			281.0	60.7	13.5	135.4	11.6	0.0	0.0	14.2	26.8
Lane Grp LOS	F			F	F	B	F	B			B	C
Approach Vol, veh/h					1130			521			1044	
Approach Delay, s/veh					94.2			83.8			19.3	
Approach LOS					F			F			B	
Timer												
Assigned Phs	7				8			2			6	
Phs Duration (G+Y+Rc), s	8.0				20.0			20.0			20.0	
Change Period (Y+Rc), s	4.0				4.0			4.0			4.0	
Max Green Setting (Gmax), s	4.0				16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s	6.0				18.0			18.0			13.7	
Green Ext Time (p_c), s	0.0				0.0			0.0			1.7	
Intersection Summary												
HCM 2010 Ctrl Delay			81.4									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	441	7	215	14	5	19	150	190	8	11	968	739
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	535	1095	465	462	1095	465	133	1060	901	728	1060	901
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1393	3762	1599	1145	3762	1599	250	1881	1599	1172	1881	1599
Grp Volume(v), veh/h	479	8	234	15	5	21	163	207	9	12	1052	803
Grp Sat Flow(s),veh/h/ln	1393	1881	1599	1145	1881	1599	250	1881	1599	1172	1881	1599
Q Serve(g_s), s	15.9	0.1	6.7	0.5	0.1	0.5	0.6	3.0	0.1	0.3	30.4	24.2
Cycle Q Clear(g_c), s	16.0	0.1	6.7	0.6	0.1	0.5	31.0	3.0	0.1	3.2	30.4	24.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	535	1095	465	462	1095	465	133	1060	901	728	1060	901
V/C Ratio(X)	0.90	0.01	0.50	0.03	0.00	0.05	1.22	0.20	0.01	0.02	0.99	0.89
Avail Cap(c_a), veh/h	535	1095	465	462	1095	465	133	1060	901	728	1060	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	13.9	16.2	14.1	13.8	14.0	27.5	5.9	5.3	6.7	11.9	10.5
Incr Delay (d2), s/veh	17.6	0.0	0.9	0.0	0.0	0.0	149.5	0.4	0.0	0.0	25.8	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.9	0.0	2.5	0.1	0.0	0.2	7.3	1.2	0.0	0.1	18.7	10.8
Lane Grp Delay (d), s/veh	38.4	13.9	17.1	14.1	13.8	14.1	176.9	6.3	5.3	6.7	37.7	23.4
Lane Grp LOS	D	B	B	B	B	B	F	A	A	A	D	C
Approach Vol, veh/h		721			41			379			1867	
Approach Delay, s/veh		31.2			14.0			79.7			31.4	
Approach LOS		C			B			E			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			35.0			35.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			31.0			31.0	
Max Q Clear Time (g_c+I1), s		18.0			2.6			33.0			32.4	
Green Ext Time (p_c), s		0.0			2.3			0.0			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			37.2									
HCM 2010 LOS			D									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	270	180	40	360	340	320	40	1380	150	170	1250	440
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	1	2	1	1	1	2	1	2	2	1
Cap, veh/h	503	596	507	817	596	507	205	1937	823	401	1937	823
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1418	1863	1583	2205	1863	1583	251	3725	1583	578	3725	1583
Grp Volume(v), veh/h	293	196	43	391	370	348	43	1500	163	185	1359	478
Grp Sat Flow(s),veh/h/ln	709	1863	1583	1102	1863	1583	251	1863	1583	289	1863	1583
Q Serve(g_s), s	7.6	4.0	0.9	8.2	8.4	9.6	7.8	16.2	2.8	9.8	13.8	10.4
Cycle Q Clear(g_c), s	16.0	4.0	0.9	12.2	8.4	9.6	21.6	16.2	2.8	26.0	13.8	10.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	503	596	507	817	596	507	205	1937	823	401	1937	823
V/C Ratio(X)	0.58	0.33	0.08	0.48	0.62	0.69	0.21	0.77	0.20	0.46	0.70	0.58
Avail Cap(c_a), veh/h	503	596	507	817	596	507	205	1937	823	401	1937	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	12.9	11.9	17.6	14.4	14.8	17.2	9.6	6.4	22.0	9.1	8.3
Incr Delay (d2), s/veh	1.7	0.3	0.1	0.4	2.0	3.9	2.3	3.1	0.5	3.8	2.1	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.8	1.7	0.3	2.1	3.7	3.8	0.6	6.7	0.9	1.3	5.5	3.9
Lane Grp Delay (d), s/veh	23.9	13.2	12.0	18.0	16.4	18.7	19.5	12.7	7.0	25.8	11.2	11.2
Lane Grp LOS	C	B	B	B	B	B	B	B	A	C	B	B
Approach Vol, veh/h		532			1109			1706			2022	
Approach Delay, s/veh		19.0			17.7			12.4			12.6	
Approach LOS		B			B			B			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			30.0			30.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			26.0			26.0	
Max Q Clear Time (g_c+I1), s		18.0			14.2			23.6			28.0	
Green Ext Time (p_c), s		0.0			1.3			2.4			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			14.2									
HCM 2010 LOS			B									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	390	180	150	150	110	160	220	1840	100	260	2340	680
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	2	1	1	0	2	1	2	3	0	1	3	1
Cap, veh/h	828	573	487	377	522	487	309	2780	151	192	2958	838
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	2097	1863	1583	749	1695	1583	115	5253	285	193	5588	1583
Grp Volume(v), veh/h	424	196	163	163	120	174	239	1416	693	283	2543	739
Grp Sat Flow(s),veh/h/ln	1048	1863	1583	749	1695	1583	57	1863	1812	193	1863	1583
Q Serve(g_s), s	9.3	4.0	3.9	7.2	2.6	4.2	6.7	14.2	14.3	11.7	19.3	20.2
Cycle Q Clear(g_c), s	11.9	4.0	3.9	11.2	2.6	4.2	26.0	14.2	14.3	26.0	19.3	20.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	828	573	487	377	522	487	309	1972	959	192	2958	838
V/C Ratio(X)	0.51	0.34	0.33	0.43	0.23	0.36	0.77	0.72	0.72	1.47	0.86	0.88
Avail Cap(c_a), veh/h	866	607	516	395	552	516	309	1972	959	192	2958	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	13.2	13.1	17.5	12.7	13.2	24.3	8.8	8.8	23.2	10.0	10.2
Incr Delay (d2), s/veh	0.5	0.4	0.4	0.8	0.2	0.4	17.1	2.3	4.7	237.8	3.5	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.2	1.7	1.4	1.7	1.0	1.5	2.1	5.9	6.4	14.9	8.3	9.4
Lane Grp Delay (d), s/veh	17.6	13.5	13.5	18.3	12.9	13.7	41.4	11.1	13.5	260.9	13.5	23.1
Lane Grp LOS	B	B	B	B	B	B	D	B	B	F	B	C
Approach Vol, veh/h		783			457			2348			3565	
Approach Delay, s/veh		15.7			15.1			14.9			35.1	
Approach LOS		B			B			B			D	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		19.1			19.1			30.0			30.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			26.0			26.0	
Max Q Clear Time (g_c+I1), s		13.9			13.2			28.0			28.0	
Green Ext Time (p_c), s		1.3			1.6			0.0			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									

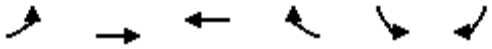
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	1820	100	300	550	85	200	330	250	30	165	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	177.6	177.6	177.6	177.6	177.6	177.6	190.0	177.6	190.0	190.0	177.6	190.0
Lanes	1	3	1	1	3	1	0	2	0	0	2	0
Cap, veh/h	418	2216	628	303	3105	880	231	267	220	100	342	125
Arrive On Green	0.42	0.42	0.42	0.10	0.58	0.58	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	715	5327	1509	1691	5327	1509	462	942	774	0	1204	440
Grp Volume(v), veh/h	152	1978	109	326	598	92	328	0	520	50	0	227
Grp Sat Flow(s),veh/h/ln	715	1776	1509	1691	1776	1509	699	0	1479	106	0	1538
Q Serve(g_s), s	9.4	20.7	2.7	6.0	3.2	1.6	9.6	0.0	17.0	0.0	0.0	7.4
Cycle Q Clear(g_c), s	9.4	20.7	2.7	6.0	3.2	1.6	17.0	0.0	17.0	17.0	0.0	7.4
Prop In Lane	1.00		1.00	1.00		1.00	0.66		0.52	0.66		0.29
Lane Grp Cap(c), veh/h	418	2216	628	303	3105	880	298	0	420	130	0	436
V/C Ratio(X)	0.36	0.89	0.17	1.08	0.19	0.10	1.10	0.00	1.24	0.38	0.00	0.52
Avail Cap(c_a), veh/h	418	2222	630	303	3111	882	298	0	420	130	0	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.0	16.3	11.0	13.6	5.9	5.6	26.8	0.0	21.5	20.0	0.0	18.0
Incr Delay (d2), s/veh	0.5	5.1	0.1	73.6	0.0	0.1	81.8	0.0	126.3	8.3	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.5	9.1	0.9	8.1	1.1	0.5	11.1	0.0	20.5	1.0	0.0	3.2
Lane Grp Delay (d), s/veh	13.5	21.3	11.1	87.3	5.9	5.6	108.6	0.0	147.7	28.3	0.0	22.4
Lane Grp LOS	B	C	B	F	A	A	F		F	C		C
Approach Vol, veh/h		2239			1016			848			277	
Approach Delay, s/veh		20.3			32.0			132.6			23.5	
Approach LOS		C			C			F			C	

Timer												
Assigned Phs		4		3	8			2			6	
Phs Duration (G+Y+Rc), s		28.9		10.0	38.9			21.0			21.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		25.0		6.0	35.0			17.0			17.0	
Max Q Clear Time (g_c+I1), s		22.7		8.0	5.2			19.0			19.0	
Green Ext Time (p_c), s		2.3		0.0	25.0			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	44.9	
HCM 2010 LOS	D	

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1480	800	355	415	125	205
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	179.2	179.2	179.2	179.2	179.2	179.2
Lanes	1	2	2	1	1	1
Cap, veh/h	1145	2838	478	203	242	216
Arrive On Green	0.63	0.79	0.13	0.13	0.14	0.14
Sat Flow, veh/h	1707	3585	3585	1524	1707	1524
Grp Volume(v), veh/h	1609	870	386	451	136	223
Grp Sat Flow(s),veh/h/ln	1707	1792	1792	1524	1707	1524
Q Serve(g_s), s	75.0	8.0	12.5	16.0	8.9	17.0
Cycle Q Clear(g_c), s	75.0	8.0	12.5	16.0	8.9	17.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	1145	2838	478	203	242	216
V/C Ratio(X)	1.41	0.31	0.81	2.22	0.56	1.03
Avail Cap(c_a), veh/h	1145	2838	478	203	242	216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	3.4	50.5	52.0	48.0	51.5
Incr Delay (d2), s/veh	187.6	0.1	9.9	564.7	9.1	70.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	77.8	2.8	6.4	38.1	4.5	17.5
Lane Grp Delay (d), s/veh	205.7	3.5	60.4	616.7	57.2	121.7
Lane Grp LOS	F	A	E	F	E	F
Approach Vol, veh/h		2479	837		359	
Approach Delay, s/veh		134.7	360.2		97.2	
Approach LOS		F	F		F	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	79.0	99.0	20.0			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	75.0	95.0	16.0			
Max Q Clear Time (g_c+I1), s	77.0	10.0	18.0			
Green Ext Time (p_c), s	0.0	17.0	0.0			

Intersection Summary	
HCM 2010 Ctrl Delay	182.4
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1250	2450	60	80	580	600	85	1060	635	810	320	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	491	2832	802	132	2832	802	502	944	401	422	1522	647
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.26	0.26	0.26	0.13	0.42	0.42
Sat Flow, veh/h	817	5481	1553	198	5481	1553	1478	3654	1553	3375	3654	1553
Grp Volume(v), veh/h	1359	2663	65	87	630	652	92	1152	690	880	348	304
Grp Sat Flow(s),veh/h/ln	409	1827	1553	99	1827	1553	739	1827	1553	1688	1827	1553
Q Serve(g_s), s	54.5	54.8	2.5	7.2	7.5	42.0	5.9	31.0	31.0	15.0	7.4	17.0
Cycle Q Clear(g_c), s	62.0	54.8	2.5	62.0	7.5	42.0	5.9	31.0	31.0	15.0	7.4	17.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	491	2832	802	132	2832	802	502	944	401	422	1522	647
V/C Ratio(X)	2.77	0.94	0.08	0.66	0.22	0.81	0.18	1.22	1.72	2.09	0.23	0.47
Avail Cap(c_a), veh/h	491	2832	802	132	2832	802	502	944	401	422	1522	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	27.3	14.6	59.5	15.8	24.2	35.2	44.5	44.5	52.5	22.6	25.4
Incr Delay (d2), s/veh	801.6	7.2	0.0	11.5	0.0	6.4	0.8	108.8	334.4	496.6	0.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	62.3	26.3	1.0	1.6	3.3	17.2	1.2	28.7	49.5	35.7	3.4	7.0
Lane Grp Delay (d), s/veh	841.0	34.4	14.7	71.0	15.9	30.5	36.0	153.3	378.9	549.1	22.9	27.8
Lane Grp LOS	F	C	B	E	B	C	D	F	F	F	C	C
Approach Vol, veh/h		4087			1369			1934			1532	
Approach Delay, s/veh		302.3			26.4			228.2			326.1	
Approach LOS		F			C			F			F	

Timer												
Assigned Phs		4			8			2		1	6	
Phs Duration (G+Y+Rc), s		66.0			66.0			35.0		19.0	54.0	
Change Period (Y+Rc), s		4.0			4.0			4.0		4.0	4.0	
Max Green Setting (Gmax), s		62.0			62.0			31.0		15.0	50.0	
Max Q Clear Time (g_c+I1), s		64.0			64.0			33.0		17.0	19.0	
Green Ext Time (p_c), s		0.0			0.0			0.0		0.0	20.6	

Intersection Summary												
HCM 2010 Ctrl Delay			248.0									
HCM 2010 LOS			F									

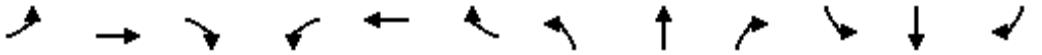
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	260	560	160	190	230	140	230	1150	400	300	740	250
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	175.9	175.9	190.0	175.9	175.9	175.9	175.9	190.0	175.9	175.9	175.9
Lanes	0	1	1	0	1	1	1	2	0	1	2	1
Cap, veh/h	119	7	598	131	54	598	290	1008	340	180	1407	598
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	0	17	1495	0	134	1495	493	2520	849	275	3519	1495
Grp Volume(v), veh/h	892	0	174	457	0	152	250	860	825	326	804	272
Grp Sat Flow(s),veh/h/ln	17	0	1495	134	0	1495	493	1759	1609	275	1759	1495
Q Serve(g_s), s	0.0	0.0	3.2	0.0	0.0	2.7	8.9	16.0	16.0	0.0	7.1	5.3
Cycle Q Clear(g_c), s	16.0	0.0	3.2	16.0	0.0	2.7	16.0	16.0	16.0	16.0	7.1	5.3
Prop In Lane	0.32		1.00	0.45		1.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	125	0	598	185	0	598	290	704	644	180	1407	598
V/C Ratio(X)	7.12	0.00	0.29	2.48	0.00	0.25	0.86	1.22	1.28	1.81	0.57	0.45
Avail Cap(c_a), veh/h	125	0	598	185	0	598	290	704	644	180	1407	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	0.0	8.1	15.5	0.0	8.0	18.1	12.0	12.0	20.0	9.3	8.8
Incr Delay (d2), s/veh	2769.8	0.0	0.3	680.6	0.0	0.2	27.2	112.6	138.1	386.1	1.7	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	97.5	0.0	1.0	35.8	0.0	0.8	4.4	27.5	29.7	20.9	2.8	1.9
Lane Grp Delay (d), s/veh	2789.0	0.0	8.4	696.1	0.0	8.2	45.2	124.6	150.1	406.1	11.0	11.3
Lane Grp LOS	F		A	F		A	D	F	F	F	B	B
Approach Vol, veh/h		1066			609			1935			1402	
Approach Delay, s/veh		2335.1			524.4			125.2			102.9	
Approach LOS		F			F			F			F	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		18.0			18.0			18.0			18.0	
Green Ext Time (p_c), s		0.0			0.0			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	637.5	
HCM 2010 LOS	F	

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	800	315	50	75	195	220	55	160	25	355	270	495
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	607	1102	937	594	1102	937	216	564	480	375	564	480
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	945	1881	1599	994	1881	1599	664	1881	1599	1188	1881	1599
Grp Volume(v), veh/h	870	342	54	82	212	239	60	174	27	386	293	538
Grp Sat Flow(s),veh/h/ln	945	1881	1599	994	1881	1599	664	1881	1599	1188	1881	1599
Q Serve(g_s), s	37.3	6.4	1.0	3.2	3.7	5.1	5.8	5.0	0.8	16.0	9.0	21.0
Cycle Q Clear(g_c), s	41.0	6.4	1.0	9.6	3.7	5.1	14.8	5.0	0.8	21.0	9.0	21.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	607	1102	937	594	1102	937	216	564	480	375	564	480
V/C Ratio(X)	1.43	0.31	0.06	0.14	0.19	0.26	0.28	0.31	0.06	1.03	0.52	1.12
Avail Cap(c_a), veh/h	607	1102	937	594	1102	937	216	564	480	375	564	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	7.3	6.2	9.8	6.8	7.1	26.5	18.9	17.4	29.2	20.3	24.5
Incr Delay (d2), s/veh	204.7	0.2	0.0	0.1	0.1	0.1	3.2	1.4	0.2	54.6	3.4	78.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	44.9	2.5	0.3	0.7	1.4	1.7	1.1	2.4	0.3	12.1	4.5	18.5
Lane Grp Delay (d), s/veh	224.2	7.5	6.2	9.9	6.9	7.2	29.6	20.3	17.7	83.8	23.7	103.2
Lane Grp LOS	F	A	A	A	A	A	C	C	B	F	C	F
Approach Vol, veh/h		1266			533			261			1217	
Approach Delay, s/veh		156.4			7.5			22.2			77.9	
Approach LOS		F			A			C			E	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		45.0			45.0			25.0			25.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		41.0			41.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s		43.0			11.6			16.8			23.0	
Green Ext Time (p_c), s		0.0			10.0			2.5			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			92.3									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	60	135	85	410	30	110	60	680	490	230	390	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	175.9	175.9	175.9	175.9	175.9	190.0	175.9	175.9	190.0	175.9	175.9	190.0
Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Cap, veh/h	568	704	598	551	133	485	457	766	546	186	1327	69
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1161	1759	1495	1073	333	1212	888	1914	1364	409	3317	172
Grp Volume(v), veh/h	65	147	92	446	0	153	65	679	593	250	224	222
Grp Sat Flow(s),veh/h/ln	1161	1759	1495	1073	0	1545	888	1759	1519	409	1759	1729
Q Serve(g_s), s	1.6	2.2	1.6	13.8	0.0	2.6	2.2	15.1	15.4	0.6	3.5	3.5
Cycle Q Clear(g_c), s	4.2	2.2	1.6	16.0	0.0	2.6	5.7	15.1	15.4	16.0	3.5	3.5
Prop In Lane	1.00		1.00	1.00		0.78	1.00		0.90	1.00		0.10
Lane Grp Cap(c), veh/h	568	704	598	551	0	618	457	704	607	186	704	692
V/C Ratio(X)	0.11	0.21	0.15	0.81	0.00	0.25	0.14	0.96	0.98	1.34	0.32	0.32
Avail Cap(c_a), veh/h	568	704	598	551	0	618	457	704	607	186	704	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.4	7.9	7.7	14.3	0.0	8.0	10.2	11.7	11.8	20.0	8.3	8.3
Incr Delay (d2), s/veh	0.1	0.1	0.1	8.9	0.0	0.2	0.7	26.2	31.3	185.6	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.4	0.8	0.5	5.3	0.0	0.8	0.5	10.2	9.7	11.3	1.4	1.4
Lane Grp Delay (d), s/veh	9.5	8.0	7.8	23.1	0.0	8.2	10.9	38.0	43.1	205.6	9.4	9.5
Lane Grp LOS	A	A	A	C		A	B	D	D	F	A	A
Approach Vol, veh/h		304			599			1337			696	
Approach Delay, s/veh		8.3			19.3			38.9			79.9	
Approach LOS		A			B			D			E	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		6.2			18.0			17.4			18.0	
Green Ext Time (p_c), s		2.9			0.0			0.0			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			41.5									
HCM 2010 LOS			D									

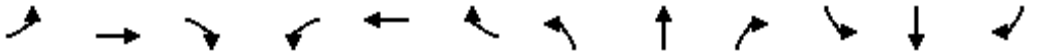
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	270	300	490	65	315	100	330	830	60	120	1060	260
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	1	1	1	2	2	1	1	2	1	1	2	1
Cap, veh/h	487	724	615	684	1448	615	223	1448	615	293	1448	615
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	909	1810	1538	1207	3619	1538	360	3619	1538	562	3619	1538
Grp Volume(v), veh/h	293	326	533	71	342	109	359	902	65	130	1152	283
Grp Sat Flow(s),veh/h/ln	909	1810	1538	604	1810	1538	360	1810	1538	562	1810	1538
Q Serve(g_s), s	12.6	5.3	12.7	1.8	2.5	1.8	4.8	8.0	1.1	8.0	11.2	5.4
Cycle Q Clear(g_c), s	15.1	5.3	12.7	7.1	2.5	1.8	16.0	8.0	1.1	16.0	11.2	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	487	724	615	684	1448	615	223	1448	615	293	1448	615
V/C Ratio(X)	0.60	0.45	0.87	0.10	0.24	0.18	1.61	0.62	0.11	0.44	0.80	0.46
Avail Cap(c_a), veh/h	487	724	615	684	1448	615	223	1448	615	293	1448	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	8.8	11.0	11.4	8.0	7.7	19.5	9.6	7.5	16.5	10.6	8.8
Incr Delay (d2), s/veh	2.1	0.4	12.4	0.1	0.1	0.1	293.7	2.0	0.3	4.8	4.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.6	1.9	6.0	0.2	0.9	0.6	20.2	3.2	0.4	1.5	4.8	2.0
Lane Grp Delay (d), s/veh	15.0	9.2	23.4	11.4	8.0	7.9	313.3	11.6	7.9	21.3	15.2	11.3
Lane Grp LOS	B	A	C	B	A	A	F	B	A	C	B	B
Approach Vol, veh/h		1152			522			1326			1565	
Approach Delay, s/veh		17.3			8.5			93.1			15.0	
Approach LOS		B			A			F			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		17.1			9.1			18.0			18.0	
Green Ext Time (p_c), s		0.0			4.3			0.0			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			37.5									
HCM 2010 LOS			D									

Notes

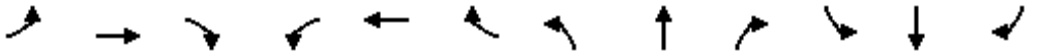


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	580	350	50	320	100	150	110	100	230	220	290
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Cap, veh/h	472	1387	589	322	1387	589	491	1488	633	621	1488	633
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	904	3619	1538	540	3619	1538	827	3619	1538	1114	3619	1538
Grp Volume(v), veh/h	196	630	380	54	348	109	163	120	109	250	239	315
Grp Sat Flow(s),veh/h/ln	904	1810	1538	540	1810	1538	827	1810	1538	1114	1810	1538
Q Serve(g_s), s	7.4	5.1	7.9	3.2	2.6	1.8	6.0	0.8	1.7	6.9	1.6	5.9
Cycle Q Clear(g_c), s	9.9	5.1	7.9	8.3	2.6	1.8	7.6	0.8	1.7	7.6	1.6	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	472	1387	589	322	1387	589	491	1488	633	621	1488	633
V/C Ratio(X)	0.42	0.45	0.64	0.17	0.25	0.18	0.33	0.08	0.17	0.40	0.16	0.50
Avail Cap(c_a), veh/h	497	1488	633	337	1488	633	491	1488	633	621	1488	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	9.0	9.8	12.1	8.2	8.0	9.6	7.0	7.3	9.3	7.2	8.5
Incr Delay (d2), s/veh	0.6	0.2	2.0	0.2	0.1	0.1	1.8	0.1	0.6	1.9	0.2	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.4	1.8	2.7	0.4	0.9	0.6	1.2	0.3	0.6	1.8	0.6	2.2
Lane Grp Delay (d), s/veh	12.2	9.2	11.9	12.3	8.3	8.1	11.4	7.1	7.8	11.2	7.5	11.3
Lane Grp LOS	B	A	B	B	A	A	B	A	A	B	A	B
Approach Vol, veh/h		1206			511			392			804	
Approach Delay, s/veh		10.5			8.7			9.1			10.1	
Approach LOS		B			A			A			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		18.9			18.9			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		11.9			10.3			9.6			9.6	
Green Ext Time (p_c), s		3.0			4.0			2.9			2.9	

Intersection Summary												
HCM 2010 Ctrl Delay			9.9									
HCM 2010 LOS			A									

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1100	0	530	25	215	100	105	1340	0	0	480	485
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	0.0	181.0	181.0	181.0	181.0	181.0	181.0	0.0	0.0	181.0	181.0
Lanes	2	0	1	1	2	1	1	2	0	0	2	1
Cap, veh/h	1222	0	0	63	343	146	240	1575	0	0	1575	669
Arrive On Green	0.37	0.00	0.00	0.09	0.09	0.09	0.44	0.44	0.00	0.00	0.44	0.44
Sat Flow, veh/h	3343	1196		810	3619	1538	520	3619	0	0	3619	1538
Grp Volume(v), veh/h	1196	56.7		27	234	109	114	1457	0	0	522	527
Grp Sat Flow(s),veh/h/ln	1672	E		810	1810	1538	520	1810	0	0	1810	1538
Q Serve(g_s), s	40.6			0.0	7.2	7.9	21.3	43.7	0.0	0.0	10.9	33.8
Cycle Q Clear(g_c), s	40.6			0.1	7.2	7.9	32.2	43.7	0.0	0.0	10.9	33.8
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	1222			63	343	146	240	1575	0	0	1575	669
V/C Ratio(X)	0.98			0.43	0.68	0.75	0.48	0.93	0.00	0.00	0.33	0.79
Avail Cap(c_a), veh/h	1222			99	504	214	240	1575	0	0	1575	669
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	36.0			52.1	50.3	50.7	32.1	30.7	0.0	0.0	21.4	27.9
Incr Delay (d2), s/veh	20.7			4.6	2.4	7.8	6.6	10.7	0.0	0.0	0.6	9.1
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	20.5			0.8	3.5	3.5	3.2	22.0	0.0	0.0	5.0	14.6
Lane Grp Delay (d), s/veh	56.7			56.7	52.7	58.5	38.7	41.4	0.0	0.0	22.0	37.0
Lane Grp LOS	E			E	D	E	D	D			C	D
Approach Vol, veh/h					370			1571			1049	
Approach Delay, s/veh					54.7			41.2			29.5	
Approach LOS					D			D			C	

Timer												
Assigned Phs	7				8			2			6	
Phs Duration (G+Y+Rc), s	46.0				14.9			54.0			54.0	
Change Period (Y+Rc), s	4.0				4.0			4.0			4.0	
Max Green Setting (Gmax), s	42.0				16.0			50.0			50.0	
Max Q Clear Time (g_c+I1), s	42.6				9.9			45.7			35.8	
Green Ext Time (p_c), s	0.0				1.0			3.9			12.0	

Intersection Summary			
HCM 2010 Ctrl Delay		43.9	
HCM 2010 LOS		D	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	600	5	110	5	5	25	270	1860	20	70	250	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	470	1118	475	437	1118	475	576	1180	1003	60	1180	1003
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1372	3725	1583	1261	3725	1583	904	1863	1583	205	1863	1583
Grp Volume(v), veh/h	652	5	120	5	5	27	293	2022	22	76	272	217
Grp Sat Flow(s),veh/h/ln	1372	1863	1583	1261	1863	1583	904	1863	1583	205	1863	1583
Q Serve(g_s), s	35.9	0.1	6.9	0.3	0.1	1.5	24.7	76.0	0.6	0.0	7.5	7.0
Cycle Q Clear(g_c), s	36.0	0.1	6.9	0.4	0.1	1.5	32.2	76.0	0.6	76.0	7.5	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	1118	475	437	1118	475	576	1180	1003	60	1180	1003
V/C Ratio(X)	1.39	0.00	0.25	0.01	0.00	0.06	0.51	1.71	0.02	1.27	0.23	0.22
Avail Cap(c_a), veh/h	470	1118	475	437	1118	475	576	1180	1003	60	1180	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	29.4	31.8	29.6	29.4	29.9	16.4	22.0	8.2	60.0	9.4	9.3
Incr Delay (d2), s/veh	186.8	0.0	0.3	0.0	0.0	0.0	3.2	324.9	0.0	203.9	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	39.0	0.1	2.8	0.1	0.1	0.6	5.9	139.2	0.2	5.3	3.4	2.7
Lane Grp Delay (d), s/veh	231.2	29.4	32.1	29.6	29.4	30.0	19.6	346.9	8.2	263.9	9.9	9.8
Lane Grp LOS	F	C	C	C	C	C	B	F	A	F	A	A
Approach Vol, veh/h		777			37			2337			565	
Approach Delay, s/veh		199.1			29.8			302.7			44.0	
Approach LOS		F			C			F			D	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		40.0			40.0			80.0			80.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		36.0			36.0			76.0			76.0	
Max Q Clear Time (g_c+I1), s		38.0			3.5			78.0			78.0	
Green Ext Time (p_c), s		0.0			3.0			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	239.0	
HCM 2010 LOS	F	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	845	640	25	200	200	480	45	2095	430	720	2040	720
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	2	2	1	2	2	1	1	2	1	2	2	1
Cap, veh/h	662	1158	492	505	1158	492	144	1882	800	288	1882	800
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1350	3619	1538	1371	3619	1538	77	3619	1538	193	3619	1538
Grp Volume(v), veh/h	918	696	27	217	217	522	49	2277	467	783	2217	783
Grp Sat Flow(s),veh/h/ln	675	1810	1538	685	1810	1538	77	1810	1538	96	1810	1538
Q Serve(g_s), s	13.8	8.1	0.6	7.9	2.2	16.0	0.0	26.0	10.5	0.0	26.0	24.9
Cycle Q Clear(g_c), s	16.0	8.1	0.6	16.0	2.2	16.0	26.0	26.0	10.5	26.0	26.0	24.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	662	1158	492	505	1158	492	144	1882	800	288	1882	800
V/C Ratio(X)	1.39	0.60	0.05	0.43	0.19	1.06	0.34	1.21	0.58	2.72	1.18	0.98
Avail Cap(c_a), veh/h	662	1158	492	505	1158	492	144	1882	800	288	1882	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	14.3	11.8	21.1	12.3	17.0	25.0	12.0	8.3	25.0	12.0	11.7
Incr Delay (d2), s/veh	183.7	0.9	0.0	0.6	0.1	57.6	6.3	99.7	3.1	783.2	86.0	27.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	20.7	3.3	0.2	1.3	0.9	13.2	0.8	35.2	3.8	33.0	31.6	13.4
Lane Grp Delay (d), s/veh	204.8	15.2	11.8	21.6	12.4	74.6	31.3	111.7	11.4	808.2	98.0	38.8
Lane Grp LOS	F	B	B	C	B	F	C	F	B	F	F	D
Approach Vol, veh/h		1641			956			2793			3783	
Approach Delay, s/veh		121.2			48.4			93.5			232.8	
Approach LOS		F			D			F			F	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		20.0			20.0			30.0			30.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		16.0			16.0			26.0			26.0	
Max Q Clear Time (g_c+I1), s		18.0			18.0			28.0			28.0	
Green Ext Time (p_c), s		0.0			0.0			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		151.2
HCM 2010 LOS		F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1060	660	170	120	160	300	150	1850	50	100	1140	620
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	190.0	181.0	181.0	181.0	181.0	190.0	181.0	181.0	181.0
Lanes	2	1	1	0	2	1	2	3	0	1	3	1
Cap, veh/h	872	844	718	166	768	718	305	2245	60	110	2316	656
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1686	1810	1538	149	1647	1538	440	5263	141	195	5429	1538
Grp Volume(v), veh/h	1152	717	185	130	174	326	163	1382	683	109	1239	674
Grp Sat Flow(s),veh/h/ln	843	1810	1538	149	1647	1538	220	1810	1785	195	1810	1538
Q Serve(g_s), s	30.3	26.3	5.5	8.7	4.7	10.8	19.3	26.6	26.7	5.3	12.7	32.0
Cycle Q Clear(g_c), s	35.0	26.3	5.5	35.0	4.7	10.8	32.0	26.6	26.7	32.0	12.7	32.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	872	844	718	166	768	718	305	1544	761	110	2316	656
V/C Ratio(X)	1.32	0.85	0.26	0.78	0.23	0.45	0.53	0.89	0.90	0.99	0.53	1.03
Avail Cap(c_a), veh/h	872	844	718	166	768	718	305	1544	761	110	2316	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	17.7	12.1	35.2	11.9	13.5	30.8	19.9	20.0	37.2	16.0	21.5
Incr Delay (d2), s/veh	152.3	8.2	0.2	21.4	0.1	0.5	6.6	8.4	15.5	83.7	0.9	42.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	26.6	12.7	1.9	3.4	1.8	3.8	1.8	12.9	14.3	4.6	5.5	19.0
Lane Grp Delay (d), s/veh	178.0	25.8	12.3	56.6	12.1	14.0	37.4	28.4	35.4	120.8	16.9	63.7
Lane Grp LOS	F	C	B	E	B	B	D	C	D	F	B	F
Approach Vol, veh/h		2054			630			2228			2022	
Approach Delay, s/veh		109.9			22.2			31.2			38.1	
Approach LOS		F			C			C			D	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		39.0			39.0			36.0			36.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		35.0			35.0			32.0			32.0	
Max Q Clear Time (g_c+I1), s		37.0			37.0			34.0			34.0	
Green Ext Time (p_c), s		0.0			0.0			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	55.7	
HCM 2010 LOS	E	

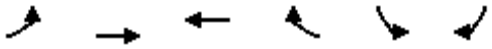
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	95	850	115	1150	2370	60	165	150	40	20	270	95
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	184.5	184.5	184.5	184.5	184.5	184.5	190.0	184.5	190.0	190.0	184.5	190.0
Lanes	1	3	1	1	3	1	0	2	0	0	2	0
Cap, veh/h	117	1314	372	838	3805	1078	182	272	72	67	497	168
Arrive On Green	0.24	0.24	0.24	0.40	0.69	0.69	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	112	5534	1568	1757	5534	1568	433	1281	338	81	2340	789
Grp Volume(v), veh/h	103	924	125	1250	2576	65	179	0	206	217	0	201
Grp Sat Flow(s),veh/h/ln	112	1845	1568	1757	1845	1568	433	0	1619	1671	0	1539
Q Serve(g_s), s	19.0	12.2	5.3	32.0	21.8	1.1	7.5	0.0	9.2	0.6	0.0	9.5
Cycle Q Clear(g_c), s	19.0	12.2	5.3	32.0	21.8	1.1	17.0	0.0	9.2	9.8	0.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	0.10		0.51
Lane Grp Cap(c), veh/h	117	1314	372	838	3805	1078	182	0	344	405	0	327
V/C Ratio(X)	0.88	0.70	0.34	1.49	0.68	0.06	0.98	0.00	0.60	0.54	0.00	0.61
Avail Cap(c_a), veh/h	117	1314	372	838	3805	1078	182	0	344	405	0	327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	27.9	25.3	16.9	7.3	4.1	38.1	0.0	28.4	28.2	0.0	28.5
Incr Delay (d2), s/veh	49.1	1.7	0.5	227.9	0.5	0.0	62.7	0.0	7.5	5.0	0.0	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.7	5.7	2.1	61.4	8.0	0.3	6.7	0.0	4.4	4.4	0.0	4.3
Lane Grp Delay (d), s/veh	86.6	29.6	25.8	244.8	7.8	4.1	100.7	0.0	35.9	33.2	0.0	36.9
Lane Grp LOS	F	C	C	F	A	A	F		D	C		D
Approach Vol, veh/h		1152			3891			385			418	
Approach Delay, s/veh		34.3			83.9			66.1			35.0	
Approach LOS		C			F			E			C	

Timer												
Assigned Phs		4		3	8			2			6	
Phs Duration (G+Y+Rc), s		23.0		36.0	59.0			21.0			21.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		19.0		32.0	55.0			17.0			17.0	
Max Q Clear Time (g_c+I1), s		21.0		34.0	23.8			19.0			11.8	
Green Ext Time (p_c), s		0.0		0.0	29.7			0.0			2.2	

Intersection Summary	
HCM 2010 Ctrl Delay	69.4
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	450	430	750	290	340	1240
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	182.7
Lanes	1	2	2	1	1	1
Cap, veh/h	364	1492	731	311	913	815
Arrive On Green	0.17	0.41	0.20	0.20	0.52	0.52
Sat Flow, veh/h	1740	3654	3654	1553	1740	1553
Grp Volume(v), veh/h	489	467	815	315	370	1348
Grp Sat Flow(s),veh/h/ln	1740	1827	1827	1553	1740	1553
Q Serve(g_s), s	21.0	10.4	24.0	24.0	15.4	63.0
Cycle Q Clear(g_c), s	21.0	10.4	24.0	24.0	15.4	63.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	364	1492	731	311	913	815
V/C Ratio(X)	1.34	0.31	1.12	1.01	0.41	1.65
Avail Cap(c_a), veh/h	364	1492	731	311	913	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	24.1	48.0	48.0	17.2	28.5
Incr Delay (d2), s/veh	171.1	0.1	69.6	54.7	1.3	299.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	25.6	4.8	18.3	14.3	6.8	107.7
Lane Grp Delay (d), s/veh	206.9	24.2	117.6	102.7	18.5	328.0
Lane Grp LOS	F	C	F	F	B	F
Approach Vol, veh/h		956	1130		1718	
Approach Delay, s/veh		117.7	113.5		261.4	
Approach LOS		F	F		F	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	25.0	53.0	28.0			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	21.0	49.0	24.0			
Max Q Clear Time (g_c+I1), s	23.0	12.4	26.0			
Green Ext Time (p_c), s	0.0	13.6	0.0			

Intersection Summary						
HCM 2010 Ctrl Delay			181.3			
HCM 2010 LOS			F			

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	250	1250	120	730	1300	1060	200	810	160	480	1210	970
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	317	1919	544	378	1919	544	356	1279	544	278	1881	800
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.08	0.50	0.50
Sat Flow, veh/h	240	5644	1599	690	5644	1599	292	3762	1599	3476	3762	1599
Grp Volume(v), veh/h	272	1359	130	793	1413	1152	217	880	174	522	1315	1054
Grp Sat Flow(s),veh/h/ln	120	1881	1599	345	1881	1599	146	1881	1599	1738	1881	1599
Q Serve(g_s), s	6.0	10.5	2.9	6.5	11.0	17.0	11.6	10.1	4.0	4.0	13.4	25.0
Cycle Q Clear(g_c), s	17.0	10.5	2.9	17.0	11.0	17.0	17.0	10.1	4.0	4.0	13.4	25.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	1919	544	378	1919	544	356	1279	544	278	1881	800
V/C Ratio(X)	0.86	0.71	0.24	2.10	0.74	2.12	0.61	0.69	0.32	1.88	0.70	1.32
Avail Cap(c_a), veh/h	317	1919	544	378	1919	544	356	1279	544	278	1881	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	14.3	11.9	24.2	14.5	16.5	23.2	14.2	12.2	23.0	9.6	12.5
Incr Delay (d2), s/veh	20.4	1.2	0.2	502.6	1.5	509.7	7.6	3.0	1.6	408.2	2.2	152.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.5	4.5	1.0	28.6	4.7	82.9	1.6	4.6	1.6	17.4	5.5	41.8
Lane Grp Delay (d), s/veh	45.1	15.6	12.1	526.8	16.0	526.2	30.8	17.3	13.8	431.2	11.8	164.5
Lane Grp LOS	D	B	B	F	B	F	C	B	B	F	B	F
Approach Vol, veh/h		1761			3358			1271			2891	
Approach Delay, s/veh		19.9			311.7			19.1			143.2	
Approach LOS		B			F			B			F	

Timer												
Assigned Phs		4			8			2		1	6	
Phs Duration (G+Y+Rc), s		21.0			21.0			21.0		8.0	29.0	
Change Period (Y+Rc), s		4.0			4.0			4.0		4.0	4.0	
Max Green Setting (Gmax), s		17.0			17.0			17.0		4.0	25.0	
Max Q Clear Time (g_c+I1), s		19.0			19.0			19.0		6.0	27.0	
Green Ext Time (p_c), s		0.0			0.0			0.0		0.0	0.0	

Intersection Summary	
HCM 2010 Ctrl Delay	163.8
HCM 2010 LOS	F

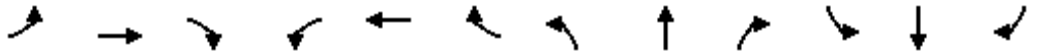
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	270	70	330	460	400	190	530	110	220	950	280
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	0	1	1	0	1	1	1	2	0	1	2	1
Cap, veh/h	81	86	765	85	0	765	180	1148	238	296	1428	607
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	0	178	1583	0	0	1583	407	2994	622	746	3725	1583
Grp Volume(v), veh/h	456	0	76	859	0	435	207	358	338	239	1033	304
Grp Sat Flow(s),veh/h/ln	178	0	1583	0	0	1583	407	1863	1753	746	1863	1583
Q Serve(g_s), s	0.0	0.0	1.6	0.0	0.0	11.7	8.8	8.8	8.8	14.2	14.2	8.8
Cycle Q Clear(g_c), s	29.0	0.0	1.6	29.0	0.0	11.7	23.0	8.8	8.8	23.0	14.2	8.8
Prop In Lane	0.36		1.00	0.42		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	167	0	765	85	0	765	180	714	672	296	1428	607
V/C Ratio(X)	2.73	0.00	0.10	10.10	0.00	0.57	1.15	0.50	0.50	0.81	0.72	0.50
Avail Cap(c_a), veh/h	167	0	765	85	0	765	180	714	672	296	1428	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	8.4	30.0	0.0	11.0	28.5	14.1	14.1	24.8	15.8	14.1
Incr Delay (d2), s/veh	793.1	0.0	0.1	4116.9	0.0	1.0	113.7	2.5	2.7	20.6	3.2	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	38.1	0.0	0.5	98.5	0.0	4.2	8.3	4.2	4.0	5.1	6.5	3.6
Lane Grp Delay (d), s/veh	808.9	0.0	8.5	4146.9	0.0	12.0	142.3	16.6	16.8	45.4	19.0	17.1
Lane Grp LOS	F		A	F		B	F	B	B	D	B	B
Approach Vol, veh/h		532			1294			903			1576	
Approach Delay, s/veh		694.5			2756.9			45.5			22.6	
Approach LOS		F			F			D			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		33.0			33.0			27.0			27.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		29.0			29.0			23.0			23.0	
Max Q Clear Time (g_c+I1), s		31.0			31.0			25.0			25.0	
Green Ext Time (p_c), s		0.0			0.0			0.0			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			932.3									
HCM 2010 LOS			F									

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	320	165	10	40	370	300	30	80	15	940	560	320
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	225	737	626	453	737	626	250	1019	866	735	1019	866
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	731	1881	1599	1200	1881	1599	590	1881	1599	1299	1881	1599
Grp Volume(v), veh/h	348	179	11	43	402	326	33	87	16	1022	609	348
Grp Sat Flow(s),veh/h/ln	731	1881	1599	1200	1881	1599	590	1881	1599	1299	1881	1599
Q Serve(g_s), s	27.2	7.7	0.5	3.0	19.8	18.7	4.8	2.7	0.6	62.3	26.3	15.3
Cycle Q Clear(g_c), s	47.0	7.7	0.5	10.7	19.8	18.7	31.1	2.7	0.6	65.0	26.3	15.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	737	626	453	737	626	250	1019	866	735	1019	866
V/C Ratio(X)	1.54	0.24	0.02	0.09	0.55	0.52	0.13	0.09	0.02	1.39	0.60	0.40
Avail Cap(c_a), veh/h	225	737	626	453	737	626	250	1019	866	735	1019	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	24.5	22.4	28.1	28.2	27.9	29.2	13.2	12.7	31.4	18.6	16.1
Incr Delay (d2), s/veh	265.4	0.2	0.0	0.1	0.8	0.8	1.1	0.2	0.0	184.3	2.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	23.6	3.6	0.2	0.9	9.4	7.6	0.8	1.3	0.2	60.5	12.6	6.2
Lane Grp Delay (d), s/veh	315.4	24.7	22.4	28.2	29.1	28.7	30.3	13.4	12.8	215.7	21.2	17.5
Lane Grp LOS	F	C	C	C	C	C	C	B	B	F	C	B
Approach Vol, veh/h		538			771			136			1979	
Approach Delay, s/veh		212.7			28.9			17.4			121.0	
Approach LOS		F			C			B			F	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		51.0			51.0			69.0			69.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		47.0			47.0			65.0			65.0	
Max Q Clear Time (g_c+I1), s		49.0			21.8			33.1			67.0	
Green Ext Time (p_c), s		0.0			6.6			14.2			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			110.5									
HCM 2010 LOS			F									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	60	90	530	190	210	90	460	370	280	710	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	190.0	182.7	182.7	190.0	182.7	182.7	190.0
Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Cap, veh/h	200	650	552	476	283	312	337	1044	838	318	1766	224
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	931	1827	1553	1195	796	876	622	1878	1509	603	3179	403
Grp Volume(v), veh/h	22	65	98	576	0	435	98	486	416	304	444	426
Grp Sat Flow(s),veh/h/ln	931	1827	1553	1195	0	1672	622	1827	1561	603	1827	1756
Q Serve(g_s), s	1.9	2.1	3.9	29.9	0.0	20.4	9.9	14.5	14.5	35.5	12.8	12.8
Cycle Q Clear(g_c), s	22.3	2.1	3.9	32.0	0.0	20.4	22.7	14.5	14.5	50.0	12.8	12.8
Prop In Lane	1.00		1.00	1.00		0.52	1.00		0.97	1.00		0.23
Lane Grp Cap(c), veh/h	200	650	552	476	0	595	337	1015	867	318	1015	975
V/C Ratio(X)	0.11	0.10	0.18	1.21	0.00	0.73	0.29	0.48	0.48	0.96	0.44	0.44
Avail Cap(c_a), veh/h	200	650	552	476	0	595	337	1015	867	318	1015	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	19.4	19.9	32.6	0.0	25.3	18.4	12.1	12.1	31.1	11.7	11.7
Incr Delay (d2), s/veh	0.2	0.1	0.2	112.5	0.0	4.6	2.2	1.6	1.9	40.5	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.5	1.0	1.5	25.7	0.0	9.0	1.7	6.4	5.5	10.5	5.7	5.5
Lane Grp Delay (d), s/veh	35.2	19.4	20.1	145.0	0.0	29.9	20.6	13.7	14.0	71.7	13.1	13.2
Lane Grp LOS	D	B	C	F		C	C	B	B	E	B	B
Approach Vol, veh/h		185			1011			1000			1174	
Approach Delay, s/veh		21.7			95.5			14.5			28.3	
Approach LOS		C			F			B			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		36.0			36.0			54.0			54.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		32.0			32.0			50.0			50.0	
Max Q Clear Time (g_c+I1), s		24.3			34.0			24.7			52.0	
Green Ext Time (p_c), s		3.6			0.0			15.5			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			44.0									
HCM 2010 LOS			D									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	340	510	420	75	55	150	455	1120	75	170	1000	570
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	2	2	1	1	2	1	1	2	1
Cap, veh/h	335	435	369	160	869	369	236	2525	1073	300	2525	1073
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	1153	1863	1583	1077	3725	1583	285	3725	1583	423	3725	1583
Grp Volume(v), veh/h	370	554	457	82	60	163	495	1217	82	185	1087	620
Grp Sat Flow(s),veh/h/ln	1153	1863	1583	539	1863	1583	285	1863	1583	423	1863	1583
Q Serve(g_s), s	19.9	21.0	21.0	0.0	1.1	7.9	49.1	14.1	1.6	33.5	11.9	18.7
Cycle Q Clear(g_c), s	21.0	21.0	21.0	21.0	1.1	7.9	61.0	14.1	1.6	47.6	11.9	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	335	435	369	160	869	369	236	2525	1073	300	2525	1073
V/C Ratio(X)	1.11	1.27	1.24	0.51	0.07	0.44	2.10	0.48	0.08	0.62	0.43	0.58
Avail Cap(c_a), veh/h	335	435	369	160	869	369	236	2525	1073	300	2525	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	34.5	34.5	45.0	26.9	29.5	28.8	6.9	4.9	18.3	6.6	7.7
Incr Delay (d2), s/veh	80.8	140.5	127.9	2.8	0.0	0.8	510.0	0.7	0.1	9.1	0.5	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	15.1	26.6	21.3	1.0	0.5	3.2	38.7	5.6	0.6	4.1	4.9	6.9
Lane Grp Delay (d), s/veh	118.2	175.0	162.4	47.8	26.9	30.3	538.8	7.6	5.1	27.5	7.1	9.9
Lane Grp LOS	F	F	F	D	C	C	F	A	A	C	A	A
Approach Vol, veh/h		1381			305			1794			1892	
Approach Delay, s/veh		155.6			34.3			154.0			10.0	
Approach LOS		F			C			F			B	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		25.0			25.0			65.0			65.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		21.0			21.0			61.0			61.0	
Max Q Clear Time (g_c+I1), s		23.0			23.0			63.0			49.6	
Green Ext Time (p_c), s		0.0			0.0			0.0			10.8	

Intersection Summary												
HCM 2010 Ctrl Delay			96.9									
HCM 2010 LOS			F									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	510	390	330	1185	285	270	150	70	130	260	240
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Cap, veh/h	243	2235	950	424	2235	950	297	993	422	385	993	422
Arrive On Green	0.60	0.60	0.60	0.60	0.60	0.60	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	317	3725	1583	573	3725	1583	859	3725	1583	1136	3725	1583
Grp Volume(v), veh/h	174	554	424	359	1288	310	293	163	76	141	283	261
Grp Sat Flow(s),veh/h/ln	317	1863	1583	573	1863	1583	859	1863	1583	1136	1863	1583
Q Serve(g_s), s	23.3	4.2	8.8	31.8	12.7	5.8	12.4	2.0	2.2	6.5	3.6	8.7
Cycle Q Clear(g_c), s	36.0	4.2	8.8	36.0	12.7	5.8	16.0	2.0	2.2	8.5	3.6	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	2235	950	424	2235	950	297	993	422	385	993	422
V/C Ratio(X)	0.72	0.25	0.45	0.85	0.58	0.33	0.99	0.16	0.18	0.37	0.28	0.62
Avail Cap(c_a), veh/h	243	2235	950	424	2235	950	297	993	422	385	993	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	5.6	6.6	16.5	7.3	6.0	26.3	16.9	16.9	20.1	17.5	19.3
Incr Delay (d2), s/veh	9.6	0.1	0.3	14.8	0.4	0.2	48.7	0.4	0.9	2.7	0.7	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.2	1.5	2.8	6.9	4.6	1.9	8.3	0.9	0.9	2.0	1.7	4.0
Lane Grp Delay (d), s/veh	31.3	5.7	6.9	31.3	7.7	6.2	75.0	17.2	17.9	22.8	18.2	26.0
Lane Grp LOS	C	A	A	C	A	A	E	B	B	C	B	C
Approach Vol, veh/h		1152			1957			532			685	
Approach Delay, s/veh		10.0			11.8			49.1			22.1	
Approach LOS		B			B			D			C	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		40.0			40.0			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		36.0			36.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		38.0			38.0			18.0			10.7	
Green Ext Time (p_c), s		0.0			0.0			0.0			2.6	

Intersection Summary												
HCM 2010 Ctrl Delay			17.5									
HCM 2010 LOS			B									

Notes

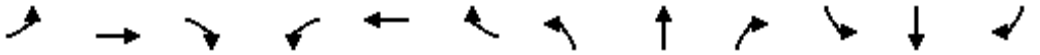
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	950	0	350	215	590	250	290	670	0	0	1280	1710
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	0.0	186.3	186.3	186.3	186.3	186.3	186.3	0.0	0.0	186.3	186.3
Lanes	2	0	1	1	2	1	1	2	0	0	2	1
Cap, veh/h	245	0	0	128	1010	429	135	1656	0	0	1656	704
Arrive On Green	0.07	0.00	0.00	0.27	0.27	0.27	0.44	0.44	0.00	0.00	0.44	0.44
Sat Flow, veh/h	3442	1033		999	3725	1583	61	3725	0	0	3725	1583
Grp Volume(v), veh/h	1033	1485.4		234	641	272	315	728	0	0	1391	1859
Grp Sat Flow(s),veh/h/ln	1721	F		999	1863	1583	61	1863	0	0	1863	1583
Q Serve(g_s), s	4.0			0.0	8.5	8.5	6.4	7.6	0.0	0.0	18.6	25.0
Cycle Q Clear(g_c), s	4.0			0.1	8.5	8.5	25.0	7.6	0.0	0.0	18.6	25.0
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	245			128	1010	429	135	1656	0	0	1656	704
V/C Ratio(X)	4.22			1.83	0.63	0.63	2.33	0.44	0.00	0.00	0.84	2.64
Avail Cap(c_a), veh/h	245			248	1457	619	135	1656	0	0	1656	704
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	26.1			20.6	18.0	18.0	28.0	10.8	0.0	0.0	13.9	15.6
Incr Delay (d2), s/veh	1459.2			399.3	0.7	1.6	623.1	0.9	0.0	0.0	5.3	743.0
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	51.2			15.4	3.7	3.3	25.2	3.3	0.0	0.0	8.8	153.7
Lane Grp Delay (d), s/veh	1485.4			419.8	18.7	19.6	651.1	11.6	0.0	0.0	19.2	758.7
Lane Grp LOS	F			F	B	B	F	B			B	F
Approach Vol, veh/h					1147			1043			3250	
Approach Delay, s/veh					100.7			204.8			442.2	
Approach LOS					F			F			F	
Timer												
Assigned Phs	7				8			2			6	
Phs Duration (G+Y+Rc), s	8.0				19.3			29.0			29.0	
Change Period (Y+Rc), s	4.0				4.0			4.0			4.0	
Max Green Setting (Gmax), s	4.0				22.0			25.0			25.0	
Max Q Clear Time (g_c+I1), s	6.0				10.5			27.0			27.0	
Green Ext Time (p_c), s	0.0				4.7			0.0			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			509.9									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	460	10	220	15	5	25	155	295	10	15	1215	750
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	493	1042	443	423	1042	443	111	1129	959	657	1129	959
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1385	3762	1599	1136	3762	1599	189	1881	1599	1054	1881	1599
Grp Volume(v), veh/h	500	11	239	16	5	27	168	321	11	16	1321	815
Grp Sat Flow(s),veh/h/ln	1385	1881	1599	1136	1881	1599	189	1881	1599	1054	1881	1599
Q Serve(g_s), s	17.9	0.1	8.3	0.7	0.1	0.8	0.0	5.3	0.2	0.5	39.0	27.0
Cycle Q Clear(g_c), s	18.0	0.1	8.3	0.8	0.1	0.8	39.0	5.3	0.2	5.8	39.0	27.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	493	1042	443	423	1042	443	111	1129	959	657	1129	959
V/C Ratio(X)	1.01	0.01	0.54	0.04	0.00	0.06	1.52	0.28	0.01	0.02	1.17	0.85
Avail Cap(c_a), veh/h	493	1042	443	423	1042	443	111	1129	959	657	1129	959
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	17.0	20.0	17.3	17.0	17.3	32.5	6.3	5.2	7.7	13.0	10.6
Incr Delay (d2), s/veh	44.1	0.0	1.3	0.0	0.0	0.1	273.1	0.6	0.0	0.1	86.4	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	13.9	0.1	3.3	0.2	0.0	0.3	10.2	2.2	0.1	0.1	41.8	11.1
Lane Grp Delay (d), s/veh	69.7	17.0	21.3	17.4	17.0	17.3	305.6	6.9	5.3	7.7	99.4	19.9
Lane Grp LOS	F	B	C	B	B	B	F	A	A	A	F	B
Approach Vol, veh/h		750			48			500			2152	
Approach Delay, s/veh		53.5			17.3			107.2			68.6	
Approach LOS		D			B			F			E	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		22.0			22.0			43.0			43.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		18.0			18.0			39.0			39.0	
Max Q Clear Time (g_c+I1), s		20.0			2.8			41.0			41.0	
Green Ext Time (p_c), s		0.0			2.5			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		70.2
HCM 2010 LOS		E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	545	260	45	410	520	800	45	2065	160	430	1950	870
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	2	1	2	2	1	1	2	1	2	2	1
Cap, veh/h	394	1242	528	804	1242	528	120	1987	844	240	1987	844
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	720	3725	1583	2025	3725	1583	74	3725	1583	275	3725	1583
Grp Volume(v), veh/h	592	283	49	446	565	870	49	2245	174	467	2120	946
Grp Sat Flow(s),veh/h/ln	360	1863	1583	1013	1863	1583	74	1863	1583	137	1863	1583
Q Serve(g_s), s	12.8	3.3	1.3	12.2	7.2	20.0	0.0	32.0	3.5	0.0	32.0	32.0
Cycle Q Clear(g_c), s	20.0	3.3	1.3	15.5	7.2	20.0	32.0	32.0	3.5	32.0	32.0	32.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	394	1242	528	804	1242	528	120	1987	844	240	1987	844
V/C Ratio(X)	1.50	0.23	0.09	0.55	0.45	1.65	0.41	1.13	0.21	1.95	1.07	1.12
Avail Cap(c_a), veh/h	394	1242	528	804	1242	528	120	1987	844	240	1987	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	14.4	13.8	20.0	15.7	20.0	30.0	14.0	7.3	30.0	14.0	14.0
Incr Delay (d2), s/veh	238.9	0.1	0.1	0.8	0.3	300.2	10.0	65.5	0.6	440.5	40.8	69.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	15.9	1.4	0.5	3.0	3.0	51.2	1.0	30.5	1.2	16.4	23.7	26.9
Lane Grp Delay (d), s/veh	266.4	14.5	13.8	20.9	16.0	320.2	40.0	79.5	7.9	470.5	54.8	83.6
Lane Grp LOS	F	B	B	C	B	F	D	F	A	F	F	F
Approach Vol, veh/h		924			1881			2468			3533	
Approach Delay, s/veh		175.8			157.9			73.7			117.5	
Approach LOS		F			F			E			F	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		24.0			24.0			36.0			36.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		20.0			20.0			32.0			32.0	
Max Q Clear Time (g_c+I1), s		22.0			22.0			34.0			34.0	
Green Ext Time (p_c), s		0.0			0.0			0.0			0.0	

Intersection Summary			
HCM 2010 Ctrl Delay		119.9	
HCM 2010 LOS		F	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	870	400	310	160	280	190	275	1860	105	270	2340	1125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	2	1	1	0	2	1	2	3	0	1	3	1
Cap, veh/h	666	671	570	259	610	570	291	2516	141	172	2682	760
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1718	1863	1583	318	1695	1583	70	5242	294	188	5588	1583
Grp Volume(v), veh/h	946	435	337	174	304	207	299	1435	701	293	2543	1223
Grp Sat Flow(s),veh/h/ln	859	1863	1583	318	1695	1583	35	1863	1811	188	1863	1583
Q Serve(g_s), s	11.0	9.7	8.7	8.3	7.0	4.8	2.3	16.3	16.4	7.6	21.7	24.0
Cycle Q Clear(g_c), s	18.0	9.7	8.7	18.0	7.0	4.8	24.0	16.3	16.4	24.0	21.7	24.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	666	671	570	259	610	570	291	1788	869	172	2682	760
V/C Ratio(X)	1.42	0.65	0.59	0.67	0.50	0.36	1.03	0.80	0.81	1.70	0.95	1.61
Avail Cap(c_a), veh/h	666	671	570	259	610	570	291	1788	869	172	2682	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	13.4	13.0	22.3	12.5	11.8	25.0	11.0	11.0	24.4	12.4	13.0
Incr Delay (d2), s/veh	197.8	2.2	1.6	6.7	0.6	0.4	59.8	3.9	7.9	338.6	8.9	280.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	22.2	4.3	3.2	2.5	2.6	1.7	4.1	6.9	8.0	18.2	10.2	66.8
Lane Grp Delay (d), s/veh	219.7	15.6	14.6	28.9	13.1	12.2	84.8	14.9	19.0	362.9	21.3	293.3
Lane Grp LOS	F	B	B	C	B	B	F	B	B	F	C	F
Approach Vol, veh/h		1718			685			2435			4059	
Approach Delay, s/veh		127.8			16.8			24.7			127.9	
Approach LOS		F			B			C			F	

Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		22.0			22.0			28.0			28.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		18.0			18.0			24.0			24.0	
Max Q Clear Time (g_c+I1), s		20.0			20.0			26.0			26.0	
Green Ext Time (p_c), s		0.0			0.0			0.0			0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			91.1									
HCM 2010 LOS			F									

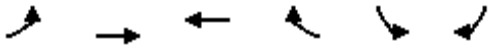
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	1780	95	235	580	85	100	300	340	50	165	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	177.6	177.6	177.6	177.6	177.6	177.6	190.0	177.6	190.0	190.0	177.6	190.0
Lanes	1	3	1	1	3	1	0	2	0	0	2	0
Cap, veh/h	409	2214	627	306	3103	879	146	296	330	120	321	117
Arrive On Green	0.42	0.42	0.42	0.10	0.58	0.58	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	694	5327	1509	1691	5327	1509	239	1041	1161	0	1132	411
Grp Volume(v), veh/h	152	1935	103	255	630	92	355	0	450	54	0	244
Grp Sat Flow(s),veh/h/ln	694	1776	1509	1691	1776	1509	1031	0	1411	0	0	1543
Q Serve(g_s), s	9.8	20.0	2.6	4.8	3.4	1.6	8.9	0.0	17.0	0.0	0.0	8.1
Cycle Q Clear(g_c), s	9.8	20.0	2.6	4.8	3.4	1.6	17.0	0.0	17.0	17.0	0.0	8.1
Prop In Lane	1.00		1.00	1.00		1.00	0.31		0.82	1.00		0.27
Lane Grp Cap(c), veh/h	409	2214	627	306	3103	879	371	0	401	120	0	438
V/C Ratio(X)	0.37	0.87	0.16	0.83	0.20	0.10	0.96	0.00	1.12	0.45	0.00	0.56
Avail Cap(c_a), veh/h	410	2224	630	306	3113	882	371	0	401	120	0	438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	16.1	11.0	13.0	5.9	5.6	24.0	0.0	21.4	29.9	0.0	18.2
Incr Delay (d2), s/veh	0.6	4.2	0.1	17.7	0.0	0.1	37.2	0.0	82.7	11.7	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.5	8.6	0.9	5.2	1.2	0.5	9.0	0.0	14.8	1.2	0.0	3.5
Lane Grp Delay (d), s/veh	13.7	20.2	11.1	30.7	5.9	5.6	61.1	0.0	104.1	41.6	0.0	23.3
Lane Grp LOS	B	C	B	C	A	A	E		F	D		C
Approach Vol, veh/h		2190			977			805			298	
Approach Delay, s/veh		19.4			12.4			85.1			26.6	
Approach LOS		B			B			F			C	

Timer												
Assigned Phs		4		3	8			2			6	
Phs Duration (G+Y+Rc), s		28.9		10.0	38.9			21.0			21.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		25.0		6.0	35.0			17.0			17.0	
Max Q Clear Time (g_c+I1), s		22.0		6.8	5.4			19.0			19.0	
Green Ext Time (p_c), s		2.9		0.0	24.7			0.0			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay	30.7	
HCM 2010 LOS	C	

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	690	710	410	310	125	105
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	179.2	179.2	179.2	179.2	179.2	179.2
Lanes	1	2	2	1	1	1
Cap, veh/h	804	2338	831	353	396	353
Arrive On Green	0.36	0.65	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1707	3585	3585	1524	1707	1524
Grp Volume(v), veh/h	750	772	446	337	136	114
Grp Sat Flow(s),veh/h/ln	1707	1792	1792	1524	1707	1524
Q Serve(g_s), s	21.1	6.6	7.5	15.1	4.6	4.3
Cycle Q Clear(g_c), s	21.1	6.6	7.5	15.1	4.6	4.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	804	2338	831	353	396	353
V/C Ratio(X)	0.93	0.33	0.54	0.95	0.34	0.32
Avail Cap(c_a), veh/h	952	2649	831	353	396	353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	5.3	23.3	26.1	22.1	22.0
Incr Delay (d2), s/veh	14.1	0.1	0.7	35.9	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	10.0	2.4	3.4	9.1	2.2	0.2
Lane Grp Delay (d), s/veh	25.3	5.4	23.9	62.1	24.5	24.4
Lane Grp LOS	C	A	C	E	C	C
Approach Vol, veh/h		1522	783		250	
Approach Delay, s/veh		15.2	40.4		24.5	
Approach LOS		B	D		C	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	29.0	49.0	20.0			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	31.0	51.0	16.0			
Max Q Clear Time (g_c+I1), s	23.1	8.6	17.1			
Green Ext Time (p_c), s	1.9	13.5	0.0			

Intersection Summary	
HCM 2010 Ctrl Delay	23.8
HCM 2010 LOS	C

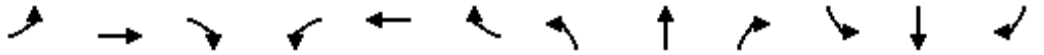
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1190	2400	50	70	560	630	85	890	525	830	280	260
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7	182.7
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	844	2238	634	113	1050	298	141	883	375	619	1400	595
Arrive On Green	0.25	0.41	0.41	0.03	0.19	0.19	0.04	0.24	0.24	0.18	0.38	0.38
Sat Flow, veh/h	3375	5481	1553	3375	5481	1553	3375	3654	1553	3375	3654	1553
Grp Volume(v), veh/h	1293	2609	54	76	609	685	92	967	571	902	304	283
Grp Sat Flow(s),veh/h/ln	1688	1827	1553	1688	1827	1553	1688	1827	1553	1688	1827	1553
Q Serve(g_s), s	30.0	49.0	2.6	2.7	12.1	23.0	3.2	29.0	29.0	22.0	6.7	16.5
Cycle Q Clear(g_c), s	30.0	49.0	2.6	2.7	12.1	23.0	3.2	29.0	29.0	22.0	6.7	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	844	2238	634	113	1050	298	141	883	375	619	1400	595
V/C Ratio(X)	1.53	1.17	0.09	0.68	0.58	2.30	0.65	1.10	1.52	1.46	0.22	0.48
Avail Cap(c_a), veh/h	844	2238	634	113	1050	298	197	883	375	619	1400	595
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	35.5	21.8	57.4	44.1	48.5	56.6	45.5	45.5	49.0	24.9	27.9
Incr Delay (d2), s/veh	245.5	79.9	0.1	14.8	0.8	596.2	5.0	59.6	247.9	214.8	0.4	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	41.7	38.9	1.0	1.4	5.8	58.5	1.5	20.8	37.3	28.0	3.2	6.8
Lane Grp Delay (d), s/veh	290.5	115.4	21.8	72.2	44.9	644.7	61.7	105.1	293.4	263.8	25.3	30.6
Lane Grp LOS	F	F	C	E	D	F	E	F	F	F	C	C
Approach Vol, veh/h		3956			1370			1630			1489	
Approach Delay, s/veh		171.3			346.3			168.6			170.8	
Approach LOS		F			F			F			F	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	34.0	53.0		8.0	27.0		9.0	33.0		26.0	50.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	30.0	49.0		4.0	23.0		7.0	29.0		22.0	44.0	
Max Q Clear Time (g_c+I1), s	32.0	51.0		4.7	25.0		5.2	31.0		24.0	18.5	
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0		0.0	0.0		0.0	14.7	

Intersection Summary	
HCM 2010 Ctrl Delay	199.1
HCM 2010 LOS	F

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	500	60	205	210	135	135	485	440	245	305	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	175.9	175.9	190.0	175.9	175.9	175.9	175.9	190.0	175.9	175.9	175.9
Lanes	0	1	1	0	1	1	1	2	0	1	2	1
Cap, veh/h	51	218	804	67	15	804	352	440	374	208	880	374
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.06	0.25	0.25	0.06	0.25	0.25
Sat Flow, veh/h	0	405	1495	0	27	1495	1675	1759	1495	1675	3519	1495
Grp Volume(v), veh/h	619	0	65	451	0	147	147	527	478	266	332	82
Grp Sat Flow(s),veh/h/ln	405	0	1495	27	0	1495	1675	1759	1495	1675	1759	1495
Q Serve(g_s), s	0.0	0.0	1.7	0.0	0.0	4.0	5.0	20.0	20.0	5.0	6.3	3.5
Cycle Q Clear(g_c), s	43.0	0.0	1.7	43.0	0.0	4.0	5.0	20.0	20.0	5.0	6.3	3.5
Prop In Lane	0.12		1.00	0.49		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	0	804	82	0	804	352	440	374	208	880	374
V/C Ratio(X)	2.31	0.00	0.08	5.50	0.00	0.18	0.42	1.20	1.28	1.28	0.38	0.22
Avail Cap(c_a), veh/h	268	0	804	82	0	804	352	440	374	208	880	374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	8.9	32.3	0.0	9.5	21.3	30.0	30.0	28.6	24.8	23.8
Incr Delay (d2), s/veh	599.7	0.0	0.0	2051.3	0.0	0.1	0.8	109.4	144.5	157.4	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	48.9	0.0	0.6	48.4	0.0	1.4	2.2	21.9	22.3	11.0	2.8	1.4
Lane Grp Delay (d), s/veh	626.8	0.0	9.0	2083.6	0.0	9.6	22.1	139.4	174.5	186.0	26.1	25.2
Lane Grp LOS	F		A	F		A	C	F	F	F	C	C
Approach Vol, veh/h		684			598			1152			680	
Approach Delay, s/veh		568.1			1573.8			139.0			88.5	
Approach LOS		F			F			F			F	
Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		47.0			47.0		9.0	24.0		9.0	24.0	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s		43.0			43.0		5.0	20.0		5.0	20.0	
Max Q Clear Time (g_c+I1), s		45.0			45.0		7.0	22.0		7.0	8.3	
Green Ext Time (p_c), s		0.0			0.0		0.0	0.0		0.0	7.0	
Intersection Summary												
HCM 2010 Ctrl Delay			497.8									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	600	310	50	75	195	195	55	150	25	250	250	410
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	744	1049	892	299	357	304	261	603	512	417	603	512
Arrive On Green	0.31	0.56	0.56	0.19	0.19	0.19	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1792	1881	1599	999	1881	1599	738	1881	1599	1200	1881	1599
Grp Volume(v), veh/h	652	337	54	82	212	212	60	163	27	272	272	446
Grp Sat Flow(s),veh/h/ln	1792	1881	1599	999	1881	1599	738	1881	1599	1200	1881	1599
Q Serve(g_s), s	17.7	6.3	1.0	4.8	6.7	8.1	4.6	4.2	0.8	14.3	7.5	17.2
Cycle Q Clear(g_c), s	17.7	6.3	1.0	4.8	6.7	8.1	12.1	4.2	0.8	18.5	7.5	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	744	1049	892	299	357	304	261	603	512	417	603	512
V/C Ratio(X)	0.88	0.32	0.06	0.27	0.59	0.70	0.23	0.27	0.05	0.65	0.45	0.87
Avail Cap(c_a), veh/h	768	1176	1000	354	459	390	261	603	512	417	603	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	7.8	6.6	23.4	24.2	24.8	22.5	16.6	15.4	23.5	17.7	21.0
Incr Delay (d2), s/veh	11.0	0.2	0.0	0.5	1.6	3.8	2.0	1.1	0.2	7.7	2.4	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	10.8	2.5	0.3	1.2	3.2	3.5	1.0	2.0	0.3	5.0	3.7	9.0
Lane Grp Delay (d), s/veh	23.7	8.0	6.7	23.9	25.8	28.6	24.6	17.7	15.6	31.2	20.1	39.1
Lane Grp LOS	C	A	A	C	C	C	C	B	B	C	C	D
Approach Vol, veh/h		1043			506			250			990	
Approach Delay, s/veh		17.7			26.7			19.1			31.7	
Approach LOS		B			C			B			C	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	24.1	40.6			16.5			25.0			25.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s	21.0	41.0			16.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s	19.7	8.3			10.1			14.1			20.5	
Green Ext Time (p_c), s	0.4	4.9			2.3			3.2			0.3	
Intersection Summary												
HCM 2010 Ctrl Delay			24.4									
HCM 2010 LOS			C									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	135	80	370	40	130	45	640	355	200	385	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	175.9	175.9	175.9	175.9	175.9	190.0	175.9	175.9	190.0	175.9	175.9	190.0
Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Cap, veh/h	255	233	198	410	123	402	453	820	454	316	1857	49
Arrive On Green	0.13	0.13	0.13	0.15	0.34	0.34	0.39	0.39	0.39	0.10	0.54	0.54
Sat Flow, veh/h	1129	1759	1495	1675	362	1188	902	2130	1180	1675	3413	90
Grp Volume(v), veh/h	60	147	87	402	0	184	49	575	507	217	215	214
Grp Sat Flow(s),veh/h/ln	1129	1759	1495	1675	0	1550	902	1759	1551	1675	1759	1743
Q Serve(g_s), s	3.3	5.4	3.6	10.0	0.0	6.1	2.4	20.3	20.3	4.9	4.3	4.3
Cycle Q Clear(g_c), s	3.3	5.4	3.6	10.0	0.0	6.1	2.4	20.3	20.3	4.9	4.3	4.3
Prop In Lane	1.00		1.00	1.00		0.77	1.00		0.76	1.00		0.05
Lane Grp Cap(c), veh/h	255	233	198	410	0	524	453	678	597	316	957	948
V/C Ratio(X)	0.23	0.63	0.44	0.98	0.00	0.35	0.11	0.85	0.85	0.69	0.22	0.23
Avail Cap(c_a), veh/h	371	414	352	410	0	684	453	678	597	321	957	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	27.9	27.2	23.9	0.0	16.9	13.6	19.1	19.1	14.5	8.1	8.1
Incr Delay (d2), s/veh	0.5	2.8	1.5	39.3	0.0	0.4	0.5	12.5	14.1	5.9	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	2.5	1.4	4.5	0.0	2.3	0.6	10.5	9.7	4.1	1.8	1.8
Lane Grp Delay (d), s/veh	27.5	30.7	28.7	63.2	0.0	17.3	14.1	31.6	33.2	20.4	8.6	8.6
Lane Grp LOS	C	C	C	E		B	B	C	C	C	A	A
Approach Vol, veh/h		294			586			1131			646	
Approach Delay, s/veh		29.5			48.8			31.6			12.6	
Approach LOS		C			D			C			B	

Timer												
Assigned Phs		4		3	8			2		1	6	
Phs Duration (G+Y+Rc), s		13.0		14.0	27.0			30.2		10.8	41.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0		4.0	4.0	
Max Green Setting (Gmax), s		16.0		10.0	30.0			26.0		7.0	37.0	
Max Q Clear Time (g_c+I1), s		7.4		12.0	8.1			22.3		6.9	6.3	
Green Ext Time (p_c), s		1.6		0.0	2.5			2.8		0.0	13.1	

Intersection Summary		
HCM 2010 Ctrl Delay	30.5	
HCM 2010 LOS	C	

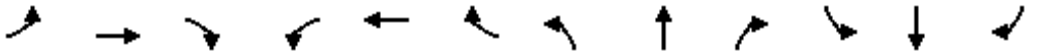
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	300	310	470	60	300	100	250	825	50	110	1040	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	1	1	1	2	2	1	1	2	1	1	2	1
Cap, veh/h	394	487	414	120	617	262	324	2029	862	312	1468	624
Arrive On Green	0.13	0.27	0.27	0.04	0.17	0.17	0.11	0.56	0.56	0.41	0.41	0.41
Sat Flow, veh/h	1723	1810	1538	3343	3619	1538	1723	3619	1538	571	3619	1538
Grp Volume(v), veh/h	326	337	511	65	326	109	272	897	54	120	1130	217
Grp Sat Flow(s),veh/h/ln	1723	1810	1538	1672	1810	1538	1723	1810	1538	571	1810	1538
Q Serve(g_s), s	11.9	14.9	24.0	1.7	7.3	5.6	7.7	12.9	1.4	14.1	24.1	8.7
Cycle Q Clear(g_c), s	11.9	14.9	24.0	1.7	7.3	5.6	7.7	12.9	1.4	14.1	24.1	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	394	487	414	120	617	262	324	2029	862	312	1468	624
V/C Ratio(X)	0.83	0.69	1.23	0.54	0.53	0.42	0.84	0.44	0.06	0.38	0.77	0.35
Avail Cap(c_a), veh/h	394	487	414	150	649	276	346	2029	862	312	1468	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	29.3	32.6	42.3	33.7	33.0	18.3	11.5	8.9	20.0	22.9	18.3
Incr Delay (d2), s/veh	13.6	4.2	125.0	3.8	0.7	1.1	15.9	0.7	0.1	3.6	4.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.4	7.3	23.5	0.8	3.4	2.3	7.5	5.6	0.5	2.3	11.5	3.5
Lane Grp Delay (d), s/veh	34.5	33.5	157.6	46.0	34.4	34.1	34.2	12.2	9.1	23.5	26.9	19.9
Lane Grp LOS	C	C	F	D	C	C	C	B	A	C	C	B
Approach Vol, veh/h		1174			500			1223			1467	
Approach Delay, s/veh		87.8			35.9			16.9			25.6	
Approach LOS		F			D			B			C	

Timer												
Assigned Phs	7	4		3	8		5	2			6	
Phs Duration (G+Y+Rc), s	16.0	28.0		7.2	19.2		13.8	54.0			40.2	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s	12.0	24.0		4.0	16.0		11.0	50.0			35.0	
Max Q Clear Time (g_c+I1), s	13.9	26.0		3.7	9.3		9.7	14.9			26.1	
Green Ext Time (p_c), s	0.0	0.0		0.0	3.6		0.1	23.2			7.7	

Intersection Summary	
HCM 2010 Ctrl Delay	41.1
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	200	680	350	50	370	100	140	100	110	270	200	310
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Cap, veh/h	399	1042	443	244	875	372	478	1060	451	604	1185	504
Arrive On Green	0.09	0.29	0.29	0.04	0.24	0.24	0.07	0.29	0.29	0.10	0.33	0.33
Sat Flow, veh/h	1723	3619	1538	1723	3619	1538	1723	3619	1538	1723	3619	1538
Grp Volume(v), veh/h	217	739	380	54	402	109	152	109	120	293	217	337
Grp Sat Flow(s),veh/h/ln	1723	1810	1538	1723	1810	1538	1723	1810	1538	1723	1810	1538
Q Serve(g_s), s	5.0	10.6	13.6	1.3	5.5	3.4	3.6	1.3	3.5	6.0	2.5	11.0
Cycle Q Clear(g_c), s	5.0	10.6	13.6	1.3	5.5	3.4	3.6	1.3	3.5	6.0	2.5	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	399	1042	443	244	875	372	478	1060	451	604	1185	504
V/C Ratio(X)	0.54	0.71	0.86	0.22	0.46	0.29	0.32	0.10	0.27	0.48	0.18	0.67
Avail Cap(c_a), veh/h	399	1060	451	294	998	424	478	1060	451	604	1185	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	18.5	19.5	16.1	18.8	18.0	13.0	15.0	15.7	11.8	14.0	16.8
Incr Delay (d2), s/veh	1.5	2.2	15.0	0.5	0.4	0.4	0.4	0.2	1.4	0.6	0.3	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.1	4.7	6.6	0.6	2.4	1.2	1.4	0.6	1.4	2.5	1.1	4.7
Lane Grp Delay (d), s/veh	15.1	20.7	34.6	16.5	19.1	18.4	13.3	15.2	17.2	12.4	14.3	23.7
Lane Grp LOS	B	C	C	B	B	B	B	B	B	B	B	C
Approach Vol, veh/h		1336			565			381			847	
Approach Delay, s/veh		23.7			18.7			15.1			17.4	
Approach LOS		C			B			B			B	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	9.0	20.7		6.3	18.0		8.0	21.0		10.0	23.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	5.0	17.0		4.0	16.0		4.0	17.0		6.0	19.0	
Max Q Clear Time (g_c+I1), s	7.0	15.6		3.3	7.5		5.6	5.5		8.0	13.0	
Green Ext Time (p_c), s	0.0	1.1		0.0	5.6		0.0	3.0		0.0	2.0	

Intersection Summary		
HCM 2010 Ctrl Delay		20.1
HCM 2010 LOS		C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1250	0	500	0	210	75	150	1890	0	0	420	580
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	0.0	181.0	181.0	181.0	181.0	181.0	181.0	0.0	0.0	181.0	181.0
Lanes	2	0	1	1	2	1	1	2	0	0	2	1
Cap, veh/h	1057	0	0	63	315	134	273	1779	0	0	1779	756
Arrive On Green	0.32	0.00	0.00	0.00	0.09	0.09	0.49	0.49	0.00	0.00	0.49	0.49
Sat Flow, veh/h	3343	1359		835	3619	1538	502	3619	0	0	3619	1538
Grp Volume(v), veh/h	1359	175.0		0	228	82	163	2054	0	0	457	630
Grp Sat Flow(s),veh/h/ln	1672	F		835	1810	1538	502	1810	0	0	1810	1538
Q Serve(g_s), s	36.0			0.0	7.0	5.9	31.9	56.0	0.0	0.0	8.4	40.2
Cycle Q Clear(g_c), s	36.0			0.0	7.0	5.9	40.2	56.0	0.0	0.0	8.4	40.2
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	1057			63	315	134	273	1779	0	0	1779	756
V/C Ratio(X)	1.29			0.00	0.72	0.61	0.60	1.15	0.00	0.00	0.26	0.83
Avail Cap(c_a), veh/h	1057			108	508	216	273	1779	0	0	1779	756
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.0			0.0	50.7	50.1	28.6	29.0	0.0	0.0	16.9	24.9
Incr Delay (d2), s/veh	136.1			0.0	3.2	4.5	9.3	76.4	0.0	0.0	0.3	10.4
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	35.1			0.0	3.4	2.5	4.7	43.6	0.0	0.0	3.8	17.2
Lane Grp Delay (d), s/veh	175.0			0.0	53.8	54.6	37.8	105.4	0.0	0.0	17.2	35.4
Lane Grp LOS	F				D	D	D	F			B	D
Approach Vol, veh/h					310			2217			1087	
Approach Delay, s/veh					54.0			100.4			27.7	
Approach LOS					D			F			C	

Timer												
Assigned Phs	7				8			2			6	
Phs Duration (G+Y+Rc), s	40.0				13.9			60.0			60.0	
Change Period (Y+Rc), s	4.0				4.0			4.0			4.0	
Max Green Setting (Gmax), s	36.0				16.0			56.0			56.0	
Max Q Clear Time (g_c+I1), s	38.0				9.0			58.0			42.2	
Green Ext Time (p_c), s	0.0				0.9			0.0			13.0	

Intersection Summary												
HCM 2010 Ctrl Delay			102.0									
HCM 2010 LOS			F									

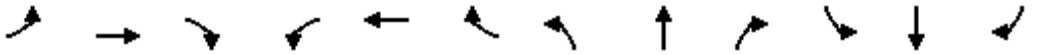
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	600	5	110	5	5	30	295	1780	30	60	270	200
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	336	586	249	129	157	67	682	1225	1041	127	1139	968
Arrive On Green	0.12	0.16	0.16	0.01	0.04	0.04	0.08	0.66	0.66	0.03	0.61	0.61
Sat Flow, veh/h	1774	3725	1583	1774	3725	1583	1774	1863	1583	1774	1863	1583
Grp Volume(v), veh/h	652	5	120	5	5	33	321	1935	33	65	293	217
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	13.0	0.1	7.5	0.3	0.1	2.2	5.9	71.0	0.8	1.5	7.8	6.7
Cycle Q Clear(g_c), s	13.0	0.1	7.5	0.3	0.1	2.2	5.9	71.0	0.8	1.5	7.8	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336	586	249	129	157	67	682	1225	1041	127	1139	968
V/C Ratio(X)	1.94	0.01	0.48	0.04	0.03	0.50	0.47	1.58	0.03	0.51	0.26	0.22
Avail Cap(c_a), veh/h	336	863	367	185	552	235	774	1225	1041	137	1139	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	38.4	41.5	49.1	49.6	50.6	5.6	18.5	6.5	27.3	9.7	9.4
Incr Delay (d2), s/veh	434.2	0.0	1.4	0.1	0.1	5.6	0.5	264.8	0.1	3.2	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	43.5	0.1	3.1	0.1	0.1	1.0	2.1	119.7	0.3	1.9	3.5	2.6
Lane Grp Delay (d), s/veh	471.6	38.4	42.9	49.3	49.7	56.2	6.1	283.3	6.5	30.4	10.2	10.0
Lane Grp LOS	F	D	D	D	D	E	A	F	A	C	B	A
Approach Vol, veh/h		777			43			2289			575	
Approach Delay, s/veh		402.6			54.6			240.5			12.4	
Approach LOS		F			D			F			B	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	17.0	21.0		4.6	8.5		12.4	75.0		7.4	70.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	13.0	25.0		4.0	16.0		14.0	71.0		4.0	61.0	
Max Q Clear Time (g_c+I1), s	15.0	9.5		2.3	4.2		7.9	73.0		3.5	9.8	
Green Ext Time (p_c), s	0.0	0.4		0.0	0.4		0.5	0.0		0.0	50.6	

Intersection Summary			
HCM 2010 Ctrl Delay		236.9	
HCM 2010 LOS		F	

Notes



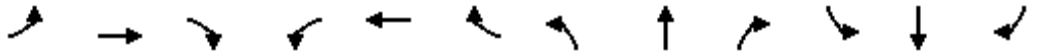
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	980	610	20	200	170	750	40	2490	440	1160	2380	820
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0	181.0
Lanes	2	2	1	2	2	1	1	2	1	2	2	1
Cap, veh/h	446	884	376	270	694	295	105	1387	590	529	1868	794
Arrive On Green	0.13	0.24	0.24	0.08	0.19	0.19	0.03	0.38	0.38	0.16	0.52	0.52
Sat Flow, veh/h	3343	3619	1538	3343	3619	1538	1723	3619	1538	3343	3619	1538
Grp Volume(v), veh/h	1065	663	22	217	185	815	43	2707	478	1261	2587	891
Grp Sat Flow(s),veh/h/ln	1672	1810	1538	1672	1810	1538	1723	1810	1538	1672	1810	1538
Q Serve(g_s), s	16.0	20.3	1.3	7.7	5.2	23.0	1.8	46.0	33.4	19.0	62.0	62.0
Cycle Q Clear(g_c), s	16.0	20.3	1.3	7.7	5.2	23.0	1.8	46.0	33.4	19.0	62.0	62.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	446	884	376	270	694	295	105	1387	590	529	1868	794
V/C Ratio(X)	2.39	0.75	0.06	0.80	0.27	2.76	0.41	1.95	0.81	2.38	1.38	1.12
Avail Cap(c_a), veh/h	446	884	376	279	694	295	118	1387	590	529	1868	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	41.9	34.8	54.2	41.3	48.5	30.3	37.0	33.1	50.5	29.0	29.0
Incr Delay (d2), s/veh	632.0	3.6	0.1	15.3	0.2	803.5	2.6	430.7	11.5	627.8	176.5	71.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	46.0	9.8	0.5	3.9	2.4	74.9	0.8	103.8	14.8	54.3	73.6	38.8
Lane Grp Delay (d), s/veh	684.0	45.5	34.8	69.6	41.5	852.0	32.9	467.7	44.6	678.3	205.5	100.1
Lane Grp LOS	F	D	C	E	D	F	C	F	D	F	F	F
Approach Vol, veh/h		1750			1217			3228			4739	
Approach Delay, s/veh		433.9			589.3			399.3			311.5	
Approach LOS		F			F			F			F	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	20.0	33.3		13.7	27.0		7.0	50.0		23.0	66.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	16.0	29.0		10.0	23.0		4.0	46.0		19.0	61.0	
Max Q Clear Time (g_c+I1), s	18.0	22.3		9.7	25.0		3.8	48.0		21.0	64.0	
Green Ext Time (p_c), s	0.0	4.6		0.0	0.0		0.0	0.0		0.0	0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			387.9									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1250	660	230	90	190	290	100	1825	40	200	1170	500
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	181.0	181.0	181.0	190.0	181.0	181.0	181.0	181.0	190.0	181.0	181.0	181.0
Lanes	2	1	1	0	2	1	2	3	0	1	3	1
Cap, veh/h	1031	890	756	134	266	231	160	1897	41	146	1958	555
Arrive On Green	0.31	0.49	0.49	0.15	0.15	0.15	0.05	0.36	0.36	0.05	0.36	0.36
Sat Flow, veh/h	3343	1810	1538	522	1775	1538	3343	5294	115	1723	5429	1538
Grp Volume(v), veh/h	1359	717	250	117	188	315	109	1356	671	217	1272	543
Grp Sat Flow(s),veh/h/ln	1672	1810	1538	651	1647	1538	1672	1810	1789	1723	1810	1538
Q Serve(g_s), s	37.0	40.0	11.8	17.7	13.2	18.0	3.9	43.0	43.0	6.0	23.5	41.9
Cycle Q Clear(g_c), s	37.0	40.0	11.8	18.0	13.2	18.0	3.9	43.0	43.0	6.0	23.5	41.9
Prop In Lane	1.00		1.00	0.84		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	1031	890	756	153	247	231	160	1297	641	146	1958	555
V/C Ratio(X)	1.32	0.81	0.33	0.76	0.76	1.37	0.68	1.05	1.05	1.48	0.65	0.98
Avail Cap(c_a), veh/h	1031	890	756	153	247	231	195	1297	641	146	1958	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	25.7	18.5	52.2	49.0	51.0	56.2	38.5	38.5	32.7	32.0	37.9
Incr Delay (d2), s/veh	150.1	5.5	0.3	20.0	13.1	189.7	7.1	37.7	48.5	250.9	1.7	33.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	37.1	19.1	4.5	4.5	6.5	19.3	1.8	26.4	28.0	15.0	11.0	21.4
Lane Grp Delay (d), s/veh	191.6	31.2	18.8	72.3	62.1	240.7	63.4	76.2	87.0	283.6	33.7	71.3
Lane Grp LOS	F	C	B	E	E	F	E	F	F	F	C	E
Approach Vol, veh/h		2326			620			2136			2032	
Approach Delay, s/veh		123.6			154.7			78.9			70.4	
Approach LOS		F			F			E			E	

Timer												
Assigned Phs	7	4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s	41.0	63.0			22.0		9.7	47.0		10.0	47.3	
Change Period (Y+Rc), s	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	37.0	59.0			18.0		7.0	43.0		6.0	42.0	
Max Q Clear Time (g_c+I1), s	39.0	42.0			20.0		5.9	45.0		8.0	43.9	
Green Ext Time (p_c), s	0.0	8.6			0.0		0.0	0.0		0.0	0.0	

Intersection Summary			
HCM 2010 Ctrl Delay		97.7	
HCM 2010 LOS		F	

Notes

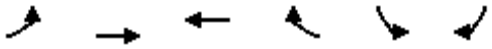


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	95	750	35	810	2430	110	60	150	45	50	160	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	184.5	184.5	184.5	184.5	184.5	184.5	190.0	184.5	190.0	190.0	184.5	190.0
Lanes	1	3	1	1	3	1	0	2	0	0	2	0
Cap, veh/h	128	1423	403	787	3637	1030	179	392	119	150	414	175
Arrive On Green	0.26	0.26	0.26	0.34	0.66	0.66	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	100	5534	1568	1757	5534	1568	443	1714	520	352	1812	768
Grp Volume(v), veh/h	103	815	38	880	2641	120	127	0	150	151	0	153
Grp Sat Flow(s),veh/h/ln	100	1845	1568	1757	1845	1568	1091	0	1587	1389	0	1543
Q Serve(g_s), s	18.0	9.0	1.3	24.0	21.9	2.0	3.3	0.0	5.6	1.9	0.0	5.9
Cycle Q Clear(g_c), s	18.0	9.0	1.3	24.0	21.9	2.0	9.2	0.0	5.6	7.5	0.0	5.9
Prop In Lane	1.00		1.00	1.00		1.00	0.51		0.33	0.36		0.50
Lane Grp Cap(c), veh/h	128	1423	403	787	3637	1030	327	0	363	387	0	353
V/C Ratio(X)	0.80	0.57	0.09	1.12	0.73	0.12	0.39	0.00	0.41	0.39	0.00	0.43
Avail Cap(c_a), veh/h	128	1423	403	787	3637	1030	327	0	363	387	0	353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	22.6	19.8	13.6	7.9	4.5	24.4	0.0	23.0	23.3	0.0	23.1
Incr Delay (d2), s/veh	29.4	0.6	0.1	69.5	0.7	0.0	3.5	0.0	3.4	2.9	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.8	4.0	0.5	22.2	8.1	0.6	2.3	0.0	2.5	2.5	0.0	2.6
Lane Grp Delay (d), s/veh	62.1	23.2	19.9	83.1	8.6	4.5	27.9	0.0	26.4	26.2	0.0	27.0
Lane Grp LOS	E	C	B	F	A	A	C		C	C		C
Approach Vol, veh/h		956			3641			277			304	
Approach Delay, s/veh		27.3			26.5			27.1			26.6	
Approach LOS		C			C			C			C	

Timer												
Assigned Phs		4		3	8			2			6	
Phs Duration (G+Y+Rc), s		22.0		28.0	50.0			20.0			20.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s		18.0		24.0	46.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		20.0		26.0	23.9			11.2			9.5	
Green Ext Time (p_c), s		0.0		0.0	21.3			1.5			1.9	

Intersection Summary		
HCM 2010 Ctrl Delay	26.7	
HCM 2010 LOS	C	

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	190	410	685	290	335	690
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	182.7
Lanes	1	2	2	1	1	1
Cap, veh/h	304	1498	944	401	792	707
Arrive On Green	0.08	0.41	0.26	0.26	0.46	0.46
Sat Flow, veh/h	1740	3654	3654	1553	1740	1553
Grp Volume(v), veh/h	207	446	745	315	364	750
Grp Sat Flow(s),veh/h/ln	1740	1827	1827	1553	1740	1553
Q Serve(g_s), s	5.0	4.9	11.3	11.2	8.6	27.0
Cycle Q Clear(g_c), s	5.0	4.9	11.3	11.2	8.6	27.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	304	1498	944	401	792	707
V/C Ratio(X)	0.68	0.30	0.79	0.79	0.46	1.06
Avail Cap(c_a), veh/h	304	1540	986	419	792	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	11.8	20.5	20.5	11.1	16.2
Incr Delay (d2), s/veh	6.1	0.1	4.2	9.2	1.9	51.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.4	1.9	5.3	5.0	3.7	10.1
Lane Grp Delay (d), s/veh	21.4	11.9	24.7	29.6	13.1	67.4
Lane Grp LOS	C	B	C	C	B	F
Approach Vol, veh/h		653	1060		1114	
Approach Delay, s/veh		14.9	26.2		49.6	
Approach LOS		B	C		D	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	9.0	28.3	19.3			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	5.0	25.0	16.0			
Max Q Clear Time (g_c+I1), s	7.0	6.9	13.3			
Green Ext Time (p_c), s	0.0	9.1	2.1			

Intersection Summary						
HCM 2010 Ctrl Delay			32.8			
HCM 2010 LOS			C			

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	240	1200	100	630	1280	1090	160	700	140	520	1040	940
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Cap, veh/h	203	1411	400	637	2116	600	116	1003	426	579	1505	640
Arrive On Green	0.06	0.25	0.25	0.18	0.38	0.38	0.03	0.27	0.27	0.17	0.40	0.40
Sat Flow, veh/h	3476	5644	1599	3476	5644	1599	3476	3762	1599	3476	3762	1599
Grp Volume(v), veh/h	261	1304	109	685	1391	1185	174	761	152	565	1130	1022
Grp Sat Flow(s),veh/h/ln	1738	1881	1599	1738	1881	1599	1738	1881	1599	1738	1881	1599
Q Serve(g_s), s	7.0	27.0	6.6	22.0	24.5	45.0	4.0	22.3	9.2	19.4	30.9	48.0
Cycle Q Clear(g_c), s	7.0	27.0	6.6	22.0	24.5	45.0	4.0	22.3	9.2	19.4	30.9	48.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	1411	400	637	2116	600	116	1003	426	579	1505	640
V/C Ratio(X)	1.29	0.92	0.27	1.07	0.66	1.98	1.50	0.76	0.36	0.98	0.75	1.60
Avail Cap(c_a), veh/h	203	1411	400	637	2116	600	116	1003	426	579	1505	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	43.9	36.2	49.0	31.1	37.5	58.0	40.4	35.7	49.8	30.9	36.0
Incr Delay (d2), s/veh	161.2	10.5	0.4	57.5	0.8	445.3	265.4	5.4	2.3	31.1	3.5	276.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.7	14.3	2.7	14.9	11.7	92.2	6.1	11.4	4.0	11.2	15.2	68.3
Lane Grp Delay (d), s/veh	217.7	54.4	36.6	106.5	31.9	482.8	323.4	45.8	38.0	80.8	34.4	312.4
Lane Grp LOS	F	D	D	F	C	F	F	D	D	F	C	F
Approach Vol, veh/h		1674			3261			1087			2717	
Approach Delay, s/veh		78.7			211.4			89.2			148.6	
Approach LOS		E			F			F			F	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	11.0	34.0		26.0	49.0		8.0	36.0		24.0	52.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	7.0	30.0		22.0	45.0		4.0	32.0		20.0	48.0	
Max Q Clear Time (g_c+I1), s	9.0	29.0		24.0	47.0		6.0	24.3		21.4	50.0	
Green Ext Time (p_c), s	0.0	0.9		0.0	0.0		0.0	7.2		0.0	0.0	

Intersection Summary			
HCM 2010 Ctrl Delay		151.2	
HCM 2010 LOS		F	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	245	30	375	400	285	70	205	110	175	420	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	190.0	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	0	1	1	0	1	1	1	2	0	1	2	1
Cap, veh/h	58	355	1040	76	0	1040	208	529	274	250	852	362
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	0	541	1583	0	0	1583	868	2316	1198	1033	3725	1583
Grp Volume(v), veh/h	304	0	33	843	0	310	76	178	165	190	457	76
Grp Sat Flow(s),veh/h/ln	541	0	1583	0	0	1583	868	1863	1651	1033	1863	1583
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	5.8	5.9	5.7	6.0	10.0	7.6	2.7
Cycle Q Clear(g_c), s	46.0	0.0	0.5	46.0	0.0	5.8	13.5	5.7	6.0	16.0	7.6	2.7
Prop In Lane	0.12		1.00	0.48		1.00	1.00		0.73	1.00		1.00
Lane Grp Cap(c), veh/h	413	0	1040	76	0	1040	208	426	377	250	852	362
V/C Ratio(X)	0.74	0.00	0.03	11.05	0.00	0.30	0.37	0.42	0.44	0.76	0.54	0.21
Avail Cap(c_a), veh/h	413	0	1040	76	0	1040	208	426	377	250	852	362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	4.2	35.0	0.0	5.1	29.7	23.0	23.1	31.1	23.7	21.9
Incr Delay (d2), s/veh	6.7	0.0	0.0	4546.3	0.0	0.2	4.9	3.0	3.7	19.2	2.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	4.4	0.0	0.2	97.7	0.0	1.9	1.6	2.9	2.8	4.6	3.7	1.2
Lane Grp Delay (d), s/veh	27.7	0.0	4.2	4581.3	0.0	5.3	34.6	26.0	26.8	50.4	26.2	23.2
Lane Grp LOS	C		A	F		A	C	C	C	D	C	C
Approach Vol, veh/h		337			1153			419			723	
Approach Delay, s/veh		25.4			3351.0			27.9			32.2	
Approach LOS		C			F			C			C	
Timer												
Assigned Phs		4			8			2			6	
Phs Duration (G+Y+Rc), s		50.0			50.0			20.0			20.0	
Change Period (Y+Rc), s		4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s		46.0			46.0			16.0			16.0	
Max Q Clear Time (g_c+I1), s		48.0			48.0			15.5			18.0	
Green Ext Time (p_c), s		0.0			0.0			0.3			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			1484.5									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	240	165	10	40	365	245	30	80	15	930	535	350
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	196	547	465	284	342	291	343	1197	1018	869	1197	1018
Arrive On Green	0.07	0.29	0.29	0.18	0.18	0.18	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1792	1881	1599	1200	1881	1599	587	1881	1599	1299	1881	1599
Grp Volume(v), veh/h	261	179	11	43	397	266	33	87	16	1011	582	380
Grp Sat Flow(s),veh/h/ln	1792	1881	1599	1200	1881	1599	587	1881	1599	1299	1881	1599
Q Serve(g_s), s	8.0	8.2	0.5	3.3	20.0	18.0	3.4	1.9	0.4	68.1	17.9	12.5
Cycle Q Clear(g_c), s	8.0	8.2	0.5	3.3	20.0	18.0	21.4	1.9	0.4	70.0	17.9	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	547	465	284	342	291	343	1197	1018	869	1197	1018
V/C Ratio(X)	1.33	0.33	0.02	0.15	1.16	0.91	0.10	0.07	0.02	1.16	0.49	0.37
Avail Cap(c_a), veh/h	196	547	465	284	342	291	343	1197	1018	869	1197	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	30.6	27.8	38.2	45.0	44.2	16.2	7.6	7.3	23.5	10.5	9.5
Incr Delay (d2), s/veh	180.5	0.3	0.0	0.2	99.8	31.6	0.6	0.1	0.0	86.1	1.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	11.4	3.9	0.2	1.0	19.1	9.9	0.5	0.9	0.2	45.4	8.1	4.8
Lane Grp Delay (d), s/veh	218.2	30.9	27.9	38.4	144.8	75.8	16.7	7.7	7.4	109.6	11.9	10.6
Lane Grp LOS	F	C	C	D	F	E	B	A	A	F	B	B
Approach Vol, veh/h		451			706			136			1973	
Approach Delay, s/veh		139.2			112.3			9.9			61.7	
Approach LOS		F			F			A			E	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	12.0	36.0			24.0			74.0			74.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0			4.0	
Max Green Setting (Gmax), s	8.0	32.0			20.0			70.0			70.0	
Max Q Clear Time (g_c+I1), s	10.0	10.2			22.0			23.4			72.0	
Green Ext Time (p_c), s	0.0	4.7			0.0			15.8			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			81.2									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	40	60	480	220	210	90	455	285	230	700	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	182.7	182.7	182.7	182.7	190.0	182.7	182.7	190.0	182.7	182.7	190.0
Lanes	1	1	1	1	1	0	1	2	0	1	2	0
Cap, veh/h	209	204	173	588	329	314	309	668	417	387	1590	192
Arrive On Green	0.11	0.11	0.11	0.21	0.38	0.38	0.32	0.32	0.32	0.12	0.50	0.50
Sat Flow, veh/h	904	1827	1553	1740	861	821	632	2107	1315	1740	3199	387
Grp Volume(v), veh/h	22	43	65	522	0	467	98	429	376	250	434	419
Grp Sat Flow(s),veh/h/ln	904	1827	1553	1740	0	1682	632	1827	1595	1740	1827	1759
Q Serve(g_s), s	1.5	1.4	2.6	14.0	0.0	15.8	8.3	13.9	14.0	5.9	10.4	10.4
Cycle Q Clear(g_c), s	1.5	1.4	2.6	14.0	0.0	15.8	8.3	13.9	14.0	5.9	10.4	10.4
Prop In Lane	1.00		1.00	1.00		0.49	1.00		0.82	1.00		0.22
Lane Grp Cap(c), veh/h	209	204	173	588	0	644	309	579	506	387	908	874
V/C Ratio(X)	0.11	0.21	0.37	0.89	0.00	0.73	0.32	0.74	0.74	0.65	0.48	0.48
Avail Cap(c_a), veh/h	326	440	374	588	0	861	309	579	506	414	908	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.9	26.8	27.4	21.0	0.0	17.5	18.3	20.2	20.3	14.0	11.0	11.0
Incr Delay (d2), s/veh	0.2	0.5	1.3	15.2	0.0	2.1	2.7	8.3	9.5	3.1	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.3	0.7	1.0	4.3	0.0	6.5	1.5	7.3	6.7	2.8	4.7	4.5
Lane Grp Delay (d), s/veh	27.1	27.3	28.7	36.2	0.0	19.6	21.0	28.5	29.8	17.2	12.8	12.9
Lane Grp LOS	C	C	C	D		B	C	C	C	B	B	B
Approach Vol, veh/h		130			989			903			1103	
Approach Delay, s/veh		28.0			28.4			28.3			13.8	
Approach LOS		C			C			C			B	

Timer												
Assigned Phs		4		3	8			2		1	6	
Phs Duration (G+Y+Rc), s		11.4		18.0	29.4			25.1		11.9	37.0	
Change Period (Y+Rc), s		4.0		4.0	4.0			4.0		4.0	4.0	
Max Green Setting (Gmax), s		16.0		14.0	34.0			20.0		9.0	33.0	
Max Q Clear Time (g_c+I1), s		4.6		16.0	17.8			16.0		7.9	12.4	
Green Ext Time (p_c), s		2.8		0.0	3.4			3.2		0.1	11.7	

Intersection Summary		
HCM 2010 Ctrl Delay	23.2	
HCM 2010 LOS	C	

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	330	520	400	80	460	140	385	1110	80	180	970	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	1	1	2	2	1	1	2	1	1	2	1
Cap, veh/h	333	481	409	115	528	224	360	2266	963	239	1770	752
Arrive On Green	0.15	0.26	0.26	0.03	0.14	0.14	0.10	0.61	0.61	0.47	0.47	0.47
Sat Flow, veh/h	1774	1863	1583	3442	3725	1583	1774	3725	1583	425	3725	1583
Grp Volume(v), veh/h	359	565	435	87	500	152	418	1207	87	196	1054	163
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1863	1583	425	1863	1583
Q Serve(g_s), s	18.0	31.0	31.0	3.0	16.0	10.9	12.0	22.5	2.7	50.5	24.9	7.2
Cycle Q Clear(g_c), s	18.0	31.0	31.0	3.0	16.0	10.9	12.0	22.5	2.7	57.0	24.9	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	481	409	115	528	224	360	2266	963	239	1770	752
V/C Ratio(X)	1.08	1.17	1.06	0.76	0.95	0.68	1.16	0.53	0.09	0.82	0.60	0.22
Avail Cap(c_a), veh/h	333	481	409	115	528	224	360	2266	963	239	1770	752
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	44.5	44.5	57.5	51.1	48.9	22.5	13.6	9.7	37.0	23.1	18.4
Incr Delay (d2), s/veh	71.9	98.4	62.4	24.9	26.6	7.9	99.2	0.9	0.2	26.2	1.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	13.6	27.9	19.6	1.7	9.6	5.0	15.2	10.2	1.1	7.8	11.8	2.9
Lane Grp Delay (d), s/veh	107.3	142.9	106.9	82.4	77.6	56.8	121.7	14.5	9.9	63.2	24.5	19.1
Lane Grp LOS	F	F	F	F	E	E	F	B	A	E	C	B
Approach Vol, veh/h		1359			739			1712			1413	
Approach Delay, s/veh		122.0			73.9			40.4			29.3	
Approach LOS		F			E			D			C	

Timer												
Assigned Phs	7	4		3	8		5	2			6	
Phs Duration (G+Y+Rc), s	22.0	35.0		8.0	21.0		16.0	77.0			61.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Max Green Setting (Gmax), s	18.0	31.0		4.0	17.0		12.0	73.0			57.0	
Max Q Clear Time (g_c+I1), s	20.0	33.0		5.0	18.0		14.0	24.5			59.0	
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0		0.0	32.5			0.0	

Intersection Summary	
HCM 2010 Ctrl Delay	63.4
HCM 2010 LOS	E

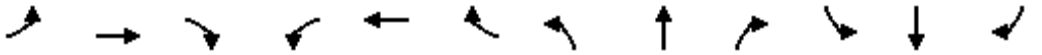
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	580	350	360	1340	330	270	160	80	160	260	250
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1	1	2	1	1	2	1	1	2	1
Cap, veh/h	220	1279	543	469	1588	675	369	903	384	433	855	363
Arrive On Green	0.06	0.34	0.34	0.15	0.43	0.43	0.08	0.24	0.24	0.06	0.23	0.23
Sat Flow, veh/h	1774	3725	1583	1774	3725	1583	1774	3725	1583	1774	3725	1583
Grp Volume(v), veh/h	174	630	380	391	1457	359	293	174	87	174	283	272
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	1583	1774	1863	1583
Q Serve(g_s), s	5.0	10.5	16.3	8.9	28.9	13.2	6.0	2.9	3.5	5.0	5.0	12.5
Cycle Q Clear(g_c), s	5.0	10.5	16.3	8.9	28.9	13.2	6.0	2.9	3.5	5.0	5.0	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	1279	543	469	1588	675	369	903	384	433	855	363
V/C Ratio(X)	0.79	0.49	0.70	0.83	0.92	0.53	0.79	0.19	0.23	0.40	0.33	0.75
Avail Cap(c_a), veh/h	220	1279	543	570	1663	707	369	903	384	433	855	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	20.4	22.3	13.7	21.2	16.7	25.9	23.6	23.8	22.1	25.2	28.1
Incr Delay (d2), s/veh	17.7	0.3	4.0	8.8	8.3	0.7	11.4	0.5	1.4	0.6	1.0	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.1	4.8	6.8	8.7	14.4	5.0	3.9	1.4	1.5	2.7	2.4	6.2
Lane Grp Delay (d), s/veh	37.6	20.7	26.2	22.4	29.5	17.4	37.3	24.1	25.2	22.7	26.2	41.3
Lane Grp LOS	D	C	C	C	C	B	D	C	C	C	C	D
Approach Vol, veh/h		1184			2207			554			729	
Approach Delay, s/veh		24.9			26.3			31.2			31.0	
Approach LOS		C			C			C			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	9.0	30.9		15.5	37.4		10.0	23.0		9.0	22.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	5.0	24.0		16.0	35.0		6.0	19.0		5.0	18.0	
Max Q Clear Time (g_c+I1), s	7.0	18.3		10.9	30.9		8.0	5.5		7.0	14.5	
Green Ext Time (p_c), s	0.0	5.3		0.6	2.5		0.0	3.6		0.0	1.4	

Intersection Summary												
HCM 2010 Ctrl Delay			27.3									
HCM 2010 LOS			C									

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1100	0	350	210	590	260	300	1160	0	0	1230	1590
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	0.0	186.3	186.3	186.3	186.3	186.3	186.3	0.0	0.0	186.3	186.3
Lanes	2	0	1	1	2	1	1	2	0	0	2	1
Cap, veh/h	602	0	0	60	559	237	85	2142	0	0	2142	910
Arrive On Green	0.17	0.00	0.00	0.15	0.15	0.15	0.57	0.57	0.00	0.00	0.57	0.57
Sat Flow, veh/h	3442	1196		999	3725	1583	74	3725	0	0	3725	1583
Grp Volume(v), veh/h	1196	499.0		228	641	283	326	1261	0	0	1337	1728
Grp Sat Flow(s),veh/h/ln	1721	F		999	1863	1583	74	1863	0	0	1863	1583
Q Serve(g_s), s	21.0			0.0	18.0	18.0	40.5	26.1	0.0	0.0	28.5	69.0
Cycle Q Clear(g_c), s	21.0			0.1	18.0	18.0	69.0	26.1	0.0	0.0	28.5	69.0
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	602			60	559	237	85	2142	0	0	2142	910
V/C Ratio(X)	1.99			3.80	1.15	1.19	3.84	0.59	0.00	0.00	0.62	1.90
Avail Cap(c_a), veh/h	602			60	559	237	85	2142	0	0	2142	910
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	49.5			51.0	51.0	51.0	54.1	16.4	0.0	0.0	16.9	25.5
Incr Delay (d2), s/veh	449.5			1299.5	85.6	120.1	1305.3	1.2	0.0	0.0	1.4	408.3
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	46.9			23.2	15.3	15.2	33.4	11.9	0.0	0.0	13.0	129.3
Lane Grp Delay (d), s/veh	499.0			1350.5	136.6	171.1	1359.4	17.6	0.0	0.0	18.3	433.8
Lane Grp LOS	F			F	F	F	F	B			B	F
Approach Vol, veh/h					1152			1587			3065	
Approach Delay, s/veh					385.3			293.2			252.5	
Approach LOS					F			F			F	
Timer												
Assigned Phs	7				8			2			6	
Phs Duration (G+Y+Rc), s	25.0				22.0			73.0			73.0	
Change Period (Y+Rc), s	4.0				4.0			4.0			4.0	
Max Green Setting (Gmax), s	21.0				18.0			69.0			69.0	
Max Q Clear Time (g_c+I1), s	23.0				20.0			71.0			71.0	
Green Ext Time (p_c), s	0.0				0.0			0.0			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			325.7									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	445	10	215	15	5	20	150	225	10	15	1250	745
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1	188.1
Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	360	624	265	162	236	100	129	1245	1058	781	1204	1023
Arrive On Green	0.12	0.17	0.17	0.01	0.06	0.06	0.04	0.66	0.66	0.01	0.64	0.64
Sat Flow, veh/h	1792	3762	1599	1792	3762	1599	1792	1881	1599	1792	1881	1599
Grp Volume(v), veh/h	484	11	234	16	5	22	163	245	11	16	1359	810
Grp Sat Flow(s),veh/h/ln	1792	1881	1599	1792	1881	1599	1792	1881	1599	1792	1881	1599
Q Serve(g_s), s	13.0	0.3	15.9	0.9	0.1	1.5	4.0	5.6	0.3	0.3	71.0	41.0
Cycle Q Clear(g_c), s	13.0	0.3	15.9	0.9	0.1	1.5	4.0	5.6	0.3	0.3	71.0	41.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	624	265	162	236	100	129	1245	1058	781	1204	1023
V/C Ratio(X)	1.34	0.02	0.88	0.10	0.02	0.22	1.26	0.20	0.01	0.02	1.13	0.79
Avail Cap(c_a), veh/h	360	848	360	201	543	231	129	1245	1058	820	1204	1023
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	38.7	45.2	47.7	48.8	49.4	35.9	7.3	6.4	6.8	20.0	14.6
Incr Delay (d2), s/veh	172.0	0.0	17.3	0.3	0.0	1.1	164.4	0.4	0.0	0.0	69.1	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	17.2	0.1	7.7	0.4	0.1	0.6	9.6	2.5	0.1	0.1	53.5	16.6
Lane Grp Delay (d), s/veh	211.0	38.7	62.5	48.0	48.8	50.5	200.3	7.6	6.4	6.8	89.0	20.9
Lane Grp LOS	F	D	E	D	D	D	F	A	A	A	F	C
Approach Vol, veh/h		729			43			419			2185	
Approach Delay, s/veh		160.7			49.4			82.6			63.2	
Approach LOS		F			D			F			E	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	17.0	22.4		5.6	11.0		8.0	77.4		5.6	75.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	13.0	25.0		4.0	16.0		4.0	71.0		4.0	71.0	
Max Q Clear Time (g_c+I1), s	15.0	17.9		2.9	3.5		6.0	7.6		2.3	73.0	
Green Ext Time (p_c), s	0.0	0.5		0.0	0.7		0.0	41.0		0.0	0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			86.5									
HCM 2010 LOS			F									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	590	260	45	430	500	1230	45	2370	160	650	2350	990
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	2	1	2	2	1	1	2	1	2	2	1
Cap, veh/h	287	967	411	540	1242	528	109	1335	567	315	1574	669
Arrive On Green	0.08	0.26	0.26	0.16	0.33	0.33	0.03	0.36	0.36	0.09	0.42	0.42
Sat Flow, veh/h	3442	3725	1583	3442	3725	1583	1774	3725	1583	3442	3725	1583
Grp Volume(v), veh/h	641	283	49	467	543	1337	49	2576	174	707	2554	1076
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1721	1863	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	10.0	7.3	2.8	15.9	13.6	40.0	2.1	43.0	9.5	11.0	50.7	50.7
Cycle Q Clear(g_c), s	10.0	7.3	2.8	15.9	13.6	40.0	2.1	43.0	9.5	11.0	50.7	50.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	967	411	540	1242	528	109	1335	567	315	1574	669
V/C Ratio(X)	2.23	0.29	0.12	0.86	0.44	2.53	0.45	1.93	0.31	2.24	1.62	1.61
Avail Cap(c_a), veh/h	287	967	411	688	1242	528	120	1335	567	315	1574	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	35.6	33.9	49.3	31.2	40.0	31.0	38.5	27.8	54.5	34.6	34.6
Incr Delay (d2), s/veh	566.9	0.2	0.1	9.1	0.2	695.6	2.9	421.1	1.4	568.6	283.0	280.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	27.0	3.5	1.1	7.8	6.5	118.0	1.0	98.3	4.0	29.8	85.7	72.1
Lane Grp Delay (d), s/veh	621.9	35.8	34.1	58.5	31.5	735.6	33.8	459.6	29.2	623.1	317.7	315.3
Lane Grp LOS	F	D	C	E	C	F	C	F	C	F	F	F
Approach Vol, veh/h		973			2347			2799			4337	
Approach Delay, s/veh		421.8			437.9			425.4			366.9	
Approach LOS		F			F			F			F	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	14.0	35.2		22.8	44.0		7.3	47.0		15.0	54.7	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	10.0	26.0		24.0	40.0		4.0	43.0		11.0	50.0	
Max Q Clear Time (g_c+I1), s	12.0	9.3		17.9	42.0		4.1	45.0		13.0	52.7	
Green Ext Time (p_c), s	0.0	12.4		1.0	0.0		0.0	0.0		0.0	0.0	

Intersection Summary												
HCM 2010 Ctrl Delay			403.6									
HCM 2010 LOS			F									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	850	420	370	170	290	160	400	1835	105	265	2350	1165
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	190.0	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	2	1	1	0	2	1	2	3	0	1	3	1
Cap, veh/h	631	730	620	172	297	277	287	2139	122	245	2375	673
Arrive On Green	0.18	0.39	0.39	0.17	0.17	0.17	0.08	0.41	0.41	0.10	0.43	0.43
Sat Flow, veh/h	3442	1863	1583	641	1695	1583	3442	5238	298	1774	5588	1583
Grp Volume(v), veh/h	924	457	402	185	315	174	435	1417	692	288	2554	1266
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	641	1695	1583	1721	1863	1810	1774	1863	1583
Q Serve(g_s), s	22.0	23.7	24.8	21.0	21.0	12.2	10.0	43.6	44.0	12.0	51.0	51.0
Cycle Q Clear(g_c), s	22.0	23.7	24.8	21.0	21.0	12.2	10.0	43.6	44.0	12.0	51.0	51.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	631	730	620	172	297	277	287	1521	739	245	2375	673
V/C Ratio(X)	1.46	0.63	0.65	1.07	1.06	0.63	1.52	0.93	0.94	1.17	1.08	1.88
Avail Cap(c_a), veh/h	631	730	620	172	297	277	287	1521	739	245	2375	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	29.4	29.8	53.2	49.5	45.9	55.0	33.9	34.0	36.4	34.5	34.5
Incr Delay (d2), s/veh	217.6	1.7	2.4	90.0	69.5	4.5	249.7	11.7	20.8	112.4	42.5	402.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	28.8	11.4	10.2	9.7	14.9	5.3	14.4	22.7	24.1	11.5	32.9	95.2
Lane Grp Delay (d), s/veh	266.6	31.1	32.1	143.1	119.0	50.3	304.7	45.5	54.8	148.8	77.0	436.7
Lane Grp LOS	F	C	C	F	F	D	F	D	D	F	F	F
Approach Vol, veh/h		1783			674			2544			4108	
Approach Delay, s/veh		153.4			107.9			92.4			192.9	
Approach LOS		F			F			F			F	
Timer												
Assigned Phs	7	4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s	26.0	51.0			25.0		14.0	53.0		16.0	55.0	
Change Period (Y+Rc), s	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	22.0	47.0			21.0		10.0	49.0		12.0	51.0	
Max Q Clear Time (g_c+I1), s	24.0	26.8			23.0		12.0	46.0		14.0	53.0	
Green Ext Time (p_c), s	0.0	8.5			0.0		0.0	3.0		0.0	0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			150.8									
HCM 2010 LOS			F									
Notes												

APPENDIX C

HIGHWAY CAPACITY MANUAL TRAFFIC DATA

Due to the large size of the calculation spreadsheet, it was split into separate sheets (with repeating header columns and rows) for printing purposes. The following tables illustrate the page order of the separated sheets for the freeway and ramp calculation sheets, respectively, that are presented in this appendix.

The results of the HCM analysis for both freeway and ramp sections are presented at the end of this appendix in a concise 2-page format.

FREEWAY ANALYSIS CALCULATION:

By ramp segment:

Freeway Data	**Existing AM and PM**	**2040 No-Build AM and PM**	**2040 Build AM and PM**
Page 1	Page 2	Page 3	Page 4

RAMP ANALYSIS CALCULATION:

By ramp segment:

	Existing AM	**Existing PM**	**2040 No-Build AM**	**2040 No-Build PM**	**2040 Build AM**	**2040 Build PM**
Freeway/Ramp/ Ramp Junction Data Page 1	Page 2	Page 3	Page 4	Page 5	Page 6	Page 7
Steps 1-2 Page 8	Page 9	Page 10	Page 11	Page 12	Page 13	Page14
Steps 3-5 Page 15	Page 16	Page 17	Page 18	Page 19	Page 20	Page 21

		Lookup values - constant for all scenarios				
		Assumed values				
		scenario specific lookup values	scenario specific lookup values			
	Variable	Units	Description	Typical values	Equation	Formula
Traffic	V	veh/h	demand volume under prevailing conditions			
	PHF	-		0.85 - 0.98		
	P_T	-	proportion of trucks and buses in traffic stream	0 - 0.25		
	P_R	-	proportion of RVs in traffic stream	0 - 0.25		
	f_P	-	adjustment factor for unfamiliar driver populations	0.85 - 1.00		
Freeway	FFS	mi/h		55 - 75		
	Measured FFS					
	N	-	Number of mainline freeway lanes (per direction)	2 +		
	Lane width	ft		10 - 12 +		
	Right-side l	ft		0 - 6 +		
	Total ramp	ramps/mi	The number of ramps (on and off, one direction) located between 3 mi upstream and 3 mi downstream of the midpoint of the basic freeway segment under study, divided by 6 mi. (pg 11-12)	0 - 6		
	Terrain	-		level, rolling, mountainous, or specific length and percent grade		
Demand	Demand during analysis hour					
	Daily demand					
	K-factor					
	D-factor					
	f_{LW}	mi/h	adjustment for lane width	-	Exhibit 11-8	
	f_{LC}	mi/h	adjustment for right-side lateral clearance	-	Exhibit 11-9	
	f_{TRD}	ramps/mi	adjustment for total ramp density	-	-	$= 3.22*TRD^{0.84}$
	FFS	mi/h	FFS of basic freeway segment	-	Eqn 11-1	$= 75.4 - f_{LW} - f_{LC} - 3.22TRD^{0.84}$
	FFS curve		FFS curve to use for calculations			
	E_T	-	passenger-car equivalent (PCE) of one truck or bus in traffic stream	-	Exhibit 11-10	
	E_R	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	f_{HV}	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	$= 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$
	v_{15}	pc	peak 15-minute volume			
	vp	pc/h/ln	demand flow rate under equivalent base conditions		Eqn 11-2	$= V / (PHF \times N \times f_{HV} \times f_P)$
	[breakpoin	pc/h/ln	Volume at which speed-flow curve stops being constant (i.e. where it starts to decay)		Exhibit 11-3	
	[decay]	-	coefficient of speed degredation term in speed equations		Exhibit 11-3	
	[capacity[	pc/h/ln	base capacity of the basic freeway segment		Exhibit 11-2	
	S	mi/h	mean speed of traffic stream under base conditions	-	Exhibit 11-3	
	v/c	-	volume to capacity ratio			
	D	pc/mi/ln	density		Eqn 11-4	$= v_p / S$
	LOS	-	Level-of-service	-	Exhibit 11-5	

		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5
		Existing AM											Existing PM									
	Variable																					
Traffic	V	3,170	1,200	5,350	2,100	5,440	2,040	6,590	2,770	6,510	2,640		1,390	3,270	2,540	5,160	2,690	5,210	3,160	6,360	2,990	6,570
	PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_T	0.093	0.177	0.059	0.149	0.059	0.149	0.045	0.138	0.045	0.138		0.112	0.045	0.064	0.052	0.064	0.052	0.045	0.056	0.045	0.056
	P_R	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_P	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1
Freeway	FFS																					
	Measured I	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	N	2	2	5	5	4	4	4	4	4	4		2	2	5	5	4	4	4	4	4	4
	Lane width	12	12	12	12	12	12	12	12	12	12		12	12	12	12	12	12	12	12	12	12
	Right-side l	6	6	6	6	6	6	6	6	6	6		6	6	6	6	6	6	6	6	6	6
	Total ramp	0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17		0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17
	Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level		Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Demand	Demand du																					
	Daily dema																					
	K-factor																					
	D-factor																					
	f_{LW}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{LC}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{TRD}	2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7		2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7
	FFS	72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7		72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7
	FFS curve	75	70	75	70	70	70	70	70	75	70		75	70	75	70	70	70	70	70	75	70
	E_T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	E_R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	f_{HV}	0.956	0.919	0.971	0.930	0.971	0.930	0.978	0.936	0.978	0.936		0.947	0.978	0.969	0.974	0.969	0.974	0.978	0.973	0.978	0.973
	v_{15}	861	326	1,454	571	1,478	554	1,791	753	1,769	717		378	889	690	1,402	731	1,416	859	1,728	813	1,785
	vp	1,803	710	1,197	491	1,522	596	1,831	805	1,809	767		798	1,817	570	1,151	754	1,453	878	1,776	831	1,835
	[breakpoin	1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200		1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200
	[decay]	0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160		0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160
	[capacity[	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400		2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
	S	67.9	70.0	74.6	70.0	68.8	70.0	65.4	70.0	67.8	70.0		75.0	65.6	75.0	70.0	70.0	69.3	70.0	66.1	75.0	65.3
	v/c	0.38	0.15	0.1	0.04	0.16	0.06	0.19	0.08	0.19	0.08		0.17	0.38	0.05	0.1	0.08	0.15	0.09	0.19	0.09	0.19
	D	26.6	10.1	16.1	7.0	22.1	8.5	28.0	11.5	26.7	11.0		10.6	27.7	7.6	16.4	10.8	21.0	12.5	26.9	11.1	28.1
	LOS	D	A	B	A	C	A	D	B	D	A		A	D	A	B	A	C	B	D	B	D

		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5
		2040 No Build AM											2040 No Build PM									
	Variable																					
Traffic	V	6,060	2,290	7,820	3,070	7,890	2,960	9,490	3,990	8,950	3,620		2,660	6,260	3,710	7,540	3,900	7,550	4,560	9,160	4,110	9,020
	PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_T	0.093	0.177	0.059	0.149	0.059	0.149	0.045	0.138	0.045	0.138		0.112	0.045	0.064	0.052	0.064	0.052	0.045	0.056	0.045	0.056
	P_R	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_P	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1
Freeway	FFS																					
	Measured I	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	N	4	4	5	5	4	4	4	4	4	4		4	4	5	5	4	4	4	4	4	4
	Lane width	12	12	12	12	12	12	12	12	12	12		12	12	12	12	12	12	12	12	12	12
	Right-side l	6	6	6	6	6	6	6	6	6	6		6	6	6	6	6	6	6	6	6	6
	Total ramp	0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17		0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17
	Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level		Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Demand	Demand du																					
	Daily dema																					
	K-factor																					
	D-factor																					
	f_{LW}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{LC}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{TRD}	2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7		2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7
	FFS	72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7		72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7
	FFS curve	75	70	75	70	70	70	70	70	75	70		75	70	75	70	70	70	70	70	75	70
	E_T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	E_R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	f_{HV}	0.956	0.919	0.971	0.930	0.971	0.930	0.978	0.936	0.978	0.936		0.947	0.978	0.969	0.974	0.969	0.974	0.978	0.973	0.978	0.973
	v_{15}	1,647	622	2,125	834	2,144	804	2,579	1,084	2,432	984		723	1,701	1,008	2,049	1,060	2,052	1,239	2,489	1,117	2,451
	vp	1,723	677	1,750	717	2,207	864	2,636	1,159	2,486	1,051		763	1,739	832	1,682	1,093	2,105	1,267	2,559	1,142	2,519
	[breakpoin	1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200		1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200
	[decay]	0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160		0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160
	[capacity[	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400		2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
	S	69.2	70.0	68.8	70.0	58.2	70.0	46.1	70.0	50.5	70.0		75.0	66.6	75.0	67.3	70.0	60.5	69.9	48.6	74.8	49.8
	v/c	0.18	0.07	0.15	0.06	0.23	0.09	0.27	0.12	0.26	0.11		0.08	0.18	0.07	0.14	0.11	0.22	0.13	0.27	0.12	0.26
	D	24.9	9.7	25.4	10.2	37.9	12.3	57.2	16.6	49.2	15.0		10.2	26.1	11.1	25.0	15.6	34.8	18.1	52.7	15.3	50.6
	LOS	C	A	C	A	E	B	F	B	F	B		A	D	B	C	B	D	C	F	B	F

		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5
		2040 Build											2040 Build									
		AM											PM									
	Variable																					
Traffic	V	5,840	2,200	7,050	2,770	7,770	2,910	9,340	3,920	8,860	3,590		2,560	6,020	3,350	6,810	3,840	7,440	4,480	9,010	4,070	8,930
	PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_T	0.093	0.177	0.059	0.149	0.059	0.149	0.045	0.138	0.045	0.138		0.112	0.045	0.064	0.052	0.064	0.052	0.045	0.056	0.045	0.056
	P_R	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_P	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1
Freeway	FFS																					
	Measured I	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	N	4	4	5	5	4	4	4	4	4	4		4	4	5	5	4	4	4	4	4	4
	Lane width	12	12	12	12	12	12	12	12	12	12		12	12	12	12	12	12	12	12	12	12
	Right-side l	6	6	6	6	6	6	6	6	6	6		6	6	6	6	6	6	6	6	6	6
	Total ramp	1.17	1.17	1.00	1.17	1.50	1.67	1.00	1.33	0.83	1.17		1.17	1.17	1.00	1.17	1.50	1.67	1.00	1.33	0.83	1.17
	Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level		Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Demand	Demand du																					
	Daily dema																					
	K-factor																					
	D-factor																					
	f_{LW}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{LC}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{TRD}	3.7	3.7	3.2	3.7	4.5	4.9	3.2	4.1	2.8	3.7		3.7	3.7	3.2	3.7	4.5	4.9	3.2	4.1	2.8	3.7
	FFS	71.7	71.7	72.2	71.7	70.9	70.5	72.2	71.3	72.6	71.7		71.7	71.7	72.2	71.7	70.9	70.5	72.2	71.3	72.6	71.7
	FFS curve	70	70	70	70	70	70	70	70	75	70		70	70	70	70	70	70	70	70	75	70
	E_T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	E_R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	f_{HV}	0.956	0.919	0.971	0.930	0.971	0.930	0.978	0.936	0.978	0.936		0.947	0.978	0.969	0.974	0.969	0.974	0.978	0.973	0.978	0.973
	v_{15}	1,587	598	1,916	753	2,111	791	2,538	1,065	2,408	976		696	1,636	910	1,851	1,043	2,022	1,217	2,448	1,106	2,427
	vp	1,660	651	1,578	647	2,174	850	2,595	1,139	2,461	1,043		735	1,672	751	1,519	1,077	2,075	1,245	2,517	1,131	2,494
	[breakpoin	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,000	1,200		1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,000	1,200
	[decay]	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160		0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160
	[capacity[	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400		2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
	S	67.5	70.0	68.3	70.0	59.0	70.0	47.4	70.0	51.4	70.0		70.0	67.4	70.0	68.8	70.0	61.1	70.0	49.9	74.8	50.6
	v/c	0.17	0.07	0.13	0.05	0.23	0.09	0.27	0.12	0.26	0.11		0.08	0.17	0.06	0.13	0.11	0.22	0.13	0.26	0.12	0.26
	D	24.6	9.3	23.1	9.2	36.8	12.1	54.7	16.3	47.9	14.9		10.5	24.8	10.7	22.1	15.4	33.9	17.8	50.4	15.1	49.3
	LOS	C	A	C	A	E	B	F	B	F	B		A	C	A	C	B	D	B	F	B	F

	Values that were assumed/kept constant for all locations					
	Variable	Units	Description	Typical values	Equation	
Freeway Da	S_{FF}	mi/h	Freeway free-flow speed	55 - 75		
	N	lanes	Number of mainline freeway lanes	2 - 5		
	N_{down}	lanes	Number of mainline freeway lanes down	2 - 5		
			Type of facility ramp connecting with ramp			
	$Terrain_{FWY}$	-	Terrain of the freeway	level, rolling, mountainous, or specific length and percent grade		
Ramp-Freeway Junction Data						
	Ramp type			on-ramp, off-ramp, major merge, major diverge		
	Side		Side of freeway that ramp is on	right-hand, left-hand		
	N_{RAMP}		Number of lanes on ramp roadway			
	N_{PACT}		Number of ramp lanes at ramp-freeway junction			
	L_{A1}, L_{D1}		Length of acceleration or deceleration la	0 - 99,999		
	L_{A2}, L_{D2}		Length of second acceleration or deceler	0 - 99,999		
	L_A, L_D	ft	Length of acceleration or deceleration la	0 - 99,999		
	S_{FR}	mi/h	free-flow speed of the ramp roadway	20 - 50		55
	$Terrain_{RAMP}$	-	Terrain of the ramp	level, rolling, mountainous, or specific length and percent grade		
		mi/h	FFS of the ramp at the junction point			
	v_f	pc/h	flow rate on freeway immediately upstream of the ramp influence area under study			
	PHF_F	-	… peak hour factor			
	$P_{T\text{-}F}$	-	… proportion of trucks and buses in traffi	0 - 0.25		
	$P_{R\text{-}F}$	-	… proportion of RVs in traffic stream	0 - 0.25		
	$f_{P\text{-}F}$	-	… adjustment factor for unfamiliar driver	0.85 - 1.00		
	v_R	pc/h	flow rate on the on-ramp or off-ramp			
	PHF_R	-	… peak hour factor			
	$P_{T\text{-}R}$		… proportion of trucks and buses in traffi	0 - 0.25		
	$P_{R\text{-}R}$		… proportion of RVs in traffic stream	0 - 0.25		
	$f_{P\text{-}R}$		… adjustment factor for unfamiliar driver	0.85 - 1.00		
Adjacent Ramp Data						
	$Type_{UP}$		Type of ramp upstream of subject ramp	none, on, off		on-ramp
	Single-lane, right-side		Is the adjacent ramp a single-lane ramp located on the right side of the freeway?			
	$Dist_{UP}$	ft	Distance to upstream ramp			
	v_{UP}		Volume of upstream ramp			
	PHF_{UP}		… peak hour factor			
	$P_{T\text{-}UP}$		… proportion of trucks and buses in traffi	0 - 0.25		
	$P_{R\text{-}UP}$		… proportion of RVs in traffic stream	0 - 0.25		
	$f_{P\text{-}UP}$		… adjustment factor for unfamiliar driver	0.85 - 1.00		
	$Terrain_{UP}$	-	Terrain of the upstream adjacent ramp	level, rolling, mountainous, or specific length and percent grade		
	$Type_{DOWN}$		Type of ramp downstream of subject ramp			
	Single-lane, right-side		Is the adjacent ramp a single-lane ramp located on the right side of the freeway?			
	$Dist_{DOWN}$	ft	Distance to downstream ramp			
	v_{DOWN}		Volume of downstream ramp			
	PHF_{DOWN}		… peak hour factor			
	$P_{T\text{-}DOWN}$		… proportion of trucks and buses in traffic stream			
	$P_{R\text{-}DOWN}$		… proportion of RVs in traffic stream			
	$f_{P\text{-}DOWN}$		… adjustment factor for unfamiliar driver populations			
	$Terrain_{DOWN}$	-	Terrain of the downstream adjacent ram	level, rolling, mountainous, or specific length and percent grade		
	v_{FO}	pc/h	flow rate on the freeway immediately downstream of the merge or diverge area			
	PHF_{FO}	-	… peak hour factor			
	$P_{T\text{-}FO}$		… proportion of trucks and buses in traffi	0 - 0.25		
	$P_{R\text{-}FO}$		… proportion of RVs in traffic stream	0 - 0.25		
	$f_{P\text{-}FO}$		… adjustment factor for unfamiliar driver	0.85 - 1.00		

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		Existing																						
		AM																						
	Variable																							
Freeway Data	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	2	4	4	2	5	#N/A	5	4	0	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	2	3	#N/A	4	4	0	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	0	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{INCT}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	1,500	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	1,500	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	NA	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	50	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	3,170	2,880	2,100	1,000	1,810	#N/A	5,350	2,040	2,040	1,420	4,130	#N/A	5,440	4,850	1,650	2,610	2,770	#N/A	2,640	2,370	2,600	6,590	5,720
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}F}$	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}F}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}F}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	290	2,470	290	200	810	#N/A	1,220	620	0	680	1,310	#N/A	590	1,740	390	960	160	#N/A	270	230	170	870	790
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}R}$	9.3%	5.9%	14.9%	17.7%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	4.5%	14.9%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}R}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}R}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	No	0	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	9,999	9,999	1,230	3,600	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,510	290	680	810	290	#N/A	2,470	390	0	620	1,220	#N/A	1,310	590	960	160	100	#N/A	780	270	230	150	870
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}UP}$	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	0.0%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	20.0%	#N/A	13.8%	13.8%	13.8%	20.0%	4.5%
	$P_{R\text{-}UP}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}UP}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	0	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	3,600	1,230	9,999	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	2,470	1,220	810	650	200	#N/A	1,310	680	0	290	590	#N/A	1,740	150	620	390	960	#N/A	230	170	100	790	1,160
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}DOWN}$	5.9%	5.9%	14.9%	17.7%	17.7%	#N/A	5.9%	14.9%	0.0%	14.9%	5.9%	#N/A	4.5%	20.0%	14.9%	14.9%	13.8%	#N/A	13.8%	13.8%	20.0%	4.5%	4.5%
	$P_{R\text{-}DOWN}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}DOWN}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	2,880	5,350	1,810	1,200	1,000	#N/A	4,130	1,420	2,040	2,100	5,440	#N/A	4,850	6,590	2,040	1,650	2,610	#N/A	2,370	2,600	2,770	5,720	6,510
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}FO}$	9.3%	7.7%	14.9%	15.4%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.5%	14.0%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}FO}$	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}FO}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		Existing																						
		PM																						
	Variable																							
Freeway Data	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	2	4	4	2	5	#N/A	5	4	0	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	2	3	#N/A	4	4	0	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	0	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{INCT}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	1,500	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	1,500	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	NA	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{FR}	50	50	35	45	45	#N/A	45	35	50	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	1,390	1,230	5,160	2,870	4,210	#N/A	2,540	5,210	5,210	4,010	1,930	#N/A	2,690	2,120	4,530	6,140	6,360	#N/A	6,570	5,770	6,100	3,160	2,570
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}F}$	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}F}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}F}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	160	1,310	950	400	1,340	#N/A	610	1,200	0	1,150	760	#N/A	570	1,040	680	1,610	220	#N/A	800	330	260	590	420
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}R}$	11.2%	6.4%	5.2%	4.5%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	4.5%	5.2%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}R}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}R}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	No	0	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	9,999	9,999	1,230	3,600	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	890	160	1,150	1,340	950	#N/A	1,310	680	0	1,200	610	#N/A	760	570	1,610	220	150	#N/A	1,580	800	330	100	590
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}UP}$	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	0.0%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	20.0%	#N/A	5.6%	5.6%	5.6%	20.0%	4.5%
	$P_{R\text{-}UP}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}UP}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	0	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	3,600	1,230	9,999	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	1,310	610	1,340	1,450	400	#N/A	760	1,150	0	950	570	#N/A	1,040	100	1,200	680	1,610	#N/A	330	260	150	420	540
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}DOWN}$	6.4%	6.4%	5.2%	4.5%	4.5%	#N/A	6.4%	5.2%	0.0%	5.2%	6.4%	#N/A	4.5%	20.0%	5.2%	5.2%	5.6%	#N/A	5.6%	5.6%	20.0%	4.5%	4.5%
	$P_{R\text{-}DOWN}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}DOWN}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	1,230	2,540	4,210	3,270	2,870	#N/A	1,930	4,010	5,210	5,160	2,690	#N/A	2,120	3,160	5,210	4,530	6,140	#N/A	5,770	6,100	6,360	2,570	2,990
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}FO}$	11.2%	8.7%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	5.7%	5.5%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}FO}$	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}FO}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 No Build																						
		AM																						
	Variable																							
Freeway Data	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	0	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	0	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	0	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{INCT}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{a1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	1,500	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{a2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	1,500	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_a, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	NA	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	50	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	6,060	5,520	3,070	1,980	2,780	#N/A	7,820	2,960	2,960	1,820	5,450	#N/A	7,890	7,040	2,390	3,760	3,990	#N/A	3,620	3,350	3,810	9,490	8,120
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}F}$	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}F}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}F}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	540	2,300	290	310	800	#N/A	2,370	1,140	0	1,250	2,440	#N/A	850	2,450	570	1,370	230	#N/A	270	460	180	1,370	830
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}R}$	9.3%	5.9%	14.9%	17.7%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	4.5%	14.9%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}R}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}R}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	No	0	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	9,999	9,999	1,230	3,600	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	2,870	540	1,250	800	290	#N/A	2,300	570	0	1,140	2,370	#N/A	2,440	850	1,370	230	100	#N/A	790	270	460	150	1,370
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}UP}$	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	0.0%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	20.0%	#N/A	13.8%	13.8%	13.8%	20.0%	4.5%
	$P_{R\text{-}UP}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}UP}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	0	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	3,600	1,230	9,999	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	2,300	2,370	800	1,230	310	#N/A	2,440	1,250	0	290	850	#N/A	2,450	150	1,140	570	1,370	#N/A	460	180	100	830	2,350
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}DOWN}$	5.9%	5.9%	14.9%	17.7%	17.7%	#N/A	5.9%	14.9%	0.0%	14.9%	5.9%	#N/A	4.5%	20.0%	14.9%	14.9%	13.8%	#N/A	13.8%	13.8%	20.0%	4.5%	4.5%
	$P_{R\text{-}DOWN}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}DOWN}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	5,520	7,820	2,780	2,290	1,980	#N/A	5,450	1,820	2,960	3,070	7,890	#N/A	7,040	9,490	2,960	2,390	3,760	#N/A	3,350	3,810	3,990	8,120	8,950
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}FO}$	9.3%	8.3%	14.9%	15.3%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.5%	14.0%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}FO}$	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}FO}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 No Build																						
		PM																						
	Variable																							
Freeway Data	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	0	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	0	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	0	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hanc	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{INCT}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{d1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	1,500	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{d2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	1,500	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_d, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	NA	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	50	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_f	2,660	2,370	7,540	5,430	6,650	#N/A	3,710	7,550	7,550	5,310	2,530	#N/A	3,900	3,080	6,550	8,870	9,160	#N/A	9,020	8,220	8,880	4,560	3,650
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}F}$	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}F}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}F}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	290	1,340	890	830	1,220	#N/A	1,180	2,240	0	2,230	1,370	#N/A	820	1,480	1,000	2,320	290	#N/A	800	660	280	910	460
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}R}$	11.2%	6.4%	5.2%	4.5%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	4.5%	5.2%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}R}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}R}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	No	0	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	9,999	9,999	1,230	3,600	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,700	290	2,230	1,220	890	#N/A	1,340	1,000	0	2,240	1,180	#N/A	1,370	820	2,320	290	150	#N/A	1,590	800	660	100	910
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}UP}$	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	0.0%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	20.0%	#N/A	5.6%	5.6%	5.6%	20.0%	4.5%
	$P_{R\text{-}UP}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}UP}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	0	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	3,600	1,230	9,999	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	1,340	1,180	1,220	2,750	830	#N/A	1,370	2,230	0	890	820	#N/A	1,480	100	2,240	1,000	2,320	#N/A	660	280	150	460	1,080
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}DOWN}$	6.4%	6.4%	5.2%	4.5%	4.5%	#N/A	6.4%	5.2%	0.0%	5.2%	6.4%	#N/A	4.5%	20.0%	5.2%	5.2%	5.6%	#N/A	5.6%	5.6%	20.0%	4.5%	4.5%
	$P_{R\text{-}DOWN}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}DOWN}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	2,370	3,710	6,650	6,260	5,430	#N/A	2,530	5,310	7,550	7,540	3,900	#N/A	3,080	4,560	7,550	6,550	8,870	#N/A	8,220	8,880	9,160	3,650	4,110
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}FO}$	11.2%	9.5%	5.2%	5.1%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	5.7%	5.5%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}FO}$	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}FO}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 Build																						
		AM																						
	Variable																							
Freeway Data	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	4	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	4	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	off-ramp	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{INCT}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	800	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	0	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	800	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	35	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_f	5,840	5,240	2,770	1,850	2,640	#N/A	7,050	2,590	2,910	1,910	6,250	#N/A	7,770	6,910	2,310	3,690	3,920	#N/A	3,590	3,310	3,760	9,340	8,020
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}F}$	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}F}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}F}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	600	1,810	130	350	790	#N/A	1,430	680	320	860	1,520	#N/A	860	2,430	600	1,380	230	#N/A	280	450	160	1,320	840
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}R}$	9.3%	5.9%	14.9%	17.7%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	4.5%	14.9%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}R}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}R}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	yes	no	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	1,000	9,999	1,230	1,200	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	2,590	600	860	790	130	#N/A	1,810	320	600	680	80	#N/A	1,520	860	1,380	230	100	#N/A	760	280	450	150	1,320
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}UP}$	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	20.0%	#N/A	13.8%	13.8%	13.8%	20.0%	4.5%
	$P_{R\text{-}UP}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}UP}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	off-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	1,200	1,230	1,000	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	1,810	1,430	790	1,110	350	#N/A	710	860	680	130	860	#N/A	2,430	150	680	600	1,380	#N/A	450	160	100	840	2,280
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}DOWN}$	5.9%	5.9%	14.9%	17.7%	17.7%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	4.5%	20.0%	14.9%	14.9%	13.8%	#N/A	13.8%	13.8%	20.0%	4.5%	4.5%
	$P_{R\text{-}DOWN}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}DOWN}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	5,240	7,050	2,640	2,200	1,850	#N/A	5,620	1,910	2,590	2,770	7,770	#N/A	6,910	9,340	2,910	2,310	3,690	#N/A	3,310	3,760	3,920	8,020	8,860
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}FO}$	9.3%	8.4%	14.9%	15.4%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.5%	14.0%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	$P_{R\text{-}FO}$	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}FO}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 Build																						
		PM																						
	Variable																							
Freeway Data	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	4	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	4	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	off-ramp	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{INCT}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	800	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	0	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	800	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	35	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	2,560	2,260	6,810	5,260	6,430	#N/A	3,350	6,800	7,440	5,410	3,010	#N/A	3,840	3,000	6,420	8,740	9,010	#N/A	8,930	8,120	8,770	4,480	3,590
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}F}$	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}F}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}F}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	300	1,090	380	760	1,170	#N/A	700	1,390	640	1,400	830	#N/A	840	1,480	1,020	2,320	270	#N/A	810	650	240	890	480
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}R}$	11.2%	6.4%	5.2%	4.5%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	4.5%	5.2%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}R}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}R}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	yes	no	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	1,000	9,999	1,230	1,200	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,530	300	1,400	1,170	380	#N/A	1,090	640	1,020	1,390	40	#N/A	830	840	2,320	270	150	#N/A	1,540	810	650	100	890
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}UP}$	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	20.0%	#N/A	5.6%	5.6%	5.6%	20.0%	4.5%
	$P_{R\text{-}UP}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}UP}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	off-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	1,200	1,230	1,000	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	1,090	700	1,170	2,480	760	#N/A	400	1,400	1,390	380	840	#N/A	1,480	100	1,390	1,020	2,320	#N/A	650	240	150	480	1,050
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}DOWN}$	6.4%	6.4%	5.2%	4.5%	4.5%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	4.5%	20.0%	5.2%	5.2%	5.6%	#N/A	5.6%	5.6%	20.0%	4.5%	4.5%
	$P_{R\text{-}DOWN}$	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}DOWN}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	2,260	3,350	6,430	6,020	5,260	#N/A	2,650	5,410	6,800	6,810	3,840	#N/A	3,000	4,480	7,440	6,420	8,740	#N/A	8,120	8,770	9,010	3,590	4,070
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	$P_{T\text{-}FO}$	11.2%	9.6%	5.2%	5.1%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	5.7%	5.5%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	$P_{R\text{-}FO}$	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	$f_{P\text{-}FO}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		Values that were assumed/kept constant for all locations				
	Variable	Units	Description	Typical values	Equation	
Step 1: Specify Inputs and Convert Demand Volumes to Demand Flow Rates						
	$E_{T\text{-}FF}$	-	passenger-car equivalent (PCE) of one tru	-	Exhibit 11-10	
	$E_{R\text{-}FF}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	$E_{T\text{-}R}$	-	passenger-car equivalent (PCE) of one tru	-	Exhibit 11-10	
	$E_{R\text{-}R}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	$E_{T\text{-}UP}$	-	passenger-car equivalent (PCE) of one tru	-	Exhibit 11-10	
	$E_{R\text{-}UP}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	$E_{T\text{-}DOWN}$	-	passenger-car equivalent (PCE) of one tru	-	Exhibit 11-10	
	$E_{R\text{-}DOWN}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	v_i	pc/h	demand flow rate for movement i		Eqn 13-1	= V_i / (PHF x f_{HV} x f_p)
	$f_{HV\text{-}F}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	= 1 / (1 + $P_T(E_T$ - 1) + $P_R(E_R$ - 1))
	$v_{F(Temp)}$	pc/h/ln			Eqn 13-1	= V_i / (PHF x f_{HV} x f_p)
			Factor for estimate v_5		Exhibit 13-17	
	v_5	pc/h	estimated appraochign freeway flow in Lane 5		Exhibit 13-17	
	$v_{F\text{-}6eff}$	pc/h	efefctive approaching freeway flow in four lanes		Equation 13-25	= v_F - v_5
	v_F	pc/h/ln			Eqn 13-1	= V_i / (PHF x f_{HV} x f_p)
	$f_{HV\text{-}FO}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_{FO}				Eqn 13-1	
	$f_{HV\text{-}R}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_R				Eqn 13-1	
	$f_{HV\text{-}UP}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_{UP}				Eqn 13-1	
	$f_{HV\text{-}DOWN}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_{DOWN}				Eqn 13-1	
Step 2: Estimate the Approaching Flow Rate in Lanes 1 and 2 aof the Freeway Immediately Upstream of the Ramp Influence Area						
Estimating Flow in Lanes 1 and 2 for On-Ramps (Merge Areas)						
	P_{FM}	-	proportion of freeway vehicles remaining in Lanes 1 and 2 immediately upstream of the on-ramp influence area			
	$P_{FM\text{-}2}$		P_{FM} for two lane freeways			
	$P_{FM\text{-}3a}$		P_{FM} for three lane freeways		Eqn 13-3	= 0.5775 + 0.000028*L_A
	$P_{FM\text{-}3b}$		P_{FM} for three lane freeways		Eqn 13-4	= 0.7289 - 0.0000135(v_F + v_R) - 0.0
	$P_{FM\text{-}3c}$		P_{FM} for three lane freeways		Eqn 13-5	= 0.5487 + 0.2628(v_D/L_{DOWN})
	$P_{FM\text{-}4a}$		P_{FM} for four lane freeways; For $v_F/S_{FR} \le 72$			= 0.2178 - 0.000125v_R + 0.01115(L
	$P_{FM\text{-}4b}$		P_{FM} for four lane freeways; For $v_F/S_{FR} > 72$			= 0.2178 - 0.000125v_R
	L_{EQ1}	ft			Eqn 13-6	= 0.214(v_F + v_R) + 0.444L_A + 52.32S
	L_{EQ2}	ft			Eqn 13-7	= v_D / (0.1096 + 0.000107L_A)
	$Equation_{1Lane}$		Choose which equation to use for P_{FM} when considering adjacent upstream off-ramps			
	$Equation_{1Lane}$		Choose which equation to use for P_{FM} when considering adjacent downstream off-ramps			
			Choose value of PFM to use based on all adjacent ramp configurations and number of freeway lanes. Default values used for special case of two-lane on-ramp.			
	$v_{12\text{-}MERGE}$	pc/h	flow rate in Lanes 1 and 2		Equation 13-2	= v_F x P_{FM}
Estimating Flow in Lanes 1 and 2 for Off-Ramps (Diverge Areas)						
	P_{FD}	-	proportion of diverging traffic remaining in Lanes 1 and 2 immediately upstream of the deceleration lane			
	$P_{FD\text{-}2}$		P_{FD} for two lane freeways			
	$P_{FD\text{-}3a}$		P_{FD} for three lane freeways		Eqn 13-9	= 0.760 - 0.000025*v_F - 0.000046v
	$P_{FD\text{-}3b}$		P_{FD} for three lane freeways		Eqn 13-10	= 0.717 - 0.000039v_F + 0.604(v_U / L
	$P_{FD\text{-}3c}$		P_{FD} for three lane freeways		Eqn 13-11	= 0.616 - 0.000021v_F + 0.124(v_D/L_D
	$P_{FD\text{-}4}$		P_{FD} for four lane freeways			= 0.436
	L_{EQ1}	ft			Eqn 13-12	= v_U / (0.071 + 0.000023v_F - 0.000
	L_{EQ2}	ft			Eqn 13-13	= v_D / (1.15 - 0.000032v_F - 0.0003
	$Equation_{1Lane}$		Choose which equation to use for P_{FD} when considering adjacent upstream on-ramps			
	$Equation_{1Lane}$		Choose which equation to use for P_{FD} when considering adjacent downstream off-ramps			
			Choose value of PFD to use based on all adjacent ramp configurations and number of freeway lanes. Default values used for special case of two-lane off-ramp			
	$v_{12\text{-}DIVERGE}$	pc/h	flow rate in Lanes 1 and 2		Equation 13-8	= v_R + (v_F - v_R)P_{FM}
Checking the Reasonableness of the Lane Distribution Prediction						
	$v_{12\text{-}temp}$					
Application to Six-Lane Freeways						
	v_3	pc/h/ln	flow rate in Lane 3 of the freeway		Equation 13-14	= v_F - v_{12}
	$v_{12a\text{-}1}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence are		Equation 13-15	= v_F - 2,700
	$v_{12a\text{-}2}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence are		Equation 13-16	= v_F / 1.75
	$v_{12\text{-}3lane}$		Adjusted volume in lanes 1 and 2			
Applications to Eight-Lane Freeways						
	v_{av34}	pc/h/ln	average flow rate in lanes 3 and 4		Equation 13-17	= (v_F - v_{12}) / 2
	$v_{12a\text{-}1}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence are		Equation 13-18	= v_F - 5,400
	$v_{12a\text{-}2}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence are		Equation 13-19	= v_F / 2.50
	$v_{12\text{-}4lane}$		Adjusted volume in lanes 1 and 2			
	$v_{12(temp)}$		Final volume in lanes 1 and 2 (or two right-most lanes if left-handed ramp)			
			Adjustment factor for left-hand ramps			
	v_{12}		Final volume in lanes 1 and 2 (or two right-most lanes if left-handed ramp)			

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		Existing																						
		AM																						
	Variable																							
Step 1: Specify Inputs a																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	$v_{T(temp)}$	3,605	3,275	2,453	1,168	2,114	#N/A	5,986	2,383	2,383	1,659	4,621	#N/A	6,087	5,427	1,917	3,032	3,218	#N/A	3,067	2,753	3,021	7,323	6,356
		0.000	0.220	0.000	0.220	0.000	#N/A	0.150	0.000	NA	0.220	0.220	#N/A	0.150	0.220	0.220	0.000	0.000	#N/A	0.000	0.220	0.220	0.200	0.240
	v_S	-	-	-	-	0	#N/A	898	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	$v_{T\text{-}eff}$	-	-	-	-	2,114	#N/A	5,088	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_T	3,605	3,275	2,453	1,168	2,114	#N/A	5,088	2,383	2,383	1,659	4,621	#N/A	6,087	5,427	1,917	3,032	3,218	#N/A	3,067	2,753	3,021	7,323	6,356
	$f_{HV\text{-}FO}$	0.956	0.963	0.930	0.928	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.973	0.935	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_{FO}	3,275	6,039	2,114	1,405	1,168	#N/A	4,621	1,659	2,383	2,453	6,087	#N/A	5,427	7,360	2,372	1,917	3,032	#N/A	2,753	3,021	3,218	6,356	7,234
	$f_{HV\text{-}R}$	0.956	0.971	0.930	0.919	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.978	0.930	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_R	330	2,764	339	237	946	#N/A	1,365	724	0	794	1,466	#N/A	660	1,934	456	1,115	186	#N/A	314	267	197	967	878
	$f_{HV\text{-}UP}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	1.000	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.909	#N/A	0.936	0.936	0.936	0.909	0.978
	v_{UP}	1,717	330	794	946	339	#N/A	2,764	456	0	724	1,365	#N/A	1,466	660	1,115	186	120	#N/A	906	314	267	179	967
	$f_{HV\text{-}DOWN}$	0.971	0.971	0.930	0.919	0.919	#N/A	0.971	0.930	1.000	0.930	0.971	#N/A	0.978	0.909	0.930	0.930	0.936	#N/A	0.936	0.936	0.909	0.978	0.978
	v_{DOWN}	2,764	1,365	946	769	237	#N/A	1,466	794	0	339	660	#N/A	1,934	179	724	456	1,115	#N/A	267	197	120	878	1,289
Step 2: Estimate the Ap																								
Estimating Flow in Lan																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5991	#N/A	-	-	-	0.6579	0.7252	#N/A	-	0.5915	-	0.6673	-	#N/A	-	0.6384	-	-	0.6026
	$P_{FM\text{-}3c}$	-	0.6703	-	0.5689	-	#N/A	-	-	-	0.5805	0.5661	#N/A	-	0.5562	0.5677	-	-	#N/A	-	-	0.5518	-	0.6232
	$P_{FM\text{-}4a}$	0.5780	0.7978	0.4080	0.5475	0.8057	#N/A	0.3817	0.3821	#VALUE!	0.5964	0.2824	#N/A	0.4723	0.7194	1.2121	0.6954	0.3928	#N/A	0.7361	0.5375	0.4384	0.2902	0.4054
	$P_{FM\text{-}4b}$	0.1766	-0.1277	0.1755	0.1882	0.0995	#N/A	0.0472	0.1273	0.2178	0.1185	0.0346	#N/A	0.1353	-0.0239	0.1609	0.0784	0.1946	#N/A	0.1786	0.1844	0.1931	0.0970	0.1081
	L_{EQ1}	1,854.3	3,348.0	349.8	895.8	1,871.8	#N/A	1,931.8	448.4	#VALUE!	619.2	1,698.0	#N/A	1,999.1	2,858.5	1,401.1	791.2	1,035.0	#N/A	556.1	234.8	1,079.6	2,071.7	2,032.3
	L_{EQ2}	9,145.4	2,465.6	5,040.9	2,905.0	570.9	#N/A	5,769.7	4,069.5	#VALUE!	1,254.2	3,047.9	#N/A	7,578.9	416.5	1,565.3	1,586.2	5,713.5	#N/A	989.3	934.9	554.7	4,547.1	5,416.0
	$Equation_{3La}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-4	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-4
		0.6279	0.6937	0.5979	0.6181	0.5991	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.5915	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6026
	$Equation_{3La}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6232
		1.0000	0.2090	0.4080	1.0000	0.2090	#N/A	0.0472	0.3821	NA	0.5964	0.0346	#N/A	0.2090	0.2090	0.2090	0.2090	0.3928	#N/A	0.1786	0.1844	0.4384	0.0970	0.1081
	$v_{12\text{-}MERGE}$	NA	684.6	NA	1,168.2	NA	#N/A	NA	NA	NA	989.3	159.8	#N/A	NA	1,134.2	400.6	NA	NA	#N/A	NA	507.7	1,324.2	NA	686.9
Estimating Flow in Lan																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.6547	0.5510	0.6831	0.7199	0.6636	#N/A	0.5700	0.6671	0.7004	0.6820	0.5770	#N/A	0.5775	0.5354	0.6911	0.6329	0.6710	#N/A	0.6689	0.6789	0.6754	0.5325	0.5607
	$P_{FD\text{-}3b}$	0.6840	-	0.7927	-	-	#N/A	-	-	-	-	-	#N/A	0.5682	-	-	-	0.6029	#N/A	0.7473	-	0.7105	0.4422	-
	$P_{FD\text{-}3c}$	-	0.6046	-	0.6010	-	#N/A	-	-	-	0.5962	0.5271	#N/A	-	0.5056	0.5847	-	-	#N/A	-	-	0.5541	-	0.5176
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{EQ1}	13,327.7	-5,177.0	7,812.6	11,845.1	7,099.4	#N/A	32,790.7	6,437.9	0.0	14,847.3	20,718.8	#N/A	9,114.1	13,509.2	13,860.6	3,320.5	913.5	#N/A	7,698.8	2,751.0	2,129.7	1,080.7	6,424.8
	L_{EQ2}	3,027.3	53,823.3	999.7	750.1	322.8	#N/A	3,031.9	985.0	0.0	421.5	1,431.3	#N/A	2,717.1	682.3	786.8	710.3	1,139.9	#N/A	285.4	205.0	121.9	1,570.6	2,070.2
	$Equation_{3La}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.6840	0.5510	0.7927	0.7199	0.6636	#N/A	0.5700	0.6671	0.7004	0.6820	0.5770	#N/A	0.5775	0.5354	0.6911	0.6329	0.6710	#N/A	0.7473	0.6789	0.7105	0.5325	0.5607
	$Equation_{3La}$	13-9	13-11	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.6547	0.6046	0.6831	0.7199	0.6636	#N/A	0.5700	0.6671	0.7004	0.6820	0.5770	#N/A	0.5775	0.5354	0.6911	0.6329	0.6710	#N/A	0.6689	0.6789	0.6754	0.5325	0.5607
		1.0000	0.2600	0.4360	1.0000	0.2600	#N/A	0.4360	0.4360	NA	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	3,605.3	NA	1,260.6	NA	1,249.9	#N/A	2,988.4	1,447.5	NA	NA	NA	#N/A	2,071.1	NA	NA	1,613.7	1,507.9	#N/A	1,514.1	NA	NA	3,738.1	NA
Checking the Reasonat																								
	$v_{12\text{-}temp}$	3,605.3	684.6	1,260.6	1,168.2	1,249.9	#N/A	2,988.4	1,447.5	dsheet not compatible with this ar	989.3	159.8	#N/A	2,071.1	1,134.2	400.6	1,613.7	1,507.9	#N/A	1,514.1	507.7	1,324.2	3,738.1	686.9
Application to Six-Lane																								
	v_3	0.0	2,590.9	1,192.5	0.0	864.4	#N/A	2,099.9	935.6	#VALUE!	669.6	4,461.4	#N/A	4,015.8	4,292.6	1,516.3	1,418.5	1,710.1	#N/A	1,552.9	2,245.6	1,696.3	3,584.9	5,669.3
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	#VALUE!	-	1,921.2	#N/A	3,387.0	2,726.8	-	-	-	#N/A	-	-	-	4,623.0	3,656.2
	$v_{12a\text{-}2}$	-	1,871.7	1,401.8	-	-	#N/A	-	-	#VALUE!	-	2,640.7	#N/A	3,478.3	3,101.0	1,095.4	1,732.7	1,838.9	#N/A	1,752.6	1,573.3	1,726.0	4,184.6	3,632.1
	$v_{12\text{-}3lane}$	3,605.3	1,871.7	1,401.8	1,168.2	1,249.9	#N/A	2,988.4	1,447.5	#VALUE!	989.3	2,640.7	#N/A	3,478.3	3,101.0	1,095.4	1,732.7	1,838.9	#N/A	1,752.6	1,573.3	1,726.0	4,623.0	3,656.2
Applications to Eight-L																								
	v_{av34}	0.0	1,295.4	596.3	0.0	432.2	#N/A	1,049.9	467.8	#VALUE!	334.8	2,230.7	#N/A	2,007.9	2,146.3	758.1	709.2	855.1	#N/A	776.4	1,122.8	848.1	1,792.4	2,834.7
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	#VALUE!	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	956.2
	$v_{12a\text{-}2}$	-	1,310.2	-	-	-	#N/A	-	-	#VALUE!	-	1,848.5	#N/A	2,434.8	2,170.7	766.8	-	-	#N/A	-	1,101.3	-	-	2,542.5
	$v_{12\text{-}4lane}$	3,605.3	1,310.2	1,260.6	1,168.2	1,249.9	#N/A	2,988.4	1,447.5	#VALUE!	989.3	1,848.5	#N/A	2,434.8	2,170.7	766.8	1,613.7	1,507.9	#N/A	1,514.1	1,101.3	1,324.2	3,738.1	2,542.5
	$v_{12(temp)}$	3,605.3	1,310.2	1,260.6	1,168.2	1,249.9	#N/A	2,988.4	1,447.5	NA	989.3	1,848.5	#N/A	2,434.8	2,170.7	766.8	1,613.7	1,507.9	#N/A	1,514.1	1,101.3	1,324.2	3,738.1	2,542.5
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	3,605.3	1,310.2	1,260.6	1,168.2	1,249.9	#N/A	2,988.4	1,447.5	NA	989.3	1,848.5	#N/A	2,434.8	2,170.7	766.8	1,613.7	1,507.9	#N/A	1,514.1	1,101.3	1,324.2	3,738.1	2,542.5

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		Existing																						
		PM																						
	Variable																							
Step 1: Specify Inputs a																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	$v_{T(temp)}$	1,596	1,412	5,756	3,201	4,696	#N/A	2,849	5,812	5,812	4,473	2,164	#N/A	3,017	2,378	5,061	6,860	7,106	#N/A	7,341	6,447	6,815	3,512	2,856
		0.000	0.220	0.150	0.220	0.100	#N/A	0.000	0.150	NA	0.220	0.220	#N/A	0.000	0.220	0.220	0.150	0.200	#N/A	0.200	0.240	0.270	0.000	0.220
	v_S	-	-	-	-	470	#N/A	0	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_{T4eff}	-	-	-	-	4,227	#N/A	2,849	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_T	1,596	1,412	5,756	3,201	4,227	#N/A	2,849	5,812	5,812	4,473	2,164	#N/A	3,017	2,378	5,061	6,860	7,106	#N/A	7,341	6,447	6,815	3,512	2,856
	$f_{HV\text{-}FO}$	0.947	0.958	0.974	0.975	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.972	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_{FO}	1,412	2,881	4,696	3,646	3,201	#N/A	2,164	4,473	5,812	5,756	3,017	#N/A	2,378	3,533	5,820	5,061	6,860	#N/A	6,447	6,815	7,106	2,856	3,323
	$f_{HV\text{-}R}$	0.947	0.969	0.974	0.978	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.978	0.974	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_R	184	1,469	1,060	444	1,495	#N/A	684	1,339	0	1,283	852	#N/A	639	1,156	759	1,799	246	#N/A	894	369	290	656	467
	$f_{HV\text{-}UP}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	1.000	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.909	#N/A	0.973	0.973	0.973	0.909	0.978
	v_{UP}	1,022	184	1,283	1,495	1,060	#N/A	1,469	759	0	1,339	684	#N/A	852	639	1,799	246	179	#N/A	1,765	894	369	120	656
	$f_{HV\text{-}DOWN}$	0.969	0.969	0.974	0.978	0.978	#N/A	0.969	0.974	1.000	0.974	0.969	#N/A	0.978	0.909	0.974	0.974	0.973	#N/A	0.973	0.973	0.909	0.978	0.978
	v_{DOWN}	1,469	684	1,495	1,611	444	#N/A	852	1,283	0	1,060	639	#N/A	1,156	120	1,339	759	1,799	#N/A	369	290	179	467	600
Step 2: Estimate the Ap																								
Estimating Flow in Lan																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5632	#N/A	-	-	-	0.6133	0.7667	#N/A	-	0.6431	-	0.6064	-	#N/A	-	0.5872	-	-	0.6554
	$P_{FM\text{-}3c}$	-	0.6096	-	0.5910	-	#N/A	-	-	-	0.6482	0.5655	#N/A	-	0.5537	0.5839	-	-	#N/A	-	-	0.5534	-	0.5834
	$P_{FM\text{-}4a}$	0.5962	0.9596	0.3179	0.5215	0.7371	#N/A	0.4668	0.3053	#VALUE!	0.5353	0.3590	#N/A	0.4749	0.8167	1.1743	0.6099	0.3853	#N/A	0.6636	0.5248	0.4268	0.3291	0.4568
	$P_{FM\text{-}4b}$	0.1948	0.0342	0.0853	0.1622	0.0310	#N/A	0.1323	0.0505	0.2178	0.0575	0.1113	#N/A	0.1379	0.0733	0.1230	-0.0071	0.1871	#N/A	0.1061	0.1717	0.1815	0.1358	0.1595
	L_{EQ1}	1,392.9	2,672.1	1,210.8	1,375.4	2,441.1	#N/A	1,306.8	1,313.5	#VALUE!	1,325.9	1,041.0	#N/A	1,337.6	2,039.5	2,138.8	1,756.6	1,879.9	#N/A	1,594.7	1,046.9	1,911.6	1,189.6	1,195.3
	L_{EQ2}	4,861.4	1,235.6	7,963.0	6,086.0	1,072.2	#N/A	3,354.9	6,571.7	#VALUE!	3,923.4	2,951.2	#N/A	4,530.5	277.7	2,892.9	2,640.9	9,215.2	#N/A	1,365.1	1,375.1	832.1	2,417.8	2,521.6
	$Equation_{3La}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.5632	#N/A	0.6153	0.5999	#VALUE!	0.6133	0.6055	#N/A	0.6156	0.6431	0.6699	0.6064	0.5999	#N/A	0.6195	0.5872	0.6052	0.5993	0.6111
	$Equation_{3La}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-5	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6482	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
		1.0000	0.2090	0.0853	1.0000	0.2090	#N/A	0.4668	0.0505	NA	0.0575	0.3590	#N/A	0.2090	0.2090	0.2090	0.2090	0.1871	#N/A	0.1061	0.1717	0.1815	0.1358	0.4568
	$v_{12\text{-}MERGE}$	NA	295.1	NA	3,201.4	NA	#N/A	NA	NA	NA	257.0	777.1	#N/A	NA	496.9	1,057.8	NA	NA	#N/A	NA	1,107.0	1,236.9	NA	1,304.7
Estimating Flow in Lan																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.7117	0.6571	0.5674	0.6595	0.5856	#N/A	0.6573	0.5531	0.6147	0.5892	0.6667	#N/A	0.6552	0.6474	0.5986	0.5058	0.5710	#N/A	0.5354	0.5819	0.5763	0.6420	0.6671
	$P_{FD\text{-}3b}$	0.7188	-	0.7692	-	-	#N/A	-	-	-	-	-	#N/A	0.6508	-	-	-	0.4569	#N/A	0.7228	-	0.6048	0.5873	-
	$P_{FD\text{-}3c}$	-	0.6151	-	0.5688	-	#N/A	-	-	-	0.5690	0.5785	#N/A	-	0.5684	0.5263	-	-	#N/A	-	-	0.4751	-	0.5724
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{EQ1}	10,898.2	-22,448.4	10,442.2	13,484.1	19,404.7	#N/A	17,381.0	7,368.9	0.0	17,523.3	12,214.7	#N/A	9,284.2	16,893.2	13,862.5	2,669.7	831.3	#N/A	10,269.3	4,673.5	1,792.6	1,172.9	6,478.2
	L_{EQ2}	1,424.7	1,215.7	2,600.5	1,823.7	959.6	#N/A	1,056.9	2,728.8	0.0	1,986.3	834.3	#N/A	1,413.7	184.7	1,890.2	2,843.9	2,162.3	#N/A	630.0	359.7	217.5	586.7	677.1
	$Equation_{3La}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.7188	0.6571	0.7692	0.6595	0.5856	#N/A	0.6573	0.5531	0.6147	0.5892	0.6667	#N/A	0.6552	0.6474	0.5986	0.5058	0.5710	#N/A	0.7228	0.5819	0.6048	0.6420	0.6671
	$Equation_{3La}$	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.7117	0.6571	0.5674	0.6595	0.5856	#N/A	0.6573	0.5531	0.6147	0.5892	0.6667	#N/A	0.6552	0.6474	0.5986	0.5058	0.5710	#N/A	0.5354	0.5819	0.5763	0.6420	0.6671
		1.0000	0.2600	0.4360	1.0000	0.2600	#N/A	0.4360	0.4360	NA	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	1,595.5	NA	3,107.2	NA	2,205.0	#N/A	1,627.8	3,288.8	NA	NA	NA	#N/A	1,257.4	NA	NA	3,114.7	3,236.8	#N/A	3,704.6	NA	NA	1,901.0	NA
Checking the Reasonat																								
	$v_{12\text{-}temp}$	1,595.5	295.1	3,107.2	3,201.4	2,205.0	#N/A	1,627.8	3,288.8	Spreadsheet not compatible with this analysis	257.0	777.1	#N/A	1,257.4	496.9	1,057.8	3,114.7	3,236.8	#N/A	3,704.6	1,107.0	1,236.9	1,901.0	1,304.7
Application to Six-Lane																								
	v_3	0.0	1,116.8	2,648.6	0.0	2,021.5	#N/A	1,220.7	2,522.8	#VALUE!	4,216.1	1,387.3	#N/A	1,759.4	1,880.6	4,003.5	3,745.3	3,869.1	#N/A	3,635.9	5,339.7	5,578.5	1,610.9	1,551.5
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	#VALUE!	1,773.0	-	#N/A	-	-	2,361.3	4,160.1	4,405.9	#N/A	4,640.5	3,746.7	4,115.4	-	-
	$v_{12a\text{-}2}$	-	806.8	3,289.0	-	2,415.2	#N/A	-	3,320.9	#VALUE!	2,556.0	1,236.8	#N/A	1,723.9	1,358.6	2,892.2	3,920.0	4,060.5	#N/A	4,194.6	3,683.8	3,894.5	2,006.8	1,632.1
	$v_{12\text{-}3lane}$	1,595.5	806.8	3,289.0	3,201.4	2,415.2	#N/A	1,627.8	3,320.9	#VALUE!	2,556.0	1,236.8	#N/A	1,723.9	1,358.6	2,892.2	4,160.1	4,405.9	#N/A	4,640.5	3,746.7	4,115.4	2,006.8	1,632.1
Applications to Eight-L																								
	v_{av34}	0.0	558.4	1,324.3	0.0	1,010.8	#N/A	610.4	1,261.4	#VALUE!	2,108.0	693.7	#N/A	879.7	940.3	2,001.7	1,872.7	1,934.5	#N/A	1,818.0	2,669.9	2,789.2	805.5	775.8
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	#VALUE!	-	-	#N/A	-	-	-	-	-	#N/A	-	-	1,415.4	-	-
	$v_{12a\text{-}2}$	-	564.7	-	-	-	#N/A	-	-	#VALUE!	1,789.2	865.8	#N/A	-	951.0	2,024.5	-	-	#N/A	-	2,578.7	2,726.2	-	-
	$v_{12\text{-}4lane}$	1,595.5	564.7	3,107.2	3,201.4	2,205.0	#N/A	1,627.8	3,288.8	#VALUE!	1,789.2	865.8	#N/A	1,257.4	951.0	2,024.5	3,114.7	3,236.8	#N/A	3,704.6	2,578.7	2,726.2	1,901.0	1,304.7
	$v_{12(temp)}$	1,595.5	564.7	3,107.2	3,201.4	2,205.0	#N/A	1,627.8	3,288.8	NA	1,789.2	865.8	#N/A	1,257.4	951.0	2,024.5	3,114.7	3,236.8	#N/A	3,704.6	2,578.7	2,726.2	1,901.0	1,304.7
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	1,595.5	564.7	3,107.2	3,201.4	2,205.0	#N/A	1,627.8	3,288.8	NA	1,789.2	865.8	#N/A	1,257.4	951.0	2,024.5	3,114.7	3,236.8	#N/A	3,704.6	2,578.7	2,726.2	1,901.0	1,304.7

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 No Build																						
		AM																						
	Variable																							
Step 1: Specify Inputs a																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	$v_{T(temp)}$	6,892	6,278	3,586	2,313	3,248	#N/A	8,750	3,458	3,458	2,126	6,098	#N/A	8,828	7,877	2,777	4,368	4,635	#N/A	4,206	3,892	4,426	10,546	9,023
		0.150	0.240	0.000	0.220	0.000	#N/A	0.200	0.000	NA	0.220	0.240	#N/A	0.200	0.285	0.220	0.100	0.100	#N/A	0.100	0.220	0.220	0.200	vF>8,500
	v_S	-	-	-	-	0	#N/A	1,750	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	$v_{T\text{-}Seff}$	-	-	-	-	3,248	#N/A	7,000	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_t	6,892	6,278	3,586	2,313	3,248	#N/A	7,000	3,458	3,458	2,126	6,098	#N/A	8,828	7,877	2,777	4,368	4,635	#N/A	4,206	3,892	4,426	10,546	9,023
	$f_{HV\text{-}FO}$	0.956	0.960	0.930	0.929	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.973	0.935	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_{FO}	6,278	8,852	3,248	2,680	2,313	#N/A	6,098	2,126	3,458	3,586	8,828	#N/A	7,877	10,600	3,442	2,777	4,368	#N/A	3,892	4,426	4,635	9,023	9,945
	$f_{HV\text{-}R}$	0.956	0.971	0.930	0.919	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.978	0.930	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_R	614	2,574	339	367	935	#N/A	2,652	1,332	0	1,460	2,730	#N/A	951	2,722	666	1,592	267	#N/A	314	534	209	1,522	922
	$f_{HV\text{-}UP}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	1.000	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.909	#N/A	0.936	0.936	0.936	0.909	0.978
	v_{UP}	3,264	614	1,460	935	339	#N/A	2,574	666	0	1,332	2,652	#N/A	2,730	951	1,592	267	120	#N/A	918	314	534	179	1,522
	$f_{HV\text{-}DOWN}$	0.971	0.971	0.930	0.919	0.919	#N/A	0.971	0.930	1.000	0.930	0.971	#N/A	0.978	0.909	0.930	0.930	0.936	#N/A	0.936	0.936	0.909	0.978	0.978
	v_{DOWN}	2,574	2,652	935	1,455	367	#N/A	2,730	1,460	0	339	951	#N/A	2,722	179	1,332	666	1,592	#N/A	534	209	120	922	2,611
Step 2: Estimate the Ap																								
Estimating Flow in Lan																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5840	#N/A	-	-	-	0.6426	0.6882	#N/A	-	0.5477	-	0.6428	-	#N/A	-	0.6194	-	-	0.5660
	$P_{FM\text{-}3c}$	-	0.7849	-	0.5870	-	#N/A	-	-	-	0.5805	0.5737	#N/A	-	0.5562	0.5837	-	-	#N/A	-	-	0.5518	-	0.6995
	$P_{FM\text{-}4a}$	0.5424	0.8216	0.4080	0.5312	0.8071	#N/A	0.2208	0.3062	#VALUE!	0.5131	0.1243	#N/A	0.4359	0.6208	1.1859	0.6358	0.3826	#N/A	0.7361	0.5041	0.4370	0.2208	0.3998
	$P_{FM\text{-}4b}$	0.1410	-0.1039	0.1755	0.1719	0.1010	#N/A	-0.1137	0.0513	0.2178	0.0353	-0.1235	#N/A	0.0989	-0.1225	0.1346	0.0189	0.1844	#N/A	0.1786	0.1510	0.1917	0.0275	0.1025
	L_{EQ1}	2,618.5	3,949.8	592.3	1,168.7	2,111.8	#N/A	2,616.3	808.4	#VALUE!	861.7	2,284.7	#N/A	2,648.0	3,551.7	1,630.1	1,179.0	1,355.7	#N/A	799.7	535.6	1,382.9	2,880.2	2,612.5
	L_{EQ2}	8,516.0	4,789.8	4,978.6	5,497.2	884.8	#N/A	10,746.6	7,480.6	#VALUE!	1,254.2	4,391.0	#N/A	10,671.4	416.5	2,878.2	2,318.3	8,153.6	#N/A	1,978.5	989.9	554.7	4,777.4	10,972.2
	Equation $_{3La}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-4	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-4
		0.6279	0.6937	0.5979	0.6181	0.5840	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.5477	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.5660
	Equation $_{3La}$	13-3	13-5	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.7849	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6995
		0.2090	0.2090	0.1755	0.5312	0.2090	#N/A	-0.1137	0.0513	NA	0.5131	-0.1235	#N/A	0.2090	0.2090	0.2090	0.2090	0.1844	#N/A	0.1786	0.1510	0.1917	0.0275	0.1025
	$v_{12\text{-}MERGE}$	NA	1,312.1	NA	1,228.7	NA	#N/A	NA	NA	NA	1,091.0	-753.0	#N/A	NA	1,646.3	580.3	NA	NA	#N/A	NA	587.7	848.3	NA	925.0
Estimating Flow in Lan																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.5594	0.4847	0.6548	0.6853	0.6358	#N/A	0.4630	0.6123	0.6736	0.6397	0.4820	#N/A	0.4955	0.4378	0.6600	0.5776	0.6318	#N/A	0.6404	0.6381	0.6397	0.4263	0.4920
	$P_{FD\text{-}3b}$	0.6527	-	0.8921	-	-	#N/A	-	-	-	-	-	#N/A	0.5376	-	-	-	0.5476	#N/A	0.7049	-	0.7670	0.3166	-
	$P_{FD\text{-}3c}$	-	0.5956	-	0.5855	-	#N/A	-	-	-	0.5864	0.4997	#N/A	-	0.4541	0.5742	-	-	#N/A	-	-	0.5245	-	0.4977
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{EQ1}	17,851.8	31,009.4	11,431.3	9,702.3	4,537.0	#N/A	84,491.4	13,501.2	0.0	149,243.2	704,578.3	#N/A	13,531.2	21,010.8	18,890.0	5,290.4	760.1	#N/A	6,378.4	2,616.2	3,405.8	906.5	7,303.8
	L_{EQ2}	3,661.7	-5,024,958.6	1,026.7	1,547.2	523.1	#N/A	-51,969.5	2,664.9	0.0	623.7	-18,089.5	#N/A	5,270.6	-1,681.3	1,633.1	1,574.4	1,762.4	#N/A	594.0	252.5	128.4	3,677.7	5,013.0
	Equation $_{3La}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.6527	0.4847	0.8921	0.6853	0.6358	#N/A	0.4630	0.6123	0.6736	0.6397	0.4820	#N/A	0.5376	0.4378	0.6600	0.5776	0.6318	#N/A	0.7049	0.6381	0.7670	0.4263	0.4920
	Equation $_{3La}$	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-11
		0.5594	0.4847	0.6548	0.6853	0.6358	#N/A	0.4630	0.6123	0.6736	0.6397	0.4820	#N/A	0.4955	0.4378	0.6600	0.5776	0.6318	#N/A	0.6404	0.6381	0.6397	0.4263	0.4977
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	NA	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	2,246.4	NA	1,754.7	NA	1,535.9	#N/A	4,547.6	2,258.7	NA	NA	NA	#N/A	2,999.2	NA	NA	2,313.5	2,171.7	#N/A	2,010.5	NA	NA	5,456.5	NA
Checking the Reasonat																								
	$v_{12\text{-}temp}$	2,246.4	1,312.1	1,754.7	1,228.7	1,535.9	#N/A	4,547.6	2,258.7	t not compatible with t	1,091.0	-753.0	#N/A	2,999.2	1,646.3	580.3	2,313.5	2,171.7	#N/A	2,010.5	587.7	848.3	5,456.5	925.0
Application to Six-Lane																								
	v_3	4,645.7	4,965.9	1,831.6	1,084.3	1,711.6	#N/A	2,452.4	1,199.1	#VALUE!	1,035.1	6,851.1	#N/A	5,829.2	6,230.9	2,196.3	2,054.7	2,463.6	#N/A	2,195.0	3,304.2	3,577.9	5,089.0	8,098.2
	$v_{12a\text{-}1}$	4,192.1	3,578.0	-	-	-	#N/A	-	-	#VALUE!	-	3,398.1	#N/A	6,128.3	5,177.2	-	-	-	#N/A	-	1,191.8	1,726.2	7,845.5	6,323.1
	$v_{12a\text{-}2}$	3,938.4	3,587.4	2,049.3	1,321.7	1,855.7	#N/A	-	-	#VALUE!	1,214.9	3,484.7	#N/A	5,044.8	4,501.3	1,586.6	2,496.1	2,648.8	#N/A	2,403.2	2,223.9	2,529.3	6,026.0	5,156.1
	$v_{12\text{-}3lane}$	4,192.1	3,587.4	2,049.3	1,321.7	1,855.7	#N/A	4,547.6	2,258.7	#VALUE!	1,214.9	3,484.7	#N/A	6,128.3	5,177.2	1,586.6	2,496.1	2,648.8	#N/A	2,403.2	2,223.9	2,529.3	7,845.5	6,323.1
Applications to Eight-L																								
	v_{av34}	2,322.9	2,482.9	915.8	542.1	855.8	#N/A	1,226.2	599.6	#VALUE!	517.6	3,425.5	#N/A	2,914.6	3,115.4	1,098.1	1,027.3	1,231.8	#N/A	1,097.5	1,652.1	1,789.0	2,544.5	4,049.1
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	#VALUE!	-	698.1	#N/A	3,428.3	2,477.2	-	-	-	#N/A	-	-	-	-	3,623.1
	$v_{12a\text{-}2}$	2,756.9	2,511.2	-	-	-	#N/A	-	-	#VALUE!	-	2,439.3	#N/A	3,531.3	3,150.9	1,110.6	-	-	#N/A	-	1,556.7	1,770.5	-	3,609.3
	$v_{12\text{-}4lane}$	2,756.9	2,511.2	1,754.7	1,228.7	1,535.9	#N/A	4,547.6	2,258.7	#VALUE!	1,091.0	2,439.3	#N/A	3,531.3	3,150.9	1,110.6	2,313.5	2,171.7	#N/A	2,010.5	1,556.7	1,770.5	5,456.5	3,623.1
	$v_{12(temp)}$	2,756.9	2,511.2	1,754.7	1,228.7	1,535.9	#N/A	4,547.6	2,258.7	NA	1,091.0	2,439.3	#N/A	3,531.3	3,150.9	1,110.6	2,313.5	2,171.7	#N/A	2,010.5	1,556.7	1,770.5	5,456.5	3,623.1
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	2,756.9	2,511.2	1,754.7	1,228.7	1,535.9	#N/A	4,547.6	2,258.7	NA	1,091.0	2,439.3	#N/A	3,531.3	3,150.9	1,110.6	2,313.5	2,171.7	#N/A	2,010.5	1,556.7	1,770.5	5,456.5	3,623.1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 No Build																						
		PM																						
	Variable																							
Step 1: Specify Inputs a																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	$v_{T(temp)}$	3,053	2,720	8,411	6,057	7,418	#N/A	4,161	8,422	8,422	5,923	2,837	#N/A	4,374	3,454	7,318	9,910	10,234	#N/A	10,078	9,184	9,921	5,068	4,057
		0.000	0.220	0.200	0.240	0.200	#N/A	0.100	0.200	NA	0.240	0.220	#N/A	0.100	0.220	0.270	0.200	0.200	#N/A	0.200	vF>8,500	vF>8,500	0.100	0.220
	v_S	-	-	-	-	1,484	#N/A	416	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	$v_{T\text{-}eff}$	-	-	-	-	5,934	#N/A	3,745	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_t	3,053	2,720	8,411	6,057	5,934	#N/A	3,745	8,422	8,422	5,923	2,837	#N/A	4,374	3,454	7,318	9,910	10,234	#N/A	10,078	9,184	9,921	5,068	4,057
	$f_{HV\text{-}FO}$	0.947	0.955	0.974	0.975	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.972	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_{FO}	2,720	4,223	7,418	6,979	6,057	#N/A	2,837	5,923	8,422	8,411	4,374	#N/A	3,454	5,099	8,434	7,318	9,910	#N/A	9,184	9,921	10,234	4,057	4,568
	$f_{HV\text{-}R}$	0.947	0.969	0.974	0.978	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.978	0.974	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_R	333	1,503	993	922	1,361	#N/A	1,323	2,499	0	2,487	1,536	#N/A	920	1,645	1,115	2,592	324	#N/A	894	737	313	1,011	511
	$f_{HV\text{-}UP}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	1.000	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.909	#N/A	0.973	0.973	0.973	0.909	0.978
	v_{UP}	1,951	333	2,487	1,361	993	#N/A	1,503	1,115	0	2,499	1,323	#N/A	1,536	920	2,592	324	179	#N/A	1,776	894	737	120	1,011
	$f_{HV\text{-}DOWN}$	0.969	0.969	0.974	0.978	0.978	#N/A	0.969	0.974	1.000	0.974	0.969	#N/A	0.978	0.909	0.974	0.974	0.973	#N/A	0.973	0.973	0.909	0.978	0.978
	v_{DOWN}	1,503	1,323	1,361	3,056	922	#N/A	1,536	2,487	0	993	920	#N/A	1,645	120	2,499	1,115	2,592	#N/A	737	313	179	511	1,200
Step 2: Estimate the Ap																								
Estimating Flow in Lan																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5419	#N/A	-	-	-	0.5775	0.7483	#N/A	-	0.6220	-	0.5545	-	#N/A	-	0.5452	-	-	0.6386
	$P_{FM\text{-}3c}$	-	0.6666	-	0.6290	-	#N/A	-	-	-	0.6419	0.5729	#N/A	-	0.5537	0.6144	-	-	#N/A	-	-	0.5534	-	0.6180
	$P_{FM\text{-}4a}$	0.5776	0.9554	0.3263	0.4618	0.7539	#N/A	0.3869	0.1603	#VALUE!	0.3847	0.2735	#N/A	0.4398	0.7555	1.1297	0.5108	0.3755	#N/A	0.6636	0.4787	0.4240	0.2846	0.4512
	$P_{FM\text{-}4b}$	0.1762	0.0300	0.0937	0.1025	0.0477	#N/A	0.0524	-0.0945	0.2178	-0.0931	0.0257	#N/A	0.1028	0.0122	0.0784	-0.1062	0.1773	#N/A	0.1061	0.1256	0.1787	0.0914	0.1539
	L_{EQ1}	1,736.8	2,959.4	1,764.7	2,088.8	2,778.0	#N/A	1,635.3	2,120.4	#VALUE!	1,894.1	1,331.4	#N/A	1,688.0	2,374.6	2,698.2	2,579.1	2,566.1	#N/A	2,180.5	1,711.6	2,581.1	1,598.7	1,461.7
	L_{EQ2}	4,972.8	2,390.2	7,249.9	11,542.4	2,224.9	#N/A	6,047.7	12,743.3	#VALUE!	3,675.6	4,245.6	#N/A	6,447.3	277.7	5,400.2	3,883.7	13,279.1	#N/A	2,730.1	1,480.9	832.1	2,648.0	5,043.2
	Equation $_{3La}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.5419	#N/A	0.6153	0.5999	#VALUE!	0.5775	0.6055	#N/A	0.6156	0.6220	0.6699	0.5545	0.5999	#N/A	0.6195	0.5452	0.6052	0.5993	0.6111
	Equation $_{3La}$	13-3	13-3	13-3	13-5	13-3	#N/A	13-3	13-3	13-3	13-5	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.6937	0.5979	0.6290	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6419	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6180
		0.2090	0.2090	0.0937	0.1025	0.2090	#N/A	0.0524	-0.0945	NA	-0.0931	0.2735	#N/A	0.2090	0.2090	0.2090	0.2090	0.1773	#N/A	0.1061	0.1256	0.1787	0.0914	0.1539
	$v_{12\text{-}MERGE}$	NA	568.6	NA	620.9	NA	#N/A	NA	NA	NA	-551.7	776.1	#N/A	NA	721.9	1,529.5	NA	NA	#N/A	NA	1,153.7	1,772.9	NA	624.3
Estimating Flow in Lan																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.6684	0.6229	0.5041	0.5661	0.5490	#N/A	0.6055	0.4345	0.5495	0.4975	0.6184	#N/A	0.6084	0.5980	0.5257	0.3930	0.4892	#N/A	0.4669	0.4965	0.4976	0.5868	0.6351
	$P_{FD\text{-}3b}$	0.7202	-	0.9256	-	-	#N/A	-	-	-	-	-	#N/A	0.6392	-	-	-	0.3349	#N/A	0.6179	-	0.6372	0.5266	-
	$P_{FD\text{-}3c}$	-	0.6145	-	0.5267	-	#N/A	-	-	-	0.5356	0.5678	#N/A	-	0.5458	0.4933	-	-	#N/A	-	-	0.4099	-	0.5635
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{EQ1}	16,832.5	17,195.4	13,161.8	9,705.6	9,540.1	#N/A	26,573.3	14,912.0	0.0	137,421.0	67,895.5	#N/A	15,106.5	36,151.2	16,772.7	3,178.5	636.5	#N/A	7,564.0	3,951.6	2,677.4	1,080.1	8,062.0
	L_{EQ2}	1,616.8	2,602.8	2,644.9	4,962.1	2,014.1	#N/A	2,835.4	-59,938.4	0.0	23,319.7	1,868.1	#N/A	2,452.4	276.4	4,955.6	-9,024.4	3,687.5	#N/A	1,481.7	535.7	250.1	831.8	1,443.4
	Equation $_{3La}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.7202	0.6229	0.9256	0.5661	0.5490	#N/A	0.6055	0.4345	0.5495	0.4975	0.6184	#N/A	0.6392	0.5980	0.5257	0.3930	0.4892	#N/A	0.6179	0.4965	0.6372	0.5868	0.6351
	Equation $_{3La}$	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-11	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.6684	0.6229	0.5041	0.5661	0.5490	#N/A	0.6055	0.4345	0.5495	0.5356	0.6184	#N/A	0.6084	0.5980	0.5257	0.3930	0.4892	#N/A	0.4669	0.4965	0.4976	0.5868	0.6351
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	NA	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	1,040.2	NA	4,227.0	NA	2,550.0	#N/A	2,379.0	5,081.1	NA	NA	NA	#N/A	1,817.7	NA	NA	4,494.8	4,644.9	#N/A	4,898.1	NA	NA	2,780.0	NA
Checking the Reasonat																								
	$v_{12\text{-}temp}$	1,040.2	568.6	4,227.0	620.9	2,550.0	#N/A	2,379.0	5,081.1	eet not compatible with th	-551.7	776.1	#N/A	1,817.7	721.9	1,529.5	4,494.8	4,644.9	#N/A	4,898.1	1,153.7	1,772.9	2,780.0	624.3
Application to Six-Lane																								
	v_3	2,013.1	2,151.8	4,183.7	5,436.1	3,384.3	#N/A	1,365.6	3,340.7	#VALUE!	6,474.8	2,061.2	#N/A	2,556.1	2,732.2	5,788.7	5,415.4	5,589.4	#N/A	5,179.8	8,030.3	8,148.5	2,287.9	3,432.2
	$v_{12a\text{-}1}$	-	-	5,710.6	3,357.0	3,234.3	#N/A	-	5,721.8	#VALUE!	3,223.1	-	#N/A	-	754.1	4,618.2	7,210.2	7,534.3	#N/A	7,377.8	6,484.0	7,221.4	-	1,356.5
	$v_{12a\text{-}2}$	1,744.7	1,554.5	4,806.1	3,461.1	3,391.0	#N/A	-	-	#VALUE!	3,384.7	1,621.3	#N/A	2,499.3	1,973.8	4,181.8	5,663.0	5,848.1	#N/A	5,758.8	5,248.0	5,669.4	2,895.9	2,318.0
	$v_{12\text{-}3lane}$	1,744.7	1,554.5	5,710.6	3,461.1	3,391.0	#N/A	2,379.0	5,721.8	#VALUE!	3,384.7	1,621.3	#N/A	2,499.3	1,973.8	4,618.2	7,210.2	7,534.3	#N/A	7,377.8	6,484.0	7,221.4	2,895.9	2,318.0
Applications to Eight-L																								
	v_{av34}	1,006.5	1,075.9	2,091.8	2,718.0	1,692.2	#N/A	682.8	1,670.3	#VALUE!	3,237.4	1,030.6	#N/A	1,278.0	1,366.1	2,894.3	2,707.7	2,794.7	#N/A	2,589.9	4,015.1	4,074.3	1,143.9	1,716.1
	$v_{12a\text{-}1}$	-	-	-	657.0	-	#N/A	-	-	#VALUE!	523.1	-	#N/A	-	-	1,918.2	4,510.2	4,834.3	#N/A	-	3,784.0	4,521.4	-	-
	$v_{12a\text{-}2}$	1,221.3	1,088.2	-	2,422.8	-	#N/A	-	-	#VALUE!	2,369.3	1,134.9	#N/A	-	1,381.7	2,927.3	-	-	#N/A	-	3,673.6	3,968.6	-	1,622.6
	$v_{12\text{-}4lane}$	1,221.3	1,088.2	4,227.0	2,422.8	2,550.0	#N/A	2,379.0	5,081.1	#VALUE!	2,369.3	1,134.9	#N/A	1,817.7	1,381.7	2,927.3	4,510.2	4,834.3	#N/A	4,898.1	3,784.0	4,521.4	2,780.0	1,622.6
	$v_{12(temp)}$	1,221.3	1,088.2	4,227.0	2,422.8	2,550.0	#N/A	2,379.0	5,081.1	NA	2,369.3	1,134.9	#N/A	1,817.7	1,381.7	2,927.3	4,510.2	4,834.3	#N/A	4,898.1	3,784.0	4,521.4	2,780.0	1,622.6
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	1,221.3	1,088.2	4,227.0	2,422.8	2,550.0	#N/A	2,379.0	5,081.1	NA	2,369.3	1,134.9	#N/A	1,817.7	1,381.7	2,927.3	4,510.2	4,834.3	#N/A	4,898.1	3,784.0	4,521.4	2,780.0	1,622.6

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 Build																						
		AM																						
	Variable																							
Step 1: Specify Inputs a																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	$v_{T(temp)}$	6,642	5,960	3,236	2,161	3,084	#N/A	7,888	3,026	3,399	2,231	6,993	#N/A	8,694	7,732	2,684	4,287	4,554	#N/A	4,171	3,845	4,368	10,379	8,912
		0.150	0.240	0.000	0.220	0.000	#N/A	0.200	0.000	0.000	0.220	0.270	#N/A	0.200	0.285	0.220	0.100	0.100	#N/A	0.100	0.220	0.220	0.200	vF>8,500
	v_S	-	-	-	-	0	#N/A	1,578	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	$v_{T\text{-}Eff}$	-	-	-	-	3,084	#N/A	6,311	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_t	6,642	5,960	3,236	2,161	3,084	#N/A	6,311	3,026	3,399	2,231	6,993	#N/A	8,694	7,732	2,684	4,287	4,554	#N/A	4,171	3,845	4,368	10,379	8,912
	$f_{HV\text{-}FO}$	0.956	0.960	0.930	0.929	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.973	0.935	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_{FO}	5,960	7,985	3,084	2,575	2,161	#N/A	6,288	2,231	3,026	3,236	8,694	#N/A	7,732	10,432	3,385	2,684	4,287	#N/A	3,845	4,368	4,554	8,912	9,845
	$f_{HV\text{-}R}$	0.956	0.971	0.930	0.919	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.978	0.930	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_R	682	2,025	152	414	923	#N/A	1,600	794	374	1,005	1,701	#N/A	962	2,700	701	1,603	267	#N/A	325	523	186	1,467	933
	$f_{HV\text{-}UP}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.909	#N/A	0.936	0.936	0.936	0.909	0.978
	v_{UP}	2,946	682	1,005	923	152	#N/A	2,025	374	701	794	90	#N/A	1,701	962	1,603	267	120	#N/A	883	325	523	179	1,467
	$f_{HV\text{-}DOWN}$	0.971	0.971	0.930	0.919	0.919	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.978	0.909	0.930	0.930	0.936	#N/A	0.936	0.936	0.909	0.978	0.978
	v_{DOWN}	2,025	1,600	923	1,313	414	#N/A	794	1,005	794	152	962	#N/A	2,700	179	794	701	1,603	#N/A	523	186	120	933	2,534
Step 2: Estimate the Ap																								
Estimating Flow in Lan																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.5999	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5863	#N/A	-	0.6250	-	0.6473	0.5388	#N/A	-	0.5500	-	0.6437	-	#N/A	-	0.6202	-	-	0.5674
	$P_{FM\text{-}3c}$	-	0.6912	-	0.5832	-	#N/A	-	-	0.7575	0.5630	0.5740	#N/A	-	0.5562	0.5696	-	-	#N/A	-	-	0.5518	-	0.6950
	$P_{FM\text{-}4a}$	0.5339	0.8901	0.4314	0.5253	0.8086	#N/A	0.3523	0.3734	0.4259	0.5701	0.2530	#N/A	0.4345	0.6236	1.1815	0.6344	0.3826	#N/A	0.7346	0.5055	0.4399	0.2277	0.3985
	$P_{FM\text{-}4b}$	0.1325	-0.0354	0.1988	0.1660	0.1024	#N/A	0.0178	0.1185	0.1711	0.0922	0.0052	#N/A	0.0975	-0.1197	0.1302	0.0174	0.1844	#N/A	0.1771	0.1525	0.1946	0.0344	0.1011
	L_{EQ1}	2,579.6	3,764.3	477.3	1,146.3	2,074.3	#N/A	2,243.7	600.9	590.9	786.7	2,255.9	#N/A	2,621.7	3,515.9	1,617.7	1,164.1	1,338.3	#N/A	794.7	523.2	1,365.5	2,832.7	2,591.1
	L_{EQ2}	6,701.7	2,890.0	4,916.4	4,960.9	999.0	#N/A	3,127.1	5,146.7	4,069.5	562.2	4,442.6	#N/A	10,584.3	416.5	1,716.8	2,440.3	8,213.2	#N/A	1,935.5	879.9	554.7	4,834.9	10,645.3
	$Equation_{3La}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-4	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-4
		0.6279	0.6937	0.5979	0.6181	0.5863	#N/A	0.6153	0.5999	0.5999	0.6195	0.5388	#N/A	0.6156	0.5500	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.5674
	$Equation_{3La}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-5	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.7575	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6950
		0.2090	0.2090	0.1988	0.5253	0.2090	#N/A	0.0178	0.1185	0.1711	0.5701	0.0052	#N/A	0.2090	0.2090	0.2090	0.2090	0.1844	#N/A	0.1771	0.1525	0.1946	0.0344	0.1011
	$v_{12\text{-}MERGE}$	NA	1,245.5	NA	1,135.3	NA	#N/A	NA	NA	NA	1,272.0	36.4	#N/A	NA	1,615.9	560.9	NA	NA	#N/A	NA	586.2	849.9	NA	901.2
Estimating Flow in Lan																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.5626	0.5178	0.6721	0.6869	0.6404	#N/A	0.5286	0.6478	0.6578	0.6580	0.5069	#N/A	0.4984	0.4425	0.6607	0.5791	0.6339	#N/A	0.6408	0.6398	0.6422	0.4331	0.4943
	$P_{FD\text{-}3b}$	0.6425	-	0.8075	-	-	#N/A	-	-	-	-	-	#N/A	0.4807	-	-	-	0.5508	#N/A	0.7005	-	0.7644	0.3231	-
	$P_{FD\text{-}3c}$	-	0.5581	-	0.5869	-	#N/A	-	-	0.6431	0.5759	0.4811	#N/A	-	0.4572	0.5695	-	-	#N/A	-	-	0.5258	-	0.4979
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{EQ1}	17,135.6	12,601.9	7,503.8	10,342.3	2,115.2	#N/A	21,421.7	4,660.1	5,803.4	17,281.5	872.6	#N/A	8,597.1	22,065.4	20,177.6	5,595.4	769.2	#N/A	6,208.9	2,717.3	3,322.6	904.7	7,153.9
	L_{EQ2}	2,953.7	7,548.3	931.8	1,415.2	582.6	#N/A	2,221.4	1,321.8	879.4	214.5	3,222.3	#N/A	5,225.9	-1,911.7	986.2	1,663.9	1,770.2	#N/A	583.1	222.9	127.0	3,374.4	4,868.7
	$Equation_{3La}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.6425	0.5178	0.8075	0.6869	0.6404	#N/A	0.5286	0.6478	0.6578	0.6580	0.5069	#N/A	0.4984	0.4425	0.6607	0.5791	0.6339	#N/A	0.7005	0.6398	0.7644	0.4331	0.4943
	$Equation_{3La}$	13-9	13-11	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-11
		0.5626	0.5581	0.6721	0.6869	0.6404	#N/A	0.5286	0.6478	0.6578	0.6580	0.5069	#N/A	0.4984	0.4425	0.6607	0.5791	0.6339	#N/A	0.6408	0.6398	0.6422	0.4331	0.4979
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	2,231.9	NA	1,496.5	NA	1,484.8	#N/A	3,653.9	1,767.2	1,693.0	NA	NA	#N/A	2,972.5	NA	NA	2,301.0	2,136.3	#N/A	2,001.9	NA	NA	5,352.5	NA
Checking the Reasonat																								
	$v_{12\text{-}temp}$	2,231.9	1,245.5	1,496.5	1,135.3	1,484.8	#N/A	3,653.9	1,767.2	1,693.0	1,272.0	36.4	#N/A	2,972.5	1,615.9	560.9	2,301.0	2,136.3	#N/A	2,001.9	586.2	849.9	5,352.5	901.2
Application to Six-Lane																								
	v_3	4,410.1	4,714.0	1,739.4	1,025.9	1,599.2	#N/A	2,656.8	1,258.4	1,706.4	959.2	6,956.9	#N/A	5,721.5	6,115.8	2,122.8	1,985.9	2,417.8	#N/A	2,168.8	3,259.1	3,518.3	5,026.4	8,010.8
	$v_{12a\text{-}1}$	3,941.9	3,259.5	-	-	-	#N/A	-	-	-	-	4,293.3	#N/A	5,994.1	5,031.8	-	-	-	#N/A	-	1,145.4	1,668.2	7,678.8	6,212.0
	$v_{12a\text{-}2}$	3,795.4	3,405.4	1,849.1	1,234.9	1,762.3	#N/A	-	-	1,942.5	1,275.0	3,996.2	#N/A	4,968.0	4,418.2	1,533.5	2,449.6	2,602.3	#N/A	2,383.2	2,197.4	2,496.1	5,930.8	5,092.6
	$v_{12\text{-}3lane}$	3,941.9	3,405.4	1,849.1	1,234.9	1,762.3	#N/A	3,653.9	1,767.2	1,942.5	1,275.0	4,293.3	#N/A	5,994.1	5,031.8	1,533.5	2,449.6	2,602.3	#N/A	2,383.2	2,197.4	2,496.1	7,678.8	6,212.0
Applications to Eight-L																								
	v_{w34}	2,205.0	2,357.0	869.7	512.9	799.6	#N/A	1,328.4	629.2	853.2	479.6	3,478.4	#N/A	2,860.8	3,057.9	1,061.4	992.9	1,208.9	#N/A	1,084.4	1,629.6	1,759.1	2,513.2	4,005.4
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	-	-	1,593.3	#N/A	3,294.1	2,331.8	-	-	-	#N/A	-	-	-	-	3,512.0
	$v_{12a\text{-}2}$	2,656.8	2,383.8	-	-	-	#N/A	-	-	-	-	2,797.3	#N/A	3,477.6	3,092.7	1,073.5	-	-	#N/A	-	1,538.1	1,747.3	-	3,564.8
	$v_{12\text{-}4lane}$	2,656.8	2,383.8	1,496.5	1,135.3	1,484.8	#N/A	3,653.9	1,767.2	1,693.0	1,272.0	2,797.3	#N/A	3,477.6	3,092.7	1,073.5	2,301.0	2,136.3	#N/A	2,001.9	1,538.1	1,747.3	5,352.5	3,564.8
	$v_{12(temp)}$	2,656.8	2,383.8	1,496.5	1,135.3	1,484.8	#N/A	3,653.9	1,767.2	1,693.0	1,272.0	2,797.3	#N/A	3,477.6	3,092.7	1,073.5	2,301.0	2,136.3	#N/A	2,001.9	1,538.1	1,747.3	5,352.5	3,564.8
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	2,656.8	2,383.8	1,496.5	1,135.3	1,484.8	#N/A	3,653.9	1,767.2	1,693.0	1,272.0	2,797.3	#N/A	3,477.6	3,092.7	1,073.5	2,301.0	2,136.3	#N/A	2,001.9	1,538.1	1,747.3	5,352.5	3,564.8

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 Build																						
		PM																						
	Variable																							
Step 1: Specify Inputs a																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	$v_{T(temp)}$	2,938	2,594	7,596	5,867	7,172	#N/A	3,757	7,585	8,299	6,035	3,376	#N/A	4,306	3,364	7,173	9,765	10,067	#N/A	9,977	9,072	9,799	4,979	3,990
		0.000	0.220	0.200	0.240	0.200	#N/A	0.000	0.200	0.200	0.240	0.220	#N/A	0.100	0.220	0.270	0.200	0.200	#N/A	0.200	vF>8,500	vF>8,500	0.100	0.220
	v_S	-	-	-	-	1,434	#N/A	0	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	$v_{T\text{-}eff}$	-	-	-	-	5,738	#N/A	3,757	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_T	2,938	2,594	7,596	5,867	5,738	#N/A	3,757	7,585	8,299	6,035	3,376	#N/A	4,306	3,364	7,173	9,765	10,067	#N/A	9,977	9,072	9,799	4,979	3,990
	$f_{HV\text{-}FO}$	0.947	0.954	0.974	0.975	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.972	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_{FO}	2,594	3,817	7,172	6,712	5,867	#N/A	2,972	6,035	7,585	7,596	4,306	#N/A	3,364	5,009	8,311	7,173	9,765	#N/A	9,072	9,799	10,067	3,990	4,523
	$f_{HV\text{-}R}$	0.947	0.969	0.974	0.978	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.978	0.974	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_R	344	1,222	424	845	1,305	#N/A	785	1,551	714	1,562	931	#N/A	942	1,645	1,138	2,592	302	#N/A	905	726	268	989	533
	$f_{HV\text{-}UP}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.909	#N/A	0.973	0.973	0.973	0.909	0.978
	v_{UP}	1,756	344	1,562	1,305	424	#N/A	1,222	714	1,138	1,551	45	#N/A	931	942	2,592	302	179	#N/A	1,721	905	726	120	989
	$f_{HV\text{-}DOWN}$	0.969	0.969	0.974	0.978	0.978	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.978	0.909	0.974	0.974	0.973	#N/A	0.973	0.973	0.909	0.978	0.978
	v_{DOWN}	1,222	785	1,305	2,756	845	#N/A	449	1,562	1,551	424	942	#N/A	1,645	120	1,551	1,138	2,592	#N/A	726	268	179	533	1,167
Step 2: Estimate the Ap																								
Estimating Flow in Lan																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.5999	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5453	#N/A	-	0.5532	-	0.5885	0.5980	#N/A	-	0.6232	-	0.5564	-	#N/A	-	0.5469	-	-	0.6392
	$P_{FM\text{-}3c}$	-	0.6186	-	0.6211	-	#N/A	-	-	0.9562	0.5885	0.5735	#N/A	-	0.5537	0.5895	-	-	#N/A	-	-	0.5534	-	0.6161
	$P_{FM\text{-}4a}$	0.5762	0.9904	0.3974	0.4715	0.7608	#N/A	0.4542	0.2788	0.3834	0.5004	0.3492	#N/A	0.4370	0.7555	1.1269	0.5108	0.3783	#N/A	0.6622	0.4801	0.4296	0.2874	0.4485
	$P_{FM\text{-}4b}$	0.1748	0.0650	0.1648	0.1122	0.0547	#N/A	0.1197	0.0240	0.1286	0.0226	0.1014	#N/A	0.1000	0.0122	0.0756	-0.1062	0.1801	#N/A	0.1047	0.1270	0.1843	0.0942	0.1511
	L_{EQ1}	1,714.7	2,872.3	1,468.6	2,031.5	2,724.0	#N/A	1,522.8	1,738.4	1,712.2	1,719.8	1,317.0	#N/A	1,678.4	2,355.4	2,671.9	2,548.1	2,525.4	#N/A	2,161.4	1,685.3	2,545.2	1,574.9	1,452.2
	L_{EQ2}	4,045.0	1,417.9	6,952.7	10,409.2	2,037.2	#N/A	1,765.8	8,000.3	7,943.2	1,569.3	4,349.2	#N/A	6,447.3	277.7	3,351.0	3,961.4	13,279.1	#N/A	2,688.7	1,269.3	832.1	2,763.2	4,903.1
	$Equation_{3Ld}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-4	13-3	13-4	13-4	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.5453	#N/A	0.6153	0.5532	0.5999	0.5885	0.5980	#N/A	0.6156	0.6232	0.6699	0.5564	0.5999	#N/A	0.6195	0.5469	0.6052	0.5993	0.6111
	$Equation_{3La}$	13-3	13-3	13-3	13-5	13-3	#N/A	13-3	13-3	13-5	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.6937	0.5979	0.6211	0.6573	#N/A	0.6153	0.5999	0.9562	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6161
		0.2090	0.2090	0.1648	0.1122	0.2090	#N/A	0.1197	0.0240	0.1286	0.0226	0.1014	#N/A	0.2090	0.2090	0.2090	0.2090	0.1801	#N/A	0.1047	0.1270	0.1843	0.0942	0.1511
	$v_{12\text{-}MERGE}$	NA	542.2	NA	658.5	NA	#N/A	NA	NA	NA	136.3	342.4	#N/A	NA	703.2	1,499.1	NA	NA	#N/A	NA	1,152.4	1,805.7	NA	602.9
Estimating Flow in Lan																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.6707	0.6389	0.5506	0.5745	0.5565	#N/A	0.6300	0.4990	0.5197	0.5373	0.6328	#N/A	0.6090	0.6002	0.5283	0.3966	0.4945	#N/A	0.4689	0.4998	0.5027	0.5900	0.6357
	$P_{FD\text{-}3b}$	0.7124	-	0.7576	-	-	#N/A	-	-	-	-	-	#N/A	0.6053	-	-	-	0.3415	#N/A	0.6126	-	0.6374	0.5300	-
	$P_{FD\text{-}3c}$	-	0.5945	-	0.5270	-	#N/A	-	-	0.6340	0.5080	0.5568	#N/A	-	0.5477	0.4846	-	-	#N/A	-	-	0.4125	-	0.5640
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{EQ1}	15,622.6	9,119.0	7,314.5	9,206.1	4,084.2	#N/A	12,505.8	5,593.9	5,480.0	17,017.6	575.9	#N/A	9,454.4	40,302.3	17,337.7	3,059.6	641.4	#N/A	7,426.1	4,031.7	2,631.4	1,083.6	8,092.8
	L_{EQ2}	1,316.0	1,274.6	1,739.0	4,235.7	1,742.0	#N/A	606.1	4,659.8	2,496.8	1,113.6	1,348.6	#N/A	2,475.0	274.6	3,097.1	-9,564.5	3,617.4	#N/A	1,461.9	453.2	243.2	852.6	1,413.7
	$Equation_{3Ld}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.7124	0.6389	0.7576	0.5745	0.5565	#N/A	0.6300	0.4990	0.5197	0.5373	0.6328	#N/A	0.6090	0.6002	0.5283	0.3966	0.4945	#N/A	0.6126	0.4998	0.6374	0.5900	0.6357
	$Equation_{3La}$	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-11	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.6707	0.6389	0.5506	0.5745	0.5565	#N/A	0.6300	0.4990	0.6340	0.5373	0.6328	#N/A	0.6090	0.6002	0.5283	0.3966	0.4945	#N/A	0.4689	0.4998	0.5027	0.5900	0.6357
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	1,018.8	NA	3,551.1	NA	2,457.6	#N/A	2,080.8	4,181.6	4,021.0	NA	NA	#N/A	1,816.8	NA	NA	4,457.0	4,559.2	#N/A	4,860.5	NA	NA	2,728.7	NA
Checking the Reasonat																								
	$v_{12\text{-}temp}$	1,018.8	542.2	3,551.1	658.5	2,457.6	#N/A	2,080.8	4,181.6	4,021.0	136.3	342.4	#N/A	1,816.8	703.2	1,499.1	4,457.0	4,559.2	#N/A	4,860.5	1,152.4	1,805.7	2,728.7	602.9
Application to Six-Lane																								
	v_1	1,919.7	2,052.0	4,045.3	5,208.9	3,280.3	#N/A	1,676.2	3,403.6	4,278.1	5,898.4	3,033.2	#N/A	2,489.7	2,661.3	5,673.8	5,308.0	5,507.5	#N/A	5,116.8	7,919.9	7,992.8	2,250.3	3,386.9
	$v_{12a\text{-}1}$	-		4,896.4	3,167.4	3,038.0	#N/A	-	4,885.2	5,599.1	3,334.7	675.6	#N/A	-	-	4,472.9	7,065.0	7,366.7	#N/A	7,277.3	6,372.3	7,098.5	-	1,289.8
	$v_{12a\text{-}2}$	1,679.1	1,482.4	4,340.8	3,352.8	3,278.8	#N/A	2,146.8	4,334.4	4,742.3	3,448.4	1,928.9	#N/A	2,460.8	1,922.5	4,098.8	5,580.0	5,752.4	#N/A	5,701.3	5,184.2	5,599.2	2,845.1	2,279.9
	$v_{12\text{-}3lane}$	1,679.1	1,482.4	4,896.4	3,352.8	3,278.8	#N/A	2,146.8	4,885.2	5,599.1	3,448.4	1,928.9	#N/A	2,460.8	1,922.5	4,472.9	7,065.0	7,366.7	#N/A	7,277.3	6,372.3	7,098.5	2,845.1	2,279.9
Applications to Eight-L																								
	v_{av34}	959.8	1,026.0	2,022.6	2,604.4	1,640.2	#N/A	838.1	1,701.8	2,139.0	2,949.2	1,516.6	#N/A	1,244.8	1,330.6	2,836.9	2,654.0	2,753.7	#N/A	2,558.4	3,960.0	3,996.4	1,125.1	1,693.4
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	-	634.7	-	#N/A	-	-	1,772.9	-	4,666.7	#N/A	-	3,672.3	4,398.5	-	-
	$v_{12a\text{-}2}$	1,175.4	1,037.7	-	2,346.9	-	#N/A	-	-	-	2,413.9	1,350.3	#N/A	-	1,345.8	2,869.2	-	-	#N/A	-	3,628.9	3,919.4	-	1,595.9
	$v_{12\text{-}4lane}$	1,175.4	1,037.7	3,551.1	2,346.9	2,457.6	#N/A	2,080.8	4,181.6	4,021.0	2,413.9	1,350.3	#N/A	1,816.8	1,345.8	2,869.2	4,457.0	4,666.7	#N/A	4,860.5	3,672.3	4,398.5	2,728.7	1,595.9
	$v_{12(temp)}$	1,175.4	1,037.7	3,551.1	2,346.9	2,457.6	#N/A	2,080.8	4,181.6	4,021.0	2,413.9	1,350.3	#N/A	1,816.8	1,345.8	2,869.2	4,457.0	4,666.7	#N/A	4,860.5	3,672.3	4,398.5	2,728.7	1,595.9
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	1,175.4	1,037.7	3,551.1	2,346.9	2,457.6	#N/A	2,080.8	4,181.6	4,021.0	2,413.9	1,350.3	#N/A	1,816.8	1,345.8	2,869.2	4,457.0	4,666.7	#N/A	4,860.5	3,672.3	4,398.5	2,728.7	1,595.9

	Values that were assumed/kept constant for all locations					
	Variable	Units	Description	Typical values	Equation	
Step 3: Estimate the Capacity of the Ramp-Freeway Junction and Compare with Demand Flow Rates						
	$v_{R12\text{-}off\text{-}ramp}$	pc/h				
	$v_{R12\text{-}on\text{-}ramp}$	pc/h			Equation 13-20	= v_{12} + v_R
	v_{R12}	pc/h	total flow rate entering the ramp influence area			
Ramp-Freeway Junction Capacity Checkpoint						
			Mainline lane capacity		Exhibit 13-8, 13-9	
			Mainline capacity			
			Ramp-freeway/highway junction capacity check			
Ramp Roadway Capacity Checkpoint						
			Ramp roadway capacity per lane		Exhibit 13-10	
			Ramp capacity			
			Ramp roadway capacity check			
Maximum Desirable Flow Entering the Ramp Influence Area						
			Max. desirable flow rate (v_{R12}) entering merge influence area		Exhibit 13-8, 13-9	
			Merge influence area capacity check			
			Max. desirable flow rate (v_{12}) entering diverge influence area		Exhibit 13-8, 13-9	
			Diverge influence area capacity check			
Step 4: Estimate Density in the Ramp Influence Area and Determine the Prevailing LOS						
Density in the On-Ramp (Merge) Influence Areas						
	D_R	pc/mi/ln	Density in the on-ramp influence area		Equation 13-21	= 5.475 + 0.00734v_R + 0.0078v_{12} - 0
Density in the Off-Ramp (Diverge) Influence Areas						
	D_R	pc/mi/ln	Density in the off-ramp influence area		Equation 13-22	= 4.252 + 0.00864v_{12} - 0.0097L_D
Determining LOS						
	LOS				Exhibit 13-2	
Step 5: Estimate Speeds in the Vicinity of Ramp-Freeway Junctions						
EBExit_43_NBSB						
EBEntr_43_NBSB						
WBExit_43_NB						
WBEntr_43_NBSB						
WBExit_43_SB						
EBExit_44_SB						
WBExit_44_SB						
WBExit_44_NB						
WBEntr_44_NBSB						
EBEntr_44_NB						
EBExit_47_NBSB						
EBEntr_47_NBSB						
WBEntr_47_NBSB						
WBExit_47_SB						
WBExit_47_NB						
WBExit_52_NBSB						
WBEntr_52_NB						
WBEntr_52_SB						
EBExit_52_NBSB						
EBEntr_52_NBSB						

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		Existing																						
		AM																						
	Variable																							
Step 3: Estimate the Ca																								
	$v_{s12\text{-}off\text{-}ramp}$	3,605.3	1,310.2	1,260.6	1,168.2	1,249.9	#N/A	2,988.4	1,447.5	NA	989.3	1,848.5	#N/A	2,434.8	2,170.7	766.8	1,613.7	1,507.9	#N/A	1,514.1	1,101.3	1,324.2	3,738.1	2,542.5
	$v_{s12\text{-}on\text{-}ramp}$	3,935.1	4,073.9	1,599.4	1,404.8	2,196.2	#N/A	4,353.5	2,171.8	#VALUE!	1,783.6	3,314.3	#N/A	3,094.9	4,104.2	1,222.3	2,728.9	1,693.8	#N/A	1,827.8	1,368.5	1,521.7	4,704.8	3,420.3
	v_{s12}	3,605.3	4,073.9	1,260.6	1,404.8	1,249.9	#N/A	2,988.4	1,447.5	NA	1,783.6	3,314.3	#N/A	2,434.8	4,104.2	1,222.3	1,613.7	1,507.9	#N/A	1,514.1	1,368.5	1,521.7	3,738.1	3,420.3
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		4,800	9,600	9,600	4,800	12,000	#N/A	12,000	9,600	#VALUE!	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capaci																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,100	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	0	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable Fl																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	-	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Densi																								
Density in the On-Ram																								
	D_R	-	10.0	-	7.2	-	#N/A	-	-	-	9.6	24.4	#N/A	-	17.8	0.0	-	-	#N/A	-	10.1	11.0	-	24.2
Density in the Off-Ram																								
	D_R	19.1	-	8.5	-	0.0	#N/A	17.8	9.5	-	-	-	#N/A	13.0	-	-	3.2	10.0	#N/A	3.8	-	-	29.4	-
Determining LOS																								
	LOS	B	A	A	A	A	#N/A	B	A	NA	A	C	#N/A	B	B	A	A	B	#N/A	A	B	B	D	C
Step 5: Estimate Speec																								

EBExit_43_NBSB	19.1	B
EBEntr_43_NBSB	10.0	A
WBExit_43_NB	8.5	A
WBEntr_43_NBSB	7.2	A
WBExit_43_SB	0.0	A
EBExit_44_SB	17.8	B
WBExit_44_SB	9.5	A
WBExit_44_NB	0.0	NA
WBEntr_44_NBSB	9.6	A
EBEntr_44_NB	24.4	C
EBExit_47_NBSB	13.0	B
EBEntr_47_NBSB	17.8	B
WBEntr_47_NBSB	0.0	A
WBExit_47_SB	3.2	A
WBExit_47_NB	10.0	B
WBExit_52_NBSB	3.8	A
WBEntr_52_NB	10.1	B
WBEntr_52_SB	11.0	B
EBExit_52_NBSB	29.4	D
EBEntr_52_NBSB	24.2	C

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		Existing																						
		PM																						
	Variable																							
Step 3: Estimate the Ca																								
	$v_{812\text{-off-ramp}}$	1,595.5	564.7	3,107.2	3,201.4	2,205.0	#N/A	1,627.8	3,288.8	NA	1,789.2	865.8	#N/A	1,257.4	951.0	2,024.5	3,114.7	3,236.8	#N/A	3,704.6	2,578.7	2,726.2	1,901.0	1,304.7
	$v_{812\text{-on-ramp}}$	1,779.2	2,033.9	4,166.9	3,645.9	3,699.7	#N/A	2,311.9	4,627.4	#VALUE!	3,072.0	1,718.1	#N/A	1,896.6	2,106.8	2,783.0	4,913.6	3,482.6	#N/A	4,598.4	2,947.4	3,016.6	2,556.7	1,771.5
	v_{812}	1,595.5	2,033.9	3,107.2	3,645.9	2,205.0	#N/A	1,627.8	3,288.8	NA	3,072.0	1,718.1	#N/A	1,257.4	2,106.8	2,783.0	3,114.7	3,236.8	#N/A	3,704.6	2,947.4	3,016.6	1,901.0	1,771.5
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		4,800	9,600	9,600	4,800	12,000	#N/A	12,000	9,600	#VALUE!	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capaci																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,100	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	0	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable Fl																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	-	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Densi																								
Density in the On-Ram																								
	D_R	-	0.0	-	24.6	-	#N/A	-	-	-	19.4	12.2	#N/A	-	2.6	6.1	-	-	#N/A	-	22.3	22.7	-	11.6
Density in the Off-Ram																								
	D_R	1.8	-	24.4	-	0.0	#N/A	6.1	25.3	-	-	-	#N/A	2.8	-	-	16.1	24.9	#N/A	22.6	-	-	13.6	-
Determining LOS																								
	LOS	A	A	C	C	A	#N/A	A	C	NA	B	B	#N/A	A	A	A	B	C	#N/A	C	C	C	B	B
Step 5: Estimate Speec																								
EBExit_43_NBSB	1.8	A																						
EBEntr_43_NBSB	0.0	A																						
WBExit_43_NB	24.4	C																						
WBEntr_43_NBSB	24.6	C																						
WBExit_43_SB	0.0	A																						
EBExit_44_SB	6.1	A																						
WBExit_44_SB	25.3	C																						
WBExit_44_NB	0.0	NA																						
WBEntr_44_NBSB	19.4	B																						
EBEntr_44_NB	12.2	B																						
EBExit_47_NBSB	2.8	A																						
EBEntr_47_NBSB	2.6	A																						
WBEntr_47_NBSB	6.1	A																						
WBExit_47_SB	16.1	B																						
WBExit_47_NB	24.9	C																						
WBExit_52_NBSB	22.6	C																						
WBEntr_52_NB	22.3	C																						
WBEntr_52_SB	22.7	C																						
EBExit_52_NBSB	13.6	B																						
EBEntr_52_NBSB	11.6	B																						

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 No Build																						
		AM																						
	Variable																							
Step 3: Estimate the Ca																								
	$v_{s12\text{-}off\text{-}ramp}$	2,756.9	2,511.2	1,754.7	1,228.7	1,535.9	#N/A	4,547.6	2,258.7	NA	1,091.0	2,439.3	#N/A	3,531.3	3,150.9	1,110.6	2,313.5	2,171.7	#N/A	2,010.5	1,556.7	1,770.5	5,456.5	3,623.1
	$v_{s12\text{-}on\text{-}ramp}$	3,371.0	5,084.7	2,093.5	1,595.5	2,470.5	#N/A	7,199.5	3,590.4	#VALUE!	2,551.2	5,169.4	#N/A	4,482.4	5,873.4	1,776.5	3,905.1	2,438.9	#N/A	2,324.2	2,091.1	1,979.6	6,978.8	4,545.5
	v_{s12}	2,756.9	5,084.7	1,754.7	1,595.5	1,535.9	#N/A	4,547.6	2,258.7	NA	2,551.2	5,169.4	#N/A	3,531.3	5,873.4	1,776.5	2,313.5	2,171.7	#N/A	2,010.5	2,091.1	1,979.6	5,456.5	4,545.5
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	#VALUE!	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	F - Demand exceeds capa	OK	OK	OK	#N/A	OK	OK	OK	F - Demand exceeds capa	F - Demand exceeds cap
Ramp Roadway Capaci																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,100	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	0	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	F - Demand exceeds cap	OK	NA	OK	F - Demand exceeds capa	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable Fl																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	ion - Influence area over cap	-	OK	-	#N/A	-	-	-	OK	n - Influence area over ca	#N/A	-	n - Influence area over ca	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	- Influence area over c	OK	-	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	on - Influence area over ca	-
Step 4: Estimate Densi																								
Density in the On-Ram																								
	D_R	-	17.9	-	8.7	-	#N/A	-	-	-	15.3	38.3	#N/A	-	31.2	0.0	-	-	#N/A	-	15.6	14.6	-	33.0
Density in the Off-Ram																								
	D_R	11.8	-	12.8	-	0.0	#N/A	31.2	16.5	-	-	-	#N/A	22.4	-	-	9.2	15.7	#N/A	8.0	-	-	44.2	-
Determining LOS																								
	LOS	B	B	B	A	A	#N/A	F - Ramp over capacity	B	NA	B	E	#N/A	C	D	A	A	B	#N/A	A	B	B	F - Freeway over capacity	D
Step 5: Estimate Speec																								
EBExit_43_NBSB	11.8	B																						
EBEntr_43_NBSB	17.9	B																						
WBExit_43_NB	12.8	B																						
WBEntr_43_NBSB	8.7	A																						
WBExit_43_SB	0.0	A																						
EBExit_44_SB	31.2	F - Ramp over capacity																						
WBExit_44_SB	16.5	B																						
WBExit_44_NB	0.0	NA																						
WBEntr_44_NBSB	15.3	B																						
EBEntr_44_NB	38.3	E																						
EBExit_47_NBSB	22.4	C																						
EBEntr_47_NBSB	31.2	D																						
WBEntr_47_NBSB	0.0	A																						
WBExit_47_SB	9.2	A																						
WBExit_47_NB	15.7	B																						
WBExit_52_NBSB	8.0	A																						
WBEntr_52_NB	15.6	B																						
WBEntr_52_SB	14.6	B																						
EBExit_52_NBSB	44.2	F - Freeway over capacity																						
EBEntr_52_NBSB	33.0	D																						

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 No Build																						
		PM																						
	Variable																							
Step 3: Estimate the Ca																								
	$v_{s12\text{-}off\text{-}ramp}$	1,221.3	1,088.2	4,227.0	2,422.8	2,550.0	#N/A	2,379.0	5,081.1	NA	2,369.3	1,134.9	#N/A	1,817.7	1,381.7	2,927.3	4,510.2	4,834.3	#N/A	4,898.1	3,784.0	4,521.4	2,780.0	1,622.6
	$v_{s12\text{-}on\text{-}ramp}$	1,554.2	2,590.9	5,219.7	3,345.1	3,910.8	#N/A	3,702.3	7,579.8	#VALUE!	4,856.8	2,671.3	#N/A	2,737.3	3,026.5	4,042.7	7,102.3	5,158.3	#N/A	5,791.9	4,521.4	4,834.3	3,791.3	2,133.8
	v_{s12}	1,221.3	2,590.9	4,227.0	3,345.1	2,550.0	#N/A	2,379.0	5,081.1	NA	4,856.8	2,671.3	#N/A	1,817.7	3,026.5	4,042.7	4,510.2	4,834.3	#N/A	4,898.1	4,521.4	4,834.3	2,780.0	2,133.8
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	#VALUE!	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	F - Demand exceeds capa	F - Demand exceeds capa	#N/A	F - Demand exceeds capa	- Demand exceeds cap	- Demand exceeds cap	OK	OK
Ramp Roadway Capaci																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,100	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	0	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	S F - Demand exceeds capa	NA	F - Demand exceeds capa	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable Fl																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	n - Influence area over ca	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	- Influence area over c	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	on - Influence area over cap	-	-	-	#N/A	OK	-	-	n - Influence area over can	- Influence area over ca	#N/A	n - Influence area over ca	-	-	OK	-
Step 4: Estimate Densi																								
Density in the On-Ram																								
	D_R	-	0.0	-	22.1	-	#N/A	-	-	-	32.8	19.3	#N/A	-	9.5	15.8	-	-	#N/A	-	34.4	36.8	-	14.4
Density in the Off-Ram																								
	D_R	0.0	-	34.0	-	0.5	#N/A	12.6	40.7	-	-	-	#N/A	7.6	-	-	28.1	38.6	#N/A	32.9	-	-	21.1	-
Determining LOS																								
	LOS	A	A	D	C	A	#N/A	B	F - Ramp over capacity	NA	D	B	#N/A	A	A	B	F - Freeway over capacity	F - Freeway over capacity	#N/A	F - Freeway over capacity	D	E	C	B
Step 5: Estimate Speec																								

EBExit_43_NBSB	0.0	A
EBEntr_43_NBSB	0.0	A
WBExit_43_NB	34.0	D
WBEntr_43_NBSB	22.1	C
WBExit_43_SB	0.5	A
EBExit_44_SB	12.6	B
WBExit_44_SB	40.7	F - Ramp over capacity
WBExit_44_NB	0.0	NA
WBEntr_44_NBSB	32.8	D
EBEntr_44_NB	19.3	B
EBExit_47_NBSB	7.6	A
EBEntr_47_NBSB	9.5	A
WBEntr_47_NBSB	15.8	B
WBExit_47_SB	28.1	F - Freeway over capacity
WBExit_47_NB	38.6	F - Freeway over capacity
WBExit_52_NBSB	32.9	F - Freeway over capacity
WBEntr_52_NB	34.4	D
WBEntr_52_SB	36.8	E
EBExit_52_NBSB	21.1	C
EBEntr_52_NBSB	14.4	B

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 Build																						
		AM																						
	Variable																							
Step 3: Estimate the Ca																								
	$v_{R12\text{-}off\text{-}ramp}$	2,656.8	2,383.8	1,496.5	1,135.3	1,484.8	#N/A	3,653.9	1,767.2	1,693.0	1,272.0	2,797.3	#N/A	3,477.6	3,092.7	1,073.5	2,301.0	2,136.3	#N/A	2,001.9	1,538.1	1,747.3	5,352.5	3,564.8
	$v_{R12\text{-}on\text{-}ramp}$	3,339.2	4,409.1	1,648.3	1,549.4	2,407.6	#N/A	5,254.0	2,561.5	2,066.8	2,276.6	4,498.1	#N/A	4,439.9	5,793.0	1,774.4	3,904.2	2,403.5	#N/A	2,327.2	2,060.9	1,933.1	6,819.3	4,498.2
	v_{R12}	2,656.8	4,409.1	1,496.5	1,549.4	1,484.8	#N/A	3,653.9	1,767.2	1,693.0	2,276.6	4,498.1	#N/A	3,477.6	5,793.0	1,774.4	2,301.0	2,136.3	#N/A	2,001.9	2,060.9	1,933.1	5,352.5	4,498.2
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	9,600	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	s F - Demand exceeds capa	OK	OK	OK	#N/A	OK	OK	OK	S F - Demand exceeds capac	S F - Demand exceeds capac
Ramp Roadway Capaci																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable Fl																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	on - Influence area over ca	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	OK	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	on - Influence area over cap	-
Step 4: Estimate Densi																								
Density in the On-Ram																								
	D_R	-	12.9	-	8.3	-	#N/A	-	-	-	13.4	33.5	#N/A	-	30.6	0.0	-	-	#N/A	-	15.4	14.3	-	32.6
Density in the Off-Ram																								
	D_R	10.9	-	10.6	-	0.0	#N/A	23.5	12.2	11.6	-	-	#N/A	21.9	-	-	9.1	15.4	#N/A	8.0	-	-	43.3	-
Determining LOS																								
	LOS	B	B	B	A	A	#N/A	C	B	B	B	D	#N/A	C	D	A	A	B	#N/A	A	B	B	F - Freeway over capacity	D
Step 5: Estimate Speec																								
EBExit_43_NBSB	10.9	B																						
EBEntr_43_NBSB	12.9	B																						
WBExit_43_NB	10.6	B																						
WBEntr_43_NBSB	8.3	A																						
WBExit_43_SB	0.0	A																						
EBExit_44_SB	23.5	C																						
WBExit_44_SB	12.2	B																						
WBExit_44_NB	11.6	B																						
WBEntr_44_NBSB	13.4	B																						
EBEntr_44_NB	33.5	D																						
EBExit_47_NBSB	21.9	C																						
EBEntr_47_NBSB	30.6	D																						
WBEntr_47_NBSB	0.0	A																						
WBExit_47_SB	9.1	A																						
WBExit_47_NB	15.4	B																						
WBExit_52_NBSB	8.0	A																						
WBEntr_52_NB	15.4	B																						
WBEntr_52_SB	14.3	B																						
EBExit_52_NBSB	43.3	F - Freeway over capacity																						
EBEntr_52_NBSB	32.6	D																						

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2040 Build																						
		PM																						
	Variable																							
Step 3: Estimate the Ca																								
	$v_{R12\text{-}off\text{-}ramp}$	1,175.4	1,037.7	3,551.1	2,346.9	2,457.6	#N/A	2,080.8	4,181.6	4,021.0	2,413.9	1,350.3	#N/A	1,816.8	1,345.8	2,869.2	4,457.0	4,666.7	#N/A	4,860.5	3,672.3	4,398.5	2,728.7	1,595.9
	$v_{R12\text{-}on\text{-}ramp}$	1,519.7	2,260.1	3,975.0	3,191.5	3,762.7	#N/A	2,865.8	5,732.1	4,734.9	3,975.5	2,281.1	#N/A	2,758.8	2,990.6	4,006.9	7,049.1	4,968.3	#N/A	5,765.5	4,398.5	4,666.7	3,717.8	2,129.4
	v_{R12}	1,175.4	2,260.1	3,551.1	3,191.5	2,457.6	#N/A	2,080.8	4,181.6	4,021.0	3,975.5	2,281.1	#N/A	1,816.8	2,990.6	4,006.9	4,457.0	4,666.7	#N/A	4,860.5	4,398.5	4,666.7	2,728.7	2,129.4
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	9,600	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	F - Demand exceeds cap	S F - Demand exceeds capac	#N/A	S F - Demand exceeds capa	S F - Demand exceeds capa	S F - Demand exceeds capac	OK	OK
Ramp Roadway Capaci																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable Fl																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	ion - Influence area over capa	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	OK	-	-	#N/A	OK	-	-	n - Influence area over c	ion - Influence area over cap	#N/A	on - Influence area over ca	-	-	OK	-
Step 4: Estimate Densi																								
Density in the On-Ram																								
	D_R	-	0.0	-	20.9	-	#N/A	-	-	-	26.4	16.6	#N/A	-	9.2	15.5	-	-	#N/A	-	33.5	35.5	-	14.3
Density in the Off-Ram																								
	D_R	0.0	-	28.2	-	0.0	#N/A	10.0	33.0	31.6	-	-	#N/A	7.6	-	-	27.6	37.2	#N/A	32.6	-	-	20.7	-
Determining LOS																								
	LOS	A	A	D	C	A	#N/A	A	D	D	C	B	#N/A	A	A	B	F - Freeway over capacity	F - Freeway over capacity	#N/A	F - Freeway over capacity	D	E	C	B
Step 5: Estimate Speec																								
EBExit_43_NBSB																								
EBEntr_43_NBSB																								
WBExit_43_NB																								
WBEntr_43_NBSB																								
WBExit_43_SB																								
EBExit_44_SB																								
WBExit_44_SB																								
WBExit_44_NB																								
WBEntr_44_NBSB																								
EBEntr_44_NB																								
EBExit_47_NBSB																								
EBEntr_47_NBSB																								
WBEntr_47_NBSB																								
WBExit_47_SB																								
WBExit_47_NB																								
WBExit_52_NBSB																								
WBEntr_52_NB																								
WBEntr_52_SB																								
EBExit_52_NBSB																								
EBEntr_52_NBSB																								

Freeway segments

	Location					
	Code	Facility	Direction	Limits	From	To
I-66	I66EB_1	I-66	EB	Between US 15 and US 29 [Gainesville]	US 15	US 29 [Gainesville]
	I66WB_1	I-66	WB	Between US 15 and US 29 [Gainesville]	US 29 [Gainesville]	US 15
	I66EB_2	I-66	EB	Between US 29 [Gainesville] and VA 234 Byp./TCP	US 29 [Gainesville]	VA 234 Byp./TCP
	I66WB_2	I-66	WB	Between US 29 [Gainesville] and VA 234 Byp./TCP	VA 234 Byp./TCP	US 29 [Gainesville]
	I66EB_3	I-66	EB	Between VA 234 Byp./TCP and VA 234 Bus.	VA 234 Byp./TCP	VA 234 Bus.
	I66WB_3	I-66	WB	Between VA 234 Byp./TCP and VA 234 Bus.	VA 234 Bus.	VA 234 Byp./TCP
	I66EB_4	I-66	EB	Between VA 234 Bus. and US 29 [Centreville]	VA 234 Bus.	US 29 [Centreville]
	I66WB_4	I-66	WB	Between VA 234 Bus. and US 29 [Centreville]	US 29 [Centreville]	VA 234 Bus.
	I66EB_5	I-66	EB	Between US 29 [Centreville] and VA 28	US 29 [Centreville]	VA 28
	I66WB_5	I-66	WB	Between US 29 [Centreville] and VA 28	VA 28	US 29 [Centreville]

Ramps

I-66 at US 29 [Gainesville], Exit 43	EBExit_43_NBSB	I-66 Interchange at US 29 [Gainesville]	EB Exit	EB I-66 to US 29	EB I-66	US 29
	EBEntr_43_NBSB	I-66 Interchange at US 29 [Gainesville]	EB Entrance	US 29 to EB I-66	US 29	EB I-66
	WBExit_43_NB	I-66 Interchange at US 29 [Gainesville]	WB Exit	WB I-66 to NB US 29, Heathcote	WB I-66	NB US 29, Heathcote
	WBEntr_43_NBSB	I-66 Interchange at US 29 [Gainesville]	WB Entrance	US 29 to WB I-66	US 29	WB I-66
	WBExit_43_SB	I-66 Interchange at US 29 [Gainesville]	WB Exit	WB I-66 to SB US 29	WB I-66	SB US 29
I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_SB	I-66 interchange at VA 234 Bypass	EB Exit	EB I-66 to SB VA 234 Byp.	EB I-66	SB VA 234 Byp.
	EBExit_44_NB	I-66 interchange at VA 234 Bypass	EB Exit	EB I-66 to NB TCP	EB I-66	NB TCP
	WBExit_44_SB	I-66 interchange at VA 234 Bypass	WB Exit	WB I-66 to SB VA 234 Byp.	WB I-66	SB VA 234 Byp.
	WBExit_44_NB	I-66 interchange at VA 234 Bypass	WB Exit	WB I-66 to NB TCP	WB I-66	NB TCP
	WBEntr_44_NBSB	I-66 interchange at VA 234 Bypass	WB Entrance	VA 234 Byp./TCP to WB I-66	VA 234 Byp./TCP	WB I-66
	EBEntr_44_NB	I-66 interchange at VA 234 Bypass	EB Entrance	NB VA 234 Byp. to EB I-66	NB VA 234 Byp.	EB I-66
	EBEntr_44_SB	I-66 interchange at VA 234 Bypass	EB Entrance	SB TCP to EB I-66	SB TCP	EB I-66
I-66 at VA 234 Business (Sudley Rd), Exit 47	EBExit_47_NBSB	I-66 interchange at VA 234 Business	EB Exit	EB I-66 to VA 234 Bus.	EB I-66	VA 234 Bus.
	EBEntr_47_NBSB	I-66 interchange at VA 234 Business	EB Entrance	VA 234 Bus. to EB I-66	VA 234 Bus.	EB I-66
	WBEntr_47_NBSB	I-66 interchange at VA 234 Business	WB Entrance	VA 234 Bus. to WB I-66	VA 234 Bus.	WB I-66
	WBExit_47_SB	I-66 interchange at VA 234 Business	WB Exit	WB I-66 to SB VA 234 Bus.	WB I-66	SB VA 234 Bus.
	WBExit_47_NB	I-66 interchange at VA 234 Business	WB Exit	WB I-66 to NB VA 234 Bus.	WB I-66	NB VA 234 Bus.
I-66 at US 29 [Centreville], Exit 52	WBExit_52_NBSB	I-66 interchange at US 29 [Centreville]	WB Exit	WB I-66 to US 29 [Centreville]	WB I-66	US 29 [Centreville]
	WBEntr_52_NB	I-66 interchange at US 29 [Centreville]	WB Entrance	"NB" US 29 [Centreville] (WB travel) to WB I-66	"NB" US 29 [Centreville] (WB travel)	WB I-66
	WBEntr_52_SB	I-66 interchange at US 29 [Centreville]	WB Entrance	"SB" US 29 [Centreville] (EB travel) to WB I-66	"SB" US 29 [Centreville] (EB travel)	WB I-66
	EBExit_52_NBSB	I-66 interchange at US 29 [Centreville]	EB Exit	EB I-66 to US 29 [Centreville]	EB I-66	US 29 [Centreville]
	EBEntr_52_NBSB	I-66 interchange at US 29 [Centreville]	EB Entrance	US 29 [Centreville] to EB I-66	US 29 [Centreville]	EB I-66

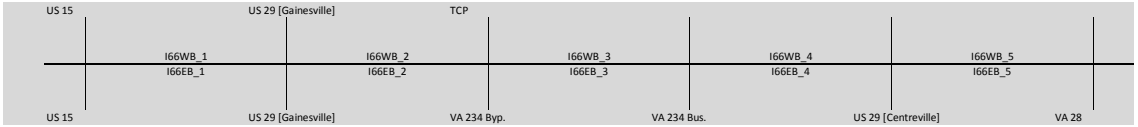
Weaves

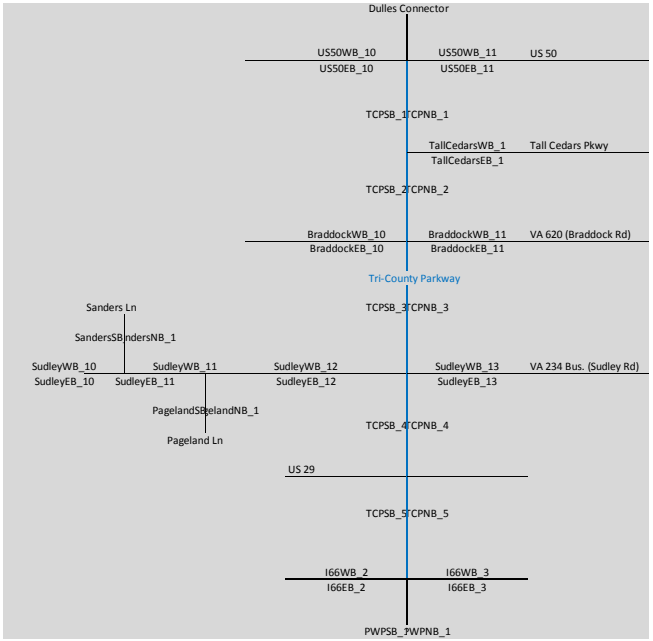
I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_NB	I-66 interchange at VA 234 Bypass	EB weave	SB TCP on-ramp to NB TCP off-ramp	SB TCP on-ramp	NB TCP off-ramp

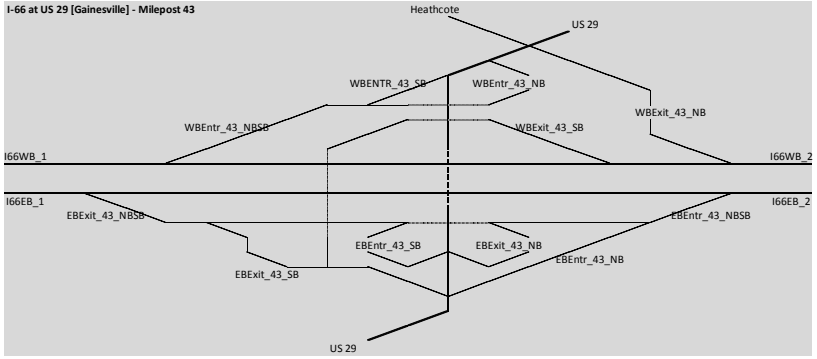
		Analysis Type	Existing				2040 No Build				2040 Build			
			AM		PM		AM		PM		AM		PM	
	Code		Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Freeway segments														
I-66	I66EB_1	Segment	26.6	D	10.6	A	24.9	C	10.2	A	24.6	C	10.5	A
	I66WB_1	Segment	10.1	A	27.7	D	9.7	A	26.1	D	9.3	A	24.8	C
	I66EB_2	Segment	16.1	B	7.6	A	25.4	C	11.1	B	23.1	C	10.7	A
	I66WB_2	Segment	7.0	A	16.4	B	10.2	A	25.0	C	9.2	A	22.1	C
	I66EB_3	Segment	22.1	C	10.8	A	37.9	E	15.6	B	36.8	E	15.4	B
	I66WB_3	Segment	8.5	A	21.0	C	12.3	B	34.8	D	12.1	B	33.9	D
	I66EB_4	Segment	28.0	D	12.5	B	57.2	F	18.1	C	54.7	F	17.8	B
	I66WB_4	Segment	11.5	B	26.9	D	16.6	B	52.7	F	16.3	B	50.4	F
	I66EB_5	Segment	26.7	D	11.1	B	49.2	F	15.3	B	47.9	F	15.1	B
	I66WB_5	Segment	11.0	A	28.1	D	15.0	B	50.6	F	14.9	B	49.3	F
Ramps														
I-66 at US 29 [Gainesville], Exit 43	EBExit_43_NBSB	Ramp	19.1	B	1.8	A	11.8	B	0.0	A	10.9	B	0.0	A
	EBEntr_43_NBSB	Ramp	10.0	A	0.0	A	17.9	B	0.0	A	12.9	B	0.0	A
	WBExit_43_NB	Ramp	8.5	A	24.4	C	12.7	B	34.1	D	10.5	B	28.2	D
	WBEntr_43_NBSB	Ramp	7.2	A	24.6	C	8.7	A	22.1	C	8.3	A	20.9	C
	WBExit_43_SB	Ramp	0.0	A	0.0	A	0.0	A	0.5	A	0.0	A	0.0	A
I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_SB	Ramp	17.8	B	6.1	A	31.2	F - Ramp over capacity	12.6	B	23.5	C	10.0	A
	EBExit_44_NB	Weave	NA	NA	NA	NA	NA	NA	NA	NA	NA (weave)			
	WBExit_44_SB	Ramp	9.5	A	25.3	C	16.5	B	40.7	F - Ramp over capacity	12.2	B	33.0	D
	WBExit_44_NB	Ramp	NA	NA	NA	NA	NA	NA	NA	NA	11.6	B	31.6	D
	WBEntr_44_NBSB	Ramp	9.6	A	19.4	B	15.3	B	32.8	D	13.4	B	26.4	C
	EBEntr_44_NB	Ramp	24.4	C	12.2	B	38.3	E	19.3	B	33.5	D	16.6	B
	EBEntr_44_SB	Weave	NA	NA	NA	NA	NA	NA	NA	NA	NA (weave)			
I-66 at VA 234 Business (Sudley Rd), Exit 47	EBExit_47_NBSB	Ramp	13.0	B	2.8	A	22.4	C	7.6	A	21.9	C	7.6	A
	EBEntr_47_NBSB	Ramp	17.8	B	2.6	A	31.2	D	9.5	A	30.6	D	9.2	A
	WBEntr_47_NBSB	Ramp	0.0	A	6.1	A	0.0	A	15.8	B	0.0	A	15.5	B
	WBExit_47_SB	Ramp	3.2	A	16.1	B	9.2	A	28.1	F - Freeway over capacity	9.1	A	27.6	F - Freeway over capacity
	WBExit_47_NB	Ramp	10.0	B	24.9	C	15.7	B	38.6	F - Freeway over capacity	15.4	B	37.2	F - Freeway over capacity
I-66 at US 29 [Centreville], Exit 52	WBExit_52_NBSB	Ramp	3.8	A	22.6	C	8.0	A	32.9	F - Freeway over capacity	8.0	A	32.6	F - Freeway over capacity
	WBEntr_52_NB	Ramp	10.1	B	22.3	C	15.6	B	34.4	D	15.4	B	33.5	D
	WBEntr_52_SB	Ramp	11.0	B	22.7	C	14.6	B	36.8	E	14.3	B	35.5	E
	EBExit_52_NBSB	Ramp	29.4	D	13.6	B	44.2	F - Freeway over capacity	21.1	C	43.3	F - Freeway over capacity	20.7	C
	EBEntr_52_NBSB	Ramp	24.2	C	11.6	B	33.0	D	14.4	B	32.6	D	14.3	B
Weaves														
I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_NB	Weave	NA	NA	NA	NA	NA	NA	NA	NA	22.3	C	9.6	A

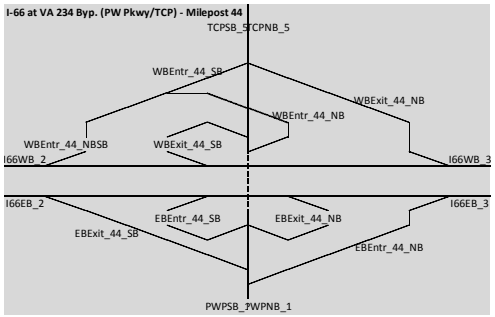
APPENDIX D

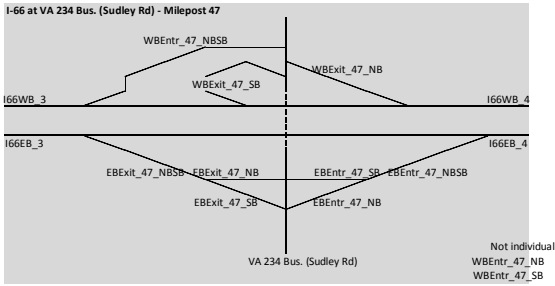
ENVIRONMENTAL TRAFFIC DATA

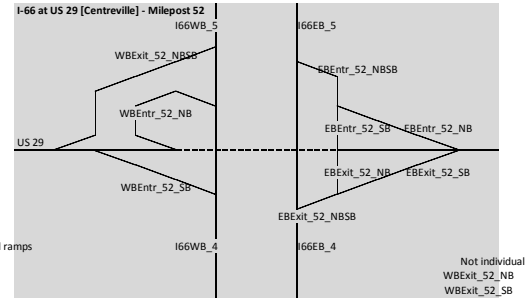

US 15
US 29 [Gainesville]
TCP
I66WB_1
I66EB_1
I66WB_2
I66EB_2
I66WB_3
I66EB_3
I66WB_4
I66EB_4
I66WB_5
I66EB_5
US 15
US 29 [Gainesville]
VA 234 Byp.
VA 234 Bus.
US 29 [Centreville]
VA 28


Dulles Connector
US50WB_10
US50EB_10
US50WB_11
US50EB_11
US 50
TCPSB_1
TCPNB_1
TallCedarsWB_1
TallCedarsEB_1
Tall Cedars Pkwy
TCPSB_2
TCPNB_2
BraddockWB_10
BraddockEB_10
BraddockWB_11
BraddockEB_11
VA 620 (Braddock Rd)
Tri-County Parkway
Sanders Ln
TCPSB_3
TCPNB_3
SandersSB
SandersNB_1
SudleyWB_10
SudleyEB_10
SudleyEB_11
SudleyWB_11
SudleyWB_12
SudleyEB_12
SudleyEB_13
SudleyWB_13
VA 234 Bus. (Sudley Rd)
PagelandSB
PagelandNB_1
Pageland Ln
TCPSB_4
TCPNB_4
US 29
TCPSB_5
TCPNB_5
I66WB_2
I66EB_2
I66WB_3
I66EB_3
PWPSB_7
PWPNB_1


I-66 at US 29 [Gainesville] - Milepost 43
Heathcote
US 29
WBENTR_43_SB
WBEntr_43_NB
WBExit_43_NB
WBEntr_43_NBSB
WBExit_43_SB
I66WB_1
I66WB_2
I66EB_1
I66EB_2
EBExit_43_NBSB
EBEntr_43_NBSB
EBEntr_43_SB
EBExit_43_NB
EBExit_43_SB
EBEntr_43_NB
US 29


I-66 at VA 234 Byp. (PW Pkwy/TCP) - Milepost 44
TCPSB_5
TCPNB_5
WBEntr_44_SB
WBExit_44_NB
WBEntr_44_NB
WBEntr_44_NBSB
WBExit_44_SB
I66WB_2
I66WB_3
I66EB_2
I66EB_3
EBEntr_44_SB
EBExit_44_NB
EBExit_44_SB
EBEntr_44_NB
PWPSB_7
PWPNB_1


I-66 at VA 234 Bus. (Sudley Rd) - Milepost 47
WBEntr_47_NBSB
WBExit_47_NB
WBExit_47_SB
I66WB_3
I66WB_4
I66EB_3
I66EB_4
EBExit_47_NBSB
EBExit_47_NB
EBEntr_47_SB
EBEntr_47_NBSB
EBExit_47_SB
EBEntr_47_NB
VA 234 Bus. (Sudley Rd)
Not individual ramps
WBEntr_47_NB
WBEntr_47_SB


I-66 at US 29 [Centreville] - Milepost 52
I66WB_5
I66EB_5
WBExit_52_NBSB
EBEntr_52_NBSB
WBEntr_52_NB
EBEntr_52_SB
EBEntr_52_NB
US 29
EBExit_52_NB
EBExit_52_SB
WBEntr_52_SB
EBExit_52_NBSB
I66WB_4
I66EB_4
Not individual ramps
WBExit_52_NB
WBExit_52_SB

Location						
	Environmental traffic		Date: 4/4/2013		Prepared by: PTG	
	Project:	Tri-County Parkway EIS				
	Location:	Loudoun, Prince William and Fairfax Counties, VA				
	Display Code:	I66EB_1			Distance (mi): -	
	Facility:					
	EB	I-66				
	From:			To:		
	US 15			US 29 [Gainesville]		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	2	2	2	2	2
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	70	70	70	70	70
	Daily Volume	31,000	38,400	37,800	59,300	57,100
	Daily Truck %	14%	14%	14%	14%	14%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	186	230	227	356	343
	1 AM	155	192	189	296	285
	2 AM	155	192	189	296	285
	3 AM	217	269	265	415	400
	4 AM	806	999	983	1,542	1,484
	5 AM	2,727	3,380	3,328	5,218	5,025
	6 AM	3,170	3,920	3,860	6,060	5,840
	7 AM	3,099	3,841	3,782	5,930	5,710
	8 AM	2,573	3,188	3,139	4,922	4,739
	9 AM	2,139	2,650	2,610	4,091	3,939
	10 AM	1,767	2,189	2,156	3,380	3,254
	11 AM	1,488	1,843	1,815	2,846	2,740
	12 PM	1,333	1,651	1,626	2,550	2,455
	1 PM	1,302	1,613	1,588	2,490	2,398
	2 PM	1,333	1,651	1,626	2,550	2,455
	3 PM	1,271	1,575	1,551	2,431	2,341
	4 PM	1,394	1,728	1,702	2,668	2,570
	5 PM	1,390	1,720	1,680	2,660	2,560
	6 PM	1,364	1,689	1,665	2,610	2,511
	7 PM	992	1,229	1,210	1,897	1,827
	8 PM	806	999	983	1,542	1,484
	9 PM	589	730	719	1,127	1,085
	10 PM	434	538	529	830	799
	11 PM	310	384	378	593	571

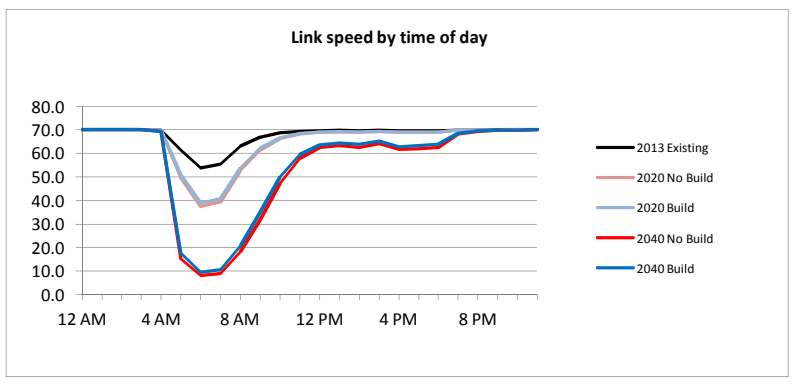
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	70.0	70.0	70.0	70.0	70.0
	1 AM	70.0	70.0	70.0	70.0	70.0
	2 AM	70.0	70.0	70.0	70.0	70.0
	3 AM	70.0	70.0	70.0	70.0	70.0
	4 AM	70.0	69.9	69.9	69.3	69.4
	5 AM	61.5	49.8	50.9	15.4	17.7
	6 AM	53.9	37.5	38.9	8.1	9.5
	7 AM	55.4	39.5	40.8	9.0	10.6
	8 AM	62.9	52.8	53.7	18.1	20.7
	9 AM	66.9	61.6	62.1	31.8	35.1
	10 AM	68.7	66.3	66.6	47.2	50.0
	11 AM	69.4	68.3	68.5	57.8	59.6
	12 PM	69.7	69.1	69.1	62.5	63.7
	1 PM	69.7	69.2	69.2	63.3	64.4
	2 PM	69.7	69.1	69.1	62.6	63.8
	3 PM	69.8	69.3	69.3	64.2	65.1
	4 PM	69.6	68.9	69.0	61.6	62.9
	5 PM	69.6	69.0	69.1	61.9	63.2
	6 PM	69.7	69.1	69.1	62.6	63.8
	7 PM	69.9	69.8	69.8	68.2	68.5
	8 PM	70.0	69.9	69.9	69.4	69.5
	9 PM	70.0	70.0	70.0	69.8	69.9
	10 PM	70.0	70.0	70.0	70.0	70.0
	11 PM	70.0	70.0	70.0	70.0	70.0

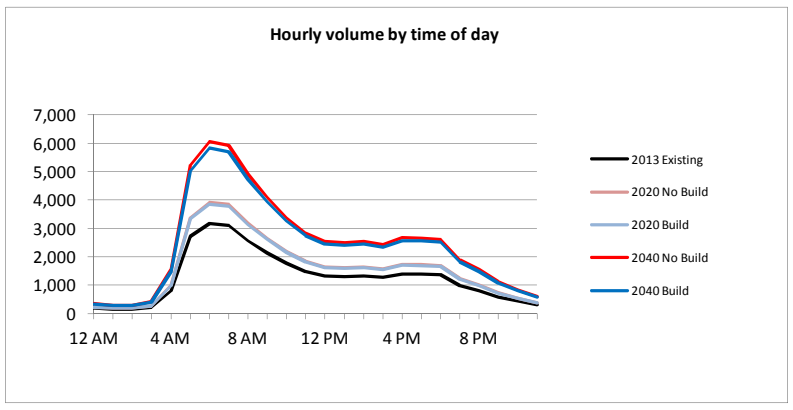
Passenger Vehicle Volume						
	12 AM	83	103	101	159	153
	1 AM	51	63	63	98	95
	2 AM	63	77	77	119	115
	3 AM	119	148	145	229	221
	4 AM	659	817	804	1,260	1,214
	5 AM	2,492	3,089	3,041	4,769	4,593
	6 AM	2,876	3,556	3,503	5,498	5,299
	7 AM	2,828	3,504	3,451	5,411	5,210
	8 AM	2,269	2,811	2,767	4,339	4,178
	9 AM	1,837	2,276	2,241	3,514	3,383
	10 AM	1,485	1,839	1,811	2,839	2,733
	11 AM	1,227	1,520	1,497	2,348	2,260
	12 PM	1,108	1,373	1,352	2,120	2,041
	1 PM	1,089	1,350	1,329	2,083	2,006
	2 PM	1,122	1,390	1,368	2,147	2,067
	3 PM	1,087	1,347	1,326	2,078	2,001
	4 PM	1,223	1,516	1,493	2,340	2,255
	5 PM	1,234	1,528	1,492	2,362	2,274
	6 PM	1,211	1,501	1,479	2,318	2,231
	7 PM	845	1,047	1,030	1,616	1,556
	8 PM	686	850	836	1,312	1,262
	9 PM	470	584	575	900	867
	10 PM	319	396	389	610	587
	11 PM	196	243	239	376	362

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	43	53	53	82	79
	1 AM	38	47	46	72	69
	2 AM	36	45	44	70	67
	3 AM	40	49	49	76	73
	4 AM	73	90	89	140	134
	5 AM	165	204	201	315	303
	6 AM	222	275	270	425	409
	7 AM	199	247	243	381	367
	8 AM	208	258	254	399	384
	9 AM	187	232	229	358	345
	10 AM	170	211	208	326	314
	11 AM	155	192	189	296	285
	12 PM	129	159	157	246	237
	1 PM	126	156	153	241	232
	2 PM	142	176	174	272	262
	3 PM	116	144	142	223	214
	4 PM	117	145	143	225	216
	5 PM	96	118	116	183	176
	6 PM	91	112	111	174	167
	7 PM	81	100	99	155	149
	8 PM	59	73	72	113	109
	9 PM	50	61	60	95	91
	10 PM	51	63	62	98	94
	11 PM	45	56	55	86	83

Heavy Truck Volume						
	12 AM	60	74	73	115	111
	1 AM	66	82	80	126	121
	2 AM	56	70	68	107	103
	3 AM	58	72	71	110	106
	4 AM	74	92	90	142	136
	5 AM	70	87	86	134	129
	6 AM	72	89	87	137	132
	7 AM	72	90	88	138	133
	8 AM	96	119	118	184	177
	9 AM	115	142	140	219	211
	10 AM	112	139	137	215	207
	11 AM	106	131	129	202	195
	12 PM	96	119	117	184	177
	1 PM	87	107	106	166	160
	2 PM	69	85	84	131	126
	3 PM	68	84	83	130	126
	4 PM	54	67	66	103	99
	5 PM	60	74	72	115	110
	6 PM	62	76	75	118	113
	7 PM	66	82	81	126	122
	8 PM	61	76	75	117	113
	9 PM	69	85	84	132	127
	10 PM	64	79	78	122	118
	11 PM	69	85	84	131	126





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66WB_1			Distance (mi): -	
	Facility: WB I-66				
	From: US 29 [Gainesville]		To: US 15		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	2	2	2	2	2
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	70	70	70	70	70
	Daily Volume	31,000	38,400	37,800	59,300	57,100
	Daily Truck %	12%	12%	12%	12%	12%

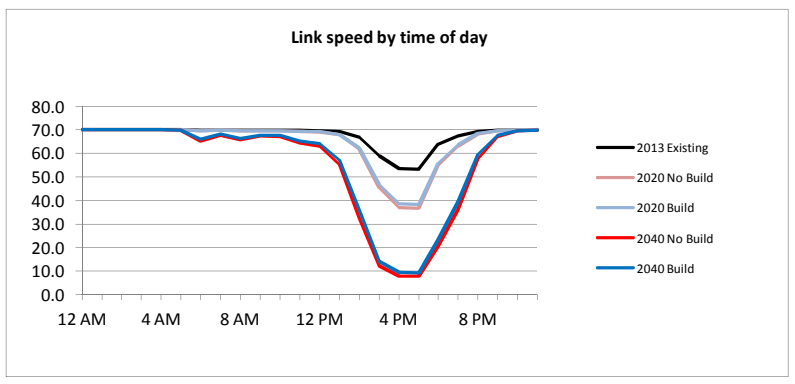
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	305	378	372	584	562
	1 AM	153	189	186	292	281
	2 AM	153	189	186	292	281
	3 AM	92	114	112	175	169
	4 AM	153	189	186	292	281
	5 AM	365	454	447	701	675
	6 AM	1,200	1,460	1,460	2,290	2,200
	7 AM	1,037	1,287	1,266	1,986	1,912
	8 AM	1,191	1,476	1,452	2,278	2,194
	9 AM	1,069	1,325	1,303	2,044	1,969
	10 AM	1,069	1,325	1,303	2,044	1,969
	11 AM	1,221	1,514	1,490	2,336	2,250
	12 PM	1,282	1,590	1,564	2,453	2,362
	1 PM	1,557	1,930	1,899	2,978	2,869
	2 PM	2,137	2,649	2,607	4,088	3,937
	3 PM	2,900	3,596	3,538	5,548	5,344
	4 PM	3,235	4,012	3,947	6,190	5,962
	5 PM	3,270	4,050	3,980	6,260	6,020
	6 PM	2,565	3,179	3,129	4,906	4,726
	7 PM	2,107	2,612	2,569	4,030	3,881
	8 PM	1,557	1,930	1,899	2,978	2,869
	9 PM	1,130	1,400	1,378	2,161	2,081
	10 PM	794	984	968	1,518	1,462
	11 PM	458	568	559	876	844

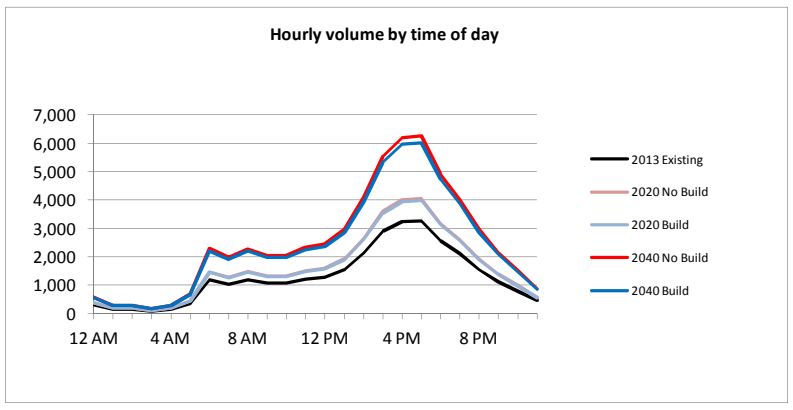
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	70.0	70.0	70.0	70.0	70.0
	1 AM	70.0	70.0	70.0	70.0	70.0
	2 AM	70.0	70.0	70.0	70.0	70.0
	3 AM	70.0	70.0	70.0	70.0	70.0
	4 AM	70.0	70.0	70.0	70.0	70.0
	5 AM	70.0	70.0	70.0	70.0	70.0
	6 AM	69.8	69.5	69.5	65.3	66.1
	7 AM	69.9	69.7	69.8	67.7	68.1
	8 AM	69.8	69.5	69.5	65.7	66.4
	9 AM	69.9	69.7	69.7	67.3	67.7
	10 AM	69.9	69.7	69.7	67.2	67.6
	11 AM	69.8	69.3	69.4	64.4	65.3
	12 PM	69.7	69.1	69.2	63.1	64.2
	1 PM	69.3	67.9	68.1	55.1	57.2
	2 PM	67.0	61.8	62.4	32.4	35.8
	3 PM	59.1	45.4	46.6	12.2	14.2
	4 PM	53.7	37.0	38.5	8.0	9.4
	5 PM	53.4	36.7	38.2	7.8	9.2
	6 PM	64.0	55.0	55.8	20.6	23.4
	7 PM	67.5	63.2	63.7	36.0	39.3
	8 PM	69.4	68.3	68.5	57.7	59.5
	9 PM	69.9	69.7	69.7	67.1	67.6
	10 PM	70.0	69.9	69.9	69.5	69.6
	11 PM	70.0	70.0	70.0	70.0	70.0

Passenger Vehicle Volume						
	12 AM	237	294	290	455	438
	1 AM	108	133	130	206	198
	2 AM	80	98	96	152	146
	3 AM	39	48	48	74	72
	4 AM	80	99	98	153	147
	5 AM	241	299	294	461	445
	6 AM	987	1,202	1,202	1,885	1,811
	7 AM	879	1,092	1,073	1,684	1,621
	8 AM	1,013	1,257	1,236	1,939	1,867
	9 AM	888	1,100	1,081	1,697	1,635
	10 AM	865	1,072	1,054	1,654	1,593
	11 AM	952	1,180	1,162	1,821	1,754
	12 PM	1,015	1,258	1,239	1,942	1,870
	1 PM	1,274	1,578	1,553	2,436	2,346
	2 PM	1,866	2,312	2,276	3,569	3,437
	3 PM	2,673	3,315	3,261	5,113	4,926
	4 PM	3,052	3,786	3,725	5,842	5,626
	5 PM	3,124	3,869	3,803	5,981	5,751
	6 PM	2,436	3,019	2,971	4,659	4,488
	7 PM	1,956	2,425	2,385	3,742	3,603
	8 PM	1,433	1,777	1,748	2,741	2,641
	9 PM	1,038	1,286	1,266	1,985	1,911
	10 PM	720	892	878	1,377	1,326
	11 PM	393	487	479	751	724

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	27	33	32	51	49
	1 AM	17	21	21	32	31
	2 AM	30	37	37	57	55
	3 AM	24	30	29	46	44
	4 AM	31	38	37	59	57
	5 AM	63	79	78	122	117
	6 AM	119	144	144	226	217
	7 AM	97	120	119	186	179
	8 AM	107	132	130	204	197
	9 AM	102	127	125	196	188
	10 AM	113	141	138	217	209
	11 AM	138	171	168	264	254
	12 PM	149	185	181	285	274
	1 PM	153	190	187	293	283
	2 PM	143	178	175	274	264
	3 PM	123	152	150	235	226
	4 PM	103	127	125	196	189
	5 PM	79	98	96	151	146
	6 PM	69	86	85	133	128
	7 PM	76	94	93	145	140
	8 PM	56	69	68	107	103
	9 PM	37	46	45	71	69
	10 PM	32	39	38	60	58
	11 PM	26	32	32	50	48

Heavy Truck Volume						
	12 AM	41	51	50	78	75
	1 AM	28	35	35	54	52
	2 AM	43	54	53	83	80
	3 AM	29	36	35	55	53
	4 AM	42	52	51	80	77
	5 AM	61	76	75	118	113
	6 AM	94	114	114	179	172
	7 AM	61	75	74	116	112
	8 AM	71	87	86	135	130
	9 AM	79	98	97	151	146
	10 AM	91	112	111	173	167
	11 AM	131	163	160	251	242
	12 PM	118	147	144	226	218
	1 PM	130	162	159	249	240
	2 PM	128	159	156	245	236
	3 PM	104	129	127	200	192
	4 PM	80	99	97	152	147
	5 PM	67	83	81	128	123
	6 PM	60	74	73	114	110
	7 PM	75	93	91	143	138
	8 PM	68	84	83	130	125
	9 PM	55	68	67	105	101
	10 PM	42	53	52	81	78
	11 PM	39	49	48	75	72





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66EB_2			Distance (mi): -	
	Facility: EB I-66				
	From: US 29 [Gainesville]		To: VA 234 Byp./TCP		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	5	5	5	5	5
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	70	70	70	70	70
	Daily Volume	54,000	60,500	58,500	78,900	71,200
	Daily Truck %	10%	10%	10%	10%	10%

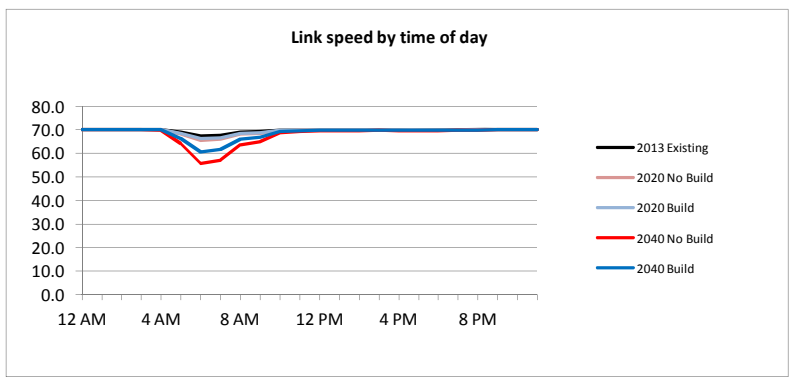
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	277	310	300	404	365
	1 AM	216	242	234	315	285
	2 AM	228	255	247	332	300
	3 AM	366	411	397	535	483
	4 AM	1,250	1,400	1,354	1,826	1,648
	5 AM	4,340	4,863	4,704	6,342	5,723
	6 AM	5,350	5,990	5,790	7,820	7,050
	7 AM	5,186	5,812	5,622	7,579	6,839
	8 AM	4,395	4,925	4,762	6,421	5,795
	9 AM	4,141	4,640	4,487	6,050	5,460
	10 AM	3,048	3,416	3,303	4,453	4,019
	11 AM	2,604	2,918	2,822	3,805	3,434
	12 PM	2,394	2,682	2,594	3,497	3,156
	1 PM	2,337	2,619	2,532	3,414	3,081
	2 PM	2,329	2,610	2,524	3,403	3,071
	3 PM	2,301	2,579	2,494	3,362	3,034
	4 PM	2,413	2,704	2,616	3,527	3,182
	5 PM	2,540	2,840	2,740	3,710	3,350
	6 PM	2,425	2,718	2,628	3,544	3,198
	7 PM	1,823	2,043	1,975	2,663	2,404
	8 PM	1,452	1,627	1,574	2,122	1,915
	9 PM	1,194	1,338	1,294	1,744	1,574
	10 PM	871	976	944	1,273	1,149
	11 PM	520	582	563	759	685

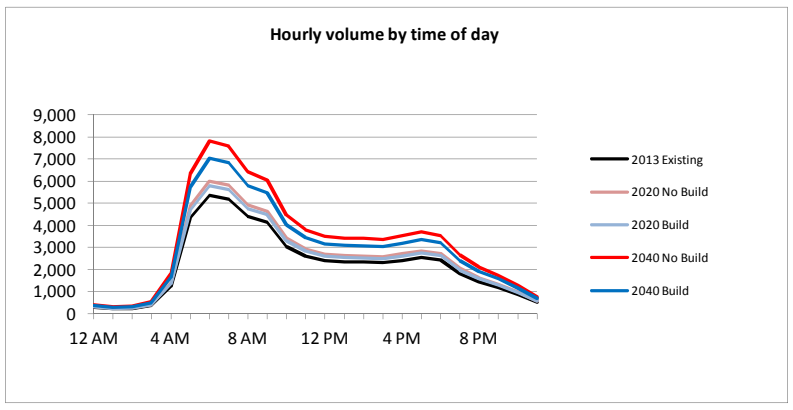
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	70.0	70.0	70.0	70.0	70.0
	1 AM	70.0	70.0	70.0	70.0	70.0
	2 AM	70.0	70.0	70.0	70.0	70.0
	3 AM	70.0	70.0	70.0	70.0	70.0
	4 AM	70.0	70.0	70.0	70.0	70.0
	5 AM	69.0	68.3	68.6	64.0	66.3
	6 AM	67.4	65.5	66.2	55.7	60.7
	7 AM	67.7	66.1	66.6	57.2	61.7
	8 AM	68.9	68.1	68.4	63.5	65.9
	9 AM	69.2	68.6	68.8	64.9	66.8
	10 AM	69.8	69.7	69.7	68.8	69.3
	11 AM	69.9	69.8	69.9	69.4	69.7
	12 PM	69.9	69.9	69.9	69.6	69.8
	1 PM	70.0	69.9	69.9	69.7	69.8
	2 PM	70.0	69.9	69.9	69.7	69.8
	3 PM	70.0	69.9	69.9	69.7	69.8
	4 PM	69.9	69.9	69.9	69.6	69.8
	5 PM	69.9	69.9	69.9	69.6	69.7
	6 PM	69.9	69.9	69.9	69.6	69.8
	7 PM	70.0	70.0	70.0	69.9	69.9
	8 PM	70.0	70.0	70.0	70.0	70.0
	9 PM	70.0	70.0	70.0	70.0	70.0
	10 PM	70.0	70.0	70.0	70.0	70.0
	11 PM	70.0	70.0	70.0	70.0	70.0

Passenger Vehicle Volume						
	12 AM	158	176	171	230	208
	1 AM	95	105	102	138	125
	2 AM	107	120	117	157	142
	3 AM	210	236	228	308	278
	4 AM	1,035	1,159	1,120	1,512	1,364
	5 AM	4,026	4,511	4,363	5,884	5,309
	6 AM	5,035	5,638	5,449	7,359	6,635
	7 AM	4,837	5,421	5,245	7,070	6,380
	8 AM	4,018	4,502	4,352	5,869	5,297
	9 AM	3,718	4,166	4,029	5,432	4,903
	10 AM	2,706	3,032	2,931	3,952	3,567
	11 AM	2,276	2,551	2,467	3,326	3,001
	12 PM	2,083	2,333	2,257	3,042	2,746
	1 PM	2,058	2,307	2,231	3,008	2,714
	2 PM	2,074	2,324	2,248	3,030	2,735
	3 PM	2,086	2,338	2,261	3,048	2,751
	4 PM	2,230	2,499	2,418	3,259	2,941
	5 PM	2,378	2,659	2,566	3,474	3,137
	6 PM	2,258	2,531	2,446	3,299	2,977
	7 PM	1,662	1,863	1,801	2,428	2,192
	8 PM	1,297	1,453	1,406	1,895	1,710
	9 PM	1,042	1,168	1,129	1,522	1,374
	10 PM	722	809	783	1,056	953
	11 PM	381	426	412	556	501

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	56	63	61	82	74
	1 AM	54	61	59	79	71
	2 AM	56	62	60	81	73
	3 AM	79	89	86	115	104
	4 AM	121	136	132	177	160
	5 AM	211	237	229	308	278
	6 AM	228	255	247	334	301
	7 AM	257	288	278	375	338
	8 AM	266	298	289	389	351
	9 AM	273	306	296	399	360
	10 AM	217	244	236	318	287
	11 AM	204	228	221	298	269
	12 PM	191	215	207	280	252
	1 PM	176	197	190	256	231
	2 PM	169	190	183	247	223
	3 PM	135	152	147	198	178
	4 PM	124	138	134	181	163
	5 PM	101	113	109	147	133
	6 PM	101	113	110	148	134
	7 PM	88	99	95	129	116
	8 PM	83	93	90	122	110
	9 PM	75	84	82	110	99
	10 PM	74	83	80	108	97
	11 PM	65	73	71	95	86

Heavy Truck Volume						
	12 AM	63	71	68	92	83
	1 AM	67	76	73	98	89
	2 AM	65	73	70	94	85
	3 AM	77	86	83	112	101
	4 AM	94	105	102	137	124
	5 AM	103	115	112	150	136
	6 AM	87	97	94	127	114
	7 AM	92	103	99	134	121
	8 AM	111	125	121	163	147
	9 AM	150	168	162	219	197
	10 AM	125	140	136	183	165
	11 AM	124	139	134	181	164
	12 PM	120	134	130	175	158
	1 PM	103	115	111	150	136
	2 PM	86	96	93	126	113
	3 PM	80	89	86	116	105
	4 PM	59	67	64	87	78
	5 PM	61	68	65	89	80
	6 PM	66	74	72	97	87
	7 PM	73	81	79	106	96
	8 PM	72	81	78	105	95
	9 PM	77	86	83	112	101
	10 PM	75	84	81	109	99
	11 PM	74	83	80	108	98





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66WB_2			Distance (mi): -	
	Facility: WB I-66				
	From: VA 234 Byp./TCP		To: US 29 [Gainesville]		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	5	5	5	5	5
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	70	70	70	70	70
	Daily Volume	54,000	60,500	58,500	78,900	71,200
	Daily Truck %	10%	10%	10%	10%	10%

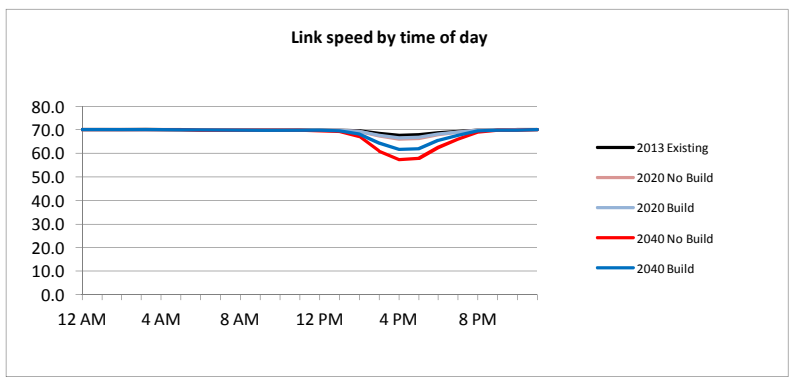
Total Volume (Passenger vehicles + medium truck + heavy truck)					
	12 AM	599	672	649	876	790
	1 AM	303	339	328	443	399
	2 AM	217	244	235	317	286
	3 AM	182	204	197	266	240
	4 AM	264	296	286	386	348
	5 AM	664	743	718	968	875
	6 AM	2,100	2,330	2,270	3,070	2,770
	7 AM	1,959	2,195	2,121	2,861	2,582
	8 AM	2,149	2,408	2,328	3,139	2,833
	9 AM	1,937	2,171	2,099	2,830	2,554
	10 AM	1,892	2,121	2,050	2,765	2,495
	11 AM	2,032	2,278	2,202	2,969	2,679
	12 PM	2,282	2,558	2,473	3,335	3,009
	1 PM	2,688	3,013	2,913	3,928	3,544
	2 PM	3,658	4,101	3,964	5,345	4,823
	3 PM	4,749	5,323	5,146	6,939	6,261
	4 PM	5,189	5,815	5,620	7,579	6,840
	5 PM	5,160	5,780	5,590	7,540	6,810
	6 PM	4,576	5,131	4,960	6,688	6,034
	7 PM	3,987	4,469	4,319	5,825	5,256
	8 PM	2,921	3,274	3,165	4,268	3,851
	9 PM	2,008	2,251	2,176	2,934	2,647
	10 PM	1,487	1,667	1,611	2,172	1,960
	11 PM	997	1,117	1,080	1,457	1,314

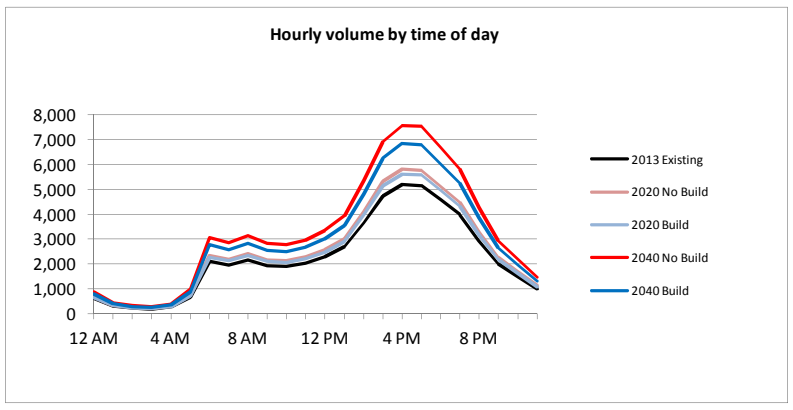
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	70.0	70.0	70.0	70.0	70.0
	1 AM	70.0	70.0	70.0	70.0	70.0
	2 AM	70.0	70.0	70.0	70.0	70.0
	3 AM	70.0	70.0	70.0	70.0	70.0
	4 AM	70.0	70.0	70.0	70.0	70.0
	5 AM	70.0	70.0	70.0	70.0	70.0
	6 AM	70.0	69.9	70.0	69.8	69.9
	7 AM	70.0	70.0	70.0	69.9	69.9
	8 AM	70.0	69.9	70.0	69.8	69.9
	9 AM	70.0	70.0	70.0	69.9	69.9
	10 AM	70.0	70.0	70.0	69.9	69.9
	11 AM	70.0	69.9	70.0	69.8	69.9
	12 PM	70.0	69.9	69.9	69.7	69.8
	1 PM	69.9	69.8	69.8	69.3	69.6
	2 PM	69.6	69.2	69.3	67.1	68.2
	3 PM	68.5	67.3	67.7	61.0	64.3
	4 PM	67.7	66.1	66.7	57.3	61.8
	5 PM	67.8	66.3	66.8	57.8	62.1
	6 PM	68.8	67.9	68.2	62.6	65.4
	7 PM	69.4	68.9	69.1	66.1	67.6
	8 PM	69.9	69.8	69.8	69.1	69.5
	9 PM	70.0	70.0	70.0	69.9	69.9
	10 PM	70.0	70.0	70.0	70.0	70.0
	11 PM	70.0	70.0	70.0	70.0	70.0

Passenger Vehicle Volume						
	12 AM	502	564	544	735	662
	1 AM	221	247	239	323	291
	2 AM	132	148	142	192	174
	3 AM	97	109	104	141	128
	4 AM	142	159	154	207	187
	5 AM	505	566	547	738	666
	6 AM	1,786	1,982	1,931	2,611	2,356
	7 AM	1,751	1,963	1,896	2,557	2,308
	8 AM	1,930	2,163	2,092	2,820	2,545
	9 AM	1,669	1,871	1,809	2,439	2,201
	10 AM	1,565	1,754	1,696	2,287	2,064
	11 AM	1,650	1,850	1,788	2,412	2,176
	12 PM	1,893	2,122	2,052	2,766	2,496
	1 PM	2,306	2,585	2,499	3,370	3,040
	2 PM	3,273	3,669	3,547	4,782	4,315
	3 PM	4,390	4,920	4,757	6,414	5,788
	4 PM	4,869	5,456	5,273	7,112	6,419
	5 PM	4,889	5,477	5,297	7,144	6,452
	6 PM	4,317	4,841	4,680	6,310	5,693
	7 PM	3,753	4,207	4,067	5,485	4,949
	8 PM	2,752	3,085	2,982	4,022	3,628
	9 PM	1,876	2,103	2,032	2,740	2,473
	10 PM	1,384	1,551	1,499	2,021	1,824
	11 PM	913	1,022	988	1,333	1,202

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	44	49	48	64	58
	1 AM	38	43	41	56	50
	2 AM	37	42	41	55	49
	3 AM	40	45	44	59	53
	4 AM	59	66	63	86	77
	5 AM	83	92	89	120	109
	6 AM	184	204	199	269	243
	7 AM	137	153	148	200	181
	8 AM	142	159	153	207	187
	9 AM	171	191	185	249	225
	10 AM	203	228	220	297	268
	11 AM	218	244	236	318	287
	12 PM	237	266	257	347	313
	1 PM	234	262	254	342	309
	2 PM	242	271	262	354	319
	3 PM	235	264	255	344	310
	4 PM	216	242	234	315	284
	5 PM	187	209	202	273	247
	6 PM	170	190	184	248	224
	7 PM	141	158	152	205	185
	8 PM	95	106	103	138	125
	9 PM	66	74	72	97	87
	10 PM	53	60	58	78	70
	11 PM	40	45	44	59	53

Heavy Truck Volume						
	12 AM	53	59	57	77	70
	1 AM	44	49	48	64	58
	2 AM	48	54	52	70	63
	3 AM	45	50	49	66	59
	4 AM	63	71	69	93	84
	5 AM	76	85	82	110	100
	6 AM	130	144	140	190	171
	7 AM	71	79	77	104	93
	8 AM	77	86	83	112	101
	9 AM	97	109	105	142	128
	10 AM	124	139	134	181	163
	11 AM	164	184	178	239	216
	12 PM	152	170	164	222	200
	1 PM	148	166	160	216	195
	2 PM	143	161	155	209	189
	3 PM	124	139	134	181	163
	4 PM	104	117	113	152	137
	5 PM	84	94	91	123	111
	6 PM	89	100	96	130	117
	7 PM	93	104	100	135	122
	8 PM	74	83	80	108	98
	9 PM	66	74	72	97	87
	10 PM	50	56	54	73	66
	11 PM	44	50	48	65	59





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66EB_3			Distance (mi): -	
	Facility: EB I-66				
	From: VA 234 Byp./TCP		To: VA 234 Bus.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	4	4	4	4	4
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	70	70	70	70	70
	Daily Volume	56,900	63,500	63,200	82,500	81,300
	Daily Truck %	10%	10%	10%	10%	10%

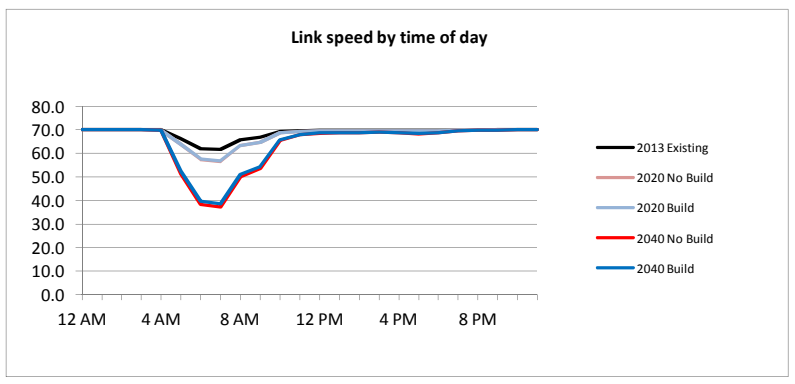
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	293	327	325	425	418
	1 AM	228	255	254	331	326
	2 AM	241	269	267	349	344
	3 AM	388	433	431	562	554
	4 AM	1,322	1,475	1,468	1,916	1,889
	5 AM	4,589	5,122	5,100	6,655	6,559
	6 AM	5,440	6,070	6,040	7,890	7,770
	7 AM	5,485	6,121	6,094	7,953	7,839
	8 AM	4,648	5,187	5,164	6,739	6,642
	9 AM	4,379	4,887	4,865	6,350	6,258
	10 AM	3,224	3,597	3,581	4,674	4,607
	11 AM	2,754	3,073	3,060	3,993	3,936
	12 PM	2,532	2,825	2,812	3,671	3,618
	1 PM	2,472	2,758	2,746	3,583	3,532
	2 PM	2,464	2,749	2,737	3,572	3,521
	3 PM	2,434	2,716	2,704	3,529	3,478
	4 PM	2,551	2,848	2,836	3,701	3,647
	5 PM	2,690	3,010	2,980	3,900	3,840
	6 PM	2,567	2,863	2,850	3,721	3,665
	7 PM	1,928	2,151	2,142	2,795	2,755
	8 PM	1,536	1,714	1,706	2,227	2,195
	9 PM	1,263	1,409	1,403	1,831	1,804
	10 PM	922	1,028	1,024	1,336	1,317
	11 PM	550	613	611	797	786

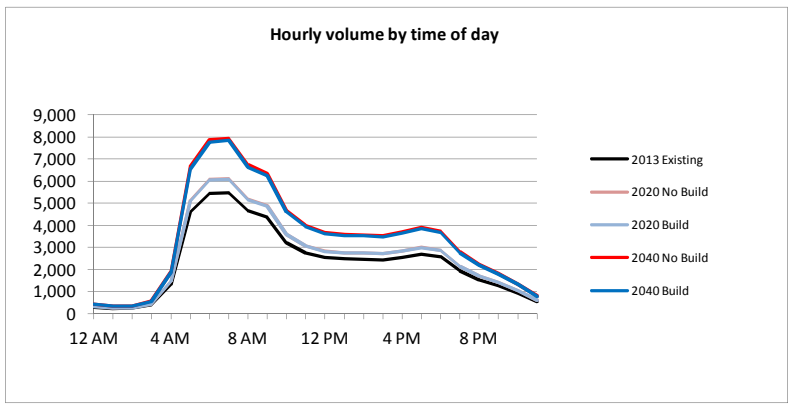
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	70.0	70.0	70.0	70.0	70.0
	1 AM	70.0	70.0	70.0	70.0	70.0
	2 AM	70.0	70.0	70.0	70.0	70.0
	3 AM	70.0	70.0	70.0	70.0	70.0
	4 AM	70.0	70.0	70.0	69.9	69.9
	5 AM	66.3	63.8	63.9	51.3	52.3
	6 AM	62.0	57.3	57.5	38.4	39.7
	7 AM	61.6	56.6	56.9	37.3	38.6
	8 AM	65.9	63.2	63.3	50.0	51.1
	9 AM	66.8	64.6	64.7	53.5	54.4
	10 AM	69.3	68.7	68.8	65.5	65.8
	11 AM	69.7	69.4	69.4	67.8	68.0
	12 PM	69.8	69.6	69.6	68.5	68.6
	1 PM	69.8	69.7	69.7	68.7	68.8
	2 PM	69.8	69.7	69.7	68.8	68.9
	3 PM	69.8	69.7	69.7	68.9	69.0
	4 PM	69.8	69.6	69.6	68.7	68.8
	5 PM	69.7	69.5	69.6	68.3	68.4
	6 PM	69.8	69.6	69.6	68.6	68.7
	7 PM	69.9	69.9	69.9	69.7	69.7
	8 PM	70.0	70.0	70.0	69.9	69.9
	9 PM	70.0	70.0	70.0	70.0	70.0
	10 PM	70.0	70.0	70.0	70.0	70.0
	11 PM	70.0	70.0	70.0	70.0	70.0

Passenger Vehicle Volume						
	12 AM	167	186	185	242	238
	1 AM	100	111	111	145	142
	2 AM	113	127	126	165	162
	3 AM	223	249	248	323	319
	4 AM	1,095	1,221	1,215	1,586	1,563
	5 AM	4,257	4,752	4,731	6,173	6,085
	6 AM	5,120	5,713	5,684	7,426	7,313
	7 AM	5,117	5,710	5,684	7,418	7,312
	8 AM	4,248	4,742	4,720	6,160	6,072
	9 AM	3,932	4,388	4,368	5,702	5,619
	10 AM	2,862	3,192	3,179	4,149	4,089
	11 AM	2,408	2,687	2,675	3,491	3,440
	12 PM	2,202	2,458	2,446	3,193	3,148
	1 PM	2,177	2,430	2,419	3,156	3,111
	2 PM	2,194	2,448	2,437	3,181	3,135
	3 PM	2,207	2,462	2,452	3,200	3,154
	4 PM	2,357	2,632	2,621	3,420	3,370
	5 PM	2,519	2,819	2,791	3,653	3,596
	6 PM	2,390	2,665	2,653	3,464	3,412
	7 PM	1,758	1,961	1,954	2,549	2,512
	8 PM	1,372	1,531	1,523	1,988	1,960
	9 PM	1,102	1,229	1,224	1,597	1,574
	10 PM	765	853	849	1,108	1,093
	11 PM	402	448	447	583	575

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	59	66	66	86	85
	1 AM	57	64	64	83	82
	2 AM	59	66	65	85	84
	3 AM	84	93	93	121	119
	4 AM	128	143	143	186	184
	5 AM	223	249	248	324	319
	6 AM	232	259	258	336	331
	7 AM	271	303	302	394	388
	8 AM	282	314	313	408	402
	9 AM	289	322	321	419	413
	10 AM	230	257	255	333	329
	11 AM	215	240	239	312	308
	12 PM	203	226	225	294	289
	1 PM	186	207	206	269	265
	2 PM	179	200	199	259	256
	3 PM	143	160	159	207	204
	4 PM	131	146	145	190	187
	5 PM	107	119	118	154	152
	6 PM	107	120	119	155	153
	7 PM	93	104	103	135	133
	8 PM	88	98	98	128	126
	9 PM	80	89	89	116	114
	10 PM	78	87	87	113	111
	11 PM	69	77	77	100	99

Heavy Truck Volume						
	12 AM	67	75	74	97	95
	1 AM	71	80	79	103	102
	2 AM	69	76	76	99	98
	3 AM	81	91	90	118	116
	4 AM	99	111	110	144	142
	5 AM	109	121	121	158	155
	6 AM	88	98	98	128	126
	7 AM	97	108	108	141	139
	8 AM	118	131	131	171	168
	9 AM	158	177	176	229	226
	10 AM	132	148	147	192	189
	11 AM	131	146	146	190	188
	12 PM	127	141	141	184	181
	1 PM	109	121	121	158	156
	2 PM	91	101	101	132	130
	3 PM	84	94	93	122	120
	4 PM	63	70	70	91	90
	5 PM	64	72	71	93	92
	6 PM	70	78	78	102	100
	7 PM	77	86	85	111	110
	8 PM	76	85	85	111	109
	9 PM	81	91	90	118	116
	10 PM	79	88	88	115	113
	11 PM	79	88	87	114	112





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66WB_3			Distance (mi): -	
	Facility:				
	WB I-66				
	From: VA 234 Bus.		To: VA 234 Byp./TCP		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	4	4	4	4	4
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	70	70	70	70	70
	Daily Volume	56,900	63,500	63,200	82,500	81,300
	Daily Truck %	10%	10%	10%	10%	10%

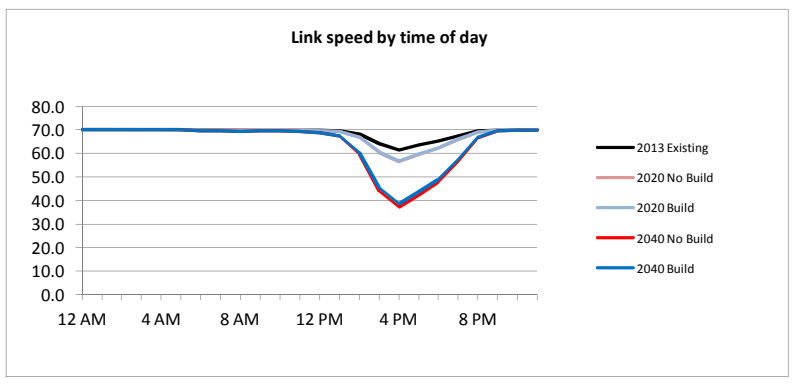
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	637	711	707	923	910
	1 AM	322	359	357	467	460
	2 AM	231	258	256	335	330
	3 AM	193	216	215	280	276
	4 AM	281	313	312	407	401
	5 AM	704	786	782	1,021	1,006
	6 AM	2,040	2,270	2,270	2,960	2,910
	7 AM	2,080	2,321	2,310	3,016	2,972
	8 AM	2,282	2,547	2,535	3,310	3,262
	9 AM	2,058	2,297	2,285	2,984	2,941
	10 AM	2,010	2,243	2,232	2,915	2,873
	11 AM	2,159	2,409	2,398	3,130	3,085
	12 PM	2,425	2,706	2,693	3,515	3,465
	1 PM	2,856	3,187	3,172	4,141	4,081
	2 PM	3,886	4,337	4,316	5,635	5,553
	3 PM	5,045	5,630	5,603	7,315	7,209
	4 PM	5,511	6,150	6,120	7,990	7,875
	5 PM	5,210	5,820	5,790	7,550	7,440
	6 PM	4,861	5,425	5,399	7,049	6,947
	7 PM	4,235	4,726	4,703	6,140	6,052
	8 PM	3,103	3,463	3,446	4,499	4,434
	9 PM	2,133	2,381	2,369	3,093	3,048
	10 PM	1,579	1,763	1,754	2,290	2,257
	11 PM	1,059	1,182	1,176	1,535	1,513

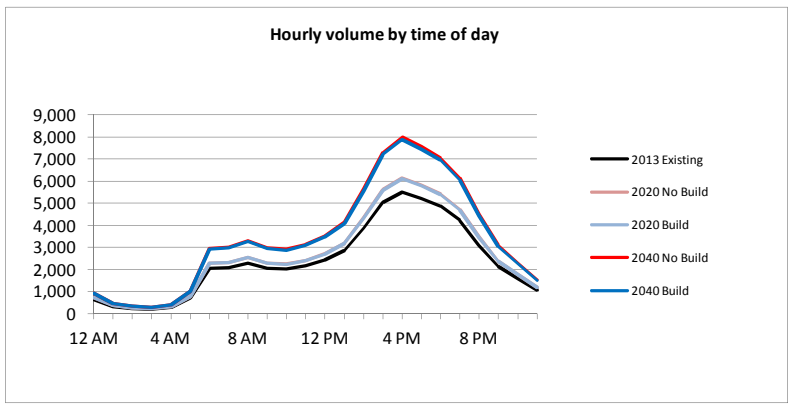
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	70.0	70.0	70.0	70.0	70.0
	1 AM	70.0	70.0	70.0	70.0	70.0
	2 AM	70.0	70.0	70.0	70.0	70.0
	3 AM	70.0	70.0	70.0	70.0	70.0
	4 AM	70.0	70.0	70.0	70.0	70.0
	5 AM	70.0	70.0	70.0	70.0	70.0
	6 AM	69.9	69.9	69.9	69.5	69.5
	7 AM	69.9	69.9	69.9	69.5	69.5
	8 AM	69.9	69.8	69.8	69.2	69.2
	9 AM	69.9	69.9	69.9	69.5	69.5
	10 AM	69.9	69.9	69.9	69.5	69.5
	11 AM	69.9	69.8	69.8	69.2	69.3
	12 PM	69.8	69.6	69.7	68.7	68.8
	1 PM	69.6	69.3	69.3	67.3	67.5
	2 PM	68.2	66.9	67.0	59.8	60.4
	3 PM	64.1	60.4	60.6	44.1	45.3
	4 PM	61.5	56.5	56.8	37.2	38.5
	5 PM	63.6	59.5	59.7	42.4	43.6
	6 PM	65.3	62.2	62.3	47.7	48.9
	7 PM	67.5	65.8	65.9	56.7	57.5
	8 PM	69.5	69.1	69.1	66.7	66.9
	9 PM	69.9	69.9	69.9	69.5	69.5
	10 PM	70.0	70.0	70.0	69.9	69.9
	11 PM	70.0	70.0	70.0	70.0	70.0

Passenger Vehicle Volume						
	12 AM	534	596	593	774	763
	1 AM	235	262	260	340	335
	2 AM	140	156	155	203	200
	3 AM	102	115	114	149	147
	4 AM	152	169	168	219	216
	5 AM	536	598	596	778	766
	6 AM	1,735	1,931	1,931	2,518	2,475
	7 AM	1,860	2,075	2,064	2,696	2,656
	8 AM	2,051	2,288	2,278	2,974	2,931
	9 AM	1,774	1,980	1,969	2,571	2,534
	10 AM	1,663	1,855	1,847	2,411	2,377
	11 AM	1,754	1,957	1,948	2,543	2,505
	12 PM	2,012	2,245	2,234	2,915	2,875
	1 PM	2,450	2,734	2,721	3,552	3,501
	2 PM	3,477	3,880	3,861	5,041	4,969
	3 PM	4,664	5,204	5,180	6,762	6,664
	4 PM	5,171	5,771	5,743	7,498	7,390
	5 PM	4,936	5,514	5,486	7,154	7,050
	6 PM	4,587	5,119	5,094	6,651	6,554
	7 PM	3,988	4,449	4,428	5,781	5,699
	8 PM	2,923	3,263	3,247	4,239	4,178
	9 PM	1,993	2,225	2,213	2,889	2,848
	10 PM	1,469	1,640	1,632	2,131	2,100
	11 PM	969	1,081	1,077	1,405	1,385

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	47	52	52	68	67
	1 AM	40	45	45	59	58
	2 AM	40	45	44	58	57
	3 AM	43	48	48	62	61
	4 AM	62	69	69	90	89
	5 AM	88	98	97	127	125
	6 AM	179	199	199	259	255
	7 AM	145	162	162	211	208
	8 AM	150	168	167	218	215
	9 AM	181	202	201	263	259
	10 AM	216	241	239	313	308
	11 AM	231	258	257	335	331
	12 PM	252	281	280	366	360
	1 PM	249	278	276	361	355
	2 PM	257	287	286	373	367
	3 PM	250	279	277	362	357
	4 PM	229	256	254	332	327
	5 PM	189	211	210	273	269
	6 PM	180	201	200	261	258
	7 PM	149	167	166	217	213
	8 PM	101	112	112	146	144
	9 PM	70	78	78	102	100
	10 PM	57	63	63	82	81
	11 PM	43	48	47	62	61

Heavy Truck Volume						
	12 AM	56	63	62	81	80
	1 AM	47	52	52	68	67
	2 AM	51	57	57	74	73
	3 AM	48	53	53	69	68
	4 AM	67	75	75	98	96
	5 AM	80	90	89	116	115
	6 AM	126	140	140	183	180
	7 AM	75	84	84	109	108
	8 AM	81	91	90	118	116
	9 AM	103	115	115	150	148
	10 AM	131	147	146	191	188
	11 AM	174	194	193	252	249
	12 PM	161	180	179	234	230
	1 PM	157	175	175	228	225
	2 PM	152	170	169	221	217
	3 PM	131	147	146	191	188
	4 PM	111	123	123	160	158
	5 PM	85	95	94	123	121
	6 PM	94	105	105	137	135
	7 PM	98	110	109	142	140
	8 PM	79	88	87	114	112
	9 PM	70	78	78	102	100
	10 PM	53	60	59	77	76
	11 PM	47	53	52	68	67





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66EB_4			Distance (mi): -	
	Facility: EB I-66				
	From: VA 234 Bus.		To: US 29 [Centreville]		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	4	4	4	4	4
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	65	65	65	65	65
	Daily Volume	66,900	74,500	74,100	96,400	94,800
	Daily Truck %	9%	9%	9%	9%	9%

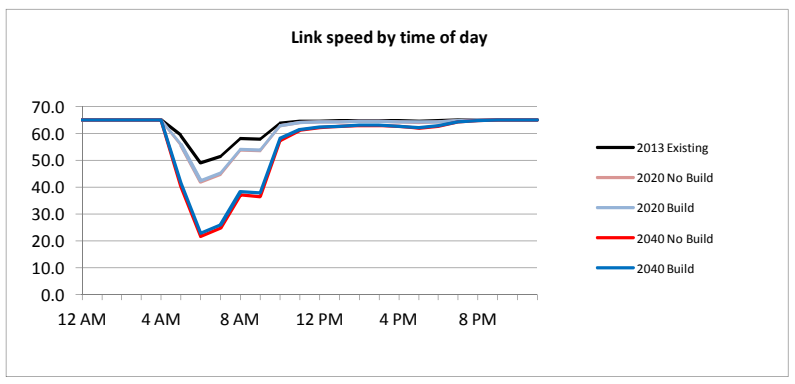
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	334	372	370	482	474
	1 AM	267	298	296	385	379
	2 AM	267	298	296	385	379
	3 AM	468	521	518	674	663
	4 AM	1,471	1,637	1,629	2,119	2,084
	5 AM	5,148	5,730	5,700	7,416	7,293
	6 AM	6,590	7,340	7,300	9,490	9,340
	7 AM	6,284	6,996	6,958	9,054	8,903
	8 AM	5,347	5,954	5,923	7,705	7,577
	9 AM	5,347	5,954	5,923	7,705	7,577
	10 AM	3,743	4,168	4,146	5,394	5,304
	11 AM	3,208	3,572	3,554	4,623	4,546
	12 PM	3,008	3,349	3,332	4,334	4,262
	1 PM	2,941	3,275	3,258	4,238	4,167
	2 PM	2,874	3,200	3,184	4,142	4,073
	3 PM	2,874	3,200	3,184	4,142	4,073
	4 PM	3,009	3,349	3,331	4,334	4,262
	5 PM	3,160	3,530	3,500	4,560	4,480
	6 PM	3,008	3,348	3,332	4,334	4,262
	7 PM	2,339	2,605	2,591	3,371	3,315
	8 PM	1,805	2,009	1,999	2,601	2,557
	9 PM	1,604	1,786	1,777	2,312	2,273
	10 PM	1,136	1,265	1,259	1,637	1,610
	11 PM	668	744	740	963	947

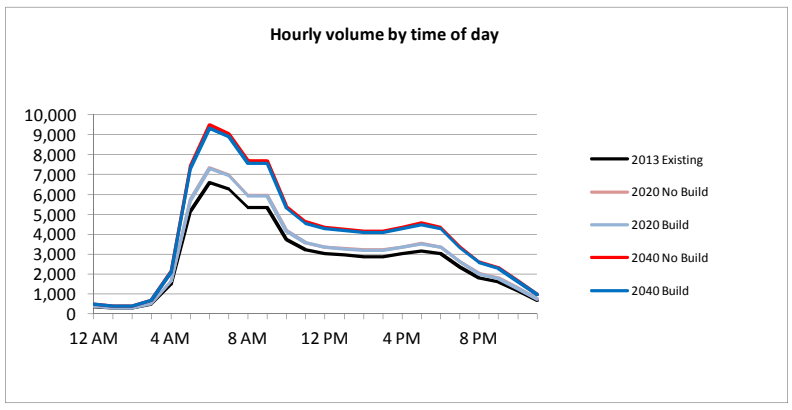
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	65.0	65.0	65.0	65.0	65.0
	1 AM	65.0	65.0	65.0	65.0	65.0
	2 AM	65.0	65.0	65.0	65.0	65.0
	3 AM	65.0	65.0	65.0	65.0	65.0
	4 AM	65.0	65.0	65.0	64.9	64.9
	5 AM	59.1	55.6	55.8	40.3	41.5
	6 AM	49.1	41.8	42.2	21.7	22.8
	7 AM	51.4	44.8	45.2	24.7	25.9
	8 AM	57.9	53.8	54.0	37.0	38.3
	9 AM	57.7	53.5	53.7	36.4	37.8
	10 AM	63.6	62.7	62.8	57.3	57.9
	11 AM	64.3	63.9	63.9	61.1	61.4
	12 PM	64.5	64.2	64.2	62.1	62.3
	1 PM	64.6	64.3	64.3	62.5	62.7
	2 PM	64.6	64.4	64.4	62.8	63.0
	3 PM	64.6	64.4	64.4	62.9	63.0
	4 PM	64.6	64.3	64.3	62.5	62.6
	5 PM	64.5	64.1	64.1	61.8	62.1
	6 PM	64.6	64.3	64.3	62.5	62.7
	7 PM	64.9	64.8	64.8	64.2	64.3
	8 PM	65.0	64.9	64.9	64.8	64.8
	9 PM	65.0	65.0	65.0	64.9	64.9
	10 PM	65.0	65.0	65.0	65.0	65.0
	11 PM	65.0	65.0	65.0	65.0	65.0

Passenger Vehicle Volume						
	12 AM	209	232	232	301	297
	1 AM	133	148	148	192	188
	2 AM	135	151	150	195	192
	3 AM	274	305	304	395	388
	4 AM	1,224	1,363	1,356	1,764	1,735
	5 AM	4,809	5,353	5,324	6,927	6,812
	6 AM	6,296	7,012	6,975	9,066	8,923
	7 AM	5,917	6,588	6,552	8,526	8,383
	8 AM	4,961	5,524	5,495	7,148	7,030
	9 AM	4,875	5,428	5,400	7,024	6,908
	10 AM	3,395	3,781	3,761	4,893	4,811
	11 AM	2,869	3,194	3,178	4,134	4,065
	12 PM	2,662	2,964	2,949	3,835	3,772
	1 PM	2,641	2,940	2,925	3,805	3,742
	2 PM	2,616	2,913	2,898	3,770	3,707
	3 PM	2,664	2,966	2,950	3,838	3,774
	4 PM	2,838	3,160	3,142	4,088	4,021
	5 PM	3,018	3,372	3,343	4,355	4,279
	6 PM	2,851	3,173	3,159	4,108	4,040
	7 PM	2,185	2,433	2,420	3,149	3,097
	8 PM	1,642	1,827	1,818	2,365	2,325
	9 PM	1,438	1,600	1,593	2,072	2,037
	10 PM	977	1,088	1,083	1,408	1,385
	11 PM	517	575	572	744	732

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	63	71	70	92	90
	1 AM	68	76	75	98	97
	2 AM	67	75	74	96	95
	3 AM	108	120	119	155	153
	4 AM	148	164	164	213	209
	5 AM	222	247	246	320	315
	6 AM	205	229	227	296	291
	7 AM	271	301	300	390	384
	8 AM	278	309	308	401	394
	9 AM	312	348	346	450	442
	10 AM	229	254	253	329	324
	11 AM	217	242	240	313	308
	12 PM	221	246	245	319	313
	1 PM	196	219	218	283	278
	2 PM	169	188	187	244	240
	3 PM	132	147	147	191	188
	4 PM	114	126	126	164	161
	5 PM	90	100	99	130	127
	6 PM	96	107	106	138	136
	7 PM	84	94	93	121	119
	8 PM	92	103	102	133	131
	9 PM	90	101	100	130	128
	10 PM	84	94	93	121	119
	11 PM	78	87	87	113	111

Heavy Truck Volume						
	12 AM	62	69	68	89	87
	1 AM	66	74	73	95	94
	2 AM	65	72	72	94	92
	3 AM	86	96	95	124	122
	4 AM	99	110	109	142	140
	5 AM	117	130	130	169	166
	6 AM	89	99	98	128	126
	7 AM	96	107	106	138	136
	8 AM	108	121	120	156	153
	9 AM	160	178	177	231	227
	10 AM	119	133	132	172	169
	11 AM	122	136	136	176	173
	12 PM	125	139	138	180	177
	1 PM	104	116	115	150	147
	2 PM	89	99	99	128	126
	3 PM	78	87	87	113	111
	4 PM	57	63	63	82	80
	5 PM	52	58	58	75	74
	6 PM	61	68	67	88	86
	7 PM	70	78	78	101	99
	8 PM	71	79	79	103	101
	9 PM	76	85	84	110	108
	10 PM	75	83	83	108	106
	11 PM	73	82	81	106	104





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66WB_4			Distance (mi): -	
	Facility: WB I-66				
	From: US 29 [Centreville]		To: VA 234 Bus.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	4	4	4	4	4
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	65	65	65	65	65
	Daily Volume	66,900	74,500	74,100	96,400	94,800
	Daily Truck %	9%	9%	9%	9%	9%

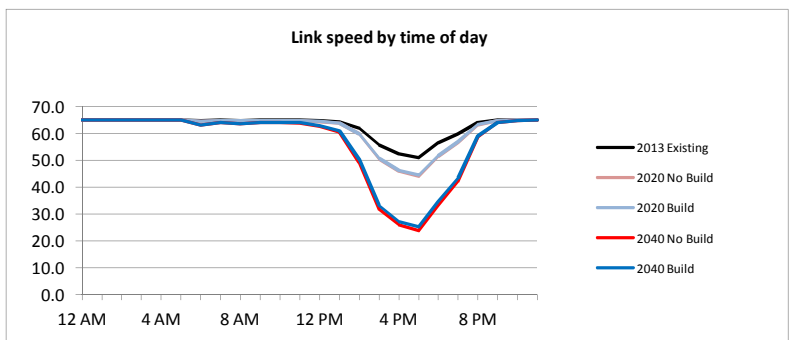
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	788	877	872	1,135	1,116
	1 AM	394	439	436	568	558
	2 AM	263	292	291	378	372
	3 AM	197	219	218	284	279
	4 AM	328	366	364	473	465
	5 AM	853	950	946	1,230	1,210
	6 AM	2,770	3,080	3,070	3,990	3,920
	7 AM	2,495	2,778	2,764	3,595	3,536
	8 AM	2,692	2,997	2,981	3,879	3,814
	9 AM	2,429	2,705	2,690	3,500	3,442
	10 AM	2,363	2,632	2,617	3,406	3,349
	11 AM	2,429	2,705	2,690	3,500	3,442
	12 PM	2,823	3,143	3,126	4,068	4,000
	1 PM	3,282	3,655	3,635	4,730	4,652
	2 PM	4,464	4,971	4,944	6,433	6,326
	3 PM	5,711	6,360	6,325	8,230	8,094
	4 PM	6,171	6,872	6,835	8,893	8,746
	5 PM	6,360	7,090	7,050	9,160	9,010
	6 PM	5,645	6,286	6,252	8,136	8,001
	7 PM	5,055	5,629	5,598	7,284	7,164
	8 PM	3,676	4,094	4,071	5,298	5,210
	9 PM	2,495	2,778	2,763	3,595	3,535
	10 PM	1,904	2,120	2,108	2,743	2,698
	11 PM	1,313	1,462	1,454	1,892	1,861

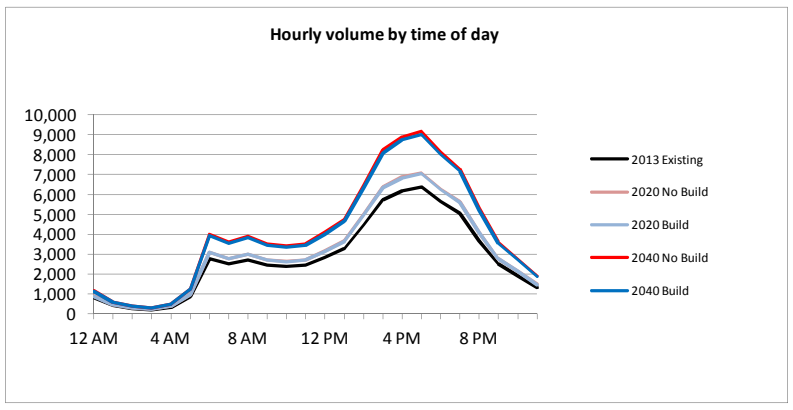
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	65.0	65.0	65.0	65.0	65.0
	1 AM	65.0	65.0	65.0	65.0	65.0
	2 AM	65.0	65.0	65.0	65.0	65.0
	3 AM	65.0	65.0	65.0	65.0	65.0
	4 AM	65.0	65.0	65.0	65.0	65.0
	5 AM	65.0	65.0	65.0	65.0	65.0
	6 AM	64.7	64.4	64.4	62.9	63.1
	7 AM	64.8	64.7	64.7	63.9	64.0
	8 AM	64.7	64.6	64.6	63.4	63.5
	9 AM	64.8	64.7	64.7	63.9	64.0
	10 AM	64.8	64.7	64.7	64.0	64.1
	11 AM	64.8	64.7	64.7	63.8	63.9
	12 PM	64.6	64.3	64.3	62.6	62.8
	1 PM	64.2	63.7	63.7	60.5	60.8
	2 PM	61.8	59.7	59.8	49.0	50.1
	3 PM	55.5	50.3	50.7	31.6	33.0
	4 PM	52.3	45.9	46.2	25.8	27.2
	5 PM	50.8	43.9	44.4	23.9	25.1
	6 PM	56.3	51.4	51.7	33.2	34.5
	7 PM	59.8	56.5	56.7	42.1	43.3
	8 PM	63.9	63.1	63.1	58.5	59.0
	9 PM	64.8	64.7	64.7	64.0	64.0
	10 PM	65.0	64.9	64.9	64.7	64.7
	11 PM	65.0	65.0	65.0	65.0	65.0

Passenger Vehicle Volume						
	12 AM	676	753	748	974	957
	1 AM	290	325	322	420	412
	2 AM	169	188	188	244	240
	3 AM	112	125	125	163	160
	4 AM	178	200	198	258	253
	5 AM	681	758	755	981	966
	6 AM	2,389	2,656	2,648	3,441	3,380
	7 AM	2,270	2,527	2,514	3,270	3,216
	8 AM	2,465	2,744	2,729	3,552	3,491
	9 AM	2,121	2,362	2,348	3,055	3,005
	10 AM	1,971	2,196	2,183	2,842	2,794
	11 AM	2,005	2,233	2,221	2,889	2,841
	12 PM	2,381	2,651	2,637	3,432	3,374
	1 PM	2,867	3,192	3,174	4,131	4,063
	2 PM	4,032	4,490	4,466	5,810	5,714
	3 PM	5,286	5,887	5,855	7,617	7,492
	4 PM	5,776	6,433	6,398	8,324	8,187
	5 PM	6,005	6,694	6,657	8,649	8,507
	6 PM	5,314	5,916	5,885	7,658	7,530
	7 PM	4,782	5,325	5,296	6,891	6,777
	8 PM	3,491	3,888	3,867	5,032	4,949
	9 PM	2,345	2,612	2,597	3,380	3,323
	10 PM	1,787	1,990	1,978	2,574	2,532
	11 PM	1,223	1,362	1,354	1,763	1,734

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	54	60	60	78	77
	1 AM	52	57	57	74	73
	2 AM	43	47	47	61	60
	3 AM	41	45	45	58	57
	4 AM	76	84	84	109	107
	5 AM	91	102	101	132	129
	6 AM	229	255	254	330	325
	7 AM	154	172	171	222	219
	8 AM	154	172	171	222	219
	9 AM	207	231	230	299	294
	10 AM	255	284	282	367	361
	11 AM	255	284	282	367	361
	12 PM	281	313	311	405	398
	1 PM	271	302	301	391	385
	2 PM	294	327	325	424	416
	3 PM	300	334	332	433	425
	4 PM	283	315	313	408	401
	5 PM	263	293	291	378	372
	6 PM	230	257	255	332	327
	7 PM	177	197	196	255	251
	8 PM	115	128	127	165	162
	9 PM	82	91	91	118	116
	10 PM	66	73	73	95	93
	11 PM	47	52	52	67	66

Heavy Truck Volume						
	12 AM	58	64	64	83	82
	1 AM	52	57	57	74	73
	2 AM	51	57	56	73	72
	3 AM	44	49	48	63	62
	4 AM	74	82	82	106	105
	5 AM	81	90	90	117	115
	6 AM	152	169	168	219	215
	7 AM	71	79	79	103	101
	8 AM	73	81	81	105	104
	9 AM	101	112	112	146	143
	10 AM	137	152	152	197	194
	11 AM	169	188	187	244	240
	12 PM	161	179	178	231	228
	1 PM	144	161	160	208	204
	2 PM	138	154	153	199	196
	3 PM	125	139	138	180	177
	4 PM	112	124	124	161	158
	5 PM	92	103	102	133	131
	6 PM	101	113	112	146	144
	7 PM	96	107	106	138	136
	8 PM	70	78	77	101	99
	9 PM	68	75	75	97	96
	10 PM	51	57	57	74	73
	11 PM	43	48	48	62	61





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66EB_5			Distance (mi): -	
	Facility: EB I-66				
	From: US 29 [Centreville]		To: VA 28		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	4	4	4	4	4
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	60	60	60	60	60
	Daily Volume	66,900	73,400	73,100	91,900	91,000
	Daily Truck %	9%	9%	9%	9%	9%

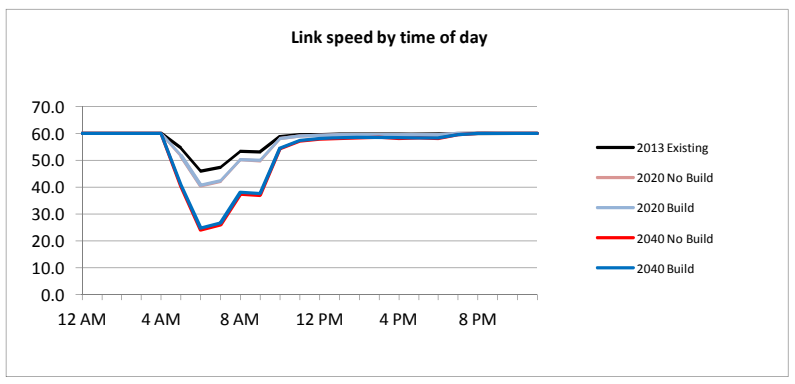
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	336	368	367	461	457
	1 AM	269	295	293	369	365
	2 AM	269	295	293	369	365
	3 AM	470	516	513	645	639
	4 AM	1,477	1,620	1,613	2,029	2,009
	5 AM	5,168	5,671	5,647	7,100	7,031
	6 AM	6,510	7,140	7,130	8,950	8,860
	7 AM	6,310	6,923	6,893	8,668	8,583
	8 AM	5,371	5,892	5,866	7,377	7,305
	9 AM	5,371	5,892	5,866	7,377	7,305
	10 AM	3,760	4,124	4,106	5,164	5,113
	11 AM	3,222	3,535	3,519	4,426	4,383
	12 PM	3,021	3,314	3,299	4,149	4,109
	1 PM	2,954	3,241	3,226	4,057	4,018
	2 PM	2,887	3,167	3,153	3,965	3,926
	3 PM	2,887	3,167	3,153	3,965	3,926
	4 PM	3,020	3,314	3,300	4,149	4,109
	5 PM	2,990	3,290	3,280	4,110	4,070
	6 PM	3,022	3,313	3,298	4,150	4,110
	7 PM	2,350	2,578	2,566	3,227	3,196
	8 PM	1,813	1,989	1,980	2,490	2,465
	9 PM	1,611	1,768	1,760	2,213	2,191
	10 PM	1,141	1,252	1,246	1,568	1,552
	11 PM	671	736	733	922	913

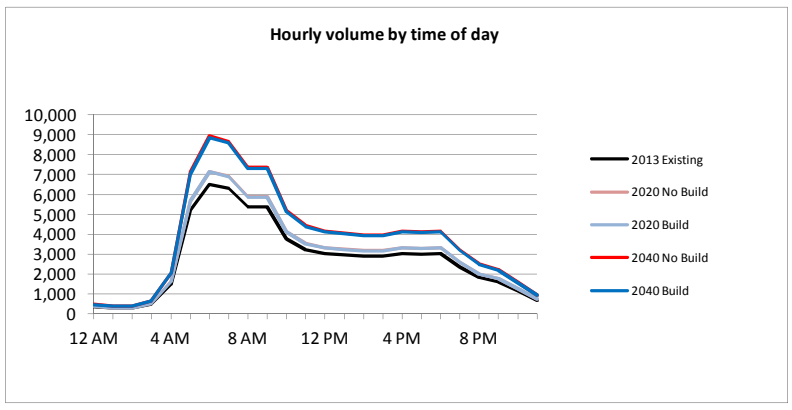
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	60.0	60.0	60.0	60.0	60.0
	1 AM	60.0	60.0	60.0	60.0	60.0
	2 AM	60.0	60.0	60.0	60.0	60.0
	3 AM	60.0	60.0	60.0	60.0	60.0
	4 AM	60.0	60.0	60.0	59.9	59.9
	5 AM	54.5	51.7	51.9	40.2	40.8
	6 AM	46.0	40.5	40.6	24.0	24.8
	7 AM	47.3	42.0	42.3	25.9	26.7
	8 AM	53.4	50.1	50.3	37.3	38.0
	9 AM	53.1	49.8	50.0	36.8	37.5
	10 AM	58.7	58.0	58.0	54.2	54.4
	11 AM	59.4	59.0	59.0	57.1	57.2
	12 PM	59.5	59.3	59.3	57.8	57.9
	1 PM	59.6	59.4	59.4	58.1	58.2
	2 PM	59.7	59.5	59.5	58.3	58.4
	3 PM	59.7	59.5	59.5	58.4	58.5
	4 PM	59.6	59.4	59.4	58.1	58.2
	5 PM	59.6	59.4	59.4	58.2	58.3
	6 PM	59.6	59.4	59.4	58.1	58.2
	7 PM	59.9	59.8	59.8	59.4	59.5
	8 PM	60.0	59.9	59.9	59.8	59.8
	9 PM	60.0	60.0	60.0	59.9	59.9
	10 PM	60.0	60.0	60.0	60.0	60.0
	11 PM	60.0	60.0	60.0	60.0	60.0

Passenger Vehicle Volume						
	12 AM	210	230	229	288	286
	1 AM	134	147	146	184	182
	2 AM	137	149	149	187	185
	3 AM	276	302	301	377	374
	4 AM	1,230	1,348	1,343	1,689	1,672
	5 AM	4,827	5,297	5,275	6,632	6,567
	6 AM	6,219	6,822	6,812	8,550	8,464
	7 AM	5,942	6,519	6,491	8,162	8,082
	8 AM	4,983	5,467	5,442	6,845	6,777
	9 AM	4,897	5,371	5,348	6,725	6,660
	10 AM	3,410	3,741	3,724	4,684	4,638
	11 AM	2,881	3,161	3,147	3,958	3,919
	12 PM	2,674	2,932	2,919	3,672	3,636
	1 PM	2,653	2,911	2,897	3,643	3,608
	2 PM	2,627	2,883	2,870	3,609	3,573
	3 PM	2,676	2,935	2,922	3,674	3,638
	4 PM	2,849	3,126	3,113	3,914	3,876
	5 PM	2,856	3,143	3,133	3,925	3,887
	6 PM	2,865	3,141	3,126	3,934	3,896
	7 PM	2,196	2,408	2,397	3,014	2,985
	8 PM	1,648	1,808	1,801	2,265	2,242
	9 PM	1,443	1,584	1,577	1,983	1,964
	10 PM	982	1,076	1,072	1,349	1,335
	11 PM	518	569	566	713	706

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	64	70	70	88	87
	1 AM	69	75	75	94	93
	2 AM	67	74	73	92	91
	3 AM	108	119	118	149	147
	4 AM	148	163	162	204	202
	5 AM	223	245	244	306	304
	6 AM	203	222	222	279	276
	7 AM	272	298	297	374	370
	8 AM	279	306	305	383	380
	9 AM	313	344	342	431	426
	10 AM	230	252	251	315	312
	11 AM	218	239	238	299	297
	12 PM	222	244	243	305	302
	1 PM	197	216	215	271	268
	2 PM	170	186	185	233	231
	3 PM	133	146	145	183	181
	4 PM	114	125	125	157	155
	5 PM	85	93	93	117	116
	6 PM	96	105	105	132	131
	7 PM	84	93	92	116	115
	8 PM	93	102	101	127	126
	9 PM	91	100	99	125	123
	10 PM	84	93	92	116	115
	11 PM	79	86	86	108	107

Heavy Truck Volume						
	12 AM	62	68	68	85	84
	1 AM	66	73	72	91	90
	2 AM	65	72	71	90	89
	3 AM	86	95	94	119	118
	4 AM	99	109	108	136	135
	5 AM	118	129	128	162	160
	6 AM	88	96	96	121	120
	7 AM	96	106	105	132	131
	8 AM	109	119	119	149	148
	9 AM	161	177	176	221	219
	10 AM	120	131	131	165	163
	11 AM	123	135	134	169	167
	12 PM	125	138	137	172	171
	1 PM	104	114	114	143	142
	2 PM	90	98	98	123	122
	3 PM	78	86	86	108	107
	4 PM	57	63	62	78	78
	5 PM	49	54	54	68	67
	6 PM	61	67	67	84	83
	7 PM	70	77	77	97	96
	8 PM	72	79	78	98	97
	9 PM	77	84	84	105	104
	10 PM	75	83	82	103	102
	11 PM	74	81	81	101	100





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: I66WB_5			Distance (mi): -	
	Facility: WB I-66				
	From: VA 28		To: US 29 [Centreville]		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Freeway	Freeway	Freeway	Freeway	Freeway
	Lanes	4	4	4	4	4
	Lane capacity	1,600	1,600	1,600	1,600	1,600
	FF Speed	60	60	60	60	60
	Daily Volume	66,900	73,400	73,100	91,900	91,000
	Daily Truck %	9%	9%	9%	9%	9%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	787	863	860	1,081	1,070
	1 AM	393	432	430	540	535
	2 AM	262	288	287	360	357
	3 AM	197	216	215	270	268
	4 AM	328	360	358	450	446
	5 AM	852	934	931	1,171	1,159
	6 AM	2,640	2,880	2,880	3,620	3,590
	7 AM	2,491	2,733	2,722	3,423	3,389
	8 AM	2,688	2,950	2,937	3,693	3,656
	9 AM	2,426	2,662	2,651	3,333	3,300
	10 AM	2,360	2,590	2,579	3,242	3,211
	11 AM	2,426	2,662	2,651	3,333	3,300
	12 PM	2,819	3,094	3,080	3,873	3,835
	1 PM	3,278	3,597	3,582	4,503	4,459
	2 PM	4,458	4,892	4,871	6,125	6,064
	3 PM	5,703	6,259	6,232	7,836	7,759
	4 PM	6,162	6,762	6,734	8,466	8,383
	5 PM	6,570	7,210	7,180	9,020	8,930
	6 PM	5,638	6,188	6,160	7,746	7,669
	7 PM	5,048	5,540	5,516	6,935	6,867
	8 PM	3,671	4,029	4,012	5,044	4,994
	9 PM	2,491	2,734	2,722	3,423	3,389
	10 PM	1,901	2,086	2,077	2,612	2,586
	11 PM	1,311	1,439	1,433	1,801	1,784

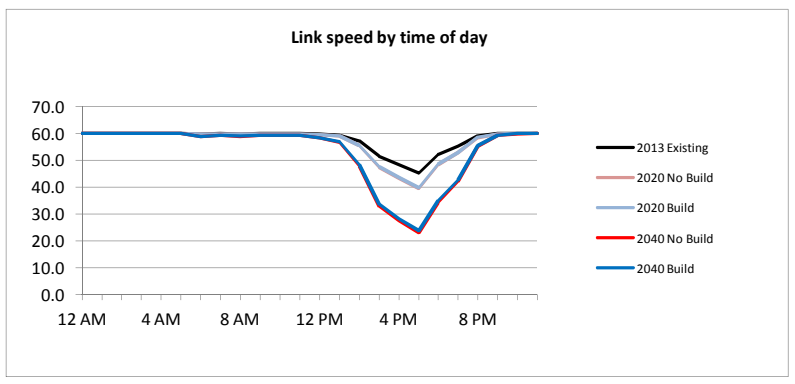
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	60.0	60.0	60.0	60.0	60.0
	1 AM	60.0	60.0	60.0	60.0	60.0
	2 AM	60.0	60.0	60.0	60.0	60.0
	3 AM	60.0	60.0	60.0	60.0	60.0
	4 AM	60.0	60.0	60.0	60.0	60.0
	5 AM	60.0	60.0	60.0	60.0	60.0
	6 AM	59.8	59.6	59.6	58.8	58.9
	7 AM	59.8	59.7	59.7	59.2	59.2
	8 AM	59.8	59.6	59.6	58.8	58.9
	9 AM	59.8	59.7	59.8	59.2	59.3
	10 AM	59.8	59.8	59.8	59.3	59.3
	11 AM	59.8	59.7	59.7	59.1	59.2
	12 PM	59.6	59.4	59.4	58.3	58.4
	1 PM	59.3	58.9	58.9	56.7	56.8
	2 PM	57.0	55.4	55.5	47.9	48.3
	3 PM	51.4	47.3	47.5	32.9	33.6
	4 PM	48.3	43.3	43.6	27.5	28.2
	5 PM	45.2	39.5	39.8	23.1	23.8
	6 PM	52.0	48.2	48.4	34.3	35.0
	7 PM	55.2	52.7	52.8	42.0	42.7
	8 PM	59.0	58.4	58.4	55.2	55.5
	9 PM	59.8	59.8	59.8	59.2	59.3
	10 PM	60.0	59.9	59.9	59.8	59.8
	11 PM	60.0	60.0	60.0	60.0	60.0

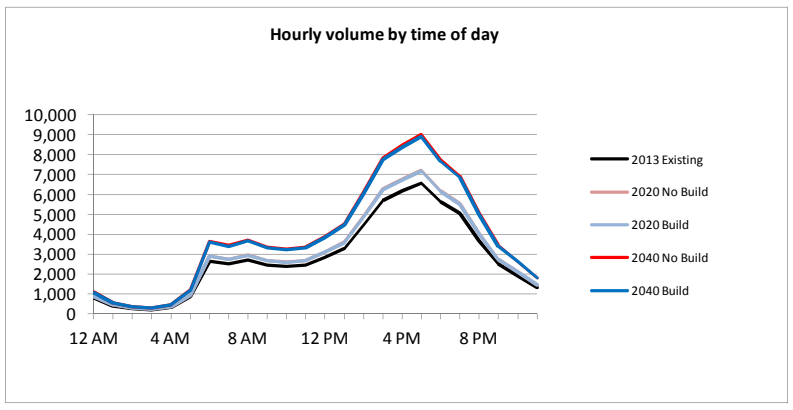
Passenger Vehicle Volume						
	12 AM	675	741	738	928	917
	1 AM	291	318	318	398	395
	2 AM	169	185	185	232	230
	3 AM	112	124	123	154	154
	4 AM	178	196	194	245	243
	5 AM	680	745	743	935	925
	6 AM	2,276	2,484	2,484	3,122	3,096
	7 AM	2,266	2,486	2,476	3,113	3,082
	8 AM	2,461	2,701	2,689	3,381	3,347
	9 AM	2,118	2,324	2,315	2,909	2,881
	10 AM	1,969	2,161	2,152	2,705	2,679
	11 AM	2,003	2,198	2,188	2,752	2,724
	12 PM	2,379	2,610	2,599	3,268	3,235
	1 PM	2,863	3,142	3,129	3,933	3,894
	2 PM	4,027	4,418	4,399	5,532	5,477
	3 PM	5,278	5,793	5,768	7,253	7,181
	4 PM	5,768	6,330	6,303	7,925	7,847
	5 PM	6,204	6,808	6,779	8,516	8,432
	6 PM	5,307	5,824	5,798	7,291	7,218
	7 PM	4,775	5,241	5,219	6,561	6,497
	8 PM	3,487	3,826	3,811	4,791	4,743
	9 PM	2,341	2,570	2,558	3,217	3,186
	10 PM	1,784	1,958	1,949	2,452	2,427
	11 PM	1,221	1,341	1,335	1,678	1,663

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	54	59	59	74	74
	1 AM	51	57	56	71	70
	2 AM	42	47	46	58	58
	3 AM	41	44	44	56	55
	4 AM	76	83	83	104	103
	5 AM	91	100	100	125	124
	6 AM	219	238	238	300	297
	7 AM	154	169	168	212	210
	8 AM	154	169	168	212	210
	9 AM	207	227	226	285	282
	10 AM	254	279	278	349	346
	11 AM	254	279	278	349	346
	12 PM	280	308	306	385	382
	1 PM	271	297	296	372	369
	2 PM	293	322	321	403	399
	3 PM	300	329	328	412	408
	4 PM	282	310	309	388	384
	5 PM	271	298	297	373	369
	6 PM	230	253	251	316	313
	7 PM	177	194	193	243	240
	8 PM	114	126	125	157	156
	9 PM	82	90	90	113	111
	10 PM	66	72	72	90	89
	11 PM	47	51	51	64	63

Heavy Truck Volume						
	12 AM	58	63	63	79	79
	1 AM	51	57	56	71	70
	2 AM	51	56	56	70	69
	3 AM	44	48	48	60	59
	4 AM	74	81	81	101	100
	5 AM	81	89	88	111	110
	6 AM	145	158	158	198	197
	7 AM	71	78	78	98	97
	8 AM	73	80	80	100	99
	9 AM	101	111	110	139	137
	10 AM	137	150	149	188	186
	11 AM	169	185	185	232	230
	12 PM	160	176	175	220	218
	1 PM	144	158	157	198	196
	2 PM	138	152	151	190	188
	3 PM	125	137	136	171	170
	4 PM	112	122	122	153	152
	5 PM	95	104	104	131	129
	6 PM	101	111	111	139	138
	7 PM	96	105	104	131	130
	8 PM	70	77	76	96	95
	9 PM	68	74	74	93	92
	10 PM	51	56	56	70	70
	11 PM	43	47	47	59	58





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_43_NBSB			Distance (mi): -	
	Facility:				
	EB Exit I-66 Interchange at US 29 [Gainesville]				
	From: EB I-66		To: US 29		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	55	55	55	55	55
	Daily Volume	2,800	3,400	3,700	5,300	6,300
	Daily Truck %	14%	14%	14%	14%	14%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	20	25	28	39	49
	1 AM	6	7	8	12	15
	2 AM	4	5	6	9	11
	3 AM	10	12	13	19	23
	4 AM	21	25	27	39	44
	5 AM	117	117	120	174	190
	6 AM	290	350	370	540	600
	7 AM	236	271	288	415	476
	8 AM	228	276	298	427	501
	9 AM	154	186	203	290	347
	10 AM	120	145	159	227	272
	11 AM	129	158	174	247	300
	12 PM	130	159	176	250	305
	1 PM	139	169	188	267	327
	2 PM	157	198	220	312	380
	3 PM	176	227	253	359	443
	4 PM	165	206	230	326	401
	5 PM	160	200	190	290	300
	6 PM	165	210	236	333	413
	7 PM	133	162	182	257	319
	8 PM	116	141	159	226	281
	9 PM	69	84	96	135	168
	10 PM	29	35	40	56	71
	11 PM	26	32	36	51	64

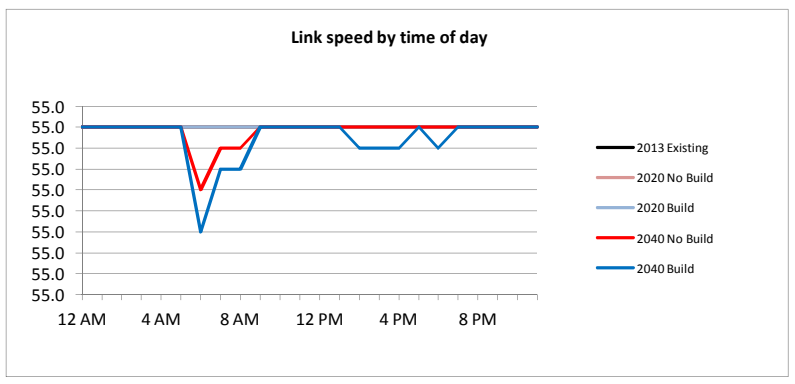
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	55.0	55.0
	6 AM	55.0	55.0	55.0	55.0	55.0
	7 AM	55.0	55.0	55.0	55.0	55.0
	8 AM	55.0	55.0	55.0	55.0	55.0
	9 AM	55.0	55.0	55.0	55.0	55.0
	10 AM	55.0	55.0	55.0	55.0	55.0
	11 AM	55.0	55.0	55.0	55.0	55.0
	12 PM	55.0	55.0	55.0	55.0	55.0
	1 PM	55.0	55.0	55.0	55.0	55.0
	2 PM	55.0	55.0	55.0	55.0	55.0
	3 PM	55.0	55.0	55.0	55.0	55.0
	4 PM	55.0	55.0	55.0	55.0	55.0
	5 PM	55.0	55.0	55.0	55.0	55.0
	6 PM	55.0	55.0	55.0	55.0	55.0
	7 PM	55.0	55.0	55.0	55.0	55.0
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

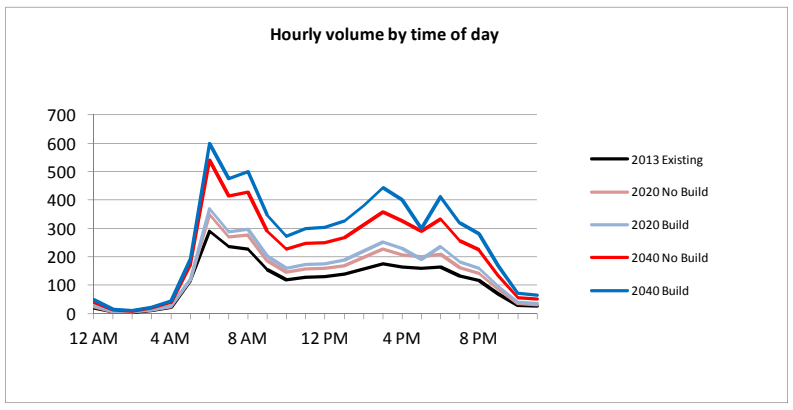
Passenger Vehicle Volume						
	12 AM	9	11	12	17	22
	1 AM	3	3	3	5	5
	2 AM	2	3	3	3	5
	3 AM	6	6	7	10	13
	4 AM	17	19	21	33	36
	5 AM	107	107	110	159	173
	6 AM	263	317	335	490	544
	7 AM	215	248	263	378	434
	8 AM	200	243	263	377	441
	9 AM	132	159	174	250	297
	10 AM	100	122	133	191	229
	11 AM	106	130	142	203	248
	12 PM	108	132	147	208	255
	1 PM	115	141	157	223	274
	2 PM	132	167	185	262	320
	3 PM	150	194	216	307	378
	4 PM	145	181	202	286	352
	5 PM	142	177	168	257	266
	6 PM	146	187	211	296	367
	7 PM	113	137	155	219	272
	8 PM	100	119	135	192	238
	9 PM	55	67	76	108	135
	10 PM	22	25	30	40	51
	11 PM	16	20	22	32	41

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	5	6	7	9	11
	1 AM	1	1	2	2	3
	2 AM	1	1	1	2	2
	3 AM	2	2	2	4	4
	4 AM	2	3	3	3	4
	5 AM	7	7	7	10	12
	6 AM	21	25	26	38	42
	7 AM	15	17	18	27	31
	8 AM	19	23	24	34	41
	9 AM	14	17	18	25	31
	10 AM	12	13	16	22	26
	11 AM	14	17	19	26	31
	12 PM	13	16	17	24	29
	1 PM	14	17	19	26	31
	2 PM	17	21	24	34	40
	3 PM	16	21	23	33	41
	4 PM	14	17	19	27	33
	5 PM	11	14	13	20	21
	6 PM	11	14	15	22	27
	7 PM	11	14	15	21	26
	8 PM	8	11	12	16	21
	9 PM	6	7	8	12	14
	10 PM	3	4	4	7	9
	11 PM	4	5	6	7	9

Heavy Truck Volume						
	12 AM	6	8	9	13	16
	1 AM	2	3	3	5	7
	2 AM	1	1	2	4	4
	3 AM	2	4	4	5	6
	4 AM	2	3	3	3	4
	5 AM	3	3	3	5	5
	6 AM	6	8	9	12	14
	7 AM	6	6	7	10	11
	8 AM	9	10	11	16	19
	9 AM	8	10	11	15	19
	10 AM	8	10	10	14	17
	11 AM	9	11	13	18	21
	12 PM	9	11	12	18	21
	1 PM	10	11	12	18	22
	2 PM	8	10	11	16	20
	3 PM	10	12	14	19	24
	4 PM	6	8	9	13	16
	5 PM	7	9	9	13	13
	6 PM	8	9	10	15	19
	7 PM	9	11	12	17	21
	8 PM	8	11	12	18	22
	9 PM	8	10	12	15	19
	10 PM	4	6	6	9	11
	11 PM	6	7	8	12	14





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_43_NBSB			Distance (mi): -	
	Facility: EB Entrance I-66 Interchange at US 29 [Gainesville]				
	From: US 29		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	55	55	55	55	55
	Daily Volume	25,800	25,500	24,400	24,900	20,400
	Daily Truck %	10%	10%	10%	10%	10%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	134	132	128	129	113
	1 AM	89	88	86	86	76
	2 AM	108	106	105	104	94
	3 AM	215	213	209	208	187
	4 AM	745	736	716	719	631
	5 AM	2,052	2,028	1,958	1,979	1,688
	6 AM	2,470	2,420	2,300	2,300	1,810
	7 AM	2,397	2,368	2,254	2,314	1,850
	8 AM	1,823	1,802	1,715	1,761	1,409
	9 AM	1,663	1,643	1,564	1,606	1,284
	10 AM	1,551	1,533	1,462	1,498	1,208
	11 AM	1,282	1,267	1,217	1,238	1,029
	12 PM	1,219	1,205	1,156	1,177	973
	1 PM	1,207	1,193	1,143	1,165	959
	2 PM	1,216	1,201	1,148	1,174	952
	3 PM	1,188	1,174	1,125	1,147	941
	4 PM	1,228	1,213	1,159	1,184	966
	5 PM	1,310	1,320	1,250	1,340	1,090
	6 PM	1,224	1,209	1,150	1,185	947
	7 PM	791	781	747	763	620
	8 PM	665	657	635	641	549
	9 PM	561	556	537	542	467
	10 PM	407	403	392	393	344
	11 PM	255	252	244	247	213

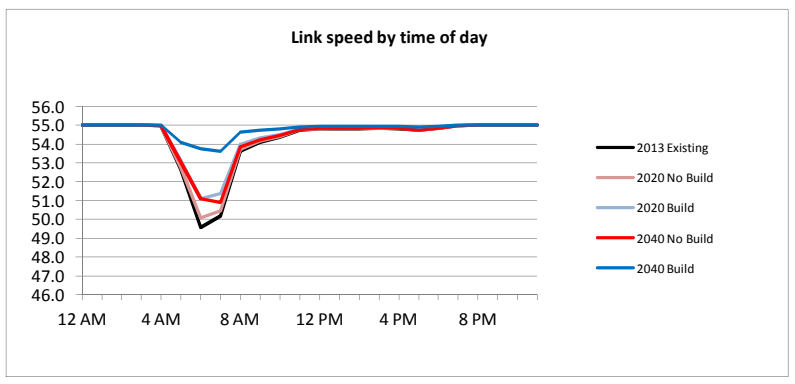
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	52.6	52.8	53.1	53.0	54.1
	6 AM	49.6	50.1	51.1	51.1	53.8
	7 AM	50.2	50.4	51.4	50.9	53.6
	8 AM	53.6	53.7	54.0	53.8	54.6
	9 AM	54.1	54.1	54.3	54.2	54.7
	10 AM	54.3	54.4	54.5	54.4	54.8
	11 AM	54.7	54.8	54.8	54.8	54.9
	12 PM	54.8	54.8	54.8	54.8	54.9
	1 PM	54.8	54.8	54.9	54.8	54.9
	2 PM	54.8	54.8	54.9	54.8	54.9
	3 PM	54.8	54.8	54.9	54.9	54.9
	4 PM	54.8	54.8	54.9	54.8	54.9
	5 PM	54.7	54.7	54.8	54.7	54.9
	6 PM	54.8	54.8	54.9	54.8	54.9
	7 PM	55.0	55.0	55.0	55.0	55.0
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

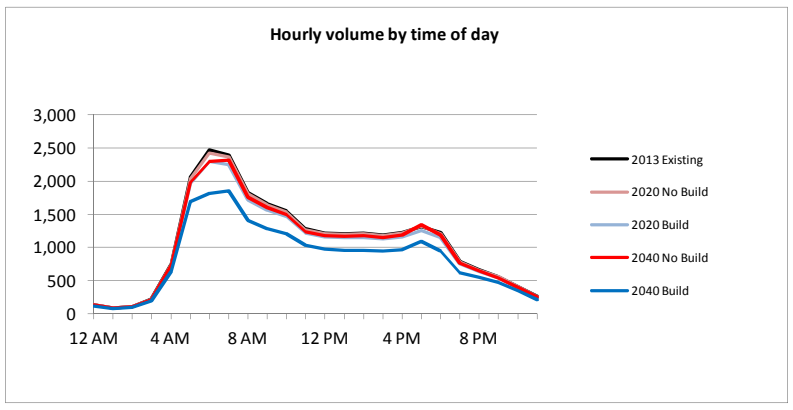
Passenger Vehicle Volume						
	12 AM	76	74	73	73	64
	1 AM	39	39	37	38	32
	2 AM	51	50	50	49	44
	3 AM	123	122	120	119	108
	4 AM	617	609	593	595	522
	5 AM	1,904	1,881	1,815	1,836	1,566
	6 AM	2,324	2,278	2,165	2,165	1,703
	7 AM	2,236	2,209	2,102	2,158	1,727
	8 AM	1,666	1,647	1,567	1,609	1,288
	9 AM	1,492	1,476	1,404	1,442	1,152
	10 AM	1,376	1,361	1,297	1,330	1,072
	11 AM	1,121	1,108	1,064	1,083	900
	12 PM	1,061	1,047	1,006	1,024	847
	1 PM	1,063	1,050	1,007	1,026	845
	2 PM	1,083	1,069	1,022	1,044	848
	3 PM	1,077	1,064	1,020	1,040	853
	4 PM	1,135	1,121	1,071	1,094	894
	5 PM	1,227	1,237	1,170	1,254	1,021
	6 PM	1,140	1,126	1,070	1,104	882
	7 PM	721	712	681	695	566
	8 PM	594	586	566	572	491
	9 PM	489	485	468	472	407
	10 PM	337	334	325	325	286
	11 PM	186	184	178	180	155

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	27	27	26	26	23
	1 AM	23	22	22	21	20
	2 AM	26	26	26	25	23
	3 AM	47	46	45	45	40
	4 AM	72	72	69	70	61
	5 AM	100	99	96	96	82
	6 AM	106	103	98	98	77
	7 AM	119	117	112	115	91
	8 AM	111	109	104	107	85
	9 AM	110	108	103	106	85
	10 AM	111	109	105	107	86
	11 AM	100	99	95	96	80
	12 PM	97	97	92	94	77
	1 PM	91	90	86	87	72
	2 PM	88	87	83	86	69
	3 PM	70	69	66	67	55
	4 PM	63	62	60	61	49
	5 PM	52	52	50	53	43
	6 PM	51	50	48	49	39
	7 PM	38	38	36	37	29
	8 PM	38	38	37	37	31
	9 PM	36	35	34	35	30
	10 PM	35	34	33	34	29
	11 PM	32	32	31	31	27

Heavy Truck Volume						
	12 AM	31	31	29	30	26
	1 AM	27	27	27	27	24
	2 AM	31	30	29	30	27
	3 AM	45	45	44	44	39
	4 AM	56	55	54	54	48
	5 AM	48	48	47	47	40
	6 AM	40	39	37	37	30
	7 AM	42	42	40	41	32
	8 AM	46	46	44	45	36
	9 AM	61	59	57	58	47
	10 AM	64	63	60	61	50
	11 AM	61	60	58	59	49
	12 PM	61	61	58	59	49
	1 PM	53	53	50	52	42
	2 PM	45	45	43	44	35
	3 PM	41	41	39	40	33
	4 PM	30	30	28	29	23
	5 PM	31	31	30	33	26
	6 PM	33	33	32	32	26
	7 PM	32	31	30	31	25
	8 PM	33	33	32	32	27
	9 PM	36	36	35	35	30
	10 PM	35	35	34	34	29
	11 PM	37	36	35	36	31





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project:	Tri-County Parkway EIS			
	Location:	Loudoun, Prince William and Fairfax Counties, VA			
	Display Code:	EBExit_43_SB		Distance (mi):	-
	Facility:				
	EB Exit	I-66 Interchange at US 29 [Gainesville]			
	From:		To:		
	EB I-66		SB US 29		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	30	30	30	30	30
	Daily Volume	1,700	2,100	2,400	3,400	4,300
	Daily Truck %	15%	15%	15%	15%	15%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	17	21	24	34	43
	1 AM	5	6	7	10	13
	2 AM	3	4	5	7	9
	3 AM	5	6	7	10	13
	4 AM	7	8	10	14	17
	5 AM	12	15	17	24	30
	6 AM	110	140	160	240	290
	7 AM	78	96	111	156	199
	8 AM	107	132	152	213	272
	9 AM	89	109	125	176	225
	10 AM	72	88	101	142	181
	11 AM	85	105	121	169	216
	12 PM	90	111	128	179	229
	1 PM	99	121	140	196	251
	2 PM	112	138	159	223	285
	3 PM	141	174	200	281	359
	4 PM	128	157	181	254	324
	5 PM	100	130	130	200	230
	6 PM	131	161	186	259	332
	7 PM	106	130	150	210	268
	8 PM	97	119	137	193	246
	9 PM	58	71	82	115	147
	10 PM	26	31	36	51	65
	11 PM	22	27	31	44	56

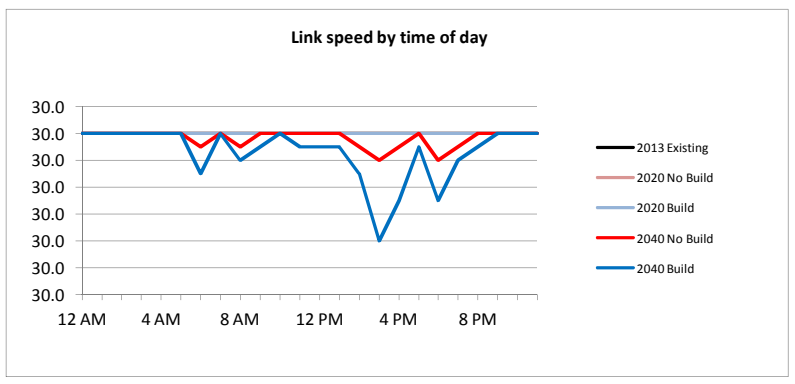
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	30.0	30.0	30.0	30.0	30.0
	6 AM	30.0	30.0	30.0	30.0	30.0
	7 AM	30.0	30.0	30.0	30.0	30.0
	8 AM	30.0	30.0	30.0	30.0	30.0
	9 AM	30.0	30.0	30.0	30.0	30.0
	10 AM	30.0	30.0	30.0	30.0	30.0
	11 AM	30.0	30.0	30.0	30.0	30.0
	12 PM	30.0	30.0	30.0	30.0	30.0
	1 PM	30.0	30.0	30.0	30.0	30.0
	2 PM	30.0	30.0	30.0	30.0	30.0
	3 PM	30.0	30.0	30.0	30.0	30.0
	4 PM	30.0	30.0	30.0	30.0	30.0
	5 PM	30.0	30.0	30.0	30.0	30.0
	6 PM	30.0	30.0	30.0	30.0	30.0
	7 PM	30.0	30.0	30.0	30.0	30.0
	8 PM	30.0	30.0	30.0	30.0	30.0
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

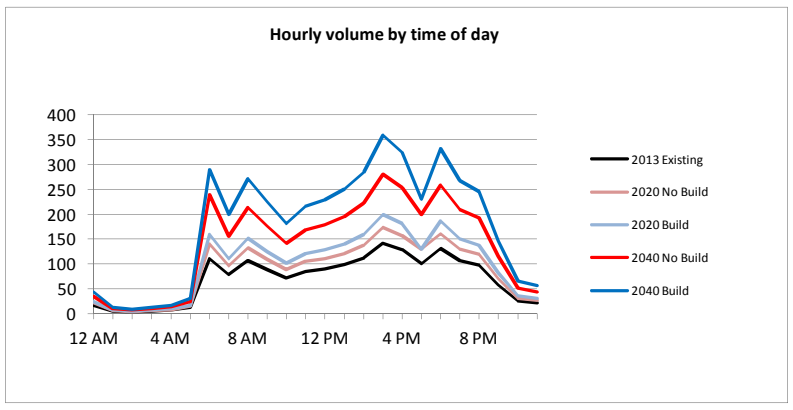
Passenger Vehicle Volume						
	12 AM	8	9	10	15	19
	1 AM	2	2	2	4	4
	2 AM	1	2	2	2	4
	3 AM	3	3	4	5	8
	4 AM	5	6	8	12	13
	5 AM	11	14	16	22	27
	6 AM	100	127	145	218	263
	7 AM	71	88	101	142	181
	8 AM	94	116	134	188	240
	9 AM	76	93	107	152	193
	10 AM	60	74	85	119	153
	11 AM	70	87	99	139	179
	12 PM	75	92	107	149	191
	1 PM	82	101	117	164	210
	2 PM	94	116	134	188	240
	3 PM	120	149	171	240	307
	4 PM	112	138	159	223	284
	5 PM	89	115	115	177	204
	6 PM	116	143	166	230	295
	7 PM	90	110	128	179	228
	8 PM	83	101	117	164	209
	9 PM	46	57	65	92	118
	10 PM	19	22	27	37	47
	11 PM	14	17	19	28	36

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	4	5	6	8	10
	1 AM	1	1	2	2	3
	2 AM	1	1	1	2	2
	3 AM	1	1	1	2	2
	4 AM	1	1	1	1	2
	5 AM	1	1	1	1	2
	6 AM	8	10	11	17	20
	7 AM	5	6	7	10	13
	8 AM	9	11	12	17	22
	9 AM	8	10	11	15	20
	10 AM	7	8	10	14	17
	11 AM	9	11	13	18	22
	12 PM	9	11	12	17	22
	1 PM	10	12	14	19	24
	2 PM	12	15	17	24	30
	3 PM	13	16	18	26	33
	4 PM	11	13	15	21	27
	5 PM	7	9	9	14	16
	6 PM	9	11	12	17	22
	7 PM	9	11	12	17	22
	8 PM	7	9	10	14	18
	9 PM	5	6	7	10	12
	10 PM	3	4	4	6	8
	11 PM	3	4	5	6	8

Heavy Truck Volume						
	12 AM	5	7	8	11	14
	1 AM	2	3	3	4	6
	2 AM	1	1	2	3	3
	3 AM	1	2	2	3	3
	4 AM	1	1	1	1	2
	5 AM	0	0	0	1	1
	6 AM	2	3	4	5	7
	7 AM	2	2	3	4	5
	8 AM	4	5	6	8	10
	9 AM	5	6	7	9	12
	10 AM	5	6	6	9	11
	11 AM	6	7	9	12	15
	12 PM	6	8	9	13	16
	1 PM	7	8	9	13	17
	2 PM	6	7	8	11	15
	3 PM	8	9	11	15	19
	4 PM	5	6	7	10	13
	5 PM	4	6	6	9	10
	6 PM	6	7	8	12	15
	7 PM	7	9	10	14	18
	8 PM	7	9	10	15	19
	9 PM	7	8	10	13	17
	10 PM	4	5	5	8	10
	11 PM	5	6	7	10	12





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_43_SB			Distance (mi): -	
	Facility: EB Entrance I-66 Interchange at US 29 [Gainesville]				
	From: SB US 29		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	30	30	30	30	30
	Daily Volume	7,000	6,900	5,900	6,800	2,900
	Daily Truck %	10%	10%	10%	10%	10%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	21	20	17	20	8
	1 AM	14	13	12	13	6
	2 AM	14	13	12	13	6
	3 AM	27	27	23	27	11
	4 AM	123	121	104	120	51
	5 AM	431	424	362	419	178
	6 AM	740	730	620	690	280
	7 AM	738	727	621	718	305
	8 AM	560	552	472	545	232
	9 AM	513	505	432	499	212
	10 AM	458	451	386	445	189
	11 AM	321	316	271	312	133
	12 PM	314	310	265	306	130
	1 PM	321	316	271	312	133
	2 PM	349	343	294	339	144
	3 PM	321	316	271	312	133
	4 PM	342	336	287	332	141
	5 PM	430	430	370	440	210
	6 PM	375	371	315	367	155
	7 PM	226	222	190	219	93
	8 PM	137	135	115	133	57
	9 PM	109	108	92	106	45
	10 PM	68	67	58	66	28
	11 PM	48	47	40	47	20

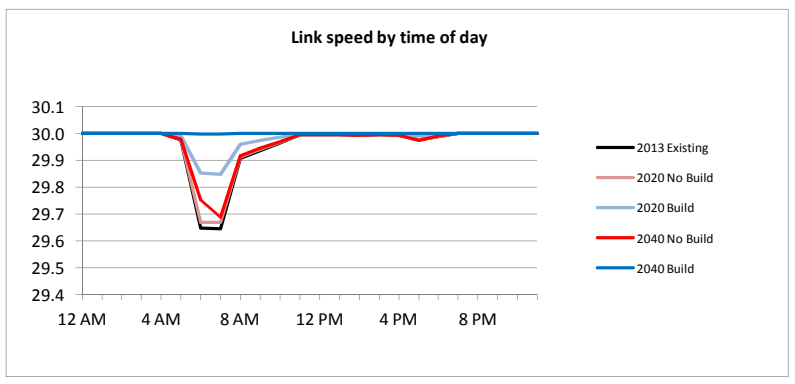
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	30.0	30.0	30.0	30.0	30.0
	6 AM	29.6	29.7	29.9	29.8	30.0
	7 AM	29.6	29.7	29.8	29.7	30.0
	8 AM	29.9	29.9	30.0	29.9	30.0
	9 AM	29.9	29.9	30.0	29.9	30.0
	10 AM	30.0	30.0	30.0	30.0	30.0
	11 AM	30.0	30.0	30.0	30.0	30.0
	12 PM	30.0	30.0	30.0	30.0	30.0
	1 PM	30.0	30.0	30.0	30.0	30.0
	2 PM	30.0	30.0	30.0	30.0	30.0
	3 PM	30.0	30.0	30.0	30.0	30.0
	4 PM	30.0	30.0	30.0	30.0	30.0
	5 PM	30.0	30.0	30.0	30.0	30.0
	6 PM	30.0	30.0	30.0	30.0	30.0
	7 PM	30.0	30.0	30.0	30.0	30.0
	8 PM	30.0	30.0	30.0	30.0	30.0
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

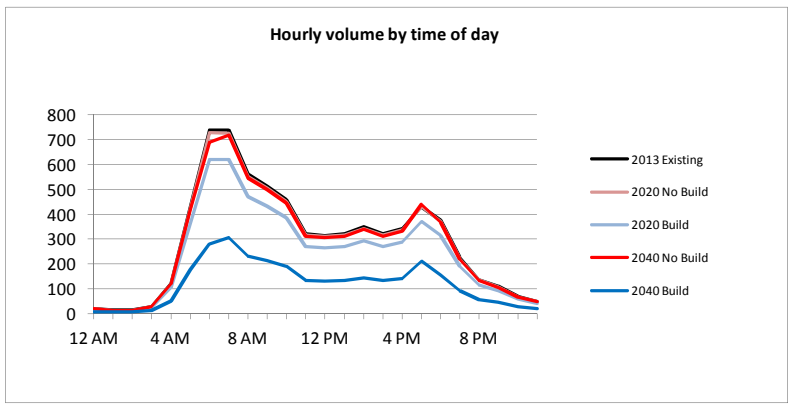
Passenger Vehicle Volume						
	12 AM	12	11	10	11	4
	1 AM	6	6	5	6	2
	2 AM	7	6	6	6	3
	3 AM	15	15	13	15	7
	4 AM	102	100	86	99	42
	5 AM	400	393	335	389	165
	6 AM	696	687	584	650	263
	7 AM	688	678	579	669	285
	8 AM	512	505	431	498	212
	9 AM	460	454	388	448	190
	10 AM	406	400	342	395	168
	11 AM	281	276	237	273	117
	12 PM	273	269	231	267	113
	1 PM	283	278	239	275	117
	2 PM	311	305	262	301	129
	3 PM	291	286	246	283	120
	4 PM	316	311	265	307	131
	5 PM	403	403	346	412	197
	6 PM	349	346	293	342	145
	7 PM	206	202	173	199	85
	8 PM	122	120	102	118	51
	9 PM	95	94	80	92	39
	10 PM	56	55	48	54	24
	11 PM	35	34	29	34	14

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	4	4	3	4	2
	1 AM	4	3	3	3	2
	2 AM	3	3	3	3	1
	3 AM	6	6	5	6	2
	4 AM	12	12	10	12	5
	5 AM	21	21	18	20	9
	6 AM	32	31	26	29	12
	7 AM	37	36	31	36	15
	8 AM	34	33	29	33	14
	9 AM	34	33	28	33	14
	10 AM	33	32	28	32	13
	11 AM	25	25	21	24	10
	12 PM	25	25	21	24	10
	1 PM	24	24	20	23	10
	2 PM	25	25	21	25	10
	3 PM	19	19	16	18	8
	4 PM	18	17	15	17	7
	5 PM	17	17	15	17	8
	6 PM	16	15	13	15	6
	7 PM	11	11	9	11	4
	8 PM	8	8	7	8	3
	9 PM	7	7	6	7	3
	10 PM	6	6	5	6	2
	11 PM	6	6	5	6	3

Heavy Truck Volume						
	12 AM	5	5	4	5	2
	1 AM	4	4	4	4	2
	2 AM	4	4	3	4	2
	3 AM	6	6	5	6	2
	4 AM	9	9	8	9	4
	5 AM	10	10	9	10	4
	6 AM	12	12	10	11	5
	7 AM	13	13	11	13	5
	8 AM	14	14	12	14	6
	9 AM	19	18	16	18	8
	10 AM	19	19	16	18	8
	11 AM	15	15	13	15	6
	12 PM	16	16	13	15	7
	1 PM	14	14	12	14	6
	2 PM	13	13	11	13	5
	3 PM	11	11	9	11	5
	4 PM	8	8	7	8	3
	5 PM	10	10	9	11	5
	6 PM	10	10	9	10	4
	7 PM	9	9	8	9	4
	8 PM	7	7	6	7	3
	9 PM	7	7	6	7	3
	10 PM	6	6	5	6	2
	11 PM	7	7	6	7	3





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_43_NB			Distance (mi): -	
	Facility: EB Exit I-66 Interchange at US 29 [Gainesville]				
	From: EB I-66		To: NB US 29		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	25	25	25	25	25
	Daily Volume	1,100	1,300	1,300	1,900	2,000
	Daily Truck %	12%	13%	13%	13%	13%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	3	4	4	5	6
	1 AM	1	1	1	2	2
	2 AM	1	1	1	2	2
	3 AM	5	6	6	9	10
	4 AM	14	17	17	25	27
	5 AM	105	102	103	150	160
	6 AM	180	210	210	300	310
	7 AM	158	175	177	259	277
	8 AM	121	144	146	214	229
	9 AM	65	77	78	114	122
	10 AM	48	57	58	85	91
	11 AM	44	53	53	78	84
	12 PM	40	48	48	71	76
	1 PM	40	48	48	71	76
	2 PM	45	60	61	89	95
	3 PM	35	53	53	78	84
	4 PM	37	49	49	72	77
	5 PM	60	70	60	90	70
	6 PM	34	49	50	74	81
	7 PM	27	32	32	47	51
	8 PM	19	22	22	33	35
	9 PM	11	13	14	20	21
	10 PM	3	4	4	5	6
	11 PM	4	5	5	7	8

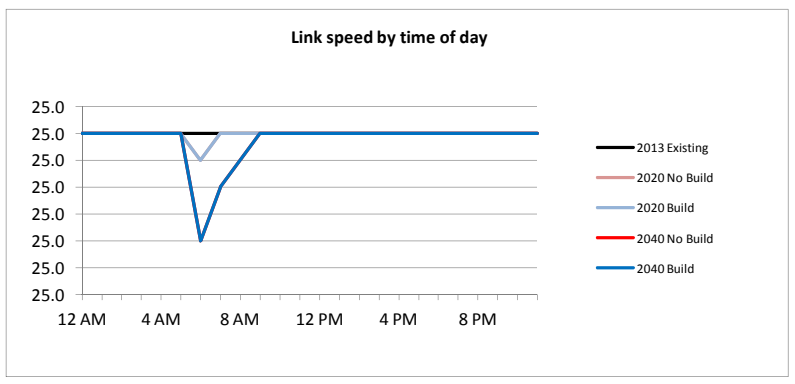
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	25.0	25.0	25.0	25.0	25.0
	1 AM	25.0	25.0	25.0	25.0	25.0
	2 AM	25.0	25.0	25.0	25.0	25.0
	3 AM	25.0	25.0	25.0	25.0	25.0
	4 AM	25.0	25.0	25.0	25.0	25.0
	5 AM	25.0	25.0	25.0	25.0	25.0
	6 AM	25.0	25.0	25.0	25.0	25.0
	7 AM	25.0	25.0	25.0	25.0	25.0
	8 AM	25.0	25.0	25.0	25.0	25.0
	9 AM	25.0	25.0	25.0	25.0	25.0
	10 AM	25.0	25.0	25.0	25.0	25.0
	11 AM	25.0	25.0	25.0	25.0	25.0
	12 PM	25.0	25.0	25.0	25.0	25.0
	1 PM	25.0	25.0	25.0	25.0	25.0
	2 PM	25.0	25.0	25.0	25.0	25.0
	3 PM	25.0	25.0	25.0	25.0	25.0
	4 PM	25.0	25.0	25.0	25.0	25.0
	5 PM	25.0	25.0	25.0	25.0	25.0
	6 PM	25.0	25.0	25.0	25.0	25.0
	7 PM	25.0	25.0	25.0	25.0	25.0
	8 PM	25.0	25.0	25.0	25.0	25.0
	9 PM	25.0	25.0	25.0	25.0	25.0
	10 PM	25.0	25.0	25.0	25.0	25.0
	11 PM	25.0	25.0	25.0	25.0	25.0

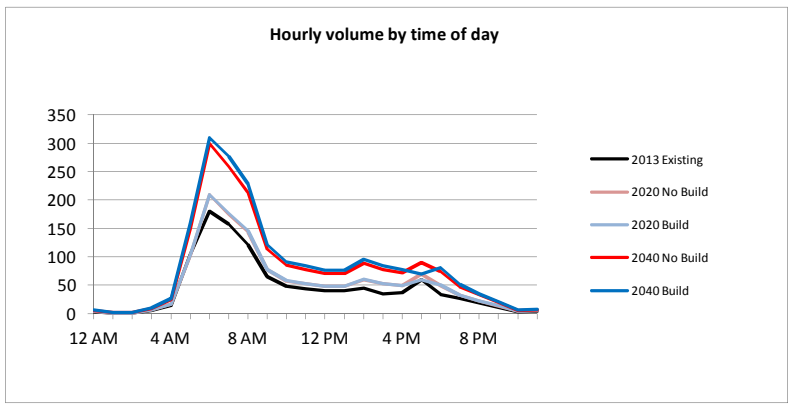
Passenger Vehicle Volume						
	12 AM	1	2	2	2	3
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	3	3	3	5	5
	4 AM	12	13	13	21	23
	5 AM	96	93	94	137	146
	6 AM	163	190	190	272	281
	7 AM	144	160	162	236	253
	8 AM	106	127	129	189	201
	9 AM	56	66	67	98	104
	10 AM	40	48	48	72	76
	11 AM	36	43	43	64	69
	12 PM	33	40	40	59	64
	1 PM	33	40	40	59	64
	2 PM	38	51	51	74	80
	3 PM	30	45	45	67	71
	4 PM	33	43	43	63	68
	5 PM	53	62	53	80	62
	6 PM	30	44	45	66	72
	7 PM	23	27	27	40	44
	8 PM	17	18	18	28	29
	9 PM	9	10	11	16	17
	10 PM	3	3	3	3	4
	11 PM	2	3	3	4	5

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	1	1
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	1	1	1	2	2
	4 AM	1	2	2	2	2
	5 AM	6	6	6	9	10
	6 AM	13	15	15	21	22
	7 AM	10	11	11	17	18
	8 AM	10	12	12	17	19
	9 AM	6	7	7	10	11
	10 AM	5	5	6	8	9
	11 AM	5	6	6	8	9
	12 PM	4	5	5	7	7
	1 PM	4	5	5	7	7
	2 PM	5	6	7	10	10
	3 PM	3	5	5	7	8
	4 PM	3	4	4	6	6
	5 PM	4	5	4	6	5
	6 PM	2	3	3	5	5
	7 PM	2	3	3	4	4
	8 PM	1	2	2	2	3
	9 PM	1	1	1	2	2
	10 PM	0	0	0	1	1
	11 PM	1	1	1	1	1

Heavy Truck Volume						
	12 AM	1	1	1	2	2
	1 AM	0	0	0	1	1
	2 AM	0	0	0	1	1
	3 AM	1	2	2	2	3
	4 AM	1	2	2	2	2
	5 AM	3	3	3	4	4
	6 AM	4	5	5	7	7
	7 AM	4	4	4	6	6
	8 AM	5	5	5	8	9
	9 AM	3	4	4	6	7
	10 AM	3	4	4	5	6
	11 AM	3	4	4	6	6
	12 PM	3	3	3	5	5
	1 PM	3	3	3	5	5
	2 PM	2	3	3	5	5
	3 PM	2	3	3	4	5
	4 PM	1	2	2	3	3
	5 PM	3	3	3	4	3
	6 PM	2	2	2	3	4
	7 PM	2	2	2	3	3
	8 PM	1	2	2	3	3
	9 PM	1	2	2	2	2
	10 PM	0	1	1	1	1
	11 PM	1	1	1	2	2





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_43_NB			Distance (mi): -	
	Facility: EB Entrance I-66 Interchange at US 29 [Gainesville]				
	From: NB US 29		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	18,800	18,600	18,500	18,100	17,500
	Daily Truck %	11%	11%	11%	11%	11%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	113	112	111	109	105
	1 AM	75	75	74	73	70
	2 AM	94	93	93	91	88
	3 AM	188	186	186	181	176
	4 AM	622	615	612	599	580
	5 AM	1,621	1,604	1,596	1,560	1,510
	6 AM	1,730	1,690	1,680	1,610	1,530
	7 AM	1,659	1,641	1,633	1,596	1,545
	8 AM	1,263	1,250	1,243	1,216	1,177
	9 AM	1,150	1,138	1,132	1,107	1,072
	10 AM	1,093	1,082	1,076	1,053	1,019
	11 AM	961	951	946	926	896
	12 PM	905	895	891	871	843
	1 PM	886	877	872	853	826
	2 PM	867	858	854	835	808
	3 PM	867	858	854	835	808
	4 PM	886	877	872	852	825
	5 PM	880	890	880	900	880
	6 PM	849	838	835	818	792
	7 PM	565	559	557	544	527
	8 PM	528	522	520	508	492
	9 PM	452	448	445	436	422
	10 PM	339	336	334	327	316
	11 PM	207	205	204	200	193

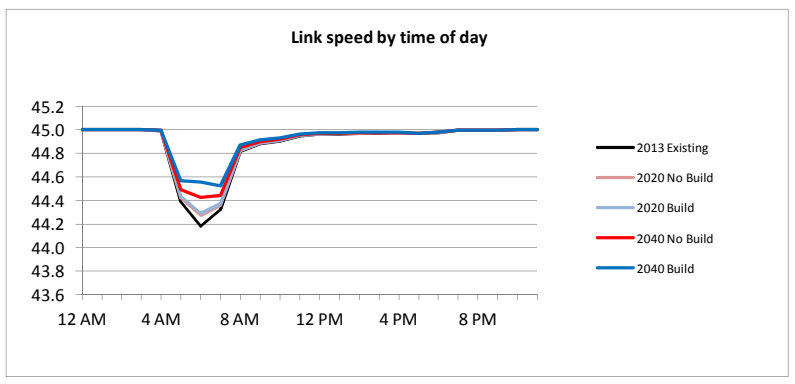
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	44.4	44.4	44.4	44.5	44.6
	6 AM	44.2	44.3	44.3	44.4	44.6
	7 AM	44.3	44.4	44.4	44.4	44.5
	8 AM	44.8	44.8	44.8	44.8	44.9
	9 AM	44.9	44.9	44.9	44.9	44.9
	10 AM	44.9	44.9	44.9	44.9	44.9
	11 AM	44.9	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

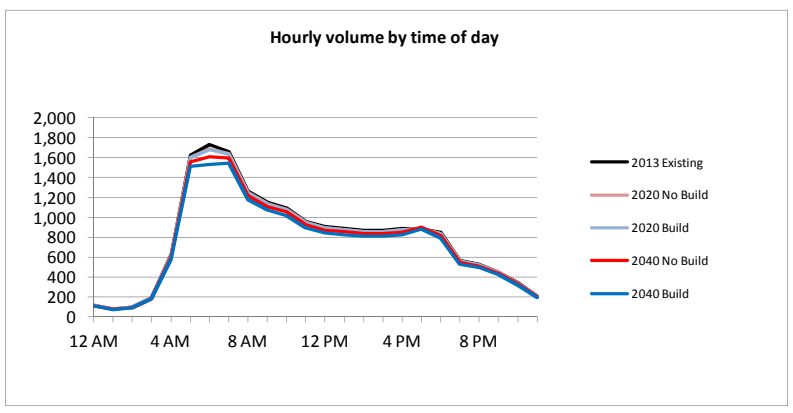
Passenger Vehicle Volume						
	12 AM	64	63	63	62	60
	1 AM	33	33	32	32	30
	2 AM	44	44	44	43	41
	3 AM	108	107	107	104	101
	4 AM	515	509	507	496	480
	5 AM	1,504	1,488	1,480	1,447	1,401
	6 AM	1,628	1,591	1,581	1,515	1,440
	7 AM	1,548	1,531	1,523	1,489	1,442
	8 AM	1,154	1,142	1,136	1,111	1,076
	9 AM	1,032	1,022	1,016	994	962
	10 AM	970	961	955	935	904
	11 AM	840	832	827	810	783
	12 PM	788	778	775	757	734
	1 PM	780	772	768	751	728
	2 PM	772	764	760	743	719
	3 PM	786	778	774	757	733
	4 PM	819	810	806	787	763
	5 PM	824	834	824	842	824
	6 PM	791	780	777	762	737
	7 PM	515	510	508	496	481
	8 PM	472	466	464	454	440
	9 PM	394	391	388	380	368
	10 PM	281	279	277	271	262
	11 PM	151	150	149	146	141

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	23	23	23	22	21
	1 AM	19	19	19	18	18
	2 AM	23	23	23	22	22
	3 AM	41	40	40	39	38
	4 AM	60	60	59	58	56
	5 AM	79	78	78	76	73
	6 AM	74	72	72	69	65
	7 AM	82	81	81	79	76
	8 AM	77	76	75	74	71
	9 AM	76	75	75	73	71
	10 AM	78	77	77	75	73
	11 AM	75	74	74	72	70
	12 PM	72	72	71	70	67
	1 PM	67	66	66	64	62
	2 PM	63	62	62	61	59
	3 PM	51	50	50	49	47
	4 PM	45	45	45	44	42
	5 PM	35	35	35	36	35
	6 PM	35	35	35	34	33
	7 PM	27	27	27	26	25
	8 PM	30	30	30	29	28
	9 PM	29	28	28	28	27
	10 PM	29	28	28	28	27
	11 PM	26	26	26	25	24

Heavy Truck Volume						
	12 AM	26	26	25	25	24
	1 AM	23	23	23	23	22
	2 AM	27	26	26	26	25
	3 AM	39	39	39	38	37
	4 AM	47	46	46	45	44
	5 AM	38	38	38	37	36
	6 AM	28	27	27	26	25
	7 AM	29	29	29	28	27
	8 AM	32	32	32	31	30
	9 AM	42	41	41	40	39
	10 AM	45	44	44	43	42
	11 AM	46	45	45	44	43
	12 PM	45	45	45	44	42
	1 PM	39	39	38	38	36
	2 PM	32	32	32	31	30
	3 PM	30	30	30	29	28
	4 PM	22	22	21	21	20
	5 PM	21	21	21	22	21
	6 PM	23	23	23	22	22
	7 PM	23	22	22	22	21
	8 PM	26	26	26	25	24
	9 PM	29	29	29	28	27
	10 PM	29	29	29	28	27
	11 PM	30	29	29	29	28





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_43_NB			Distance (mi): -	
	Facility: WB Exit I-66 Interchange at US 29 [Gainesville]				
	From: WB I-66		To: NB US 29, Heathcote		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	35	35	35	35	35
	Daily Volume	7,000	6,900	5,900	6,800	2,900
	Daily Truck %	9%	9%	9%	9%	9%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	54	53	45	52	22
	1 AM	27	26	23	26	11
	2 AM	20	20	17	20	8
	3 AM	13	13	11	13	6
	4 AM	13	13	11	13	6
	5 AM	54	53	46	52	22
	6 AM	290	290	250	290	130
	7 AM	221	218	187	216	92
	8 AM	235	231	198	229	97
	9 AM	201	198	169	196	83
	10 AM	194	192	164	190	81
	11 AM	221	218	186	216	92
	12 PM	255	251	215	249	106
	1 PM	288	284	243	281	120
	2 PM	429	423	361	419	178
	3 PM	603	595	508	589	250
	4 PM	731	721	616	713	303
	5 PM	950	930	800	890	380
	6 PM	732	722	614	713	304
	7 PM	510	503	429	497	211
	8 PM	396	390	333	386	164
	9 PM	288	284	243	281	120
	10 PM	181	179	152	177	75
	11 PM	94	93	79	92	39

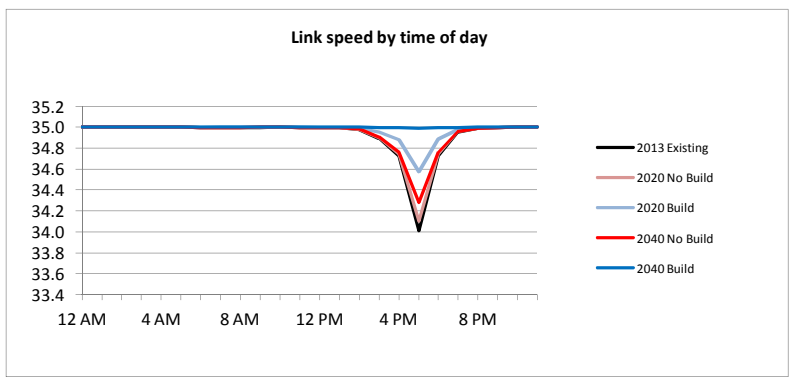
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	35.0	35.0	35.0	35.0	35.0
	7 AM	35.0	35.0	35.0	35.0	35.0
	8 AM	35.0	35.0	35.0	35.0	35.0
	9 AM	35.0	35.0	35.0	35.0	35.0
	10 AM	35.0	35.0	35.0	35.0	35.0
	11 AM	35.0	35.0	35.0	35.0	35.0
	12 PM	35.0	35.0	35.0	35.0	35.0
	1 PM	35.0	35.0	35.0	35.0	35.0
	2 PM	35.0	35.0	35.0	35.0	35.0
	3 PM	34.9	34.9	35.0	34.9	35.0
	4 PM	34.7	34.7	34.9	34.8	35.0
	5 PM	34.0	34.1	34.6	34.3	35.0
	6 PM	34.7	34.7	34.9	34.8	35.0
	7 PM	35.0	35.0	35.0	35.0	35.0
	8 PM	35.0	35.0	35.0	35.0	35.0
	9 PM	35.0	35.0	35.0	35.0	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

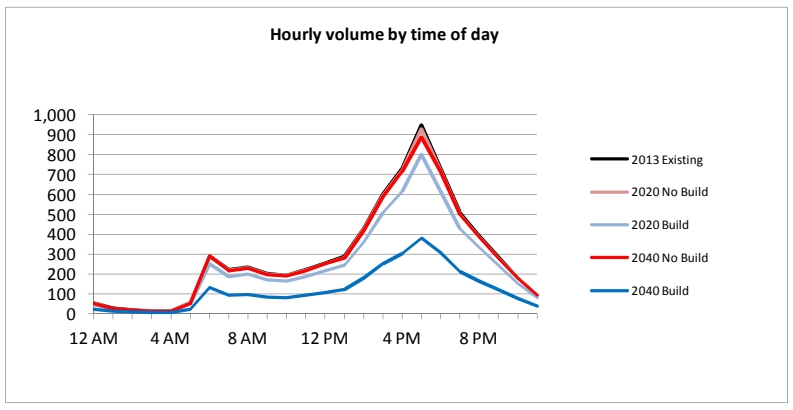
Passenger Vehicle Volume						
	12 AM	45	44	38	43	18
	1 AM	20	19	17	19	8
	2 AM	13	13	10	13	5
	3 AM	7	7	6	7	4
	4 AM	7	7	6	7	4
	5 AM	41	40	35	40	16
	6 AM	247	247	213	247	111
	7 AM	198	195	167	193	83
	8 AM	212	208	178	206	88
	9 AM	173	171	146	169	72
	10 AM	160	158	135	158	67
	11 AM	179	177	151	176	75
	12 PM	211	208	179	206	88
	1 PM	247	243	209	242	103
	2 PM	384	378	323	375	159
	3 PM	557	551	470	545	231
	4 PM	686	677	578	669	284
	5 PM	901	881	758	844	360
	6 PM	691	681	579	673	287
	7 PM	480	473	404	467	199
	8 PM	373	367	314	363	155
	9 PM	270	266	227	263	112
	10 PM	169	167	142	165	69
	11 PM	86	85	72	84	35

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	4	4	3	4	2
	1 AM	3	3	3	3	1
	2 AM	3	3	3	3	1
	3 AM	3	3	2	3	1
	4 AM	3	3	2	3	1
	5 AM	7	7	6	6	3
	6 AM	25	25	22	25	11
	7 AM	15	15	13	15	6
	8 AM	15	15	13	15	6
	9 AM	18	17	15	17	7
	10 AM	21	21	18	20	9
	11 AM	24	23	20	23	10
	12 PM	27	26	22	26	11
	1 PM	25	25	21	24	10
	2 PM	28	28	24	28	12
	3 PM	30	29	25	29	12
	4 PM	30	30	26	30	13
	5 PM	34	34	29	32	14
	6 PM	27	27	23	26	11
	7 PM	18	18	15	18	7
	8 PM	13	13	11	13	5
	9 PM	9	9	8	9	4
	10 PM	6	6	5	6	3
	11 PM	4	4	3	4	2

Heavy Truck Volume						
	12 AM	5	5	4	5	2
	1 AM	4	4	3	4	2
	2 AM	4	4	4	4	2
	3 AM	3	3	3	3	1
	4 AM	3	3	3	3	1
	5 AM	6	6	5	6	3
	6 AM	18	18	15	18	8
	7 AM	8	8	7	8	3
	8 AM	8	8	7	8	3
	9 AM	10	10	8	10	4
	10 AM	13	13	11	12	5
	11 AM	18	18	15	17	7
	12 PM	17	17	14	17	7
	1 PM	16	16	13	15	7
	2 PM	17	17	14	16	7
	3 PM	16	15	13	15	7
	4 PM	15	14	12	14	6
	5 PM	15	15	13	14	6
	6 PM	14	14	12	14	6
	7 PM	12	12	10	12	5
	8 PM	10	10	8	10	4
	9 PM	9	9	8	9	4
	10 PM	6	6	5	6	3
	11 PM	4	4	4	4	2





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_43_NBSB			Distance (mi): -	
	Facility: WB Entrance I-66 Interchange at US 29 [Gainesville]				
	From: US 29		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	2,800	3,400	3,700	5,300	6,300
	Daily Truck %	12%	12%	12%	12%	12%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	12	14	16	22	29
	1 AM	10	12	13	18	22
	2 AM	6	7	8	11	13
	3 AM	11	13	14	19	23
	4 AM	11	14	15	21	26
	5 AM	28	32	37	52	67
	6 AM	200	230	240	310	350
	7 AM	128	152	170	240	298
	8 AM	132	160	182	254	322
	9 AM	106	129	145	203	255
	10 AM	102	124	139	195	246
	11 AM	109	133	149	208	261
	12 PM	125	153	172	240	303
	1 PM	141	171	190	266	332
	2 PM	188	227	253	353	439
	3 PM	236	285	315	442	547
	4 PM	286	340	369	523	630
	5 PM	400	510	490	830	760
	6 PM	203	248	276	387	477
	7 PM	139	169	191	267	339
	8 PM	105	129	147	204	261
	9 PM	68	83	95	132	168
	10 PM	31	37	41	58	74
	11 PM	23	28	33	45	58

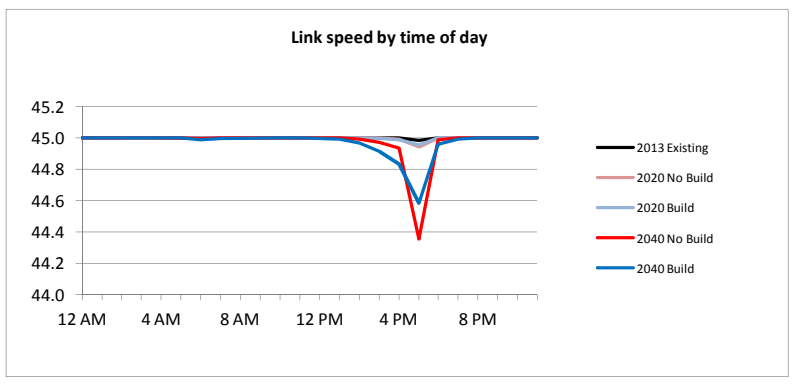
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	45.0	45.0
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	44.9
	4 PM	45.0	45.0	45.0	44.9	44.8
	5 PM	45.0	44.9	45.0	44.4	44.6
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

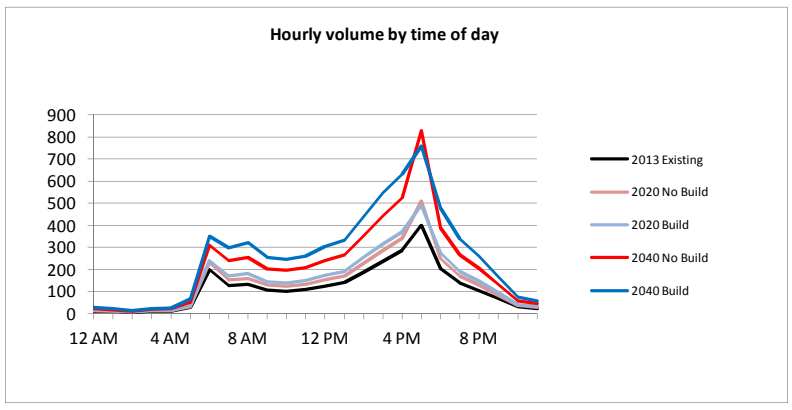
Passenger Vehicle Volume						
	12 AM	10	11	13	17	23
	1 AM	6	8	9	13	16
	2 AM	2	3	4	6	7
	3 AM	4	6	6	8	9
	4 AM	6	7	8	10	14
	5 AM	20	20	23	34	43
	6 AM	165	189	197	254	287
	7 AM	108	129	145	203	252
	8 AM	112	136	155	217	274
	9 AM	88	106	120	168	212
	10 AM	82	100	112	159	199
	11 AM	85	103	116	161	203
	12 PM	100	121	136	190	240
	1 PM	115	140	155	217	272
	2 PM	164	199	221	308	384
	3 PM	217	263	291	407	504
	4 PM	270	320	348	493	594
	5 PM	383	486	468	793	726
	6 PM	193	235	262	367	453
	7 PM	129	156	177	249	315
	8 PM	96	118	136	189	240
	9 PM	62	76	86	122	154
	10 PM	29	35	38	52	67
	11 PM	20	25	29	39	50

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	2	2
	1 AM	2	2	2	2	2
	2 AM	2	2	2	2	3
	3 AM	3	3	3	5	6
	4 AM	2	3	3	5	5
	5 AM	4	6	7	9	12
	6 AM	20	23	24	31	35
	7 AM	12	14	16	23	28
	8 AM	12	15	17	22	29
	9 AM	10	13	14	20	24
	10 AM	11	13	15	20	26
	11 AM	12	15	17	24	30
	12 PM	14	18	20	28	35
	1 PM	14	17	19	27	32
	2 PM	13	15	17	23	29
	3 PM	10	12	13	19	23
	4 PM	9	11	12	17	20
	5 PM	9	13	12	20	18
	6 PM	5	7	8	11	13
	7 PM	5	7	7	9	12
	8 PM	4	5	5	7	9
	9 PM	2	3	4	4	6
	10 PM	1	1	1	3	3
	11 PM	1	1	2	2	3

Heavy Truck Volume						
	12 AM	1	2	2	3	4
	1 AM	2	2	2	3	4
	2 AM	2	2	2	3	3
	3 AM	4	4	5	6	8
	4 AM	3	4	4	6	7
	5 AM	4	6	7	9	12
	6 AM	15	18	19	25	28
	7 AM	8	9	9	14	18
	8 AM	8	9	10	15	19
	9 AM	8	10	11	15	19
	10 AM	9	11	12	16	21
	11 AM	12	15	16	23	28
	12 PM	11	14	16	22	28
	1 PM	12	14	16	22	28
	2 PM	11	13	15	22	26
	3 PM	9	10	11	16	20
	4 PM	7	9	9	13	16
	5 PM	8	11	10	17	16
	6 PM	5	6	6	9	11
	7 PM	5	6	7	9	12
	8 PM	5	6	6	8	12
	9 PM	4	4	5	6	8
	10 PM	1	1	2	3	4
	11 PM	2	2	2	4	5





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_43_NB			Distance (mi): -	
	Facility: WB Entrance I-66 Interchange at US 29 [Gainesville]				
	From: NB US 29		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	30	30	30	30	30
	Daily Volume	1,700	2,100	2,400	3,400	4,300
	Daily Truck %	13%	12%	12%	12%	13%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	10	12	14	19	25
	1 AM	5	6	7	10	13
	2 AM	3	4	5	6	8
	3 AM	3	4	5	6	8
	4 AM	6	8	9	13	17
	5 AM	20	23	28	39	51
	6 AM	120	140	150	200	250
	7 AM	78	94	111	155	202
	8 AM	98	120	141	195	257
	9 AM	72	89	104	144	190
	10 AM	72	89	104	144	190
	11 AM	74	91	107	147	194
	12 PM	90	111	130	179	236
	1 PM	90	111	130	179	236
	2 PM	114	140	165	227	299
	3 PM	138	170	199	275	362
	4 PM	123	149	176	244	320
	5 PM	180	240	230	410	380
	6 PM	121	151	177	244	320
	7 PM	103	126	148	205	270
	8 PM	85	105	123	170	223
	9 PM	53	65	77	106	139
	10 PM	23	28	32	45	59
	11 PM	19	24	28	38	51

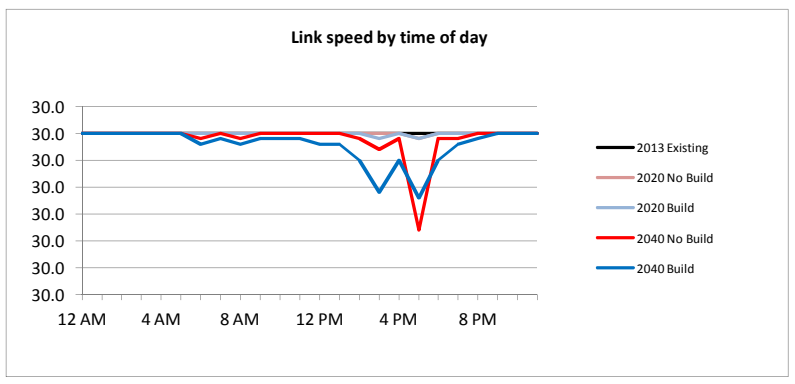
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	30.0	30.0	30.0	30.0	30.0
	6 AM	30.0	30.0	30.0	30.0	30.0
	7 AM	30.0	30.0	30.0	30.0	30.0
	8 AM	30.0	30.0	30.0	30.0	30.0
	9 AM	30.0	30.0	30.0	30.0	30.0
	10 AM	30.0	30.0	30.0	30.0	30.0
	11 AM	30.0	30.0	30.0	30.0	30.0
	12 PM	30.0	30.0	30.0	30.0	30.0
	1 PM	30.0	30.0	30.0	30.0	30.0
	2 PM	30.0	30.0	30.0	30.0	30.0
	3 PM	30.0	30.0	30.0	30.0	30.0
	4 PM	30.0	30.0	30.0	30.0	30.0
	5 PM	30.0	30.0	30.0	30.0	30.0
	6 PM	30.0	30.0	30.0	30.0	30.0
	7 PM	30.0	30.0	30.0	30.0	30.0
	8 PM	30.0	30.0	30.0	30.0	30.0
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

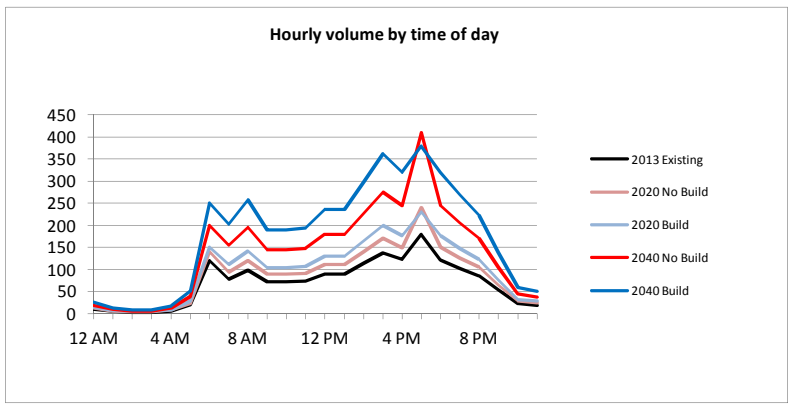
Passenger Vehicle Volume						
	12 AM	8	9	11	14	20
	1 AM	3	4	5	7	10
	2 AM	1	2	3	3	4
	3 AM	1	2	2	2	3
	4 AM	3	4	5	6	9
	5 AM	14	15	18	25	33
	6 AM	99	115	123	164	205
	7 AM	66	79	95	131	171
	8 AM	83	102	120	166	219
	9 AM	60	73	86	119	158
	10 AM	58	72	84	117	154
	11 AM	58	71	84	114	151
	12 PM	72	88	103	142	187
	1 PM	73	91	106	146	193
	2 PM	99	123	144	198	261
	3 PM	127	157	184	253	334
	4 PM	116	140	166	230	302
	5 PM	172	229	219	392	363
	6 PM	115	143	168	231	304
	7 PM	95	117	138	191	250
	8 PM	78	96	114	157	205
	9 PM	48	60	70	98	127
	10 PM	21	26	29	41	54
	11 PM	16	21	24	33	44

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	2	2
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	2
	3 AM	1	1	1	2	2
	4 AM	1	2	2	3	3
	5 AM	3	4	5	7	9
	6 AM	12	14	15	20	25
	7 AM	7	9	10	15	19
	8 AM	9	11	13	17	23
	9 AM	7	9	10	14	18
	10 AM	8	9	11	15	20
	11 AM	8	10	12	17	22
	12 PM	10	13	15	21	27
	1 PM	9	11	13	18	23
	2 PM	8	9	11	15	20
	3 PM	6	7	8	12	15
	4 PM	4	5	6	8	10
	5 PM	4	6	6	10	9
	6 PM	3	4	5	7	9
	7 PM	4	5	5	7	10
	8 PM	3	4	4	6	8
	9 PM	2	2	3	3	5
	10 PM	1	1	1	2	2
	11 PM	1	1	2	2	3

Heavy Truck Volume						
	12 AM	1	2	2	3	3
	1 AM	1	1	1	2	2
	2 AM	1	1	1	2	2
	3 AM	1	1	2	2	3
	4 AM	2	2	2	4	5
	5 AM	3	4	5	7	9
	6 AM	9	11	12	16	20
	7 AM	5	6	6	9	12
	8 AM	6	7	8	12	15
	9 AM	5	7	8	11	14
	10 AM	6	8	9	12	16
	11 AM	8	10	11	16	21
	12 PM	8	10	12	16	22
	1 PM	8	9	11	15	20
	2 PM	7	8	10	14	18
	3 PM	5	6	7	10	13
	4 PM	3	4	4	6	8
	5 PM	4	5	5	8	8
	6 PM	3	4	4	6	7
	7 PM	4	4	5	7	10
	8 PM	4	5	5	7	10
	9 PM	3	3	4	5	7
	10 PM	1	1	2	2	3
	11 PM	2	2	2	3	4





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBENTR_43_SB			Distance (mi): -	
	Facility: WB Entrance I-66 Interchange at US 29 [Gainesville]				
	From: SB US 29		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	35	35	35	35	35
	Daily Volume	1,100	1,300	1,300	1,900	2,000
	Daily Truck %	11%	11%	11%	11%	11%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	2	2	2	3	4
	1 AM	5	6	6	8	9
	2 AM	3	3	3	5	5
	3 AM	8	9	9	13	15
	4 AM	5	6	6	8	9
	5 AM	8	9	9	13	16
	6 AM	80	90	90	110	100
	7 AM	50	58	59	85	96
	8 AM	34	40	41	59	65
	9 AM	34	40	41	59	65
	10 AM	30	35	35	51	56
	11 AM	35	42	42	61	67
	12 PM	35	42	42	61	67
	1 PM	51	60	60	87	96
	2 PM	74	87	88	126	140
	3 PM	98	115	116	167	185
	4 PM	163	191	193	279	310
	5 PM	220	270	260	420	380
	6 PM	82	97	99	143	157
	7 PM	36	43	43	62	69
	8 PM	20	24	24	34	38
	9 PM	15	18	18	26	29
	10 PM	8	9	9	13	15
	11 PM	4	4	5	7	7

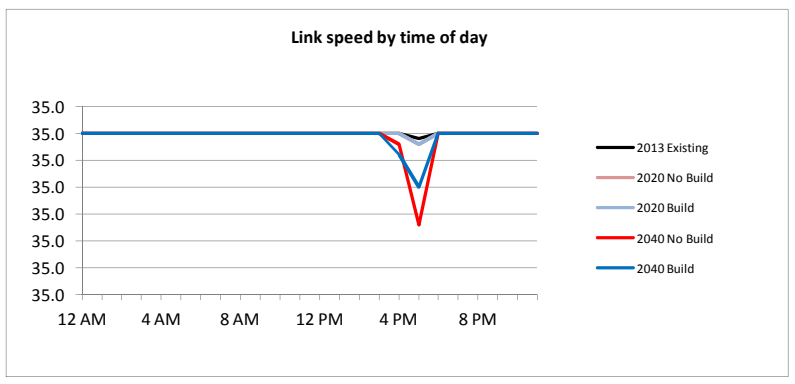
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	35.0	35.0	35.0	35.0	35.0
	7 AM	35.0	35.0	35.0	35.0	35.0
	8 AM	35.0	35.0	35.0	35.0	35.0
	9 AM	35.0	35.0	35.0	35.0	35.0
	10 AM	35.0	35.0	35.0	35.0	35.0
	11 AM	35.0	35.0	35.0	35.0	35.0
	12 PM	35.0	35.0	35.0	35.0	35.0
	1 PM	35.0	35.0	35.0	35.0	35.0
	2 PM	35.0	35.0	35.0	35.0	35.0
	3 PM	35.0	35.0	35.0	35.0	35.0
	4 PM	35.0	35.0	35.0	35.0	35.0
	5 PM	35.0	35.0	35.0	35.0	35.0
	6 PM	35.0	35.0	35.0	35.0	35.0
	7 PM	35.0	35.0	35.0	35.0	35.0
	8 PM	35.0	35.0	35.0	35.0	35.0
	9 PM	35.0	35.0	35.0	35.0	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

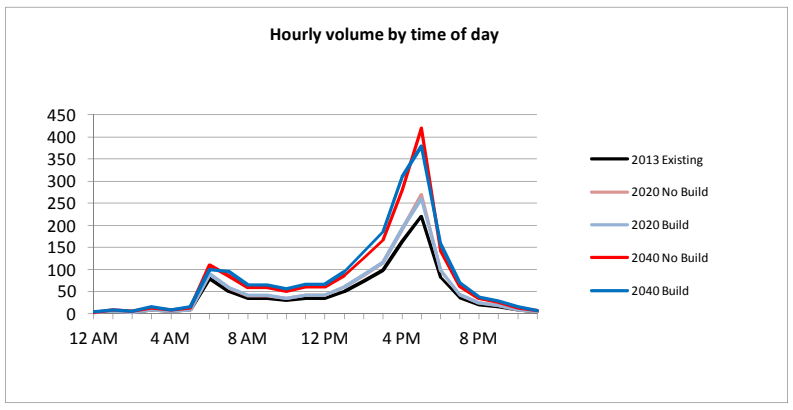
Passenger Vehicle Volume						
	12 AM	2	2	2	3	3
	1 AM	3	4	4	6	6
	2 AM	1	1	1	3	3
	3 AM	3	4	4	6	6
	4 AM	3	3	3	4	5
	5 AM	6	5	5	9	10
	6 AM	66	74	74	90	82
	7 AM	42	50	50	72	81
	8 AM	29	34	35	51	55
	9 AM	28	33	34	49	54
	10 AM	24	28	28	42	45
	11 AM	27	32	32	47	52
	12 PM	28	33	33	48	53
	1 PM	42	49	49	71	79
	2 PM	65	76	77	110	123
	3 PM	90	106	107	154	170
	4 PM	154	180	182	263	292
	5 PM	211	257	249	401	363
	6 PM	78	92	94	136	149
	7 PM	34	39	39	58	65
	8 PM	18	22	22	32	35
	9 PM	14	16	16	24	27
	10 PM	8	9	9	11	13
	11 PM	4	4	5	6	6

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	2	2	2	3	4
	4 AM	1	1	1	2	2
	5 AM	1	2	2	2	3
	6 AM	8	9	9	11	10
	7 AM	5	5	6	8	9
	8 AM	3	4	4	5	6
	9 AM	3	4	4	6	6
	10 AM	3	4	4	5	6
	11 AM	4	5	5	7	8
	12 PM	4	5	5	7	8
	1 PM	5	6	6	9	9
	2 PM	5	6	6	8	9
	3 PM	4	5	5	7	8
	4 PM	5	6	6	9	10
	5 PM	5	7	6	10	9
	6 PM	2	3	3	4	4
	7 PM	1	2	2	2	2
	8 PM	1	1	1	1	1
	9 PM	0	1	1	1	1
	10 PM	0	0	0	1	1
	11 PM	0	0	0	0	0

Heavy Truck Volume						
	12 AM	0	0	0	0	1
	1 AM	1	1	1	1	2
	2 AM	1	1	1	1	1
	3 AM	3	3	3	4	5
	4 AM	1	2	2	2	2
	5 AM	1	2	2	2	3
	6 AM	6	7	7	9	8
	7 AM	3	3	3	5	6
	8 AM	2	2	2	3	4
	9 AM	3	3	3	4	5
	10 AM	3	3	3	4	5
	11 AM	4	5	5	7	7
	12 PM	3	4	4	6	6
	1 PM	4	5	5	7	8
	2 PM	4	5	5	8	8
	3 PM	4	4	4	6	7
	4 PM	4	5	5	7	8
	5 PM	4	6	5	9	8
	6 PM	2	2	2	3	4
	7 PM	1	2	2	2	2
	8 PM	1	1	1	1	2
	9 PM	1	1	1	1	1
	10 PM	0	0	0	1	1
	11 PM	0	0	0	1	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_43_SB			Distance (mi): -	
	Facility:				
	WB Exit I-66 Interchange at US 29 [Gainesville]				
	From: WB I-66		To: SB US 29		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	18,800	18,600	18,500	18,100	17,500
	Daily Truck %	11%	11%	11%	11%	11%

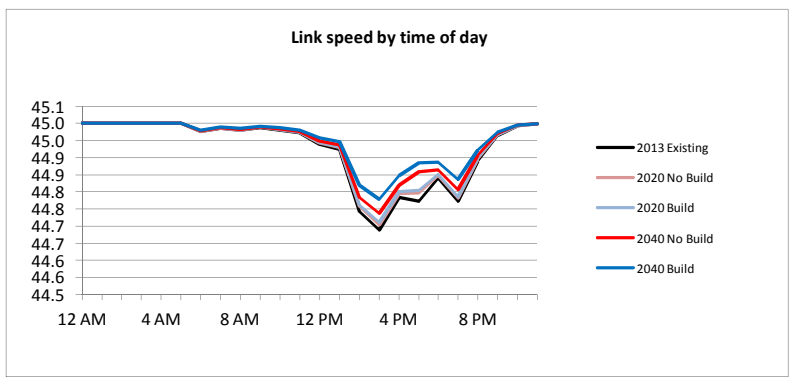
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	238	236	235	230	222
	1 AM	147	145	144	142	137
	2 AM	92	91	90	89	86
	3 AM	92	91	90	89	86
	4 AM	128	127	126	124	120
	5 AM	275	272	271	265	257
	6 AM	810	810	800	800	790
	7 AM	752	744	741	725	702
	8 AM	807	799	795	779	753
	9 AM	715	708	704	691	667
	10 AM	770	762	759	744	719
	11 AM	825	817	813	797	770
	12 PM	972	962	957	939	907
	1 PM	1,027	1,016	1,011	992	958
	2 PM	1,339	1,325	1,319	1,293	1,249
	3 PM	1,412	1,398	1,391	1,364	1,318
	4 PM	1,320	1,307	1,300	1,274	1,232
	5 PM	1,340	1,310	1,300	1,220	1,170
	6 PM	1,246	1,234	1,229	1,204	1,164
	7 PM	1,339	1,325	1,319	1,293	1,249
	8 PM	1,155	1,143	1,138	1,116	1,078
	9 PM	917	907	903	885	856
	10 PM	642	635	632	620	599
	11 PM	440	436	433	425	411

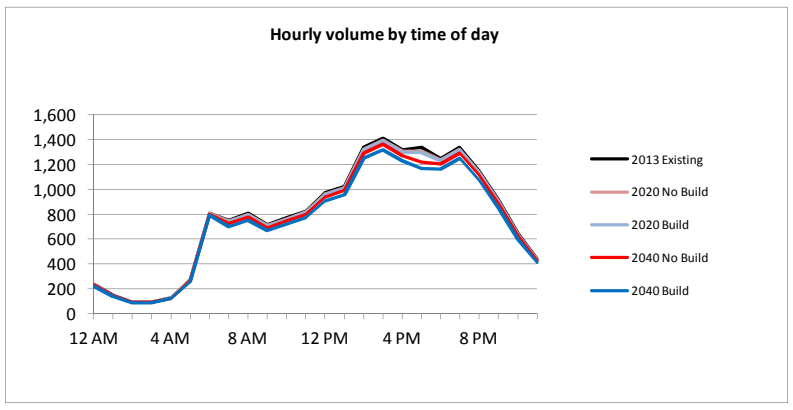
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	45.0	45.0
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	44.9	44.9	44.9	44.9	45.0
	1 PM	44.9	44.9	44.9	44.9	44.9
	2 PM	44.7	44.8	44.8	44.8	44.8
	3 PM	44.7	44.7	44.7	44.7	44.8
	4 PM	44.8	44.8	44.8	44.8	44.8
	5 PM	44.8	44.8	44.8	44.9	44.9
	6 PM	44.8	44.8	44.9	44.9	44.9
	7 PM	44.8	44.8	44.8	44.8	44.8
	8 PM	44.9	44.9	44.9	44.9	44.9
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

Passenger Vehicle Volume						
	12 AM	200	198	197	193	186
	1 AM	108	106	105	103	100
	2 AM	56	55	54	54	52
	3 AM	49	49	48	47	46
	4 AM	69	69	68	66	64
	5 AM	210	207	206	202	196
	6 AM	689	689	681	681	672
	7 AM	672	665	662	648	628
	8 AM	725	717	715	700	676
	9 AM	616	610	607	595	575
	10 AM	637	630	628	615	595
	11 AM	670	663	660	648	625
	12 PM	806	798	793	779	753
	1 PM	881	872	867	851	822
	2 PM	1,198	1,185	1,180	1,156	1,117
	3 PM	1,305	1,293	1,286	1,260	1,219
	4 PM	1,239	1,227	1,220	1,195	1,156
	5 PM	1,269	1,242	1,232	1,156	1,109
	6 PM	1,176	1,164	1,159	1,136	1,098
	7 PM	1,261	1,247	1,241	1,217	1,176
	8 PM	1,089	1,077	1,072	1,052	1,016
	9 PM	857	847	843	827	800
	10 PM	597	591	588	577	557
	11 PM	402	399	397	389	376

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	17	17	17	17	16
	1 AM	18	18	18	18	17
	2 AM	16	16	16	15	15
	3 AM	20	20	20	20	19
	4 AM	28	28	28	28	27
	5 AM	34	34	34	33	32
	6 AM	71	71	70	70	69
	7 AM	53	52	52	51	49
	8 AM	53	53	52	51	50
	9 AM	63	62	62	61	59
	10 AM	83	82	81	80	77
	11 AM	88	88	87	85	83
	12 PM	101	100	100	98	94
	1 PM	89	88	88	86	83
	2 PM	89	88	87	86	83
	3 PM	70	69	69	68	65
	4 PM	55	54	54	53	51
	5 PM	49	47	47	44	42
	6 PM	46	46	46	45	43
	7 PM	47	47	47	46	44
	8 PM	37	37	37	36	35
	9 PM	30	30	30	29	28
	10 PM	23	23	23	22	22
	11 PM	18	18	17	17	17

Heavy Truck Volume						
	12 AM	21	21	21	20	20
	1 AM	21	21	21	21	20
	2 AM	20	20	20	20	19
	3 AM	23	22	22	22	21
	4 AM	31	30	30	30	29
	5 AM	31	31	31	30	29
	6 AM	50	50	49	49	49
	7 AM	27	27	27	26	25
	8 AM	29	29	28	28	27
	9 AM	36	36	35	35	33
	10 AM	50	50	50	49	47
	11 AM	67	66	66	64	62
	12 PM	65	64	64	62	60
	1 PM	57	56	56	55	53
	2 PM	52	52	52	51	49
	3 PM	37	36	36	36	34
	4 PM	26	26	26	26	25
	5 PM	22	21	21	20	19
	6 PM	24	24	24	23	23
	7 PM	31	31	31	30	29
	8 PM	29	29	29	28	27
	9 PM	30	30	30	29	28
	10 PM	22	21	21	21	20
	11 PM	20	19	19	19	18





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_44_SB			Distance (mi): -	
	Facility: EB Exit I-66 interchange at VA 234 Bypass				
	From: EB I-66		To: SB VA 234 Byp.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	10,800	15,700	10,600	21,300	12,400
	Daily Truck %	10%	10%	10%	10%	10%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	63	92	62	125	72
	1 AM	52	77	51	104	60
	2 AM	52	77	51	104	60
	3 AM	63	92	62	125	72
	4 AM	210	307	206	415	240
	5 AM	556	813	546	1,100	637
	6 AM	1,220	1,660	1,210	2,370	1,430
	7 AM	1,186	1,734	1,164	2,346	1,357
	8 AM	1,018	1,488	998	2,014	1,165
	9 AM	650	951	638	1,287	745
	10 AM	535	783	525	1,059	613
	11 AM	472	691	463	934	541
	12 PM	441	644	432	872	504
	1 PM	451	660	443	893	517
	2 PM	514	752	504	1,017	589
	3 PM	556	813	545	1,100	637
	4 PM	556	813	546	1,100	637
	5 PM	610	920	590	1,180	700
	6 PM	535	783	525	1,058	612
	7 PM	336	491	329	664	384
	8 PM	262	384	257	519	300
	9 PM	210	307	206	415	240
	10 PM	147	215	144	291	168
	11 PM	105	153	103	208	120

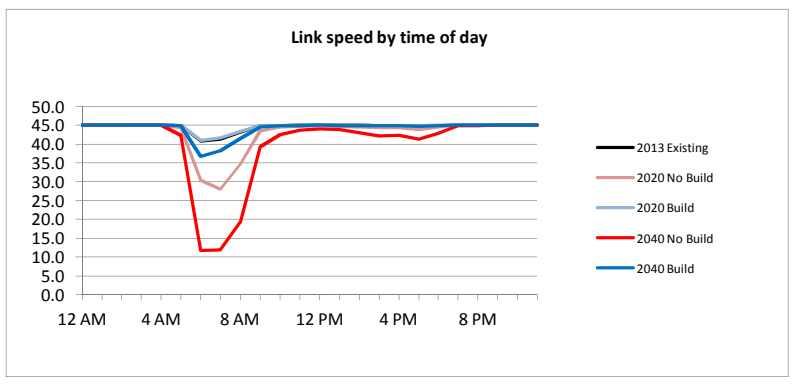
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	44.9	44.4	44.9	42.3	44.8
	6 AM	40.8	30.4	40.9	11.7	36.7
	7 AM	41.2	28.0	41.5	12.0	38.2
	8 AM	43.1	34.7	43.3	19.2	41.4
	9 AM	44.8	43.6	44.8	39.2	44.6
	10 AM	44.9	44.4	44.9	42.5	44.8
	11 AM	45.0	44.7	45.0	43.6	44.9
	12 PM	45.0	44.8	45.0	44.0	44.9
	1 PM	45.0	44.8	45.0	43.9	44.9
	2 PM	44.9	44.5	44.9	43.0	44.9
	3 PM	44.9	44.4	44.9	42.2	44.8
	4 PM	44.9	44.4	44.9	42.3	44.8
	5 PM	44.9	43.9	44.9	41.4	44.7
	6 PM	44.9	44.5	44.9	42.8	44.8
	7 PM	45.0	44.9	45.0	44.8	45.0
	8 PM	45.0	45.0	45.0	44.9	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

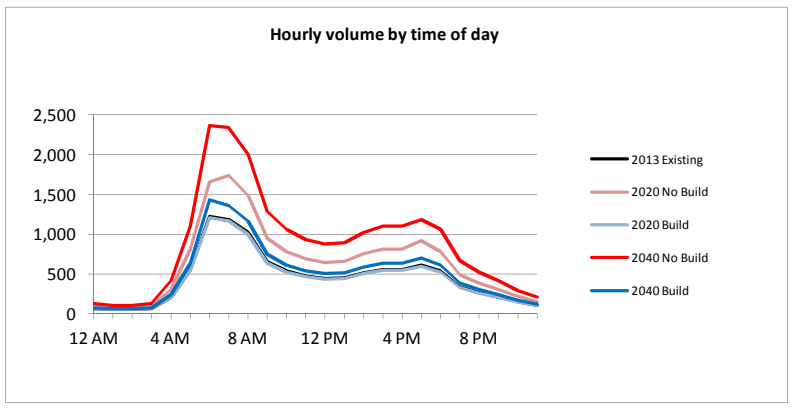
Passenger Vehicle Volume						
	12 AM	36	52	35	72	41
	1 AM	23	34	22	46	26
	2 AM	24	36	24	49	28
	3 AM	36	53	36	72	41
	4 AM	174	254	171	344	199
	5 AM	516	754	506	1,020	591
	6 AM	1,148	1,562	1,138	2,231	1,346
	7 AM	1,106	1,617	1,085	2,188	1,266
	8 AM	930	1,360	913	1,841	1,064
	9 AM	584	854	573	1,156	669
	10 AM	475	695	466	940	544
	11 AM	413	604	405	816	473
	12 PM	384	560	375	758	439
	1 PM	397	581	390	787	455
	2 PM	458	669	448	905	524
	3 PM	504	737	494	997	578
	4 PM	514	751	505	1,017	588
	5 PM	571	862	553	1,105	655
	6 PM	498	729	489	985	569
	7 PM	307	447	300	606	350
	8 PM	234	343	229	463	268
	9 PM	183	268	180	362	210
	10 PM	122	179	120	241	140
	11 PM	77	112	75	152	88

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	13	19	13	25	15
	1 AM	13	19	13	26	15
	2 AM	13	19	12	25	15
	3 AM	14	20	13	27	16
	4 AM	20	30	20	40	23
	5 AM	27	40	27	54	31
	6 AM	52	71	52	101	61
	7 AM	59	86	58	116	67
	8 AM	62	90	60	122	71
	9 AM	43	63	42	85	49
	10 AM	38	56	37	76	44
	11 AM	37	54	36	73	42
	12 PM	35	52	35	70	40
	1 PM	34	50	33	67	39
	2 PM	37	55	37	74	43
	3 PM	33	48	32	65	37
	4 PM	28	42	28	56	33
	5 PM	24	36	23	47	28
	6 PM	22	33	22	44	26
	7 PM	16	24	16	32	19
	8 PM	15	22	15	30	17
	9 PM	13	19	13	26	15
	10 PM	12	18	12	25	14
	11 PM	13	19	13	26	15

Heavy Truck Volume						
	12 AM	14	21	14	28	16
	1 AM	16	24	16	32	19
	2 AM	15	22	15	30	17
	3 AM	13	19	13	26	15
	4 AM	16	23	15	31	18
	5 AM	13	19	13	26	15
	6 AM	20	27	20	38	23
	7 AM	21	31	21	42	24
	8 AM	26	38	25	51	30
	9 AM	23	34	23	46	27
	10 AM	22	32	22	43	25
	11 AM	22	33	22	45	26
	12 PM	22	32	22	44	25
	1 PM	20	29	20	39	23
	2 PM	19	28	19	38	22
	3 PM	19	28	19	38	22
	4 PM	14	20	13	27	16
	5 PM	15	22	14	28	17
	6 PM	15	21	14	29	17
	7 PM	13	20	13	26	15
	8 PM	13	19	13	26	15
	9 PM	14	20	13	27	15
	10 PM	13	18	12	25	14
	11 PM	15	22	15	30	17





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_44_NB			Distance (mi): -	
	Facility:				
	EB Exit I-66 interchange at VA 234 Bypass				
	From: EB I-66		To: NB TCP		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	35	35	35	35	35
	Daily Volume	0	0	700	0	700
	Daily Truck %	-	-	10%	-	10%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	0	4	0	4
	1 AM	0	0	3	0	3
	2 AM	0	0	3	0	3
	3 AM	0	0	4	0	4
	4 AM	0	0	14	0	14
	5 AM	0	0	37	0	36
	6 AM	0	0	70	0	80
	7 AM	0	0	78	0	77
	8 AM	0	0	67	0	66
	9 AM	0	0	43	0	42
	10 AM	0	0	35	0	35
	11 AM	0	0	31	0	31
	12 PM	0	0	29	0	28
	1 PM	0	0	30	0	29
	2 PM	0	0	34	0	33
	3 PM	0	0	37	0	36
	4 PM	0	0	37	0	36
	5 PM	0	0	40	0	40
	6 PM	0	0	34	0	34
	7 PM	0	0	22	0	22
	8 PM	0	0	17	0	17
	9 PM	0	0	14	0	14
	10 PM	0	0	10	0	9
	11 PM	0	0	7	0	7

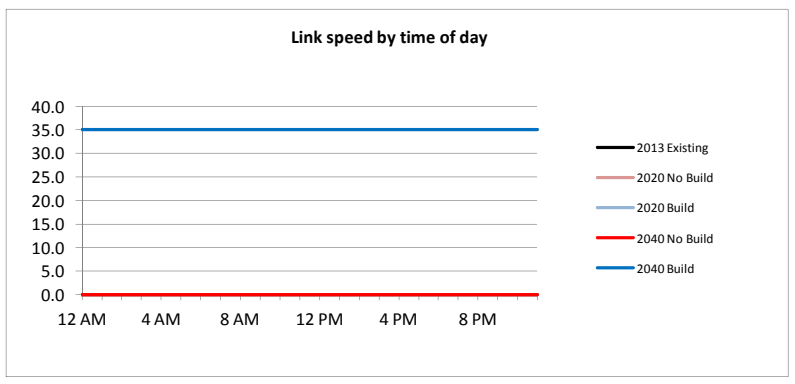
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	-	-	35.0	-	35.0
	1 AM	-	-	35.0	-	35.0
	2 AM	-	-	35.0	-	35.0
	3 AM	-	-	35.0	-	35.0
	4 AM	-	-	35.0	-	35.0
	5 AM	-	-	35.0	-	35.0
	6 AM	-	-	35.0	-	35.0
	7 AM	-	-	35.0	-	35.0
	8 AM	-	-	35.0	-	35.0
	9 AM	-	-	35.0	-	35.0
	10 AM	-	-	35.0	-	35.0
	11 AM	-	-	35.0	-	35.0
	12 PM	-	-	35.0	-	35.0
	1 PM	-	-	35.0	-	35.0
	2 PM	-	-	35.0	-	35.0
	3 PM	-	-	35.0	-	35.0
	4 PM	-	-	35.0	-	35.0
	5 PM	-	-	35.0	-	35.0
	6 PM	-	-	35.0	-	35.0
	7 PM	-	-	35.0	-	35.0
	8 PM	-	-	35.0	-	35.0
	9 PM	-	-	35.0	-	35.0
	10 PM	-	-	35.0	-	35.0
	11 PM	-	-	35.0	-	35.0

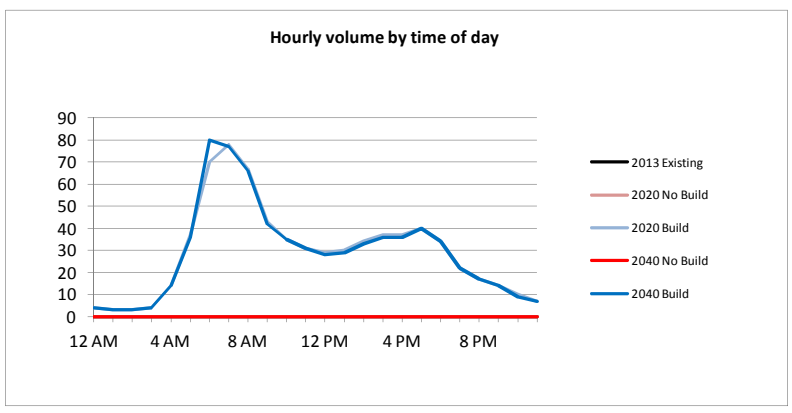
Passenger Vehicle Volume						
	12 AM	0	0	2	0	2
	1 AM	0	0	1	0	1
	2 AM	0	0	1	0	1
	3 AM	0	0	2	0	2
	4 AM	0	0	12	0	12
	5 AM	0	0	34	0	33
	6 AM	0	0	66	0	76
	7 AM	0	0	73	0	72
	8 AM	0	0	61	0	60
	9 AM	0	0	38	0	37
	10 AM	0	0	32	0	32
	11 AM	0	0	28	0	28
	12 PM	0	0	26	0	25
	1 PM	0	0	27	0	26
	2 PM	0	0	31	0	30
	3 PM	0	0	34	0	33
	4 PM	0	0	34	0	33
	5 PM	0	0	37	0	37
	6 PM	0	0	32	0	32
	7 PM	0	0	20	0	20
	8 PM	0	0	15	0	15
	9 PM	0	0	12	0	12
	10 PM	0	0	8	0	7
	11 PM	0	0	5	0	5

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	1	0	1
	1 AM	0	0	1	0	1
	2 AM	0	0	1	0	1
	3 AM	0	0	1	0	1
	4 AM	0	0	1	0	1
	5 AM	0	0	2	0	2
	6 AM	0	0	3	0	3
	7 AM	0	0	4	0	4
	8 AM	0	0	4	0	4
	9 AM	0	0	3	0	3
	10 AM	0	0	2	0	2
	11 AM	0	0	2	0	2
	12 PM	0	0	2	0	2
	1 PM	0	0	2	0	2
	2 PM	0	0	2	0	2
	3 PM	0	0	2	0	2
	4 PM	0	0	2	0	2
	5 PM	0	0	2	0	2
	6 PM	0	0	1	0	1
	7 PM	0	0	1	0	1
	8 PM	0	0	1	0	1
	9 PM	0	0	1	0	1
	10 PM	0	0	1	0	1
	11 PM	0	0	1	0	1

Heavy Truck Volume						
	12 AM	0	0	1	0	1
	1 AM	0	0	1	0	1
	2 AM	0	0	1	0	1
	3 AM	0	0	1	0	1
	4 AM	0	0	1	0	1
	5 AM	0	0	1	0	1
	6 AM	0	0	1	0	1
	7 AM	0	0	1	0	1
	8 AM	0	0	2	0	2
	9 AM	0	0	2	0	2
	10 AM	0	0	1	0	1
	11 AM	0	0	1	0	1
	12 PM	0	0	1	0	1
	1 PM	0	0	1	0	1
	2 PM	0	0	1	0	1
	3 PM	0	0	1	0	1
	4 PM	0	0	1	0	1
	5 PM	0	0	1	0	1
	6 PM	0	0	1	0	1
	7 PM	0	0	1	0	1
	8 PM	0	0	1	0	1
	9 PM	0	0	1	0	1
	10 PM	0	0	1	0	1
	11 PM	0	0	1	0	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_44_SB			Distance (mi): -	
	Facility: WB Exit I-66 interchange at VA 234 Bypass				
	From: WB I-66		To: SB VA 234 Byp.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	35	35	35	35	35
	Daily Volume	13,700	18,700	10,700	24,900	15,800
	Daily Truck %	11%	11%	11%	11%	11%

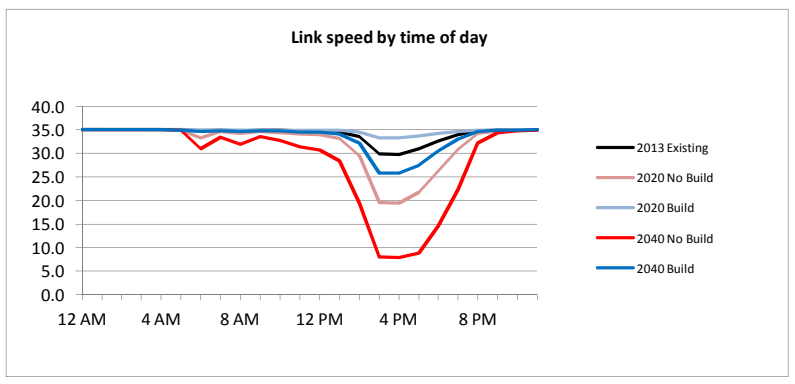
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	134	182	105	243	155
	1 AM	81	109	63	146	93
	2 AM	67	91	53	122	78
	3 AM	54	73	42	97	62
	4 AM	121	164	95	219	140
	5 AM	282	383	222	512	326
	6 AM	620	950	470	1,140	680
	7 AM	524	711	411	950	606
	8 AM	605	821	473	1,095	699
	9 AM	511	693	400	925	590
	10 AM	551	748	431	998	637
	11 AM	605	821	473	1,095	699
	12 PM	632	857	494	1,144	730
	1 PM	712	966	558	1,290	823
	2 PM	927	1,258	726	1,680	1,072
	3 PM	1,250	1,696	978	2,264	1,444
	4 PM	1,263	1,714	990	2,289	1,460
	5 PM	1,200	1,630	930	2,240	1,390
	6 PM	1,062	1,440	830	1,923	1,227
	7 PM	887	1,204	694	1,607	1,025
	8 PM	605	821	473	1,095	699
	9 PM	443	602	347	803	513
	10 PM	336	456	263	609	388
	11 PM	228	310	179	414	264

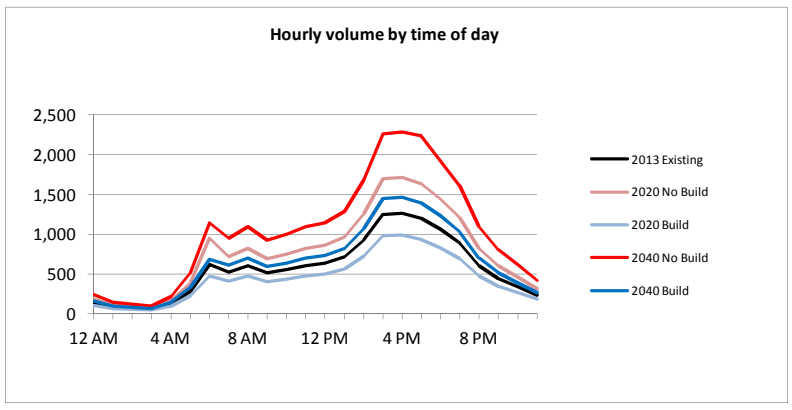
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	34.9	35.0
	6 AM	34.8	33.3	34.9	31.0	34.7
	7 AM	34.9	34.6	35.0	33.4	34.8
	8 AM	34.8	34.2	35.0	32.0	34.7
	9 AM	34.9	34.6	35.0	33.5	34.8
	10 AM	34.9	34.4	35.0	32.7	34.7
	11 AM	34.8	34.1	34.9	31.4	34.6
	12 PM	34.8	33.9	34.9	30.8	34.5
	1 PM	34.6	33.2	34.9	28.4	34.2
	2 PM	33.6	29.4	34.6	19.4	32.3
	3 PM	29.9	19.6	33.3	8.1	25.9
	4 PM	29.8	19.4	33.3	7.9	25.8
	5 PM	30.9	21.8	33.8	8.8	27.5
	6 PM	32.6	26.3	34.3	14.6	30.5
	7 PM	34.0	30.8	34.7	22.2	33.0
	8 PM	34.8	34.3	35.0	32.3	34.7
	9 PM	35.0	34.9	35.0	34.4	34.9
	10 PM	35.0	35.0	35.0	34.8	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

Passenger Vehicle Volume						
	12 AM	112	153	88	204	130
	1 AM	59	79	46	107	68
	2 AM	40	55	32	74	48
	3 AM	29	39	23	52	33
	4 AM	65	89	51	117	75
	5 AM	215	291	169	390	248
	6 AM	528	808	400	969	578
	7 AM	468	635	367	850	542
	8 AM	543	738	425	984	628
	9 AM	440	597	345	797	508
	10 AM	456	619	357	826	527
	11 AM	491	667	384	890	568
	12 PM	524	711	410	949	605
	1 PM	611	829	478	1,107	706
	2 PM	830	1,126	650	1,503	959
	3 PM	1,155	1,568	905	2,093	1,334
	4 PM	1,185	1,609	929	2,148	1,370
	5 PM	1,137	1,544	881	2,123	1,317
	6 PM	1,002	1,359	783	1,815	1,158
	7 PM	835	1,134	654	1,513	965
	8 PM	570	773	446	1,032	658
	9 PM	413	562	325	751	479
	10 PM	313	425	245	566	361
	11 PM	209	284	164	379	241

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	10	13	8	18	11
	1 AM	10	14	8	18	12
	2 AM	12	16	9	21	13
	3 AM	12	16	9	21	14
	4 AM	27	36	21	49	31
	5 AM	35	48	28	64	41
	6 AM	54	83	41	100	60
	7 AM	37	50	29	66	42
	8 AM	40	54	31	72	46
	9 AM	45	61	35	82	52
	10 AM	59	80	46	107	68
	11 AM	65	88	51	117	75
	12 PM	66	89	51	119	76
	1 PM	62	84	49	112	72
	2 PM	61	83	48	111	71
	3 PM	62	84	48	112	72
	4 PM	53	71	41	95	61
	5 PM	43	59	34	81	50
	6 PM	39	53	31	71	45
	7 PM	31	42	24	57	36
	8 PM	20	27	15	35	23
	9 PM	15	20	11	26	17
	10 PM	12	16	9	22	14
	11 PM	9	12	7	17	11

Heavy Truck Volume						
	12 AM	12	16	9	21	14
	1 AM	12	16	9	21	13
	2 AM	15	20	12	27	17
	3 AM	13	18	10	24	15
	4 AM	29	39	23	53	34
	5 AM	32	44	25	58	37
	6 AM	38	59	29	71	42
	7 AM	19	26	15	34	22
	8 AM	22	29	17	39	25
	9 AM	26	35	20	46	30
	10 AM	36	49	28	65	42
	11 AM	49	66	38	88	56
	12 PM	42	57	33	76	49
	1 PM	39	53	31	71	45
	2 PM	36	49	28	66	42
	3 PM	33	44	25	59	38
	4 PM	25	34	20	46	29
	5 PM	20	27	15	36	23
	6 PM	21	28	16	37	24
	7 PM	21	28	16	37	24
	8 PM	15	21	12	28	18
	9 PM	15	20	11	26	17
	10 PM	11	15	9	21	13
	11 PM	10	14	8	18	12





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_44_NB			Distance (mi): -	
	Facility: WB Exit I-66 interchange at VA 234 Bypass				
	From: WB I-66		To: NB TCP		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	0	0	5,300	0	7,400
	Daily Truck %	-	-	11%	-	11%

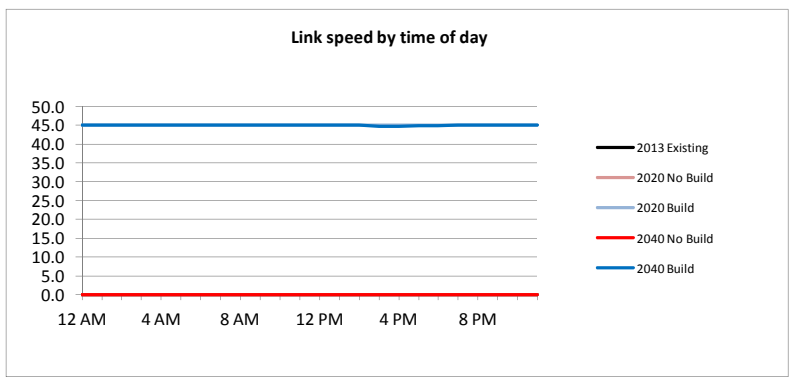
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	0	52	0	73
	1 AM	0	0	31	0	44
	2 AM	0	0	26	0	36
	3 AM	0	0	21	0	29
	4 AM	0	0	47	0	66
	5 AM	0	0	109	0	152
	6 AM	0	0	240	0	320
	7 AM	0	0	203	0	283
	8 AM	0	0	234	0	328
	9 AM	0	0	197	0	277
	10 AM	0	0	213	0	299
	11 AM	0	0	234	0	328
	12 PM	0	0	244	0	342
	1 PM	0	0	275	0	386
	2 PM	0	0	358	0	503
	3 PM	0	0	483	0	678
	4 PM	0	0	488	0	684
	5 PM	0	0	470	0	640
	6 PM	0	0	409	0	577
	7 PM	0	0	343	0	481
	8 PM	0	0	234	0	328
	9 PM	0	0	171	0	240
	10 PM	0	0	130	0	182
	11 PM	0	0	88	0	124

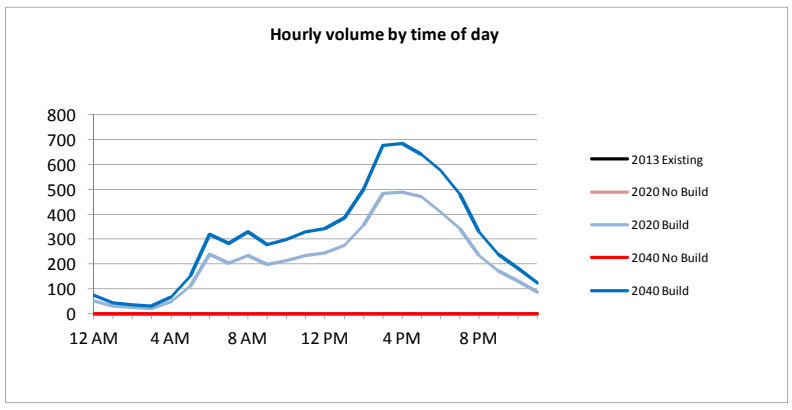
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	-	-	45.0	-	45.0
	1 AM	-	-	45.0	-	45.0
	2 AM	-	-	45.0	-	45.0
	3 AM	-	-	45.0	-	45.0
	4 AM	-	-	45.0	-	45.0
	5 AM	-	-	45.0	-	45.0
	6 AM	-	-	45.0	-	45.0
	7 AM	-	-	45.0	-	45.0
	8 AM	-	-	45.0	-	45.0
	9 AM	-	-	45.0	-	45.0
	10 AM	-	-	45.0	-	45.0
	11 AM	-	-	45.0	-	45.0
	12 PM	-	-	45.0	-	45.0
	1 PM	-	-	45.0	-	45.0
	2 PM	-	-	45.0	-	44.9
	3 PM	-	-	45.0	-	44.7
	4 PM	-	-	45.0	-	44.7
	5 PM	-	-	45.0	-	44.8
	6 PM	-	-	45.0	-	44.9
	7 PM	-	-	45.0	-	45.0
	8 PM	-	-	45.0	-	45.0
	9 PM	-	-	45.0	-	45.0
	10 PM	-	-	45.0	-	45.0
	11 PM	-	-	45.0	-	45.0

Passenger Vehicle Volume						
	12 AM	0	0	43	0	62
	1 AM	0	0	23	0	32
	2 AM	0	0	16	0	22
	3 AM	0	0	11	0	16
	4 AM	0	0	26	0	35
	5 AM	0	0	83	0	116
	6 AM	0	0	204	0	272
	7 AM	0	0	182	0	253
	8 AM	0	0	211	0	294
	9 AM	0	0	170	0	239
	10 AM	0	0	176	0	247
	11 AM	0	0	190	0	267
	12 PM	0	0	203	0	283
	1 PM	0	0	236	0	331
	2 PM	0	0	320	0	450
	3 PM	0	0	446	0	626
	4 PM	0	0	458	0	642
	5 PM	0	0	445	0	607
	6 PM	0	0	386	0	545
	7 PM	0	0	323	0	453
	8 PM	0	0	220	0	309
	9 PM	0	0	159	0	224
	10 PM	0	0	121	0	169
	11 PM	0	0	80	0	113

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	4	0	5
	1 AM	0	0	4	0	6
	2 AM	0	0	4	0	6
	3 AM	0	0	5	0	6
	4 AM	0	0	10	0	15
	5 AM	0	0	14	0	19
	6 AM	0	0	21	0	28
	7 AM	0	0	14	0	20
	8 AM	0	0	15	0	22
	9 AM	0	0	17	0	24
	10 AM	0	0	23	0	32
	11 AM	0	0	25	0	35
	12 PM	0	0	25	0	36
	1 PM	0	0	24	0	34
	2 PM	0	0	24	0	33
	3 PM	0	0	24	0	34
	4 PM	0	0	20	0	28
	5 PM	0	0	17	0	23
	6 PM	0	0	15	0	21
	7 PM	0	0	12	0	17
	8 PM	0	0	8	0	11
	9 PM	0	0	6	0	8
	10 PM	0	0	5	0	7
	11 PM	0	0	4	0	5

Heavy Truck Volume						
	12 AM	0	0	5	0	6
	1 AM	0	0	4	0	6
	2 AM	0	0	6	0	8
	3 AM	0	0	5	0	7
	4 AM	0	0	11	0	16
	5 AM	0	0	12	0	17
	6 AM	0	0	15	0	20
	7 AM	0	0	7	0	10
	8 AM	0	0	8	0	12
	9 AM	0	0	10	0	14
	10 AM	0	0	14	0	20
	11 AM	0	0	19	0	26
	12 PM	0	0	16	0	23
	1 PM	0	0	15	0	21
	2 PM	0	0	14	0	20
	3 PM	0	0	13	0	18
	4 PM	0	0	10	0	14
	5 PM	0	0	8	0	10
	6 PM	0	0	8	0	11
	7 PM	0	0	8	0	11
	8 PM	0	0	6	0	8
	9 PM	0	0	6	0	8
	10 PM	0	0	4	0	6
	11 PM	0	0	4	0	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_44_NBSB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at VA 234 Bypass				
	From: VA 234 Byp./TCP		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	35	35	35	35	35
	Daily Volume	10,800	15,700	11,300	21,300	13,100
	Daily Truck %	11%	11%	11%	11%	11%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	62	91	65	124	76
	1 AM	42	61	44	83	51
	2 AM	52	76	54	103	63
	3 AM	42	61	44	83	51
	4 AM	73	106	77	145	88
	5 AM	166	243	174	330	201
	6 AM	680	1,010	710	1,250	860
	7 AM	583	851	609	1,157	704
	8 AM	635	927	664	1,261	767
	9 AM	520	760	545	1,034	629
	10 AM	458	669	479	910	553
	11 AM	447	653	468	889	540
	12 PM	468	684	490	930	566
	1 PM	520	760	545	1,034	629
	2 PM	614	897	643	1,220	742
	3 PM	791	1,155	828	1,571	955
	4 PM	926	1,353	969	1,839	1,119
	5 PM	1,150	1,590	1,200	2,230	1,400
	6 PM	864	1,261	904	1,717	1,044
	7 PM	562	821	589	1,116	679
	8 PM	437	638	458	868	528
	9 PM	395	577	414	786	478
	10 PM	219	319	229	434	264
	11 PM	94	137	98	186	113

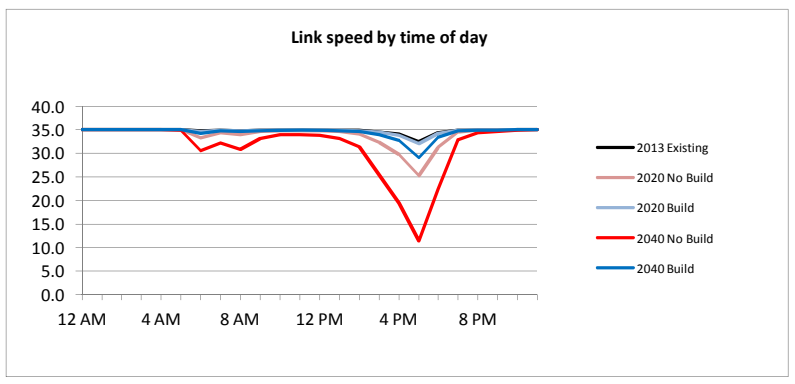
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	34.8	33.4	34.7	30.6	34.2
	7 AM	34.9	34.3	34.9	32.1	34.7
	8 AM	34.8	34.0	34.8	30.9	34.6
	9 AM	34.9	34.6	34.9	33.2	34.8
	10 AM	35.0	34.8	35.0	33.9	34.9
	11 AM	35.0	34.8	35.0	34.0	34.9
	12 PM	35.0	34.7	35.0	33.8	34.9
	1 PM	34.9	34.6	34.9	33.2	34.8
	2 PM	34.9	34.2	34.8	31.4	34.7
	3 PM	34.6	32.4	34.5	25.4	33.9
	4 PM	34.1	29.8	33.9	19.4	32.8
	5 PM	32.5	25.3	32.0	11.4	29.1
	6 PM	34.4	31.2	34.2	22.4	33.4
	7 PM	34.9	34.5	34.9	32.8	34.8
	8 PM	35.0	34.9	35.0	34.4	34.9
	9 PM	35.0	34.9	35.0	34.6	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

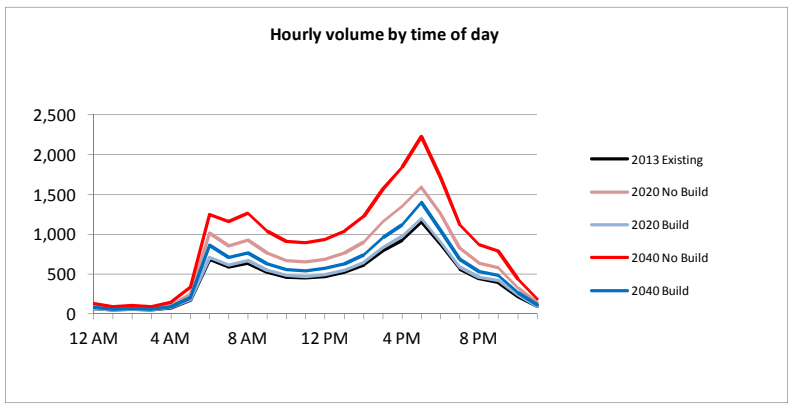
Passenger Vehicle Volume						
	12 AM	52	76	56	104	65
	1 AM	31	44	33	61	38
	2 AM	31	46	32	62	38
	3 AM	23	33	23	44	26
	4 AM	39	57	42	78	47
	5 AM	126	185	133	251	153
	6 AM	578	860	604	1,064	732
	7 AM	521	760	544	1,034	629
	8 AM	570	833	597	1,133	689
	9 AM	448	655	469	891	541
	10 AM	379	553	397	753	458
	11 AM	363	530	381	722	439
	12 PM	388	568	406	771	469
	1 PM	446	652	467	887	539
	2 PM	549	803	574	1,091	663
	3 PM	731	1,068	766	1,452	883
	4 PM	869	1,270	910	1,726	1,051
	5 PM	1,089	1,506	1,137	2,113	1,327
	6 PM	815	1,190	853	1,620	985
	7 PM	529	773	554	1,051	639
	8 PM	412	601	431	818	497
	9 PM	369	539	386	734	446
	10 PM	204	297	213	403	247
	11 PM	86	125	90	171	104

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	5	7	4	9	5
	1 AM	5	8	5	10	6
	2 AM	9	13	10	18	11
	3 AM	9	13	10	18	12
	4 AM	16	24	17	32	20
	5 AM	21	30	21	41	25
	6 AM	60	88	62	109	75
	7 AM	41	60	43	81	50
	8 AM	42	61	44	83	51
	9 AM	46	67	48	91	56
	10 AM	49	72	51	98	59
	11 AM	48	70	50	95	58
	12 PM	49	71	51	97	59
	1 PM	45	66	48	90	55
	2 PM	41	59	43	81	50
	3 PM	39	57	41	78	47
	4 PM	38	56	40	76	46
	5 PM	42	58	44	81	51
	6 PM	32	47	34	64	39
	7 PM	20	29	21	39	24
	8 PM	14	21	15	28	17
	9 PM	13	19	14	26	16
	10 PM	8	11	9	16	9
	11 PM	4	6	4	7	4

Heavy Truck Volume						
	12 AM	5	8	5	11	6
	1 AM	6	9	6	12	7
	2 AM	12	17	12	23	14
	3 AM	10	15	11	21	13
	4 AM	18	25	18	35	21
	5 AM	19	28	20	38	23
	6 AM	42	62	44	77	53
	7 AM	21	31	22	42	25
	8 AM	23	33	23	45	27
	9 AM	26	38	28	52	32
	10 AM	30	44	31	59	36
	11 AM	36	53	37	72	43
	12 PM	31	45	33	62	38
	1 PM	29	42	30	57	35
	2 PM	24	35	26	48	29
	3 PM	21	30	21	41	25
	4 PM	19	27	19	37	22
	5 PM	19	26	19	36	22
	6 PM	17	24	17	33	20
	7 PM	13	19	14	26	16
	8 PM	11	16	12	22	14
	9 PM	13	19	14	26	16
	10 PM	7	11	7	15	8
	11 PM	4	6	4	8	5





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_44_NB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at VA 234 Bypass				
	From: NB VA 234 Byp.		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	35	35	35	35	35
	Daily Volume	10,800	15,700	10,600	21,300	12,400
	Daily Truck %	11%	11%	11%	11%	11%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	62	91	61	124	72
	1 AM	42	61	41	83	48
	2 AM	52	76	51	103	60
	3 AM	42	61	41	83	48
	4 AM	73	106	72	145	84
	5 AM	166	243	163	330	191
	6 AM	680	1,010	650	1,250	790
	7 AM	583	851	572	1,157	668
	8 AM	635	927	624	1,261	728
	9 AM	520	760	512	1,034	597
	10 AM	458	669	450	910	525
	11 AM	447	653	440	889	513
	12 PM	468	684	460	930	537
	1 PM	520	760	512	1,034	597
	2 PM	614	897	604	1,220	704
	3 PM	791	1,155	778	1,571	907
	4 PM	926	1,353	910	1,839	1,062
	5 PM	1,150	1,590	1,130	2,230	1,320
	6 PM	864	1,261	850	1,717	991
	7 PM	562	821	553	1,116	645
	8 PM	437	638	430	868	501
	9 PM	395	577	389	786	454
	10 PM	219	319	215	434	251
	11 PM	94	137	92	186	107

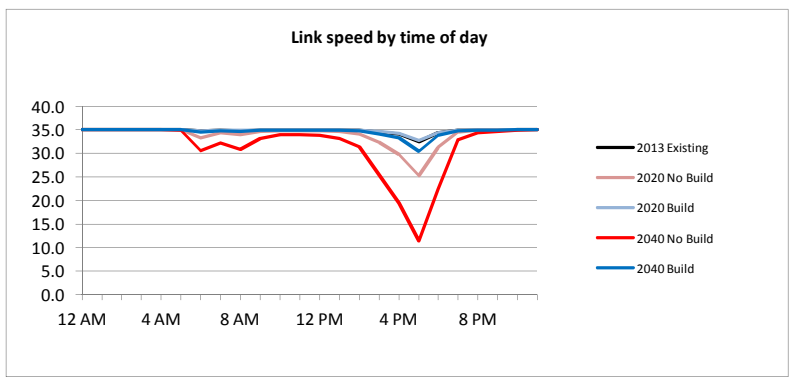
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	34.8	33.4	34.8	30.6	34.5
	7 AM	34.9	34.3	34.9	32.1	34.8
	8 AM	34.8	34.0	34.9	30.9	34.7
	9 AM	34.9	34.6	34.9	33.2	34.9
	10 AM	35.0	34.8	35.0	33.9	34.9
	11 AM	35.0	34.8	35.0	34.0	34.9
	12 PM	35.0	34.7	35.0	33.8	34.9
	1 PM	34.9	34.6	34.9	33.2	34.9
	2 PM	34.9	34.2	34.9	31.4	34.7
	3 PM	34.6	32.4	34.6	25.4	34.2
	4 PM	34.1	29.8	34.2	19.4	33.3
	5 PM	32.5	25.3	32.7	11.4	30.4
	6 PM	34.4	31.2	34.4	22.4	33.8
	7 PM	34.9	34.5	34.9	32.8	34.9
	8 PM	35.0	34.9	35.0	34.4	35.0
	9 PM	35.0	34.9	35.0	34.6	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

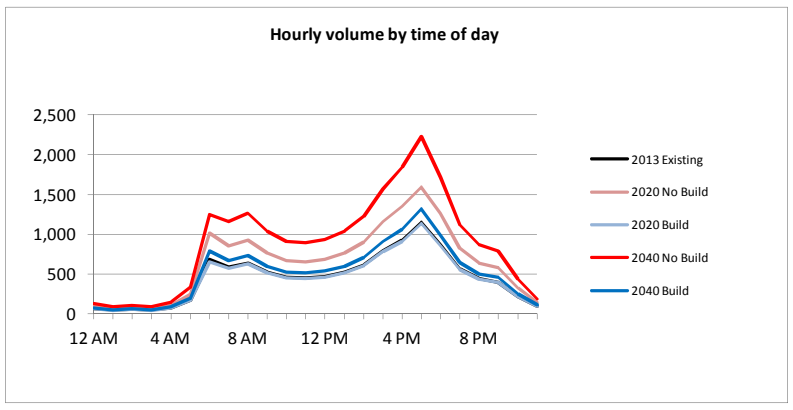
Passenger Vehicle Volume						
	12 AM	52	76	52	104	61
	1 AM	31	44	30	61	35
	2 AM	31	46	31	62	37
	3 AM	23	33	22	44	25
	4 AM	39	57	39	78	45
	5 AM	126	185	124	251	145
	6 AM	578	860	553	1,064	672
	7 AM	521	760	511	1,034	597
	8 AM	570	833	561	1,133	654
	9 AM	448	655	441	891	514
	10 AM	379	553	373	753	435
	11 AM	363	530	358	722	417
	12 PM	388	568	381	771	445
	1 PM	446	652	439	887	512
	2 PM	549	803	540	1,091	629
	3 PM	731	1,068	719	1,452	838
	4 PM	869	1,270	854	1,726	997
	5 PM	1,089	1,506	1,071	2,113	1,251
	6 PM	815	1,190	802	1,620	935
	7 PM	529	773	520	1,051	607
	8 PM	412	601	405	818	472
	9 PM	369	539	363	734	424
	10 PM	204	297	200	403	234
	11 PM	86	125	84	171	98

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	5	7	4	9	5
	1 AM	5	8	5	10	6
	2 AM	9	13	9	18	10
	3 AM	9	13	9	18	11
	4 AM	16	24	16	32	19
	5 AM	21	30	20	41	24
	6 AM	60	88	57	109	69
	7 AM	41	60	40	81	47
	8 AM	42	61	41	83	48
	9 AM	46	67	45	91	53
	10 AM	49	72	48	98	56
	11 AM	48	70	47	95	55
	12 PM	49	71	48	97	56
	1 PM	45	66	45	90	52
	2 PM	41	59	40	81	47
	3 PM	39	57	39	78	45
	4 PM	38	56	38	76	44
	5 PM	42	58	41	81	48
	6 PM	32	47	32	64	37
	7 PM	20	29	20	39	23
	8 PM	14	21	14	28	16
	9 PM	13	19	13	26	15
	10 PM	8	11	8	16	9
	11 PM	4	6	4	7	4

Heavy Truck Volume						
	12 AM	5	8	5	11	6
	1 AM	6	9	6	12	7
	2 AM	12	17	11	23	13
	3 AM	10	15	10	21	12
	4 AM	18	25	17	35	20
	5 AM	19	28	19	38	22
	6 AM	42	62	40	77	49
	7 AM	21	31	21	42	24
	8 AM	23	33	22	45	26
	9 AM	26	38	26	52	30
	10 AM	30	44	29	59	34
	11 AM	36	53	35	72	41
	12 PM	31	45	31	62	36
	1 PM	29	42	28	57	33
	2 PM	24	35	24	48	28
	3 PM	21	30	20	41	24
	4 PM	19	27	18	37	21
	5 PM	19	26	18	36	21
	6 PM	17	24	16	33	19
	7 PM	13	19	13	26	15
	8 PM	11	16	11	22	13
	9 PM	13	19	13	26	15
	10 PM	7	11	7	15	8
	11 PM	4	6	4	8	5





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_44_SB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at VA 234 Bypass				
	From: SB TCP		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	35	35	35	35	35
	Daily Volume	0	0	700	0	700
	Daily Truck %	-	-	11%	-	11%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	0	4	0	4
	1 AM	0	0	3	0	3
	2 AM	0	0	3	0	3
	3 AM	0	0	3	0	3
	4 AM	0	0	5	0	4
	5 AM	0	0	11	0	10
	6 AM	0	0	60	0	70
	7 AM	0	0	37	0	36
	8 AM	0	0	40	0	39
	9 AM	0	0	33	0	32
	10 AM	0	0	29	0	28
	11 AM	0	0	28	0	27
	12 PM	0	0	30	0	29
	1 PM	0	0	33	0	32
	2 PM	0	0	39	0	38
	3 PM	0	0	50	0	48
	4 PM	0	0	59	0	57
	5 PM	0	0	70	0	80
	6 PM	0	0	54	0	53
	7 PM	0	0	36	0	34
	8 PM	0	0	28	0	27
	9 PM	0	0	25	0	24
	10 PM	0	0	14	0	13
	11 PM	0	0	6	0	6

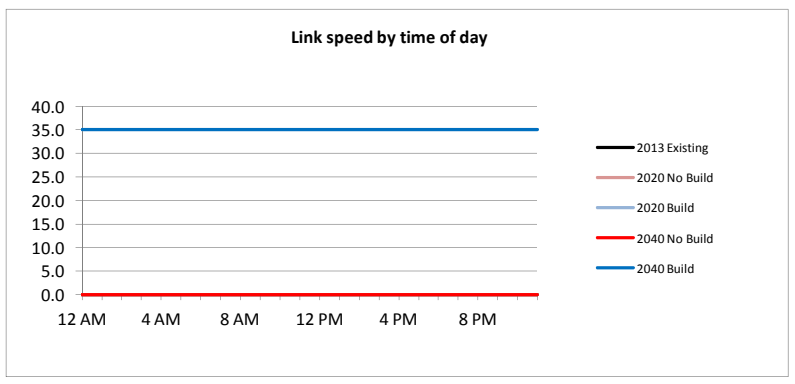
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	-	-	35.0	-	35.0
	1 AM	-	-	35.0	-	35.0
	2 AM	-	-	35.0	-	35.0
	3 AM	-	-	35.0	-	35.0
	4 AM	-	-	35.0	-	35.0
	5 AM	-	-	35.0	-	35.0
	6 AM	-	-	35.0	-	35.0
	7 AM	-	-	35.0	-	35.0
	8 AM	-	-	35.0	-	35.0
	9 AM	-	-	35.0	-	35.0
	10 AM	-	-	35.0	-	35.0
	11 AM	-	-	35.0	-	35.0
	12 PM	-	-	35.0	-	35.0
	1 PM	-	-	35.0	-	35.0
	2 PM	-	-	35.0	-	35.0
	3 PM	-	-	35.0	-	35.0
	4 PM	-	-	35.0	-	35.0
	5 PM	-	-	35.0	-	35.0
	6 PM	-	-	35.0	-	35.0
	7 PM	-	-	35.0	-	35.0
	8 PM	-	-	35.0	-	35.0
	9 PM	-	-	35.0	-	35.0
	10 PM	-	-	35.0	-	35.0
	11 PM	-	-	35.0	-	35.0

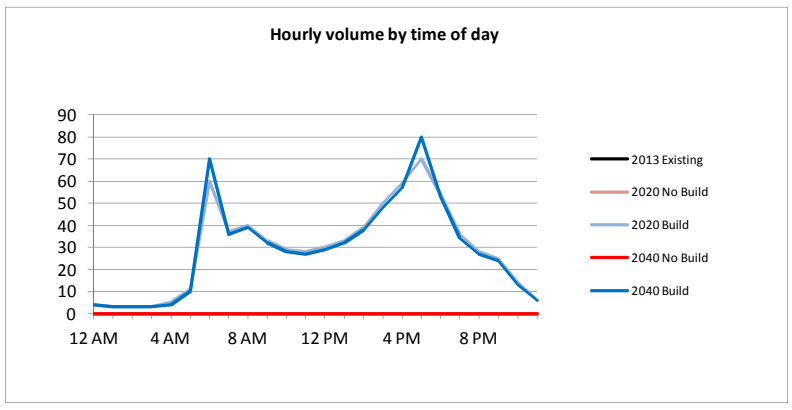
Passenger Vehicle Volume						
	12 AM	0	0	4	0	4
	1 AM	0	0	3	0	3
	2 AM	0	0	1	0	1
	3 AM	0	0	1	0	1
	4 AM	0	0	3	0	2
	5 AM	0	0	9	0	8
	6 AM	0	0	51	0	60
	7 AM	0	0	33	0	32
	8 AM	0	0	36	0	35
	9 AM	0	0	28	0	27
	10 AM	0	0	24	0	23
	11 AM	0	0	23	0	22
	12 PM	0	0	25	0	24
	1 PM	0	0	28	0	27
	2 PM	0	0	34	0	34
	3 PM	0	0	47	0	45
	4 PM	0	0	56	0	54
	5 PM	0	0	66	0	76
	6 PM	0	0	51	0	50
	7 PM	0	0	34	0	32
	8 PM	0	0	26	0	25
	9 PM	0	0	23	0	22
	10 PM	0	0	13	0	13
	11 PM	0	0	6	0	6

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	1	0	1
	3 AM	0	0	1	0	1
	4 AM	0	0	1	0	1
	5 AM	0	0	1	0	1
	6 AM	0	0	5	0	6
	7 AM	0	0	3	0	3
	8 AM	0	0	3	0	3
	9 AM	0	0	3	0	3
	10 AM	0	0	3	0	3
	11 AM	0	0	3	0	3
	12 PM	0	0	3	0	3
	1 PM	0	0	3	0	3
	2 PM	0	0	3	0	3
	3 PM	0	0	2	0	2
	4 PM	0	0	2	0	2
	5 PM	0	0	3	0	3
	6 PM	0	0	2	0	2
	7 PM	0	0	1	0	1
	8 PM	0	0	1	0	1
	9 PM	0	0	1	0	1
	10 PM	0	0	1	0	1
	11 PM	0	0	1	0	0

Heavy Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	1	0	1
	3 AM	0	0	1	0	1
	4 AM	0	0	1	0	1
	5 AM	0	0	1	0	1
	6 AM	0	0	4	0	4
	7 AM	0	0	1	0	1
	8 AM	0	0	1	0	1
	9 AM	0	0	2	0	2
	10 AM	0	0	2	0	2
	11 AM	0	0	2	0	2
	12 PM	0	0	2	0	2
	1 PM	0	0	2	0	2
	2 PM	0	0	2	0	1
	3 PM	0	0	1	0	1
	4 PM	0	0	1	0	1
	5 PM	0	0	1	0	1
	6 PM	0	0	1	0	1
	7 PM	0	0	1	0	1
	8 PM	0	0	1	0	1
	9 PM	0	0	1	0	1
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_44_NB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at VA 234 Bypass				
	From: NB VA 234 Byp.		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	13,700	18,700	10,700	24,900	15,800
	Daily Truck %	10%	10%	10%	10%	10%

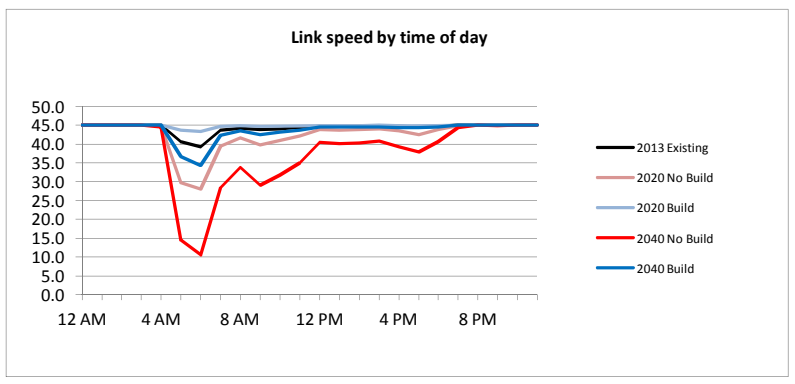
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	55	75	43	100	64
	1 AM	41	56	32	75	48
	2 AM	69	94	54	125	80
	3 AM	138	188	108	250	159
	4 AM	399	545	313	724	462
	5 AM	1,225	1,672	961	2,221	1,417
	6 AM	1,310	1,740	1,010	2,440	1,520
	7 AM	950	1,296	745	1,722	1,098
	8 AM	840	1,146	658	1,522	971
	9 AM	922	1,258	723	1,672	1,066
	10 AM	867	1,183	680	1,572	1,003
	11 AM	798	1,089	626	1,448	923
	12 PM	661	901	518	1,198	764
	1 PM	674	920	529	1,223	780
	2 PM	674	920	529	1,223	780
	3 PM	661	901	518	1,198	764
	4 PM	716	977	561	1,298	828
	5 PM	760	1,090	570	1,370	830
	6 PM	674	921	529	1,222	779
	7 PM	440	601	345	799	509
	8 PM	275	376	216	499	318
	9 PM	303	413	237	549	350
	10 PM	165	225	130	300	191
	11 PM	83	113	65	150	96

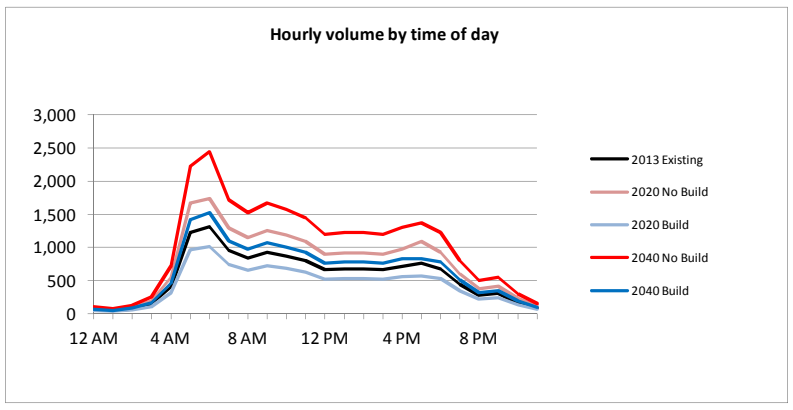
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	44.9	45.0	44.6	45.0
	5 AM	40.6	29.7	43.6	14.4	36.7
	6 AM	39.2	28.0	43.3	10.5	34.4
	7 AM	43.7	39.4	44.6	28.3	42.4
	8 AM	44.2	41.7	44.8	33.8	43.5
	9 AM	43.8	39.7	44.6	29.0	42.5
	10 AM	44.1	40.9	44.7	31.8	43.1
	11 AM	44.4	42.1	44.8	35.0	43.7
	12 PM	44.7	43.8	44.9	40.5	44.5
	1 PM	44.7	43.7	44.9	40.2	44.4
	2 PM	44.7	43.8	44.9	40.3	44.4
	3 PM	44.8	43.9	44.9	40.8	44.5
	4 PM	44.7	43.5	44.9	39.3	44.3
	5 PM	44.6	42.5	44.9	37.9	44.3
	6 PM	44.8	43.9	44.9	40.7	44.5
	7 PM	45.0	44.9	45.0	44.4	44.9
	8 PM	45.0	45.0	45.0	44.9	45.0
	9 PM	45.0	45.0	45.0	44.9	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

Passenger Vehicle Volume						
	12 AM	31	43	24	57	36
	1 AM	18	25	14	33	21
	2 AM	32	44	26	58	37
	3 AM	79	108	62	144	92
	4 AM	330	451	259	600	382
	5 AM	1,136	1,551	891	2,060	1,314
	6 AM	1,233	1,638	951	2,297	1,430
	7 AM	886	1,209	695	1,607	1,025
	8 AM	768	1,048	601	1,391	887
	9 AM	828	1,130	649	1,502	957
	10 AM	769	1,050	603	1,395	890
	11 AM	698	952	547	1,266	807
	12 PM	575	784	451	1,042	665
	1 PM	593	810	466	1,077	687
	2 PM	600	819	471	1,089	694
	3 PM	599	817	470	1,087	693
	4 PM	661	903	518	1,200	766
	5 PM	712	1,021	533	1,283	777
	6 PM	628	858	493	1,138	725
	7 PM	401	548	314	728	464
	8 PM	245	335	193	445	284
	9 PM	264	360	207	479	305
	10 PM	137	187	108	249	159
	11 PM	61	83	48	110	70

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	11	15	9	20	13
	1 AM	10	14	8	19	12
	2 AM	17	23	13	31	20
	3 AM	30	41	23	54	34
	4 AM	39	53	30	70	45
	5 AM	60	81	47	108	69
	6 AM	56	74	43	104	65
	7 AM	47	64	37	85	54
	8 AM	51	69	40	92	59
	9 AM	61	83	48	110	70
	10 AM	62	84	49	112	72
	11 AM	62	85	49	113	72
	12 PM	53	72	41	96	61
	1 PM	51	69	40	92	59
	2 PM	49	67	38	89	57
	3 PM	39	53	30	70	45
	4 PM	37	50	29	66	42
	5 PM	30	43	23	54	33
	6 PM	28	38	22	51	33
	7 PM	21	29	17	39	25
	8 PM	16	22	12	29	18
	9 PM	19	26	15	35	22
	10 PM	14	19	11	25	16
	11 PM	10	14	8	19	12

Heavy Truck Volume						
	12 AM	13	17	10	23	15
	1 AM	13	17	10	23	15
	2 AM	20	27	15	36	23
	3 AM	29	39	23	52	33
	4 AM	30	41	24	54	35
	5 AM	29	40	23	53	34
	6 AM	21	28	16	39	25
	7 AM	17	23	13	30	19
	8 AM	21	29	17	39	25
	9 AM	33	45	26	60	39
	10 AM	36	49	28	65	41
	11 AM	38	52	30	69	44
	12 PM	33	45	26	60	38
	1 PM	30	41	23	54	34
	2 PM	25	34	20	45	29
	3 PM	23	31	18	41	26
	4 PM	18	24	14	32	20
	5 PM	18	26	14	33	20
	6 PM	18	25	14	33	21
	7 PM	18	24	14	32	20
	8 PM	14	19	11	25	16
	9 PM	20	27	15	35	23
	10 PM	14	19	11	26	16
	11 PM	12	16	9	21	14

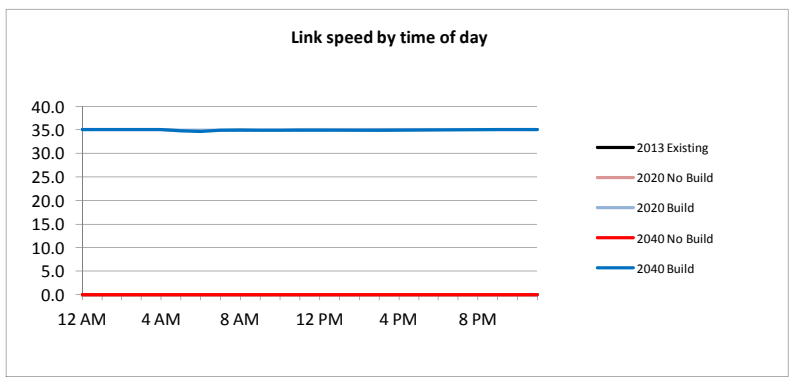


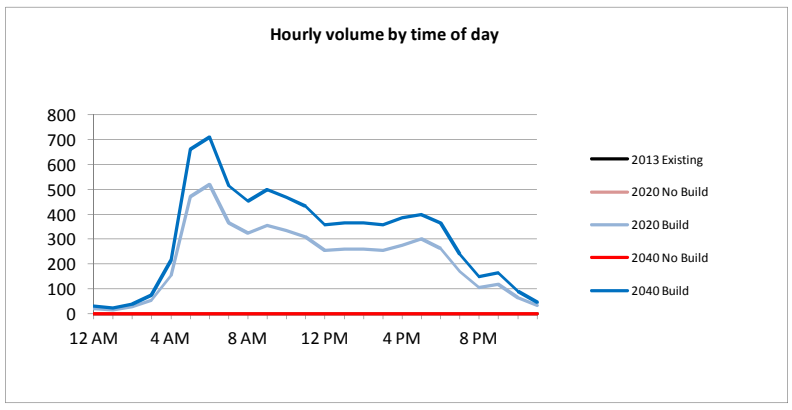


Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_44_SB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at VA 234 Bypass				
	From: SB TCP		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	35	35	35	35	35
	Daily Volume	0	0	5,300	0	7,400
	Daily Truck %	-	-	10%	-	10%
Total Volume (Passenger vehicles + medium truck + heavy truck)	*12 AM*	0	0	21	0	30
	1 AM	0	0	16	0	22
	2 AM	0	0	27	0	37
	3 AM	0	0	53	0	74
	4 AM	0	0	154	0	216
	5 AM	0	0	471	0	662
	6 AM	0	0	520	0	710
	7 AM	0	0	365	0	514
	8 AM	0	0	323	0	454
	9 AM	0	0	355	0	499
	10 AM	0	0	334	0	469
	11 AM	0	0	308	0	432
	12 PM	0	0	254	0	357
	1 PM	0	0	260	0	365
	2 PM	0	0	260	0	365
	3 PM	0	0	254	0	357
	4 PM	0	0	275	0	387
	5 PM	0	0	300	0	400
	6 PM	0	0	261	0	365
	7 PM	0	0	170	0	238
	8 PM	0	0	106	0	149
	9 PM	0	0	117	0	164
	10 PM	0	0	64	0	89
	11 PM	0	0	32	0	45
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	-	-	35.0	-	35.0
	1 AM	-	-	35.0	-	35.0
	2 AM	-	-	35.0	-	35.0
	3 AM	-	-	35.0	-	35.0
	4 AM	-	-	35.0	-	35.0
	5 AM	-	-	35.0	-	34.8
	6 AM	-	-	34.9	-	34.7
	7 AM	-	-	35.0	-	34.9
	8 AM	-	-	35.0	-	35.0
	9 AM	-	-	35.0	-	34.9
	10 AM	-	-	35.0	-	35.0
	11 AM	-	-	35.0	-	35.0
	12 PM	-	-	35.0	-	35.0
	1 PM	-	-	35.0	-	35.0
	2 PM	-	-	35.0	-	35.0
	3 PM	-	-	35.0	-	35.0
	4 PM	-	-	35.0	-	35.0
	5 PM	-	-	35.0	-	35.0
	6 PM	-	-	35.0	-	35.0
	7 PM	-	-	35.0	-	35.0
	8 PM	-	-	35.0	-	35.0
	9 PM	-	-	35.0	-	35.0
	10 PM	-	-	35.0	-	35.0
	11 PM	-	-	35.0	-	35.0
Passenger Vehicle Volume	*12 AM*	0	0	12	0	17
	1 AM	0	0	7	0	9
	2 AM	0	0	12	0	17
	3 AM	0	0	31	0	42
	4 AM	0	0	127	0	179
	5 AM	0	0	437	0	614
	6 AM	0	0	490	0	669
	7 AM	0	0	341	0	480
	8 AM	0	0	295	0	414
	9 AM	0	0	319	0	448
	10 AM	0	0	296	0	417
	11 AM	0	0	269	0	377
	12 PM	0	0	221	0	310
	1 PM	0	0	229	0	322
	2 PM	0	0	231	0	325
	3 PM	0	0	230	0	324
	4 PM	0	0	254	0	357
	5 PM	0	0	281	0	374
	6 PM	0	0	243	0	340
	7 PM	0	0	155	0	218
	8 PM	0	0	95	0	133
	9 PM	0	0	102	0	143
	10 PM	0	0	54	0	73
	11 PM	0	0	23	0	33

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	4	0	6
	1 AM	0	0	4	0	6
	2 AM	0	0	7	0	9
	3 AM	0	0	11	0	16
	4 AM	0	0	15	0	21
	5 AM	0	0	23	0	32
	6 AM	0	0	22	0	30
	7 AM	0	0	18	0	25
	8 AM	0	0	20	0	28
	9 AM	0	0	23	0	33
	10 AM	0	0	24	0	33
	11 AM	0	0	24	0	34
	12 PM	0	0	20	0	29
	1 PM	0	0	20	0	27
	2 PM	0	0	19	0	27
	3 PM	0	0	15	0	21
	4 PM	0	0	14	0	20
	5 PM	0	0	12	0	16
	6 PM	0	0	11	0	15
	7 PM	0	0	8	0	11
	8 PM	0	0	6	0	9
	9 PM	0	0	7	0	10
	10 PM	0	0	5	0	8
	11 PM	0	0	4	0	6
Heavy Truck Volume	*12 AM*	0	0	5	0	7
	1 AM	0	0	5	0	7
	2 AM	0	0	8	0	11
	3 AM	0	0	11	0	16
	4 AM	0	0	12	0	16
	5 AM	0	0	11	0	16
	6 AM	0	0	8	0	11
	7 AM	0	0	6	0	9
	8 AM	0	0	8	0	12
	9 AM	0	0	13	0	18
	10 AM	0	0	14	0	19
	11 AM	0	0	15	0	21
	12 PM	0	0	13	0	18
	1 PM	0	0	11	0	16
	2 PM	0	0	10	0	13
	3 PM	0	0	9	0	12
	4 PM	0	0	7	0	10
	5 PM	0	0	7	0	10
	6 PM	0	0	7	0	10
	7 PM	0	0	7	0	9
	8 PM	0	0	5	0	7
	9 PM	0	0	8	0	11
	10 PM	0	0	5	0	8
	11 PM	0	0	5	0	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_47_NBSB			Distance (mi): -	
	Facility:				
	EB Exit I-66 interchange at VA 234 Business				
	From: EB I-66		To: VA 234 Bus.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	10,100	11,300	11,400	14,800	15,100
	Daily Truck %	11%	11%	11%	11%	11%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	40	44	45	58	60
	1 AM	40	44	45	58	60
	2 AM	40	44	45	58	60
	3 AM	60	66	66	87	88
	4 AM	148	166	168	217	222
	5 AM	296	332	334	434	444
	6 AM	590	660	660	850	860
	7 AM	473	531	535	695	710
	8 AM	671	751	758	986	1,005
	9 AM	858	961	970	1,261	1,287
	10 AM	838	939	948	1,232	1,257
	11 AM	789	884	892	1,160	1,183
	12 PM	701	785	792	1,029	1,050
	1 PM	612	686	692	899	917
	2 PM	543	608	613	797	813
	3 PM	583	652	658	855	873
	4 PM	670	752	758	985	1,005
	5 PM	570	630	640	820	840
	6 PM	571	640	645	841	856
	7 PM	355	397	401	522	533
	8 PM	257	287	290	377	385
	9 PM	188	209	211	275	281
	10 PM	138	154	156	203	207
	11 PM	69	78	78	101	104

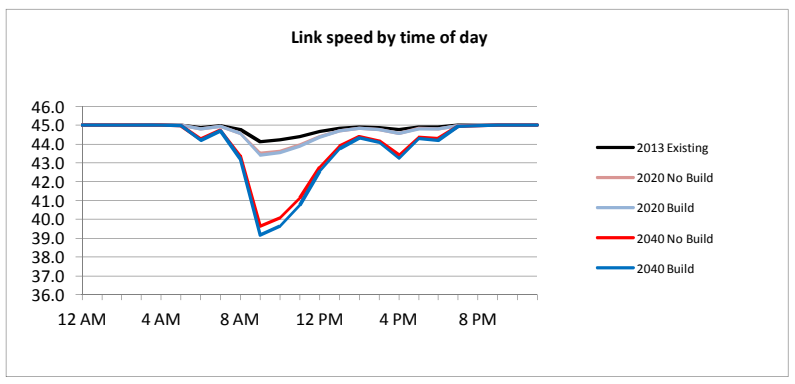
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	44.9	44.8	44.8	44.2	44.2
	7 AM	45.0	44.9	44.9	44.7	44.7
	8 AM	44.8	44.6	44.5	43.4	43.2
	9 AM	44.1	43.5	43.4	39.6	39.2
	10 AM	44.2	43.6	43.6	40.1	39.6
	11 AM	44.4	43.9	43.9	41.1	40.8
	12 PM	44.7	44.4	44.4	42.8	42.5
	1 PM	44.8	44.7	44.7	43.9	43.8
	2 PM	44.9	44.8	44.8	44.4	44.3
	3 PM	44.9	44.8	44.8	44.2	44.1
	4 PM	44.8	44.6	44.6	43.4	43.2
	5 PM	44.9	44.8	44.8	44.4	44.3
	6 PM	44.9	44.8	44.8	44.3	44.2
	7 PM	45.0	45.0	45.0	44.9	44.9
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

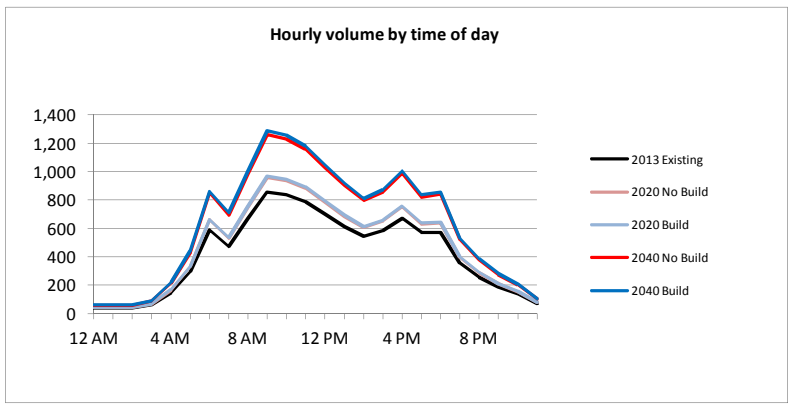
Passenger Vehicle Volume						
	12 AM	23	24	25	32	33
	1 AM	17	20	20	25	25
	2 AM	19	21	22	27	29
	3 AM	35	37	37	50	51
	4 AM	123	138	140	179	184
	5 AM	274	308	310	403	413
	6 AM	555	621	621	799	809
	7 AM	441	495	499	649	662
	8 AM	613	686	693	902	918
	9 AM	770	863	871	1,132	1,155
	10 AM	744	833	841	1,093	1,116
	11 AM	690	772	780	1,014	1,033
	12 PM	610	683	689	895	913
	1 PM	539	605	610	791	808
	2 PM	483	541	545	710	724
	3 PM	529	590	596	776	792
	4 PM	620	694	700	909	930
	5 PM	534	590	599	769	787
	6 PM	531	596	600	783	797
	7 PM	324	362	366	476	486
	8 PM	229	256	259	336	344
	9 PM	164	183	184	239	246
	10 PM	114	128	129	168	173
	11 PM	51	57	57	74	77

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	8	9	9	12	13
	1 AM	11	11	11	15	16
	2 AM	9	11	11	14	14
	3 AM	13	15	15	19	19
	4 AM	14	16	16	21	21
	5 AM	15	16	16	21	21
	6 AM	25	28	28	37	37
	7 AM	24	27	27	34	35
	8 AM	41	46	46	59	61
	9 AM	57	63	64	83	85
	10 AM	60	67	68	88	90
	11 AM	62	70	70	91	93
	12 PM	56	63	64	83	84
	1 PM	46	51	52	68	69
	2 PM	40	44	45	58	59
	3 PM	34	39	39	50	51
	4 PM	34	39	39	51	51
	5 PM	23	25	26	32	33
	6 PM	24	27	27	35	36
	7 PM	17	19	19	25	26
	8 PM	15	16	16	22	22
	9 PM	12	13	13	18	17
	10 PM	12	13	13	17	17
	11 PM	9	10	10	13	13

Heavy Truck Volume						
	12 AM	9	11	11	14	14
	1 AM	12	13	14	18	19
	2 AM	12	12	12	17	17
	3 AM	12	14	14	18	18
	4 AM	11	12	12	17	17
	5 AM	7	8	8	10	10
	6 AM	10	11	11	14	14
	7 AM	8	9	9	12	13
	8 AM	17	19	19	25	26
	9 AM	31	35	35	46	47
	10 AM	34	39	39	51	51
	11 AM	37	42	42	55	57
	12 PM	35	39	39	51	53
	1 PM	27	30	30	40	40
	2 PM	20	23	23	29	30
	3 PM	20	23	23	29	30
	4 PM	16	19	19	25	24
	5 PM	13	15	15	19	20
	6 PM	16	17	18	23	23
	7 PM	14	16	16	21	21
	8 PM	13	15	15	19	19
	9 PM	12	13	14	18	18
	10 PM	12	13	14	18	17
	11 PM	9	11	11	14	14





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_47_NB			Distance (mi): -	
	Facility: EB Exit I-66 interchange at VA 234 Business				
	From: EB I-66		To: NB VA 234 Bus.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	2,500	2,900	3,000	4,100	4,500
	Daily Truck %	11%	11%	11%	11%	11%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	10	11	12	16	18
	1 AM	10	11	12	16	18
	2 AM	10	11	12	16	18
	3 AM	15	17	17	24	26
	4 AM	36	42	44	60	66
	5 AM	73	85	87	119	132
	6 AM	170	190	190	250	260
	7 AM	116	136	140	191	211
	8 AM	164	191	198	272	299
	9 AM	210	245	254	348	383
	10 AM	205	239	248	340	374
	11 AM	193	225	233	320	352
	12 PM	172	200	207	284	313
	1 PM	150	175	181	248	273
	2 PM	133	155	160	220	242
	3 PM	143	166	172	236	260
	4 PM	164	192	198	271	299
	5 PM	140	160	170	230	250
	6 PM	139	163	168	231	255
	7 PM	87	101	105	144	159
	8 PM	63	73	76	104	115
	9 PM	46	53	55	76	84
	10 PM	34	39	41	56	62
	11 PM	17	20	20	28	31

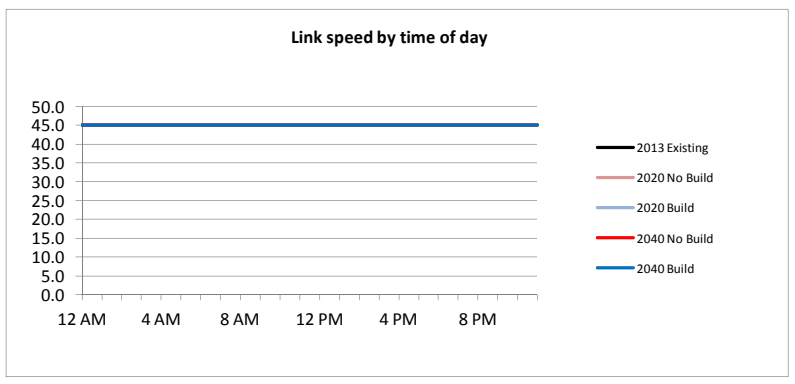
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	45.0	45.0
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

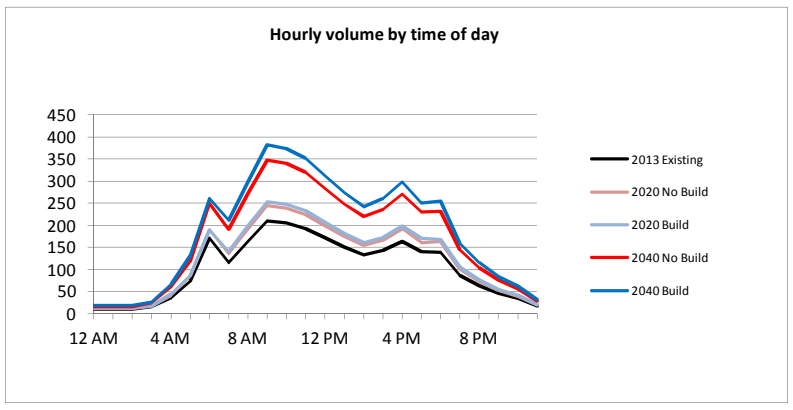
Passenger Vehicle Volume						
	12 AM	6	6	7	9	10
	1 AM	4	5	5	7	7
	2 AM	5	5	6	7	9
	3 AM	9	9	9	14	15
	4 AM	30	35	37	49	55
	5 AM	67	79	81	110	123
	6 AM	160	179	179	235	245
	7 AM	108	127	131	179	197
	8 AM	150	174	181	249	273
	9 AM	188	220	228	312	344
	10 AM	182	212	220	302	332
	11 AM	169	196	204	280	307
	12 PM	149	174	180	247	272
	1 PM	132	154	159	218	240
	2 PM	118	138	142	196	215
	3 PM	130	150	156	214	236
	4 PM	152	177	183	250	277
	5 PM	131	150	159	216	234
	6 PM	129	152	156	215	237
	7 PM	80	92	96	131	145
	8 PM	56	65	68	93	102
	9 PM	40	47	48	66	74
	10 PM	28	33	34	46	52
	11 PM	13	14	14	20	23

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	2	2	2	3	4
	1 AM	3	3	3	4	5
	2 AM	2	3	3	4	4
	3 AM	3	4	4	5	6
	4 AM	3	4	4	6	6
	5 AM	4	4	4	6	6
	6 AM	7	8	8	11	11
	7 AM	6	7	7	9	10
	8 AM	10	12	12	16	18
	9 AM	14	16	17	23	25
	10 AM	15	17	18	24	27
	11 AM	15	18	18	25	28
	12 PM	14	16	17	23	25
	1 PM	11	13	14	19	21
	2 PM	10	11	12	16	18
	3 PM	8	10	10	14	15
	4 PM	8	10	10	14	15
	5 PM	6	6	7	9	10
	6 PM	6	7	7	10	11
	7 PM	4	5	5	7	8
	8 PM	4	4	4	6	7
	9 PM	3	3	3	5	5
	10 PM	3	3	3	5	5
	11 PM	2	3	3	4	4

Heavy Truck Volume						
	12 AM	2	3	3	4	4
	1 AM	3	3	4	5	6
	2 AM	3	3	3	5	5
	3 AM	3	4	4	5	5
	4 AM	3	3	3	5	5
	5 AM	2	2	2	3	3
	6 AM	3	3	3	4	4
	7 AM	2	2	2	3	4
	8 AM	4	5	5	7	8
	9 AM	8	9	9	13	14
	10 AM	8	10	10	14	15
	11 AM	9	11	11	15	17
	12 PM	9	10	10	14	16
	1 PM	7	8	8	11	12
	2 PM	5	6	6	8	9
	3 PM	5	6	6	8	9
	4 PM	4	5	5	7	7
	5 PM	3	4	4	5	6
	6 PM	4	4	5	6	7
	7 PM	3	4	4	6	6
	8 PM	3	4	4	5	6
	9 PM	3	3	4	5	5
	10 PM	3	3	4	5	5
	11 PM	2	3	3	4	4





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_47_SB			Distance (mi): -	
	Facility: EB Exit I-66 interchange at VA 234 Business				
	From: EB I-66		To: SB VA 234 Bus.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	7,600	8,400	8,400	10,700	10,600
	Daily Truck %	11%	11%	11%	11%	11%

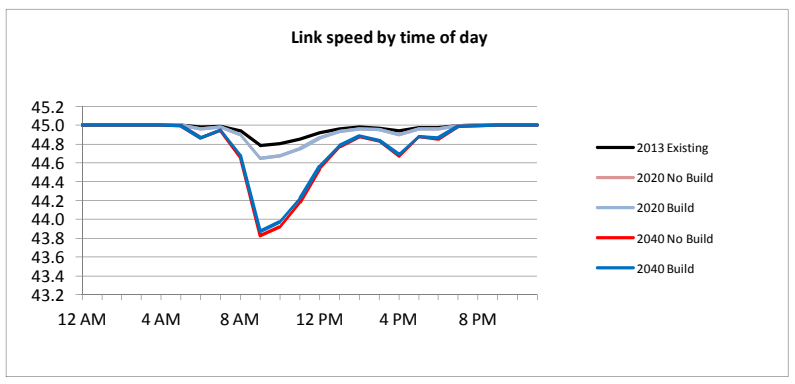
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	30	33	33	42	42
	1 AM	30	33	33	42	42
	2 AM	30	33	33	42	42
	3 AM	45	49	49	63	62
	4 AM	112	124	124	157	156
	5 AM	223	247	247	315	312
	6 AM	420	470	470	600	600
	7 AM	357	395	395	504	499
	8 AM	507	560	560	714	706
	9 AM	648	716	716	913	904
	10 AM	633	700	700	892	883
	11 AM	596	659	659	840	831
	12 PM	529	585	585	745	737
	1 PM	462	511	511	651	644
	2 PM	410	453	453	577	571
	3 PM	440	486	486	619	613
	4 PM	506	560	560	714	706
	5 PM	430	470	470	590	590
	6 PM	432	477	477	610	601
	7 PM	268	296	296	378	374
	8 PM	194	214	214	273	270
	9 PM	142	156	156	199	197
	10 PM	104	115	115	147	145
	11 PM	52	58	58	73	73

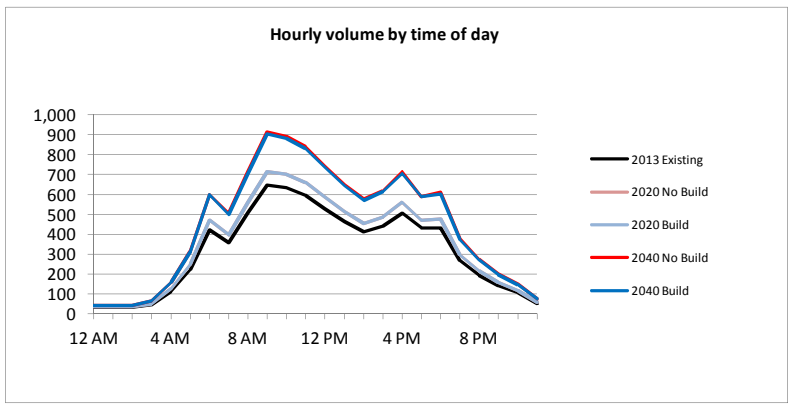
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	44.9	44.9
	7 AM	45.0	45.0	45.0	44.9	44.9
	8 AM	44.9	44.9	44.9	44.7	44.7
	9 AM	44.8	44.6	44.6	43.8	43.9
	10 AM	44.8	44.7	44.7	43.9	44.0
	11 AM	44.8	44.8	44.8	44.2	44.2
	12 PM	44.9	44.9	44.9	44.5	44.6
	1 PM	45.0	44.9	44.9	44.8	44.8
	2 PM	45.0	45.0	45.0	44.9	44.9
	3 PM	45.0	45.0	45.0	44.8	44.8
	4 PM	44.9	44.9	44.9	44.7	44.7
	5 PM	45.0	45.0	45.0	44.9	44.9
	6 PM	45.0	45.0	45.0	44.9	44.9
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

Passenger Vehicle Volume						
	12 AM	17	18	18	23	23
	1 AM	13	15	15	18	18
	2 AM	14	16	16	20	20
	3 AM	26	28	28	36	36
	4 AM	93	103	103	130	129
	5 AM	207	229	229	293	290
	6 AM	395	442	442	564	564
	7 AM	333	368	368	470	465
	8 AM	463	512	512	653	645
	9 AM	582	643	643	820	811
	10 AM	562	621	621	791	784
	11 AM	521	576	576	734	726
	12 PM	461	509	509	648	641
	1 PM	407	451	451	573	568
	2 PM	365	403	403	514	509
	3 PM	399	440	440	562	556
	4 PM	468	517	517	659	653
	5 PM	403	440	440	553	553
	6 PM	402	444	444	568	560
	7 PM	244	270	270	345	341
	8 PM	173	191	191	243	242
	9 PM	124	136	136	173	172
	10 PM	86	95	95	122	121
	11 PM	38	43	43	54	54

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	6	7	7	9	9
	1 AM	8	8	8	11	11
	2 AM	7	8	8	10	10
	3 AM	10	11	11	14	13
	4 AM	11	12	12	15	15
	5 AM	11	12	12	15	15
	6 AM	18	20	20	26	26
	7 AM	18	20	20	25	25
	8 AM	31	34	34	43	43
	9 AM	43	47	47	60	60
	10 AM	45	50	50	64	63
	11 AM	47	52	52	66	65
	12 PM	42	47	47	60	59
	1 PM	35	38	38	49	48
	2 PM	30	33	33	42	41
	3 PM	26	29	29	36	36
	4 PM	26	29	29	37	36
	5 PM	17	19	19	23	23
	6 PM	18	20	20	25	25
	7 PM	13	14	14	18	18
	8 PM	11	12	12	16	15
	9 PM	9	10	10	13	12
	10 PM	9	10	10	12	12
	11 PM	7	7	7	9	9

Heavy Truck Volume						
	12 AM	7	8	8	10	10
	1 AM	9	10	10	13	13
	2 AM	9	9	9	12	12
	3 AM	9	10	10	13	13
	4 AM	8	9	9	12	12
	5 AM	5	6	6	7	7
	6 AM	7	8	8	10	10
	7 AM	6	7	7	9	9
	8 AM	13	14	14	18	18
	9 AM	23	26	26	33	33
	10 AM	26	29	29	37	36
	11 AM	28	31	31	40	40
	12 PM	26	29	29	37	37
	1 PM	20	22	22	29	28
	2 PM	15	17	17	21	21
	3 PM	15	17	17	21	21
	4 PM	12	14	14	18	17
	5 PM	10	11	11	14	14
	6 PM	12	13	13	17	16
	7 PM	11	12	12	15	15
	8 PM	10	11	11	14	13
	9 PM	9	10	10	13	13
	10 PM	9	10	10	13	12
	11 PM	7	8	8	10	10





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_47_NBSB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at VA 234 Business				
	From: VA 234 Bus.		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	20,100	22,300	22,300	28,700	28,600
	Daily Truck %	9%	9%	9%	9%	9%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	124	137	137	177	176
	1 AM	83	92	92	118	117
	2 AM	83	92	92	118	117
	3 AM	144	159	160	206	205
	4 AM	391	434	433	559	557
	5 AM	1,233	1,369	1,369	1,765	1,761
	6 AM	1,740	1,930	1,920	2,450	2,430
	7 AM	2,406	2,670	2,670	3,442	3,432
	8 AM	2,016	2,237	2,237	2,883	2,873
	9 AM	1,296	1,438	1,438	1,853	1,847
	10 AM	905	1,004	1,005	1,294	1,290
	11 AM	864	959	958	1,236	1,232
	12 PM	905	1,004	1,005	1,294	1,290
	1 PM	926	1,028	1,027	1,323	1,320
	2 PM	987	1,096	1,096	1,412	1,407
	3 PM	885	981	982	1,265	1,261
	4 PM	904	1,004	1,004	1,294	1,291
	5 PM	1,040	1,150	1,160	1,480	1,480
	6 PM	905	1,005	1,003	1,295	1,288
	7 PM	700	776	776	1,001	997
	8 PM	556	616	617	794	792
	9 PM	493	548	548	706	704
	10 PM	329	365	365	471	469
	11 PM	185	206	206	264	264

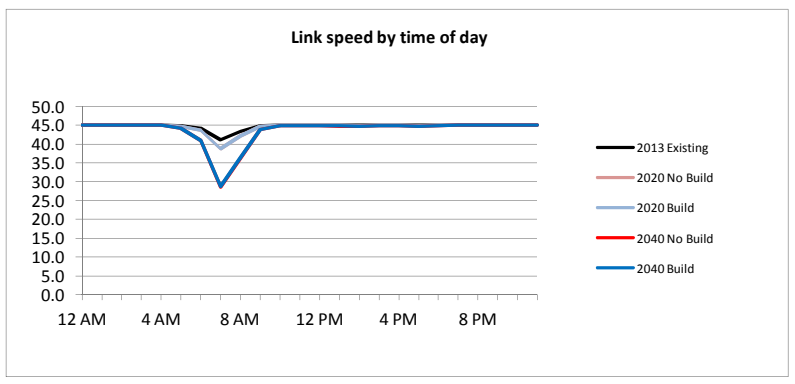
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	44.8	44.7	44.7	44.1	44.1
	6 AM	44.2	43.7	43.7	40.9	41.0
	7 AM	41.1	38.8	38.8	28.6	28.8
	8 AM	43.2	42.1	42.1	36.1	36.3
	9 AM	44.8	44.6	44.6	43.8	43.8
	10 AM	45.0	44.9	44.9	44.8	44.8
	11 AM	45.0	45.0	45.0	44.8	44.8
	12 PM	45.0	44.9	44.9	44.8	44.8
	1 PM	45.0	44.9	44.9	44.8	44.8
	2 PM	44.9	44.9	44.9	44.7	44.7
	3 PM	45.0	45.0	45.0	44.8	44.8
	4 PM	45.0	44.9	44.9	44.8	44.8
	5 PM	44.9	44.9	44.9	44.6	44.6
	6 PM	45.0	44.9	44.9	44.8	44.8
	7 PM	45.0	45.0	45.0	44.9	44.9
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

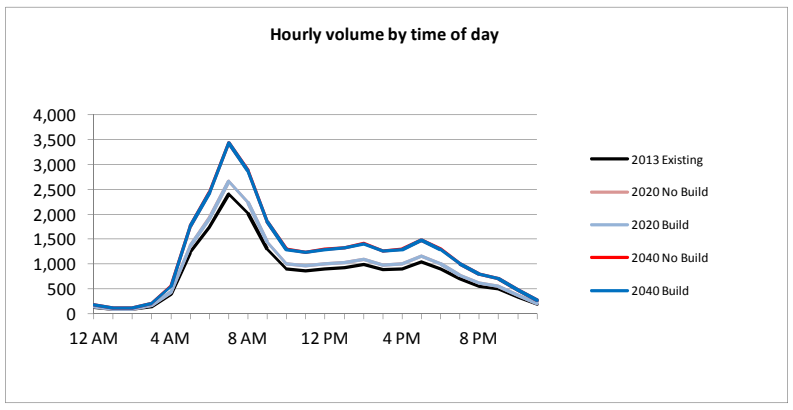
Passenger Vehicle Volume						
	12 AM	77	86	86	110	111
	1 AM	41	45	45	59	58
	2 AM	42	46	46	60	59
	3 AM	85	94	95	121	120
	4 AM	325	361	361	466	464
	5 AM	1,152	1,278	1,278	1,649	1,645
	6 AM	1,661	1,844	1,834	2,340	2,322
	7 AM	2,267	2,514	2,514	3,241	3,233
	8 AM	1,871	2,076	2,075	2,675	2,665
	9 AM	1,181	1,311	1,311	1,690	1,683
	10 AM	821	911	912	1,173	1,170
	11 AM	772	858	857	1,106	1,101
	12 PM	801	888	889	1,144	1,141
	1 PM	831	923	922	1,187	1,185
	2 PM	898	998	998	1,285	1,280
	3 PM	820	909	910	1,172	1,168
	4 PM	853	947	947	1,221	1,217
	5 PM	993	1,099	1,108	1,414	1,413
	6 PM	859	953	951	1,227	1,221
	7 PM	655	724	724	935	931
	8 PM	506	559	560	722	721
	9 PM	441	491	491	633	631
	10 PM	283	314	314	405	403
	11 PM	143	159	159	204	204

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	24	26	26	34	33
	1 AM	22	24	24	30	30
	2 AM	21	23	23	29	29
	3 AM	33	36	36	47	47
	4 AM	40	44	43	56	56
	5 AM	53	59	59	76	76
	6 AM	55	60	60	77	76
	7 AM	103	115	115	148	147
	8 AM	104	116	117	150	150
	9 AM	76	84	84	108	108
	10 AM	56	61	61	79	79
	11 AM	59	65	65	83	84
	12 PM	67	74	74	96	95
	1 PM	62	69	69	89	88
	2 PM	58	64	64	83	83
	3 PM	41	45	45	58	58
	4 PM	34	38	38	48	49
	5 PM	30	32	33	42	42
	6 PM	28	32	32	42	41
	7 PM	25	28	28	36	36
	8 PM	28	32	32	41	40
	9 PM	28	31	31	39	39
	10 PM	24	27	27	35	35
	11 PM	22	24	24	31	31

Heavy Truck Volume						
	12 AM	23	25	25	33	32
	1 AM	20	23	23	29	29
	2 AM	20	23	23	29	29
	3 AM	26	29	29	38	38
	4 AM	26	29	29	37	37
	5 AM	28	32	32	40	40
	6 AM	24	26	26	33	32
	7 AM	36	41	41	53	52
	8 AM	41	45	45	58	58
	9 AM	39	43	43	55	56
	10 AM	28	32	32	42	41
	11 AM	33	36	36	47	47
	12 PM	37	42	42	54	54
	1 PM	33	36	36	47	47
	2 PM	31	34	34	44	44
	3 PM	24	27	27	35	35
	4 PM	17	19	19	25	25
	5 PM	17	19	19	24	25
	6 PM	18	20	20	26	26
	7 PM	20	24	24	30	30
	8 PM	22	25	25	31	31
	9 PM	24	26	26	34	34
	10 PM	22	24	24	31	31
	11 PM	20	23	23	29	29





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_47_NB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at VA 234 Business				
	From: NB VA 234 Bus.		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	30	30	30	30	30
	Daily Volume	17,700	19,700	19,700	25,500	25,600
	Daily Truck %	9%	9%	9%	9%	9%

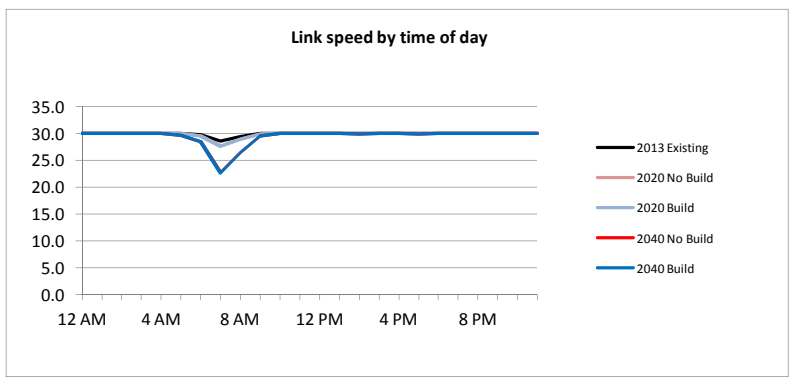
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	109	121	121	157	158
	1 AM	73	81	81	105	105
	2 AM	73	81	81	105	105
	3 AM	127	141	141	183	184
	4 AM	345	384	383	497	499
	5 AM	1,087	1,211	1,211	1,570	1,577
	6 AM	1,530	1,700	1,700	2,170	2,180
	7 AM	2,121	2,362	2,361	3,061	3,073
	8 AM	1,777	1,979	1,977	2,564	2,573
	9 AM	1,143	1,272	1,271	1,648	1,654
	10 AM	798	888	888	1,151	1,155
	11 AM	762	848	847	1,099	1,103
	12 PM	798	888	888	1,151	1,155
	1 PM	816	909	908	1,177	1,182
	2 PM	870	969	969	1,256	1,260
	3 PM	780	868	868	1,125	1,129
	4 PM	797	888	888	1,151	1,156
	5 PM	900	1,000	1,010	1,300	1,310
	6 PM	799	889	887	1,152	1,154
	7 PM	617	686	686	890	893
	8 PM	490	545	545	706	709
	9 PM	435	485	484	628	630
	10 PM	290	323	323	419	420
	11 PM	163	182	182	235	236

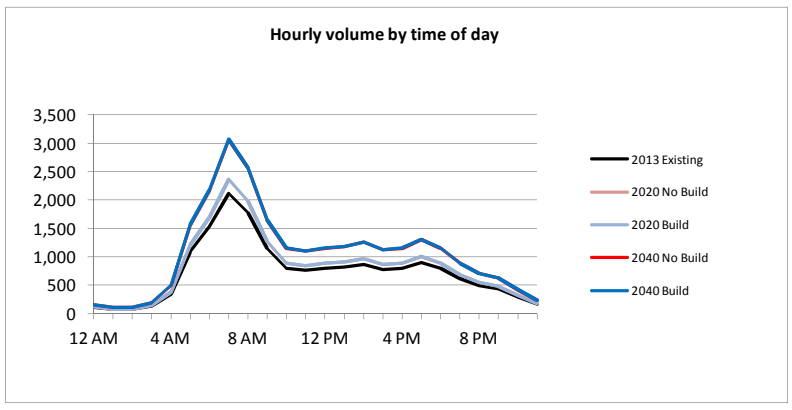
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	29.9	29.9	29.9	29.7	29.7
	6 AM	29.7	29.5	29.5	28.4	28.4
	7 AM	28.5	27.6	27.6	22.7	22.6
	8 AM	29.4	28.9	28.9	26.4	26.3
	9 AM	29.9	29.9	29.9	29.5	29.5
	10 AM	30.0	30.0	30.0	29.9	29.9
	11 AM	30.0	30.0	30.0	29.9	29.9
	12 PM	30.0	30.0	30.0	29.9	29.9
	1 PM	30.0	30.0	30.0	29.9	29.9
	2 PM	30.0	30.0	30.0	29.9	29.9
	3 PM	30.0	30.0	30.0	29.9	29.9
	4 PM	30.0	30.0	30.0	29.9	29.9
	5 PM	30.0	30.0	30.0	29.9	29.9
	6 PM	30.0	30.0	30.0	29.9	29.9
	7 PM	30.0	30.0	30.0	30.0	30.0
	8 PM	30.0	30.0	30.0	30.0	30.0
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

Passenger Vehicle Volume						
	12 AM	68	76	76	98	99
	1 AM	36	40	40	52	52
	2 AM	37	41	41	53	53
	3 AM	75	83	83	107	108
	4 AM	287	319	319	414	416
	5 AM	1,015	1,131	1,131	1,466	1,473
	6 AM	1,461	1,624	1,624	2,073	2,083
	7 AM	1,998	2,224	2,223	2,882	2,894
	8 AM	1,649	1,836	1,834	2,379	2,387
	9 AM	1,042	1,160	1,159	1,503	1,507
	10 AM	724	806	806	1,044	1,047
	11 AM	681	759	758	983	986
	12 PM	706	786	786	1,018	1,022
	1 PM	732	816	815	1,056	1,061
	2 PM	792	882	882	1,143	1,147
	3 PM	723	804	804	1,042	1,046
	4 PM	752	837	837	1,086	1,090
	5 PM	859	955	964	1,242	1,251
	6 PM	758	843	841	1,092	1,094
	7 PM	577	640	640	831	834
	8 PM	446	495	495	642	645
	9 PM	389	435	434	563	565
	10 PM	250	278	278	360	361
	11 PM	126	141	141	181	182

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	21	23	23	30	30
	1 AM	19	21	21	27	27
	2 AM	18	20	20	26	26
	3 AM	29	32	32	42	42
	4 AM	35	39	38	50	50
	5 AM	47	52	52	68	68
	6 AM	48	53	53	68	68
	7 AM	91	102	102	132	132
	8 AM	92	103	103	133	134
	9 AM	67	74	74	96	97
	10 AM	49	54	54	70	71
	11 AM	52	57	57	74	75
	12 PM	59	65	65	85	85
	1 PM	55	61	61	79	79
	2 PM	51	57	57	74	74
	3 PM	36	40	40	52	52
	4 PM	30	34	34	43	44
	5 PM	26	28	29	37	37
	6 PM	25	28	28	37	37
	7 PM	22	25	25	32	32
	8 PM	25	28	28	36	36
	9 PM	25	27	27	35	35
	10 PM	21	24	24	31	31
	11 PM	19	21	21	28	28

Heavy Truck Volume						
	12 AM	20	22	22	29	29
	1 AM	18	20	20	26	26
	2 AM	18	20	20	26	26
	3 AM	23	26	26	34	34
	4 AM	23	26	26	33	33
	5 AM	25	28	28	36	36
	6 AM	21	23	23	29	29
	7 AM	32	36	36	47	47
	8 AM	36	40	40	52	52
	9 AM	34	38	38	49	50
	10 AM	25	28	28	37	37
	11 AM	29	32	32	42	42
	12 PM	33	37	37	48	48
	1 PM	29	32	32	42	42
	2 PM	27	30	30	39	39
	3 PM	21	24	24	31	31
	4 PM	15	17	17	22	22
	5 PM	15	17	17	21	22
	6 PM	16	18	18	23	23
	7 PM	18	21	21	27	27
	8 PM	19	22	22	28	28
	9 PM	21	23	23	30	30
	10 PM	19	21	21	28	28
	11 PM	18	20	20	26	26





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_47_SB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at VA 234 Business				
	From: SB VA 234 Bus.		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	2,400	2,600	2,600	3,200	3,000
	Daily Truck %	9%	9%	9%	8%	9%

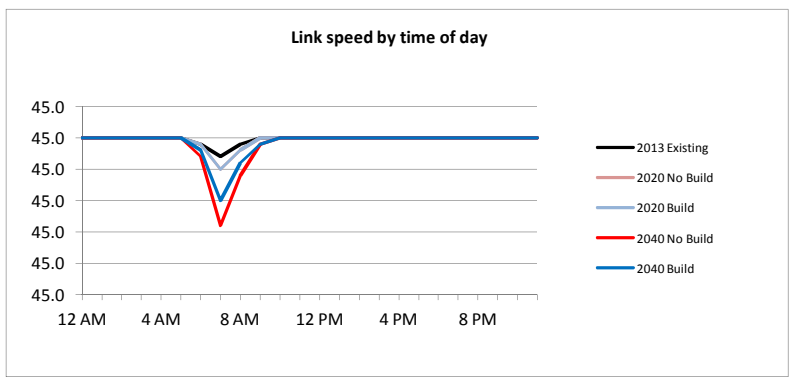
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	15	16	16	20	18
	1 AM	10	11	11	13	12
	2 AM	10	11	11	13	12
	3 AM	17	18	19	23	21
	4 AM	46	50	50	62	58
	5 AM	146	158	158	195	184
	6 AM	210	230	220	280	250
	7 AM	285	308	309	381	359
	8 AM	239	258	260	319	300
	9 AM	153	166	167	205	193
	10 AM	107	116	117	143	135
	11 AM	102	111	111	137	129
	12 PM	107	116	117	143	135
	1 PM	110	119	119	146	138
	2 PM	117	127	127	156	147
	3 PM	105	113	114	140	132
	4 PM	107	116	116	143	135
	5 PM	140	150	150	180	170
	6 PM	106	116	116	143	134
	7 PM	83	90	90	111	104
	8 PM	66	71	72	88	83
	9 PM	58	63	64	78	74
	10 PM	39	42	42	52	49
	11 PM	22	24	24	29	28

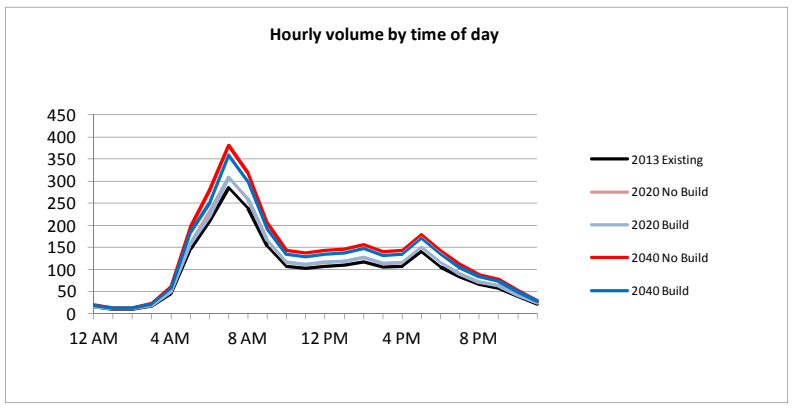
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	45.0	45.0
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

Passenger Vehicle Volume						
	12 AM	9	10	10	12	12
	1 AM	5	5	5	7	6
	2 AM	5	5	5	7	6
	3 AM	10	11	12	14	12
	4 AM	38	42	42	52	48
	5 AM	137	147	147	183	172
	6 AM	200	220	210	267	239
	7 AM	269	290	291	359	339
	8 AM	222	240	241	296	278
	9 AM	139	151	152	187	176
	10 AM	97	105	106	129	123
	11 AM	91	99	99	123	115
	12 PM	95	102	103	126	119
	1 PM	99	107	107	131	124
	2 PM	106	116	116	142	133
	3 PM	97	105	106	130	122
	4 PM	101	110	110	135	127
	5 PM	134	144	144	172	162
	6 PM	101	110	110	135	127
	7 PM	78	84	84	104	97
	8 PM	60	64	65	80	76
	9 PM	52	56	57	70	66
	10 PM	33	36	36	45	42
	11 PM	17	18	18	23	22

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	3	3	3	4	3
	1 AM	3	3	3	3	3
	2 AM	3	3	3	3	3
	3 AM	4	4	4	5	5
	4 AM	5	5	5	6	6
	5 AM	6	7	7	8	8
	6 AM	7	7	7	9	8
	7 AM	12	13	13	16	15
	8 AM	12	13	14	17	16
	9 AM	9	10	10	12	11
	10 AM	7	7	7	9	8
	11 AM	7	8	8	9	9
	12 PM	8	9	9	11	10
	1 PM	7	8	8	10	9
	2 PM	7	7	7	9	9
	3 PM	5	5	5	6	6
	4 PM	4	4	4	5	5
	5 PM	4	4	4	5	5
	6 PM	3	4	4	5	4
	7 PM	3	3	3	4	4
	8 PM	3	4	4	5	4
	9 PM	3	4	4	4	4
	10 PM	3	3	3	4	4
	11 PM	3	3	3	3	3

Heavy Truck Volume						
	12 AM	3	3	3	4	3
	1 AM	2	3	3	3	3
	2 AM	2	3	3	3	3
	3 AM	3	3	3	4	4
	4 AM	3	3	3	4	4
	5 AM	3	4	4	4	4
	6 AM	3	3	3	4	3
	7 AM	4	5	5	6	5
	8 AM	5	5	5	6	6
	9 AM	5	5	5	6	6
	10 AM	3	4	4	5	4
	11 AM	4	4	4	5	5
	12 PM	4	5	5	6	6
	1 PM	4	4	4	5	5
	2 PM	4	4	4	5	5
	3 PM	3	3	3	4	4
	4 PM	2	2	2	3	3
	5 PM	2	2	2	3	3
	6 PM	2	2	2	3	3
	7 PM	2	3	3	3	3
	8 PM	3	3	3	3	3
	9 PM	3	3	3	4	4
	10 PM	3	3	3	3	3
	11 PM	2	3	3	3	3





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_47_NBSB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at VA 234 Business				
	From: VA 234 Bus.		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	2	2	2	2	2
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	35	35	35	35	35
	Daily Volume	10,100	11,300	11,400	14,800	15,100
	Daily Truck %	12%	12%	12%	12%	12%

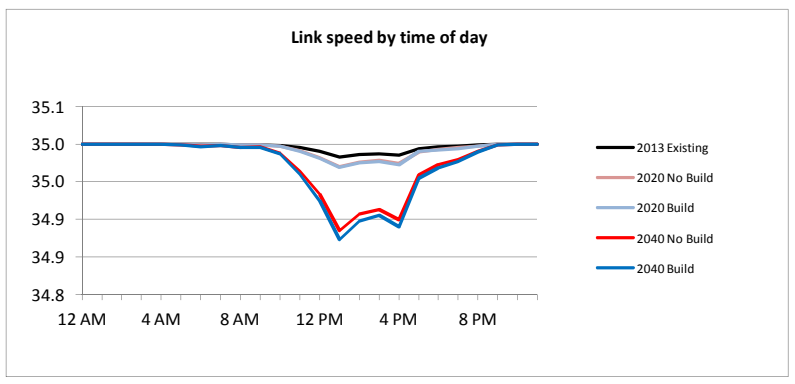
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	40	44	45	59	60
	1 AM	40	44	45	59	60
	2 AM	30	34	34	44	45
	3 AM	40	44	45	59	60
	4 AM	130	146	148	191	195
	5 AM	292	326	330	429	435
	6 AM	390	440	450	570	600
	7 AM	352	394	398	517	525
	8 AM	433	484	488	634	645
	9 AM	412	461	465	604	616
	10 AM	503	562	568	736	751
	11 AM	623	697	703	913	931
	12 PM	714	798	806	1,046	1,066
	1 PM	805	899	908	1,179	1,201
	2 PM	785	876	885	1,149	1,171
	3 PM	785	876	885	1,149	1,171
	4 PM	814	910	920	1,194	1,215
	5 PM	680	770	760	1,000	1,020
	6 PM	632	708	713	927	947
	7 PM	594	663	669	869	886
	8 PM	513	574	579	751	765
	9 PM	282	314	317	412	420
	10 PM	130	146	148	191	195
	11 PM	81	90	91	118	120

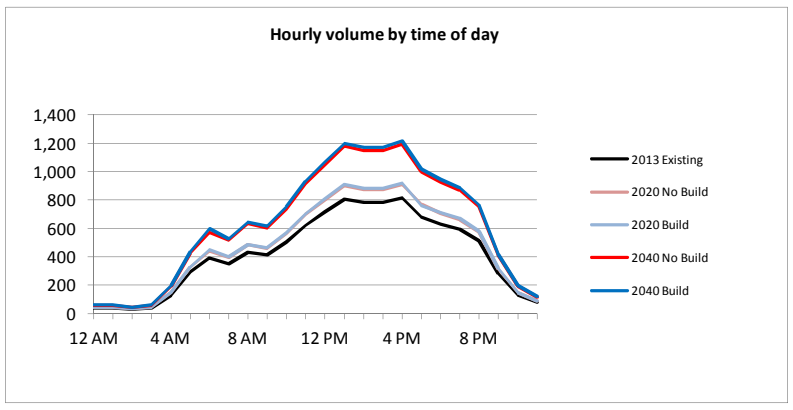
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	35.0	35.0	35.0	35.0	35.0
	7 AM	35.0	35.0	35.0	35.0	35.0
	8 AM	35.0	35.0	35.0	35.0	35.0
	9 AM	35.0	35.0	35.0	35.0	35.0
	10 AM	35.0	35.0	35.0	35.0	35.0
	11 AM	35.0	35.0	35.0	35.0	35.0
	12 PM	35.0	35.0	35.0	34.9	34.9
	1 PM	35.0	35.0	35.0	34.9	34.9
	2 PM	35.0	35.0	35.0	34.9	34.9
	3 PM	35.0	35.0	35.0	34.9	34.9
	4 PM	35.0	35.0	35.0	34.9	34.9
	5 PM	35.0	35.0	35.0	35.0	35.0
	6 PM	35.0	35.0	35.0	35.0	35.0
	7 PM	35.0	35.0	35.0	35.0	35.0
	8 PM	35.0	35.0	35.0	35.0	35.0
	9 PM	35.0	35.0	35.0	35.0	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

Passenger Vehicle Volume						
	12 AM	33	37	38	50	50
	1 AM	30	32	32	44	44
	2 AM	18	20	20	26	27
	3 AM	22	24	24	30	33
	4 AM	69	79	80	102	105
	5 AM	223	249	251	327	331
	6 AM	332	374	383	485	510
	7 AM	314	352	355	463	469
	8 AM	389	435	438	570	579
	9 AM	355	398	401	521	531
	10 AM	416	466	470	609	621
	11 AM	506	566	570	742	756
	12 PM	592	662	668	868	884
	1 PM	691	771	779	1,012	1,031
	2 PM	702	783	792	1,029	1,048
	3 PM	726	810	819	1,062	1,083
	4 PM	765	853	863	1,120	1,141
	5 PM	645	730	721	948	966
	6 PM	596	667	672	875	894
	7 PM	560	625	631	818	835
	8 PM	483	540	545	707	721
	9 PM	264	292	295	384	392
	10 PM	121	136	138	177	181
	11 PM	74	82	83	109	110

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	3	3	3	4	4
	1 AM	5	5	6	7	7
	2 AM	5	6	6	8	8
	3 AM	9	9	10	14	13
	4 AM	29	32	33	43	43
	5 AM	36	40	41	53	54
	6 AM	34	39	39	50	53
	7 AM	25	27	28	36	37
	8 AM	28	32	32	42	43
	9 AM	36	40	41	53	54
	10 AM	54	60	61	79	81
	11 AM	67	75	76	98	100
	12 PM	74	83	84	109	111
	1 PM	70	78	79	102	104
	2 PM	52	58	58	76	77
	3 PM	39	43	43	57	58
	4 PM	33	38	38	50	50
	5 PM	24	28	27	36	37
	6 PM	24	27	27	34	35
	7 PM	21	23	23	30	31
	8 PM	17	19	19	25	24
	9 PM	9	11	11	14	14
	10 PM	5	5	5	7	7
	11 PM	3	4	4	4	4

Heavy Truck Volume						
	12 AM	4	4	4	5	6
	1 AM	5	7	7	8	9
	2 AM	7	8	8	10	10
	3 AM	9	11	11	15	14
	4 AM	32	35	35	46	47
	5 AM	33	37	38	49	50
	6 AM	24	27	28	35	37
	7 AM	13	15	15	18	19
	8 AM	16	17	18	22	23
	9 AM	21	23	23	30	31
	10 AM	33	36	37	48	49
	11 AM	50	56	57	73	75
	12 PM	48	53	54	69	71
	1 PM	44	50	50	65	66
	2 PM	31	35	35	44	46
	3 PM	20	23	23	30	30
	4 PM	16	19	19	24	24
	5 PM	11	12	12	16	17
	6 PM	12	14	14	18	18
	7 PM	13	15	15	21	20
	8 PM	13	15	15	19	20
	9 PM	9	11	11	14	14
	10 PM	4	5	5	7	7
	11 PM	4	4	4	5	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_47_NB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at VA 234 Business				
	From: NB VA 234 Bus.		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	-	-	-	-	-
	Lanes	0	0	0	0	0
	Lane capacity	0	0	0	0	0
	FF Speed	5	5	5	5	5
	Daily Volume	7,600	8,400	8,400	10,700	10,600
	Daily Truck %	12%	12%	12%	12%	12%

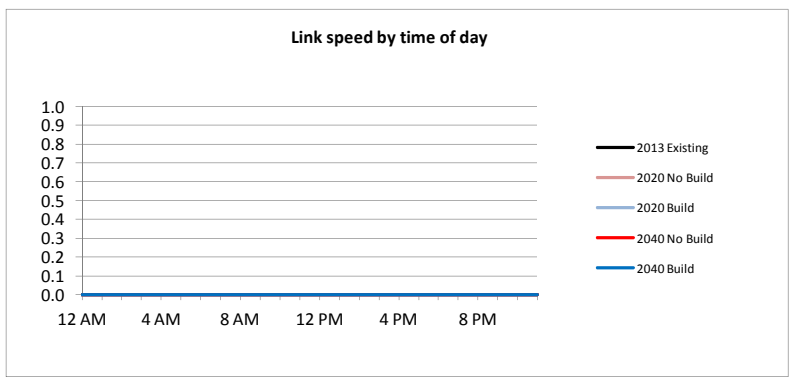
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	30	33	33	43	42
	1 AM	30	33	33	43	42
	2 AM	23	25	25	32	32
	3 AM	30	33	33	43	42
	4 AM	98	109	109	138	137
	5 AM	220	243	244	309	305
	6 AM	290	320	320	410	420
	7 AM	265	293	294	373	368
	8 AM	326	360	360	458	453
	9 AM	310	343	343	436	432
	10 AM	379	418	419	532	527
	11 AM	469	519	519	660	653
	12 PM	538	594	595	756	748
	1 PM	606	669	670	852	843
	2 PM	591	652	653	830	822
	3 PM	591	652	653	830	822
	4 PM	613	677	679	862	852
	5 PM	510	570	560	730	720
	6 PM	477	527	527	671	665
	7 PM	447	493	494	628	622
	8 PM	386	427	427	543	537
	9 PM	212	234	234	298	295
	10 PM	98	109	109	138	137
	11 PM	61	67	67	85	84

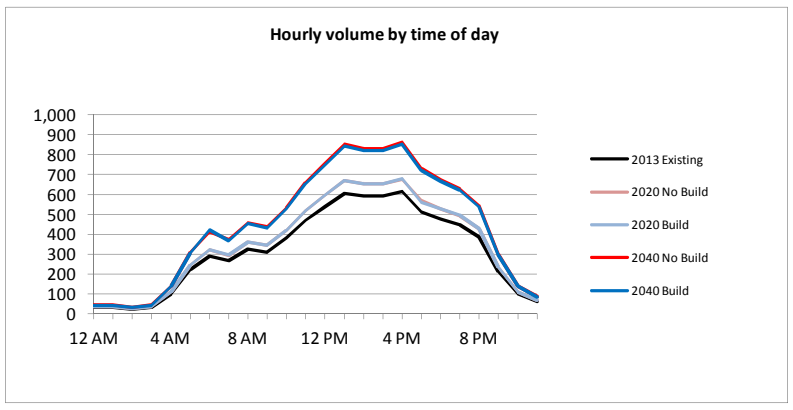
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	12 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Passenger Vehicle Volume						
	12 AM	25	28	28	36	35
	1 AM	22	24	24	32	31
	2 AM	14	15	15	19	19
	3 AM	16	18	18	22	23
	4 AM	52	59	59	74	74
	5 AM	168	185	186	236	232
	6 AM	247	272	272	349	357
	7 AM	236	262	262	334	329
	8 AM	293	323	323	412	407
	9 AM	267	296	296	376	372
	10 AM	313	346	347	440	436
	11 AM	381	421	421	536	530
	12 PM	446	493	493	627	620
	1 PM	520	574	575	731	724
	2 PM	529	583	584	743	736
	3 PM	547	603	604	767	760
	4 PM	576	635	637	809	800
	5 PM	484	540	531	692	682
	6 PM	450	497	497	633	627
	7 PM	421	465	466	591	586
	8 PM	363	402	402	511	506
	9 PM	198	218	218	278	275
	10 PM	91	101	101	128	127
	11 PM	56	61	61	78	77

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	2	2	2	3	3
	1 AM	4	4	4	5	5
	2 AM	4	4	4	6	6
	3 AM	7	7	7	10	9
	4 AM	22	24	24	31	30
	5 AM	27	30	30	38	38
	6 AM	25	28	28	36	37
	7 AM	19	20	21	26	26
	8 AM	21	24	24	30	30
	9 AM	27	30	30	38	38
	10 AM	41	45	45	57	57
	11 AM	50	56	56	71	70
	12 PM	56	62	62	79	78
	1 PM	53	58	58	74	73
	2 PM	39	43	43	55	54
	3 PM	29	32	32	41	41
	4 PM	25	28	28	36	35
	5 PM	18	21	20	26	26
	6 PM	18	20	20	25	25
	7 PM	16	17	17	22	22
	8 PM	13	14	14	18	17
	9 PM	7	8	8	10	10
	10 PM	4	4	4	5	5
	11 PM	2	3	3	3	3

Heavy Truck Volume						
	12 AM	3	3	3	4	4
	1 AM	4	5	5	6	6
	2 AM	5	6	6	7	7
	3 AM	7	8	8	11	10
	4 AM	24	26	26	33	33
	5 AM	25	28	28	35	35
	6 AM	18	20	20	25	26
	7 AM	10	11	11	13	13
	8 AM	12	13	13	16	16
	9 AM	16	17	17	22	22
	10 AM	25	27	27	35	34
	11 AM	38	42	42	53	53
	12 PM	36	39	40	50	50
	1 PM	33	37	37	47	46
	2 PM	23	26	26	32	32
	3 PM	15	17	17	22	21
	4 PM	12	14	14	17	17
	5 PM	8	9	9	12	12
	6 PM	9	10	10	13	13
	7 PM	10	11	11	15	14
	8 PM	10	11	11	14	14
	9 PM	7	8	8	10	10
	10 PM	3	4	4	5	5
	11 PM	3	3	3	4	4





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_47_SB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at VA 234 Business				
	From: SB VA 234 Bus.		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	-	-	-	-	-
	Lanes	0	0	0	0	0
	Lane capacity	0	0	0	0	0
	FF Speed	5	5	5	5	5
	Daily Volume	2,500	2,900	3,000	4,100	4,500
	Daily Truck %	12%	12%	12%	12%	12%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	10	11	12	16	18
	1 AM	10	11	12	16	18
	2 AM	7	9	9	12	13
	3 AM	10	11	12	16	18
	4 AM	32	37	39	53	58
	5 AM	72	83	86	120	130
	6 AM	100	120	130	160	180
	7 AM	87	101	104	144	157
	8 AM	107	124	128	176	192
	9 AM	102	118	122	168	184
	10 AM	124	144	149	204	224
	11 AM	154	178	184	253	278
	12 PM	176	204	211	290	318
	1 PM	199	230	238	327	358
	2 PM	194	224	232	319	349
	3 PM	194	224	232	319	349
	4 PM	201	233	241	332	363
	5 PM	170	200	200	270	300
	6 PM	155	181	186	256	282
	7 PM	147	170	175	241	264
	8 PM	127	147	152	208	228
	9 PM	70	80	83	114	125
	10 PM	32	37	39	53	58
	11 PM	20	23	24	33	36

Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	12 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
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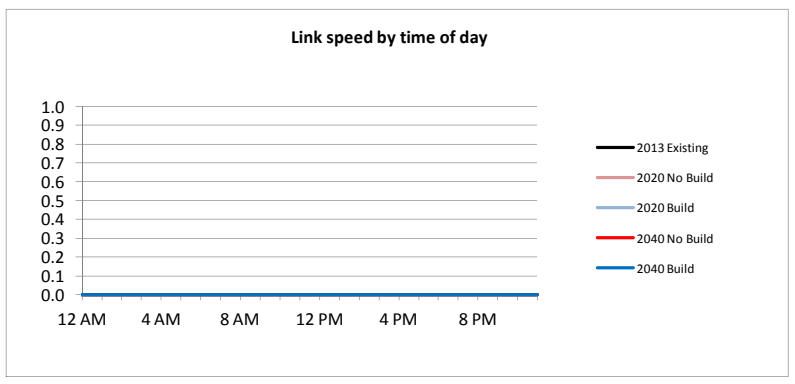
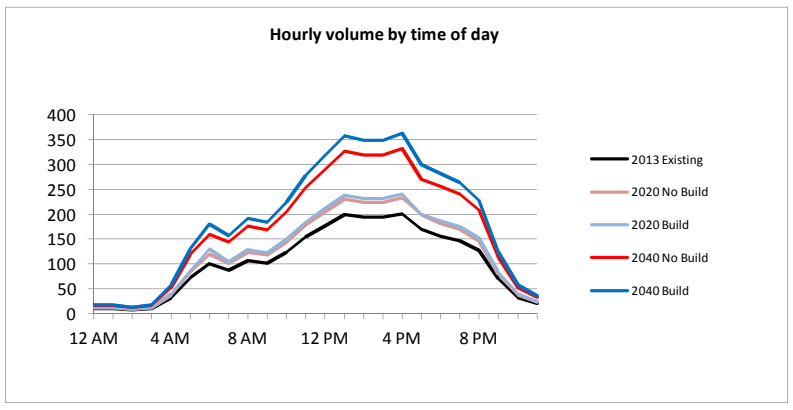
	8 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Passenger Vehicle Volume						
	12 AM	8	9	10	14	15
	1 AM	8	8	8	12	13
	2 AM	4	5	5	7	8
	3 AM	6	6	6	8	10
	4 AM	17	20	21	28	31
	5 AM	55	64	65	91	99
	6 AM	85	102	111	136	153
	7 AM	78	90	93	129	140
	8 AM	96	112	115	158	172
	9 AM	88	102	105	145	159
	10 AM	103	120	123	169	185
	11 AM	125	145	149	206	226
	12 PM	146	169	175	241	264
	1 PM	171	197	204	281	307
	2 PM	173	200	208	286	312
	3 PM	179	207	215	295	323
	4 PM	189	218	226	311	341
	5 PM	161	190	190	256	284
	6 PM	146	170	175	242	267
	7 PM	139	160	165	227	249
	8 PM	120	138	143	196	215
	9 PM	66	74	77	106	117
	10 PM	30	35	37	49	54
	11 PM	18	21	22	31	33

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	1	1	1	1	1
	1 AM	1	1	2	2	2
	2 AM	1	2	2	2	2
	3 AM	2	2	3	4	4
	4 AM	7	8	9	12	13
	5 AM	9	10	11	15	16
	6 AM	9	11	11	14	16
	7 AM	6	7	7	10	11
	8 AM	7	8	8	12	13
	9 AM	9	10	11	15	16
	10 AM	13	15	16	22	24
	11 AM	17	19	20	27	30
	12 PM	18	21	22	30	33
	1 PM	17	20	21	28	31
	2 PM	13	15	15	21	23
	3 PM	10	11	11	16	17
	4 PM	8	10	10	14	15
	5 PM	6	7	7	10	11
	6 PM	6	7	7	9	10
	7 PM	5	6	6	8	9
	8 PM	4	5	5	7	7
	9 PM	2	3	3	4	4
	10 PM	1	1	1	2	2
	11 PM	1	1	1	1	1

Heavy Truck Volume						
	12 AM	1	1	1	1	2
	1 AM	1	2	2	2	3
	2 AM	2	2	2	3	3
	3 AM	2	3	3	4	4
	4 AM	8	9	9	13	14
	5 AM	8	9	10	14	15
	6 AM	6	7	8	10	11
	7 AM	3	4	4	5	6
	8 AM	4	4	5	6	7
	9 AM	5	6	6	8	9
	10 AM	8	9	10	13	15
	11 AM	12	14	15	20	22
	12 PM	12	14	14	19	21
	1 PM	11	13	13	18	20
	2 PM	8	9	9	12	14
	3 PM	5	6	6	8	9
	4 PM	4	5	5	7	7
	5 PM	3	3	3	4	5
	6 PM	3	4	4	5	5
	7 PM	3	4	4	6	6
	8 PM	3	4	4	5	6
	9 PM	2	3	3	4	4
	10 PM	1	1	1	2	2
	11 PM	1	1	1	1	2





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_47_SB			Distance (mi): -	
	Facility: WB Exit I-66 interchange at VA 234 Business				
	From: WB I-66		To: SB VA 234 Bus.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	2	2	2	2	2
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	30	30	30	30	30
	Daily Volume	17,700	19,700	19,700	25,500	25,600
	Daily Truck %	10%	10%	10%	10%	10%

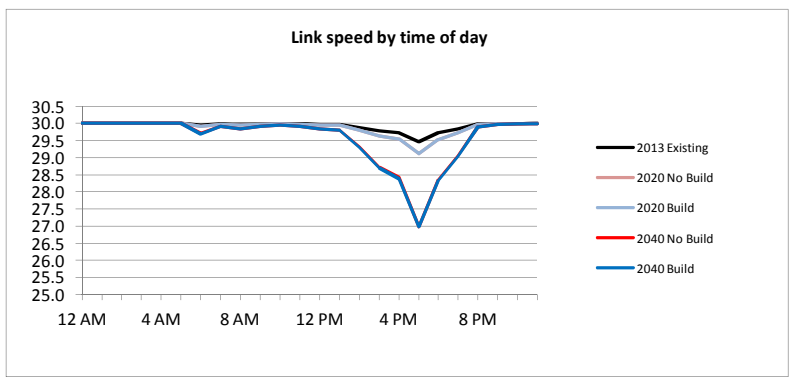
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	238	265	265	343	344
	1 AM	119	132	132	172	172
	2 AM	85	95	95	123	123
	3 AM	68	76	76	98	98
	4 AM	102	114	114	147	148
	5 AM	238	264	264	343	345
	6 AM	960	1,070	1,070	1,370	1,380
	7 AM	748	832	832	1,078	1,084
	8 AM	867	965	965	1,250	1,255
	9 AM	731	814	814	1,054	1,058
	10 AM	629	700	700	907	910
	11 AM	714	795	795	1,029	1,033
	12 PM	833	927	927	1,201	1,206
	1 PM	884	984	984	1,274	1,280
	2 PM	1,156	1,287	1,287	1,666	1,673
	3 PM	1,326	1,476	1,476	1,911	1,919
	4 PM	1,394	1,551	1,551	2,009	2,019
	5 PM	1,610	1,790	1,790	2,320	2,320
	6 PM	1,411	1,571	1,571	2,034	2,041
	7 PM	1,258	1,400	1,400	1,813	1,821
	8 PM	799	889	889	1,152	1,157
	9 PM	629	700	700	907	910
	10 PM	527	587	587	760	763
	11 PM	374	416	416	539	541

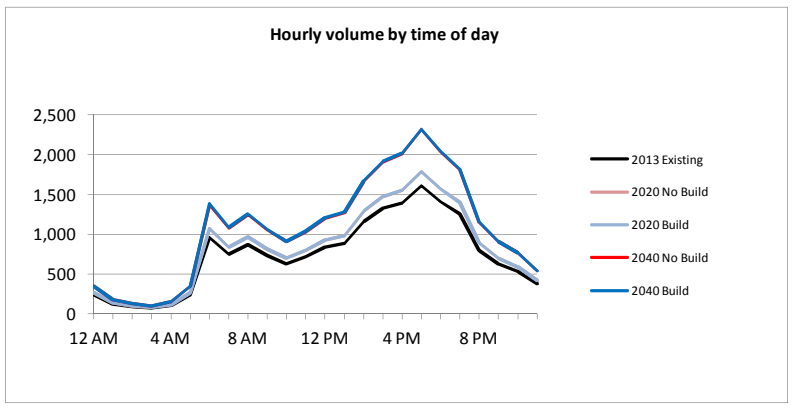
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	30.0	30.0	30.0	30.0	30.0
	6 AM	30.0	29.9	29.9	29.7	29.7
	7 AM	30.0	30.0	30.0	29.9	29.9
	8 AM	30.0	30.0	30.0	29.8	29.8
	9 AM	30.0	30.0	30.0	29.9	29.9
	10 AM	30.0	30.0	30.0	30.0	30.0
	11 AM	30.0	30.0	30.0	29.9	29.9
	12 PM	30.0	30.0	30.0	29.8	29.8
	1 PM	30.0	29.9	29.9	29.8	29.8
	2 PM	29.9	29.8	29.8	29.3	29.3
	3 PM	29.8	29.6	29.6	28.7	28.7
	4 PM	29.7	29.5	29.5	28.4	28.4
	5 PM	29.5	29.1	29.1	27.0	27.0
	6 PM	29.7	29.5	29.5	28.3	28.3
	7 PM	29.8	29.7	29.7	29.1	29.0
	8 PM	30.0	30.0	30.0	29.9	29.9
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

Passenger Vehicle Volume						
	12 AM	205	228	228	294	295
	1 AM	87	98	98	126	126
	2 AM	55	62	62	79	79
	3 AM	39	43	43	56	56
	4 AM	55	62	62	80	81
	5 AM	190	211	211	273	275
	6 AM	828	922	922	1,182	1,190
	7 AM	681	757	757	980	986
	8 AM	793	884	884	1,144	1,149
	9 AM	639	710	710	920	924
	10 AM	525	584	584	756	759
	11 AM	589	657	657	849	853
	12 PM	703	782	782	1,014	1,017
	1 PM	772	860	860	1,113	1,118
	2 PM	1,044	1,162	1,162	1,504	1,511
	3 PM	1,227	1,366	1,366	1,769	1,776
	4 PM	1,305	1,452	1,452	1,881	1,889
	5 PM	1,521	1,690	1,690	2,190	2,190
	6 PM	1,328	1,479	1,479	1,914	1,921
	7 PM	1,190	1,324	1,324	1,716	1,723
	8 PM	759	844	844	1,094	1,099
	9 PM	591	658	658	852	855
	10 PM	495	551	551	714	716
	11 PM	349	387	387	502	504

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	16	18	18	24	24
	1 AM	16	17	17	23	23
	2 AM	14	15	15	20	20
	3 AM	14	16	16	20	20
	4 AM	24	26	26	34	34
	5 AM	25	28	28	37	37
	6 AM	79	89	89	113	114
	7 AM	46	51	51	67	67
	8 AM	50	55	55	72	72
	9 AM	62	70	70	90	90
	10 AM	68	75	75	98	98
	11 AM	75	83	83	108	108
	12 PM	83	92	92	119	120
	1 PM	73	81	81	105	106
	2 PM	76	85	85	110	110
	3 PM	70	78	78	100	101
	4 PM	64	71	71	92	93
	5 PM	66	74	74	96	96
	6 PM	58	64	64	83	83
	7 PM	44	49	49	63	64
	8 PM	25	28	28	36	36
	9 PM	21	23	23	30	30
	10 PM	18	20	20	26	26
	11 PM	13	15	15	19	19

Heavy Truck Volume						
	12 AM	17	19	19	25	25
	1 AM	16	17	17	23	23
	2 AM	16	18	18	24	24
	3 AM	15	17	17	22	22
	4 AM	23	26	26	33	33
	5 AM	23	25	25	33	33
	6 AM	53	59	59	75	76
	7 AM	21	24	24	31	31
	8 AM	24	26	26	34	34
	9 AM	30	34	34	44	44
	10 AM	36	41	41	53	53
	11 AM	50	55	55	72	72
	12 PM	47	53	53	68	69
	1 PM	39	43	43	56	56
	2 PM	36	40	40	52	52
	3 PM	29	32	32	42	42
	4 PM	25	28	28	36	37
	5 PM	23	26	26	34	34
	6 PM	25	28	28	37	37
	7 PM	24	27	27	34	34
	8 PM	15	17	17	22	22
	9 PM	17	19	19	25	25
	10 PM	14	16	16	20	21
	11 PM	12	14	14	18	18





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_47_NB			Distance (mi): -	
	Facility: WB Exit I-66 interchange at VA 234 Business				
	From: WB I-66		To: NB VA 234 Bus.		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	2,400	2,600	2,600	3,200	3,000
	Daily Truck %	10%	10%	10%	10%	10%

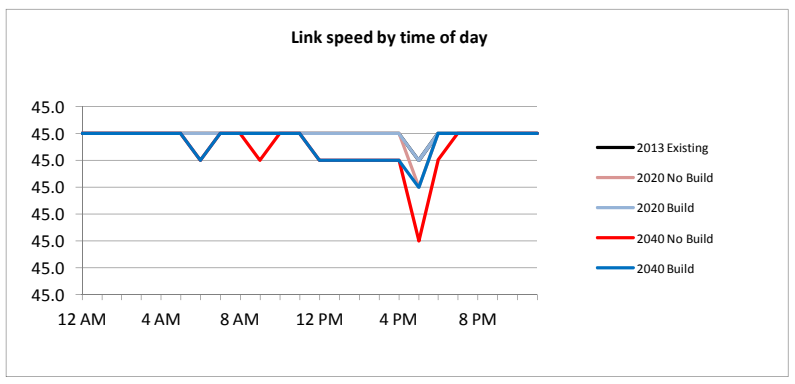
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	18	19	19	23	22
	1 AM	9	9	10	12	11
	2 AM	4	5	5	6	5
	3 AM	4	5	5	6	5
	4 AM	4	5	5	6	5
	5 AM	24	26	25	32	30
	6 AM	160	180	180	230	230
	7 AM	121	130	130	160	149
	8 AM	136	146	148	181	168
	9 AM	147	158	159	195	182
	10 AM	125	134	136	166	155
	11 AM	123	132	133	163	152
	12 PM	152	163	164	201	188
	1 PM	167	179	181	221	207
	2 PM	160	172	174	213	198
	3 PM	171	184	186	227	212
	4 PM	158	170	170	210	196
	5 PM	220	250	230	290	270
	6 PM	156	167	170	207	194
	7 PM	145	156	157	192	179
	8 PM	79	85	86	105	98
	9 PM	55	59	60	73	68
	10 PM	40	42	43	52	49
	11 PM	22	24	24	29	27

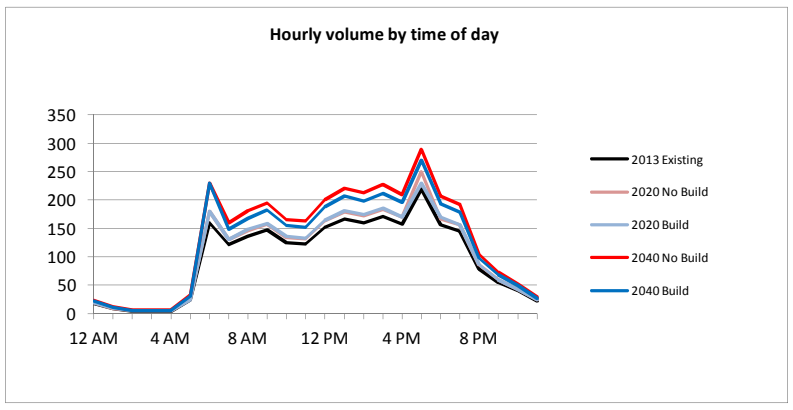
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	45.0	45.0
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

Passenger Vehicle Volume						
	12 AM	16	17	17	19	18
	1 AM	7	7	8	8	9
	2 AM	2	3	3	4	3
	3 AM	2	3	3	4	3
	4 AM	2	3	3	4	3
	5 AM	19	21	20	26	24
	6 AM	138	155	155	198	198
	7 AM	111	118	118	145	136
	8 AM	124	134	136	166	153
	9 AM	128	138	138	170	158
	10 AM	105	112	113	138	129
	11 AM	101	109	110	135	125
	12 PM	128	138	139	170	158
	1 PM	146	156	158	193	181
	2 PM	144	156	158	192	179
	3 PM	158	170	172	210	196
	4 PM	148	159	159	196	183
	5 PM	208	236	218	274	255
	6 PM	147	157	160	195	183
	7 PM	137	148	149	181	170
	8 PM	75	80	81	100	93
	9 PM	52	55	56	69	64
	10 PM	38	40	41	49	46
	11 PM	20	22	22	27	25

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	1	1	1	2	2
	1 AM	1	1	1	2	1
	2 AM	1	1	1	1	1
	3 AM	1	1	1	1	1
	4 AM	1	1	1	1	1
	5 AM	3	3	3	3	3
	6 AM	13	15	15	19	19
	7 AM	7	8	8	10	9
	8 AM	8	8	8	10	10
	9 AM	13	13	14	17	16
	10 AM	13	14	15	18	17
	11 AM	13	14	14	17	16
	12 PM	15	16	16	20	19
	1 PM	14	15	15	18	17
	2 PM	11	11	11	14	13
	3 PM	9	10	10	12	11
	4 PM	7	8	8	10	9
	5 PM	9	10	9	12	11
	6 PM	6	7	7	8	8
	7 PM	5	5	5	7	6
	8 PM	2	3	3	3	3
	9 PM	2	2	2	2	2
	10 PM	1	1	1	2	2
	11 PM	1	1	1	1	1

Heavy Truck Volume						
	12 AM	1	1	1	2	2
	1 AM	1	1	1	2	1
	2 AM	1	1	1	1	1
	3 AM	1	1	1	1	1
	4 AM	1	1	1	1	1
	5 AM	2	2	2	3	3
	6 AM	9	10	10	13	13
	7 AM	3	4	4	5	4
	8 AM	4	4	4	5	5
	9 AM	6	7	7	8	8
	10 AM	7	8	8	10	9
	11 AM	9	9	9	11	11
	12 PM	9	9	9	11	11
	1 PM	7	8	8	10	9
	2 PM	5	5	5	7	6
	3 PM	4	4	4	5	5
	4 PM	3	3	3	4	4
	5 PM	3	4	3	4	4
	6 PM	3	3	3	4	3
	7 PM	3	3	3	4	3
	8 PM	2	2	2	2	2
	9 PM	1	2	2	2	2
	10 PM	1	1	1	1	1
	11 PM	1	1	1	1	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_52_NBSB			Distance (mi): -	
	Facility: WB Exit I-66 interchange at US 29 [Centreville]				
	From: WB I-66		To: US 29 [Centreville]		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	30	30	30	30	30
	Daily Volume	8,400	8,500	8,500	8,800	8,900
	Daily Truck %	9%	9%	9%	9%	9%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	132	134	134	139	141
	1 AM	50	50	50	52	53
	2 AM	33	33	33	34	35
	3 AM	24	25	25	27	27
	4 AM	24	25	25	27	27
	5 AM	58	60	60	62	62
	6 AM	270	270	270	270	280
	7 AM	223	226	227	236	238
	8 AM	280	284	284	296	298
	9 AM	362	367	368	383	386
	10 AM	314	318	318	330	334
	11 AM	288	292	293	304	307
	12 PM	346	350	351	365	369
	1 PM	355	359	360	374	378
	2 PM	494	501	502	521	527
	3 PM	561	567	569	591	597
	4 PM	659	669	671	696	704
	5 PM	800	810	790	800	810
	6 PM	875	883	887	920	929
	7 PM	709	717	719	748	755
	8 PM	561	567	569	591	597
	9 PM	445	450	451	469	475
	10 PM	355	359	360	374	378
	11 PM	182	184	184	191	193

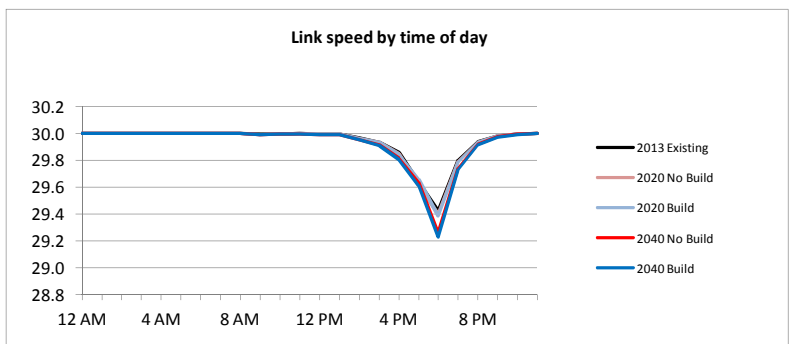
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	30.0	30.0	30.0	30.0	30.0
	6 AM	30.0	30.0	30.0	30.0	30.0
	7 AM	30.0	30.0	30.0	30.0	30.0
	8 AM	30.0	30.0	30.0	30.0	30.0
	9 AM	30.0	30.0	30.0	30.0	30.0
	10 AM	30.0	30.0	30.0	30.0	30.0
	11 AM	30.0	30.0	30.0	30.0	30.0
	12 PM	30.0	30.0	30.0	30.0	30.0
	1 PM	30.0	30.0	30.0	30.0	30.0
	2 PM	30.0	30.0	30.0	30.0	29.9
	3 PM	29.9	29.9	29.9	29.9	29.9
	4 PM	29.9	29.8	29.8	29.8	29.8
	5 PM	29.6	29.6	29.7	29.6	29.6
	6 PM	29.4	29.4	29.4	29.3	29.2
	7 PM	29.8	29.8	29.8	29.7	29.7
	8 PM	29.9	29.9	29.9	29.9	29.9
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

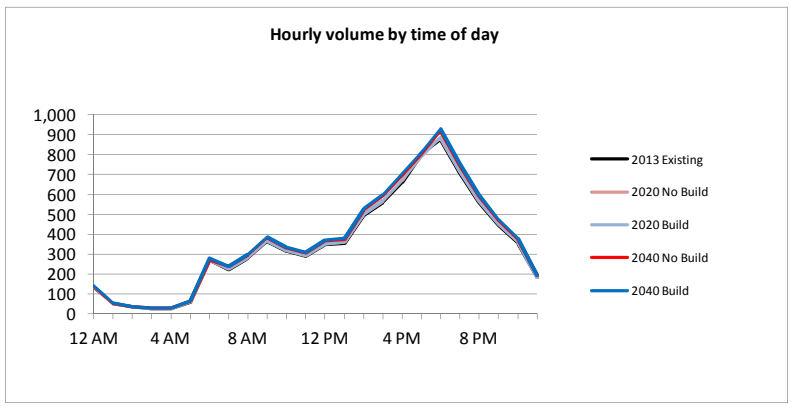
Passenger Vehicle Volume						
	12 AM	113	116	116	119	121
	1 AM	38	36	36	38	39
	2 AM	22	21	21	22	23
	3 AM	14	14	14	15	15
	4 AM	12	13	13	14	14
	5 AM	46	48	48	49	49
	6 AM	233	233	233	233	241
	7 AM	204	205	206	215	217
	8 AM	257	260	260	271	273
	9 AM	316	320	321	335	337
	10 AM	262	265	265	276	279
	11 AM	238	241	242	251	254
	12 PM	293	295	296	307	311
	1 PM	310	315	316	326	330
	2 PM	445	453	454	470	476
	3 PM	520	525	527	547	553
	4 PM	617	627	628	652	660
	5 PM	756	765	746	755	766
	6 PM	824	831	835	865	874
	7 PM	672	678	680	707	714
	8 PM	533	538	540	561	567
	9 PM	418	423	424	441	446
	10 PM	333	337	338	351	355
	11 PM	170	171	171	177	179

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	9	9	9	10	10
	1 AM	6	7	7	7	7
	2 AM	5	6	6	5	5
	3 AM	5	5	5	6	6
	4 AM	6	6	6	7	7
	5 AM	6	6	6	7	7
	6 AM	22	22	22	22	23
	7 AM	13	14	14	14	14
	8 AM	16	16	16	17	17
	9 AM	31	32	32	32	33
	10 AM	34	34	34	35	36
	11 AM	30	31	31	32	32
	12 PM	34	35	35	37	37
	1 PM	29	29	29	31	31
	2 PM	33	33	33	34	34
	3 PM	29	29	29	31	31
	4 PM	30	30	31	32	32
	5 PM	33	34	33	33	33
	6 PM	35	36	36	38	38
	7 PM	24	25	25	27	27
	8 PM	17	18	18	19	19
	9 PM	15	15	15	16	16
	10 PM	12	13	13	13	13
	11 PM	6	7	7	7	7

Heavy Truck Volume						
	12 AM	10	9	9	10	10
	1 AM	6	7	7	7	7
	2 AM	6	6	6	7	7
	3 AM	5	6	6	6	6
	4 AM	6	6	6	6	6
	5 AM	6	6	6	6	6
	6 AM	15	15	15	15	16
	7 AM	6	7	7	7	7
	8 AM	7	8	8	8	8
	9 AM	15	15	15	16	16
	10 AM	18	19	19	19	19
	11 AM	20	20	20	21	21
	12 PM	19	20	20	21	21
	1 PM	16	15	15	17	17
	2 PM	16	15	15	17	17
	3 PM	12	13	13	13	13
	4 PM	12	12	12	12	12
	5 PM	11	11	11	12	11
	6 PM	16	16	16	17	17
	7 PM	13	14	14	14	14
	8 PM	11	11	11	11	11
	9 PM	12	12	12	12	13
	10 PM	10	9	9	10	10
	11 PM	6	6	6	7	7





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_52_NB			Distance (mi): -	
	Facility: WB Exit I-66 interchange at US 29 [Centreville]				
	From: WB I-66		To: "NB" US 29 [Centreville] (WB travel)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	-	-	-	-	-
	Lanes	0	0	0	0	0
	Lane capacity	0	0	0	0	0
	FF Speed	5	5	5	5	5
	Daily Volume	6,900	7,200	7,200	7,900	8,000
	Daily Truck %	9%	9%	9%	9%	9%

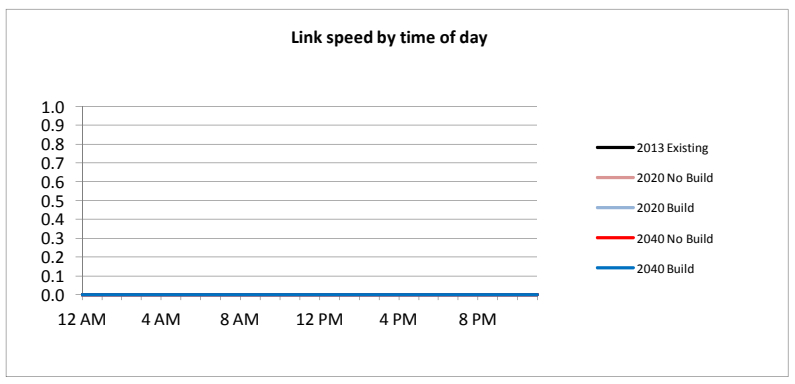
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	109	114	114	125	127
	1 AM	41	43	43	47	48
	2 AM	27	28	28	31	32
	3 AM	20	21	21	24	24
	4 AM	20	21	21	24	24
	5 AM	48	51	51	56	55
	6 AM	210	220	220	240	250
	7 AM	184	193	193	213	214
	8 AM	231	242	242	267	269
	9 AM	299	313	313	345	348
	10 AM	259	271	271	298	301
	11 AM	238	249	249	274	277
	12 PM	286	299	299	329	333
	1 PM	293	306	306	337	341
	2 PM	408	427	427	470	475
	3 PM	463	484	484	533	538
	4 PM	544	571	571	628	634
	5 PM	640	650	650	690	710
	6 PM	722	754	754	830	838
	7 PM	585	612	612	674	681
	8 PM	463	484	484	533	538
	9 PM	367	384	384	423	428
	10 PM	293	306	306	337	341
	11 PM	150	157	157	172	174

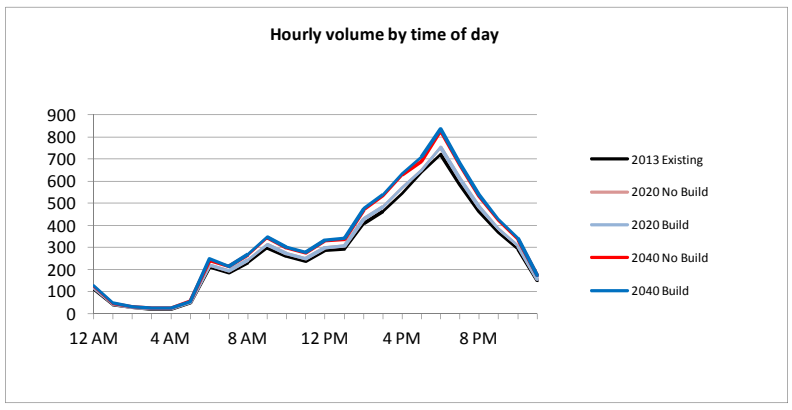
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	12 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Passenger Vehicle Volume						
	12 AM	94	98	98	107	109
	1 AM	31	31	31	35	36
	2 AM	18	18	18	20	21
	3 AM	12	12	12	14	14
	4 AM	10	11	11	13	13
	5 AM	38	41	41	45	44
	6 AM	181	190	190	207	215
	7 AM	168	175	175	194	195
	8 AM	212	221	221	245	247
	9 AM	261	273	273	302	304
	10 AM	216	226	226	249	252
	11 AM	196	206	206	226	229
	12 PM	242	252	252	277	281
	1 PM	256	268	268	294	298
	2 PM	368	386	386	424	429
	3 PM	429	448	448	493	498
	4 PM	509	535	535	588	594
	5 PM	605	614	614	652	671
	6 PM	680	709	709	781	789
	7 PM	554	579	579	637	644
	8 PM	440	460	460	506	511
	9 PM	345	361	361	398	402
	10 PM	275	287	287	316	320
	11 PM	140	146	146	160	162

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	7	8	8	9	9
	1 AM	5	6	6	6	6
	2 AM	4	5	5	5	5
	3 AM	4	4	4	5	5
	4 AM	5	5	5	6	6
	5 AM	5	5	5	6	6
	6 AM	17	18	18	20	21
	7 AM	11	12	12	13	13
	8 AM	13	14	14	15	15
	9 AM	26	27	27	29	30
	10 AM	28	29	29	32	32
	11 AM	25	26	26	29	29
	12 PM	28	30	30	33	33
	1 PM	24	25	25	28	28
	2 PM	27	28	28	31	31
	3 PM	24	25	25	28	28
	4 PM	25	26	26	29	29
	5 PM	26	27	27	28	29
	6 PM	29	31	31	34	34
	7 PM	20	21	21	24	24
	8 PM	14	15	15	17	17
	9 PM	12	13	13	14	14
	10 PM	10	11	11	12	12
	11 PM	5	6	6	6	6

Heavy Truck Volume						
	12 AM	8	8	8	9	9
	1 AM	5	6	6	6	6
	2 AM	5	5	5	6	6
	3 AM	4	5	5	5	5
	4 AM	5	5	5	5	5
	5 AM	5	5	5	5	5
	6 AM	12	12	12	13	14
	7 AM	5	6	6	6	6
	8 AM	6	7	7	7	7
	9 AM	12	13	13	14	14
	10 AM	15	16	16	17	17
	11 AM	17	17	17	19	19
	12 PM	16	17	17	19	19
	1 PM	13	13	13	15	15
	2 PM	13	13	13	15	15
	3 PM	10	11	11	12	12
	4 PM	10	10	10	11	11
	5 PM	9	9	9	10	10
	6 PM	13	14	14	15	15
	7 PM	11	12	12	13	13
	8 PM	9	9	9	10	10
	9 PM	10	10	10	11	12
	10 PM	8	8	8	9	9
	11 PM	5	5	5	6	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBExit_52_SB			Distance (mi): -	
	Facility: WB Exit I-66 interchange at US 29 [Centreville]				
	From: WB I-66		To: "SB" US 29 [Centreville] (EB travel)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	-	-	-	-	-
	Lanes	0	0	0	0	0
	Lane capacity	0	0	0	0	0
	FF Speed	5	5	5	5	5
	Daily Volume	1,500	1,300	1,300	900	900
	Daily Truck %	9%	9%	9%	10%	9%

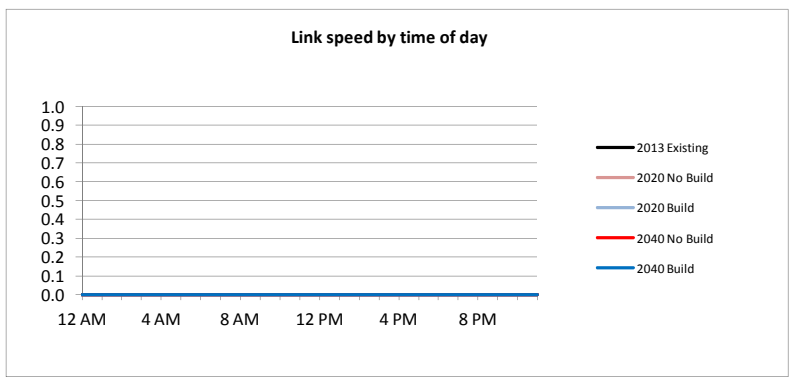
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	23	20	20	14	14
	1 AM	9	7	7	5	5
	2 AM	6	5	5	3	3
	3 AM	4	4	4	3	3
	4 AM	4	4	4	3	3
	5 AM	10	9	9	6	7
	6 AM	60	50	50	30	30
	7 AM	39	33	34	23	24
	8 AM	49	42	42	29	29
	9 AM	63	54	55	38	38
	10 AM	55	47	47	32	33
	11 AM	50	43	44	30	30
	12 PM	60	51	52	36	36
	1 PM	62	53	54	37	37
	2 PM	86	74	75	51	52
	3 PM	98	83	85	58	59
	4 PM	115	98	100	68	70
	5 PM	160	160	140	110	100
	6 PM	153	129	133	90	91
	7 PM	124	105	107	74	74
	8 PM	98	83	85	58	59
	9 PM	78	66	67	46	47
	10 PM	62	53	54	37	37
	11 PM	32	27	27	19	19

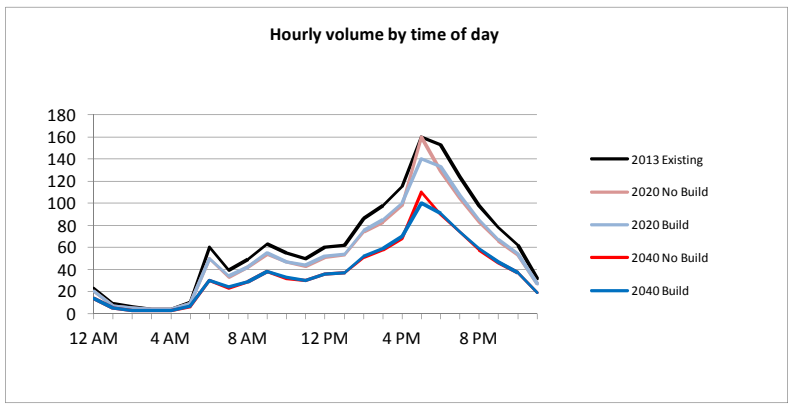
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	12 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Passenger Vehicle Volume						
	12 AM	19	18	18	12	12
	1 AM	7	5	5	3	3
	2 AM	4	3	3	2	2
	3 AM	2	2	2	1	1
	4 AM	2	2	2	1	1
	5 AM	8	7	7	4	5
	6 AM	52	43	43	26	26
	7 AM	36	30	31	21	22
	8 AM	45	39	39	26	26
	9 AM	55	47	48	33	33
	10 AM	46	39	39	27	27
	11 AM	42	35	36	25	25
	12 PM	51	43	44	30	30
	1 PM	54	47	48	32	32
	2 PM	77	67	68	46	47
	3 PM	91	77	79	54	55
	4 PM	108	92	93	64	66
	5 PM	151	151	132	103	95
	6 PM	144	122	126	84	85
	7 PM	118	99	101	70	70
	8 PM	93	78	80	55	56
	9 PM	73	62	63	43	44
	10 PM	58	50	51	35	35
	11 PM	30	25	25	17	17

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	2	1	1	1	1
	1 AM	1	1	1	1	1
	2 AM	1	1	1	0	0
	3 AM	1	1	1	1	1
	4 AM	1	1	1	1	1
	5 AM	1	1	1	1	1
	6 AM	5	4	4	2	2
	7 AM	2	2	2	1	1
	8 AM	3	2	2	2	2
	9 AM	5	5	5	3	3
	10 AM	6	5	5	3	4
	11 AM	5	5	5	3	3
	12 PM	6	5	5	4	4
	1 PM	5	4	4	3	3
	2 PM	6	5	5	3	3
	3 PM	5	4	4	3	3
	4 PM	5	4	5	3	3
	5 PM	7	7	6	5	4
	6 PM	6	5	5	4	4
	7 PM	4	4	4	3	3
	8 PM	3	3	3	2	2
	9 PM	3	2	2	2	2
	10 PM	2	2	2	1	1
	11 PM	1	1	1	1	1

Heavy Truck Volume						
	12 AM	2	1	1	1	1
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	1	1	1	1	1
	4 AM	1	1	1	1	1
	5 AM	1	1	1	1	1
	6 AM	3	3	3	2	2
	7 AM	1	1	1	1	1
	8 AM	1	1	1	1	1
	9 AM	3	2	2	2	2
	10 AM	3	3	3	2	2
	11 AM	3	3	3	2	2
	12 PM	3	3	3	2	2
	1 PM	3	2	2	2	2
	2 PM	3	2	2	2	2
	3 PM	2	2	2	1	1
	4 PM	2	2	2	1	1
	5 PM	2	2	2	2	1
	6 PM	3	2	2	2	2
	7 PM	2	2	2	1	1
	8 PM	2	2	2	1	1
	9 PM	2	2	2	1	1
	10 PM	2	1	1	1	1
	11 PM	1	1	1	1	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_52_NB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at US 29 [Centreville]				
	From: "NB" US 29 [Centreville] (WB travel)		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	30	30	30	30	30
	Daily Volume	4,700	5,900	5,900	9,500	9,300
	Daily Truck %	10%	10%	10%	10%	10%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	47	59	59	95	93
	1 AM	23	29	29	47	46
	2 AM	9	12	12	19	19
	3 AM	9	12	12	19	19
	4 AM	14	18	18	28	28
	5 AM	37	47	47	76	73
	6 AM	230	290	290	460	450
	7 AM	201	252	252	407	397
	8 AM	257	322	323	520	509
	9 AM	224	281	282	454	444
	10 AM	192	240	241	388	379
	11 AM	201	252	252	407	398
	12 PM	224	281	282	454	444
	1 PM	248	310	311	501	491
	2 PM	304	381	381	615	602
	3 PM	355	445	446	719	703
	4 PM	439	551	552	889	869
	5 PM	330	420	410	660	650
	6 PM	384	480	480	775	760
	7 PM	285	357	358	577	565
	8 PM	234	293	293	473	463
	9 PM	196	246	247	397	389
	10 PM	168	211	211	340	333
	11 PM	89	111	112	180	176

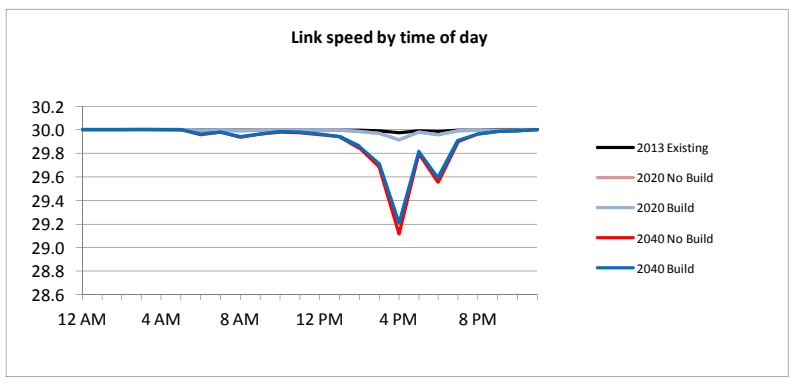
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	30.0	30.0	30.0	30.0	30.0
	6 AM	30.0	30.0	30.0	30.0	30.0
	7 AM	30.0	30.0	30.0	30.0	30.0
	8 AM	30.0	30.0	30.0	29.9	29.9
	9 AM	30.0	30.0	30.0	30.0	30.0
	10 AM	30.0	30.0	30.0	30.0	30.0
	11 AM	30.0	30.0	30.0	30.0	30.0
	12 PM	30.0	30.0	30.0	30.0	30.0
	1 PM	30.0	30.0	30.0	29.9	29.9
	2 PM	30.0	30.0	30.0	29.8	29.9
	3 PM	30.0	30.0	30.0	29.7	29.7
	4 PM	30.0	29.9	29.9	29.1	29.2
	5 PM	30.0	30.0	30.0	29.8	29.8
	6 PM	30.0	30.0	30.0	29.6	29.6
	7 PM	30.0	30.0	30.0	29.9	29.9
	8 PM	30.0	30.0	30.0	30.0	30.0
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

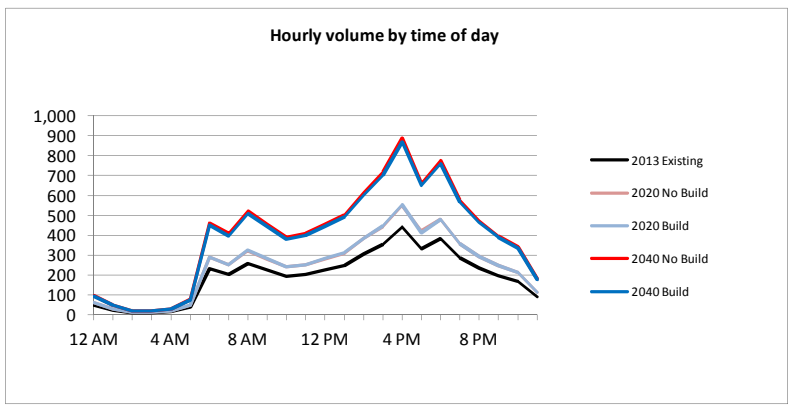
Passenger Vehicle Volume						
	12 AM	41	51	51	81	80
	1 AM	17	21	21	35	34
	2 AM	6	8	8	12	12
	3 AM	5	7	7	11	11
	4 AM	8	10	10	16	16
	5 AM	29	38	38	61	58
	6 AM	198	250	250	397	388
	7 AM	183	229	229	370	361
	8 AM	235	295	295	476	466
	9 AM	196	245	246	396	388
	10 AM	160	200	201	324	316
	11 AM	166	208	208	336	328
	12 PM	189	237	238	383	375
	1 PM	216	270	271	438	428
	2 PM	275	344	344	556	543
	3 PM	328	412	413	665	651
	4 PM	411	516	517	832	813
	5 PM	311	397	387	623	614
	6 PM	361	451	451	729	715
	7 PM	270	338	338	546	534
	8 PM	223	278	278	449	440
	9 PM	185	231	232	373	365
	10 PM	157	198	198	319	312
	11 PM	83	103	104	168	164

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	3	4	4	7	6
	1 AM	3	4	4	6	6
	2 AM	1	2	2	3	3
	3 AM	2	2	2	4	4
	4 AM	3	4	4	6	6
	5 AM	4	5	5	8	8
	6 AM	19	24	24	38	37
	7 AM	12	16	16	25	25
	8 AM	15	18	19	30	29
	9 AM	19	24	24	39	38
	10 AM	21	26	26	42	41
	11 AM	21	26	26	43	42
	12 PM	22	28	28	45	44
	1 PM	21	26	26	41	41
	2 PM	20	25	25	40	40
	3 PM	19	23	23	38	37
	4 PM	20	25	25	41	40
	5 PM	14	17	17	27	27
	6 PM	16	20	20	32	31
	7 PM	10	12	13	20	20
	8 PM	7	9	9	15	14
	9 PM	6	8	8	13	13
	10 PM	6	7	7	12	12
	11 PM	3	4	4	6	6

Heavy Truck Volume						
	12 AM	3	4	4	7	7
	1 AM	3	4	4	6	6
	2 AM	2	2	2	4	4
	3 AM	2	3	3	4	4
	4 AM	3	4	4	6	6
	5 AM	4	4	4	7	7
	6 AM	13	16	16	25	25
	7 AM	6	7	7	12	11
	8 AM	7	9	9	14	14
	9 AM	9	12	12	19	18
	10 AM	11	14	14	22	22
	11 AM	14	18	18	28	28
	12 PM	13	16	16	26	25
	1 PM	11	14	14	22	22
	2 PM	9	12	12	19	19
	3 PM	8	10	10	16	15
	4 PM	8	10	10	16	16
	5 PM	5	6	6	10	9
	6 PM	7	9	9	14	14
	7 PM	5	7	7	11	11
	8 PM	4	6	6	9	9
	9 PM	5	7	7	11	11
	10 PM	5	6	6	9	9
	11 PM	3	4	4	6	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: WBEntr_52_SB			Distance (mi): -	
	Facility: WB Entrance I-66 interchange at US 29 [Centreville]				
	From: "SB" US 29 [Centreville] (EB travel)		To: WB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	3,700	3,700	3,600	3,800	3,400
	Daily Truck %	9%	9%	9%	9%	9%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	12	12	12	12	11
	1 AM	8	8	8	8	7
	2 AM	4	4	4	4	4
	3 AM	8	8	8	8	7
	4 AM	20	20	19	20	18
	5 AM	29	27	27	28	26
	6 AM	170	180	170	180	160
	7 AM	192	189	186	195	175
	8 AM	215	214	209	219	197
	9 AM	147	146	143	150	135
	10 AM	119	119	116	122	109
	11 AM	107	107	104	110	99
	12 PM	111	111	108	114	102
	1 PM	123	123	120	126	113
	2 PM	163	162	159	167	150
	3 PM	294	293	286	301	270
	4 PM	614	608	596	626	562
	5 PM	260	270	250	280	240
	6 PM	520	517	507	532	478
	7 PM	290	289	282	297	266
	8 PM	95	95	93	98	88
	9 PM	123	123	120	126	113
	10 PM	48	47	46	49	44
	11 PM	28	28	27	28	26

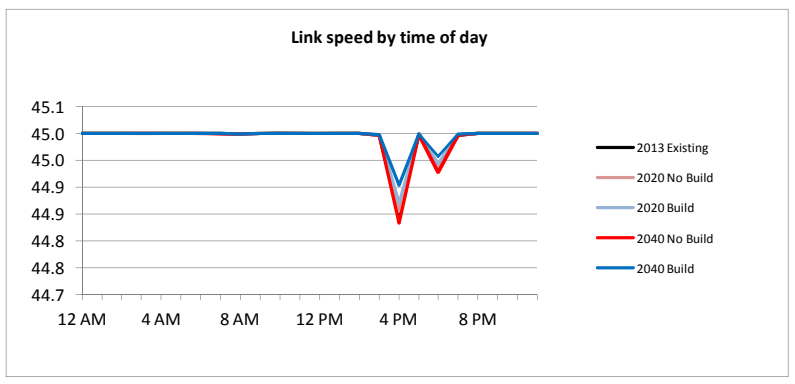
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	45.0	45.0
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	44.8	44.9	44.9	44.8	44.9
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	44.9	44.9	44.9	44.9	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

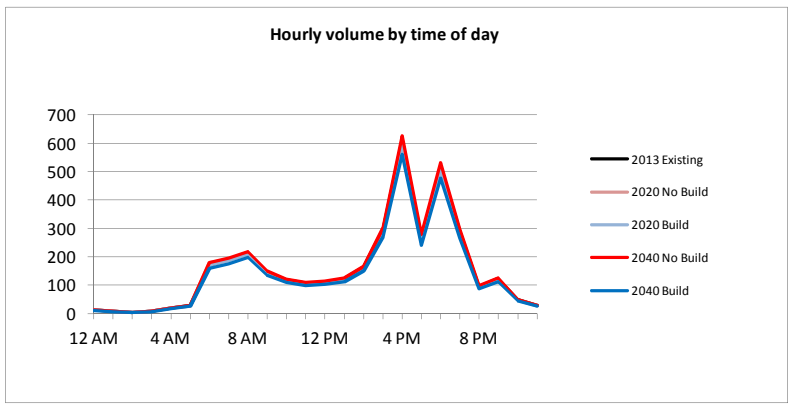
Passenger Vehicle Volume						
	12 AM	10	10	10	10	9
	1 AM	6	6	6	6	5
	2 AM	2	2	2	2	2
	3 AM	4	4	4	4	4
	4 AM	10	10	11	10	10
	5 AM	23	21	21	22	21
	6 AM	147	155	147	155	138
	7 AM	175	172	169	177	159
	8 AM	197	196	191	200	181
	9 AM	128	128	125	131	117
	10 AM	99	99	97	102	91
	11 AM	89	89	86	90	82
	12 PM	94	94	91	97	86
	1 PM	108	108	105	110	99
	2 PM	147	146	144	151	135
	3 PM	273	272	265	278	250
	4 PM	575	569	558	586	526
	5 PM	245	255	236	264	227
	6 PM	490	487	477	500	449
	7 PM	275	274	267	281	252
	8 PM	90	90	88	93	83
	9 PM	116	116	113	119	106
	10 PM	45	44	43	46	41
	11 PM	26	26	25	26	24

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	1	1
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	2	2	2	2	1
	4 AM	5	5	4	5	4
	5 AM	3	3	3	3	3
	6 AM	14	15	14	15	13
	7 AM	12	12	12	12	11
	8 AM	12	12	12	13	11
	9 AM	13	12	12	13	12
	10 AM	13	13	12	13	12
	11 AM	11	11	11	12	10
	12 PM	11	11	11	11	10
	1 PM	10	10	10	10	9
	2 PM	11	11	10	11	10
	3 PM	15	15	15	16	14
	4 PM	28	28	27	29	26
	5 PM	11	11	10	12	10
	6 PM	21	21	21	22	20
	7 PM	10	10	10	10	9
	8 PM	3	3	3	3	3
	9 PM	4	4	4	4	4
	10 PM	2	2	2	2	2
	11 PM	1	1	1	1	1

Heavy Truck Volume						
	12 AM	1	1	1	1	1
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	2	2	2	2	2
	4 AM	5	5	4	5	4
	5 AM	3	3	3	3	2
	6 AM	9	10	9	10	9
	7 AM	5	5	5	6	5
	8 AM	6	6	6	6	5
	9 AM	6	6	6	6	6
	10 AM	7	7	7	7	6
	11 AM	7	7	7	8	7
	12 PM	6	6	6	6	6
	1 PM	5	5	5	6	5
	2 PM	5	5	5	5	5
	3 PM	6	6	6	7	6
	4 PM	11	11	11	11	10
	5 PM	4	4	4	4	3
	6 PM	9	9	9	10	9
	7 PM	5	5	5	6	5
	8 PM	2	2	2	2	2
	9 PM	3	3	3	3	3
	10 PM	1	1	1	1	1
	11 PM	1	1	1	1	1





Location					
	Environmental traffic	Date: 4/4/2013	Prepared by: PTG		
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_52_NBSB		Distance (mi): -		
	Facility: EB Exit I-66 interchange at US 29 [Centreville]				
	From: EB I-66	To: US 29 [Centreville]			

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	8,400	9,600	9,500	13,300	12,700
	Daily Truck %	8%	8%	8%	8%	8%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	56	64	63	89	85
	1 AM	32	36	37	51	48
	2 AM	16	18	18	25	24
	3 AM	16	18	18	25	24
	4 AM	48	55	55	76	72
	5 AM	192	220	218	306	293
	6 AM	870	1,000	980	1,370	1,320
	7 AM	832	951	943	1,323	1,260
	8 AM	808	923	915	1,284	1,222
	9 AM	648	741	734	1,029	980
	10 AM	456	521	517	724	690
	11 AM	328	375	372	521	496
	12 PM	360	412	408	571	544
	1 PM	352	402	399	559	532
	2 PM	352	402	399	559	532
	3 PM	360	412	408	571	544
	4 PM	400	457	454	637	606
	5 PM	590	670	660	910	890
	6 PM	466	532	525	738	699
	7 PM	417	476	472	661	629
	8 PM	281	321	317	445	423
	9 PM	248	283	281	394	375
	10 PM	192	220	217	305	291
	11 PM	80	91	90	127	121

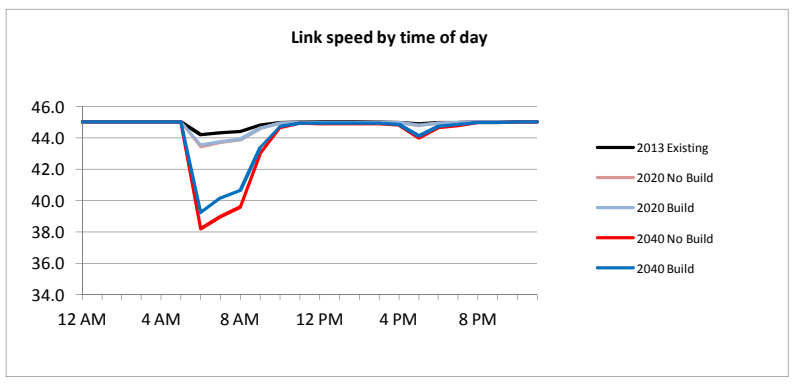
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	44.2	43.4	43.6	38.2	39.2
	7 AM	44.3	43.7	43.8	39.0	40.1
	8 AM	44.4	43.9	43.9	39.6	40.6
	9 AM	44.8	44.6	44.6	43.0	43.4
	10 AM	45.0	44.9	44.9	44.6	44.7
	11 AM	45.0	45.0	45.0	44.9	44.9
	12 PM	45.0	45.0	45.0	44.9	44.9
	1 PM	45.0	45.0	45.0	44.9	44.9
	2 PM	45.0	45.0	45.0	44.9	44.9
	3 PM	45.0	45.0	45.0	44.9	44.9
	4 PM	45.0	45.0	45.0	44.8	44.9
	5 PM	44.9	44.8	44.8	44.0	44.1
	6 PM	45.0	44.9	44.9	44.6	44.7
	7 PM	45.0	45.0	45.0	44.8	44.8
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

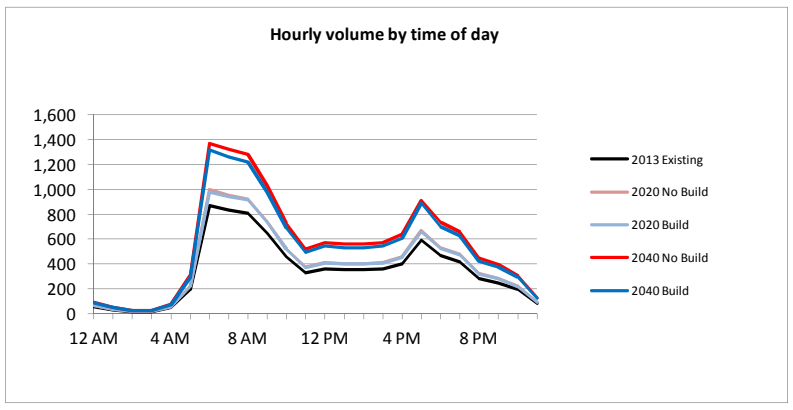
Passenger Vehicle Volume						
	12 AM	34	40	40	55	54
	1 AM	16	18	18	25	24
	2 AM	8	8	8	12	12
	3 AM	9	10	10	15	15
	4 AM	40	47	47	64	60
	5 AM	179	205	203	286	274
	6 AM	831	956	936	1,309	1,261
	7 AM	783	895	889	1,246	1,186
	8 AM	750	857	849	1,191	1,133
	9 AM	590	674	669	938	893
	10 AM	414	473	469	656	626
	11 AM	293	334	332	466	443
	12 PM	318	363	361	505	481
	1 PM	317	362	358	501	478
	2 PM	320	365	362	510	485
	3 PM	335	382	378	529	504
	4 PM	378	431	429	601	572
	5 PM	565	640	630	870	850
	6 PM	442	504	498	699	663
	7 PM	389	444	441	617	587
	8 PM	256	292	288	405	385
	9 PM	222	254	252	354	336
	10 PM	165	189	187	263	250
	11 PM	62	70	69	98	93

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	11	12	12	17	16
	1 AM	9	10	10	13	12
	2 AM	4	5	5	7	7
	3 AM	4	5	5	6	5
	4 AM	5	5	5	7	7
	5 AM	9	10	10	13	12
	6 AM	27	31	31	43	41
	7 AM	36	41	40	57	55
	8 AM	42	48	48	67	64
	9 AM	38	44	43	60	57
	10 AM	28	32	32	45	42
	11 AM	22	26	26	35	34
	12 PM	27	31	30	42	40
	1 PM	23	26	27	38	35
	2 PM	21	24	24	32	31
	3 PM	16	19	19	27	25
	4 PM	15	18	17	24	23
	5 PM	16	19	19	25	25
	6 PM	15	17	16	24	22
	7 PM	15	17	17	24	23
	8 PM	14	16	16	22	22
	9 PM	14	16	16	22	21
	10 PM	14	16	16	22	22
	11 PM	9	11	11	15	14

Heavy Truck Volume						
	12 AM	11	12	11	17	15
	1 AM	7	8	9	13	12
	2 AM	4	5	5	6	5
	3 AM	3	3	3	4	4
	4 AM	3	3	3	5	5
	5 AM	4	5	5	7	7
	6 AM	12	13	13	18	18
	7 AM	13	15	14	20	19
	8 AM	16	18	18	26	25
	9 AM	20	23	22	31	30
	10 AM	14	16	16	23	22
	11 AM	13	15	14	20	19
	12 PM	15	18	17	24	23
	1 PM	12	14	14	20	19
	2 PM	11	13	13	17	16
	3 PM	9	11	11	15	15
	4 PM	7	8	8	12	11
	5 PM	9	11	11	15	15
	6 PM	9	11	11	15	14
	7 PM	13	15	14	20	19
	8 PM	11	13	13	18	16
	9 PM	12	13	13	18	18
	10 PM	13	15	14	20	19
	11 PM	9	10	10	14	14





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_52_NB			Distance (mi): -	
	Facility: EB Exit I-66 interchange at US 29 [Centreville]				
	From: EB I-66		To: "NB" US 29 [Centreville] (WB travel)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	0	0	0	0	0
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	5	5	5	5	5
	Daily Volume	3,700	3,700	3,600	3,800	3,400
	Daily Truck %	8%	8%	8%	8%	8%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	25	25	24	25	23
	1 AM	14	14	14	15	13
	2 AM	7	7	7	7	6
	3 AM	7	7	7	7	6
	4 AM	21	21	21	22	19
	5 AM	85	85	82	87	79
	6 AM	380	380	370	390	360
	7 AM	367	367	357	378	337
	8 AM	356	356	347	367	326
	9 AM	286	286	278	294	262
	10 AM	201	201	196	207	184
	11 AM	145	145	141	149	132
	12 PM	159	159	155	163	145
	1 PM	155	155	151	160	142
	2 PM	155	155	151	160	142
	3 PM	159	159	155	163	145
	4 PM	176	176	172	182	162
	5 PM	260	260	250	260	240
	6 PM	205	205	200	212	186
	7 PM	184	184	179	189	168
	8 PM	124	124	120	127	113
	9 PM	109	109	107	113	100
	10 PM	85	85	82	87	78
	11 PM	35	35	34	36	32

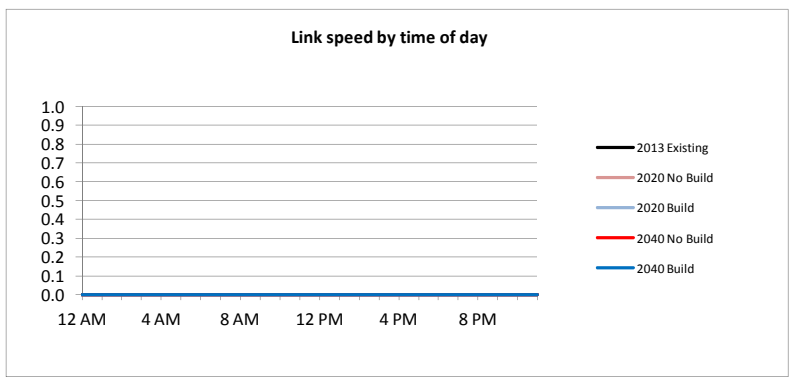
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	12 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

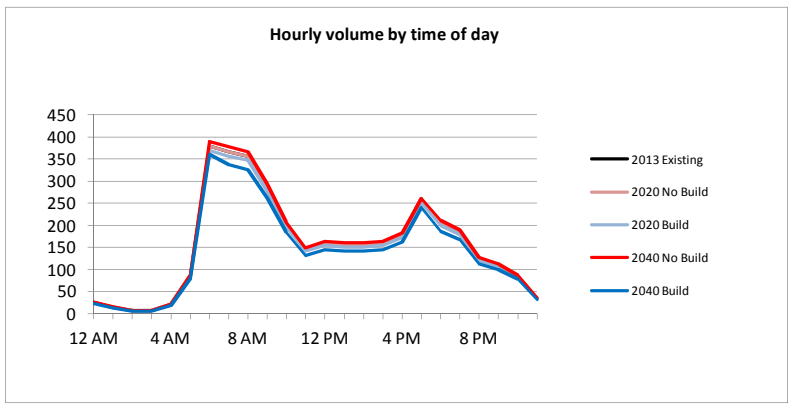
Passenger Vehicle Volume						
	12 AM	15	15	15	15	15
	1 AM	7	7	7	7	7
	2 AM	3	3	3	3	3
	3 AM	4	4	4	4	4
	4 AM	18	18	18	19	16
	5 AM	79	79	76	81	74
	6 AM	363	363	353	373	344
	7 AM	345	345	337	356	317
	8 AM	330	330	322	341	302
	9 AM	260	260	254	268	239
	10 AM	183	183	178	187	167
	11 AM	129	129	126	133	118
	12 PM	140	140	138	144	128
	1 PM	140	140	136	143	128
	2 PM	141	141	137	146	130
	3 PM	148	148	144	151	134
	4 PM	166	166	163	172	153
	5 PM	249	249	239	249	229
	6 PM	194	194	190	201	176
	7 PM	171	171	168	176	157
	8 PM	113	113	109	116	103
	9 PM	98	98	96	102	89
	10 PM	73	73	71	75	67
	11 PM	27	27	26	28	24

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	5	5	5	5	4
	1 AM	4	4	4	4	3
	2 AM	2	2	2	2	2
	3 AM	2	2	2	2	1
	4 AM	2	2	2	2	2
	5 AM	4	4	4	4	3
	6 AM	12	12	12	12	11
	7 AM	16	16	15	16	15
	8 AM	19	19	18	19	17
	9 AM	17	17	16	17	15
	10 AM	12	12	12	13	11
	11 AM	10	10	10	10	9
	12 PM	12	12	11	12	11
	1 PM	10	10	10	11	9
	2 PM	9	9	9	9	8
	3 PM	7	7	7	8	7
	4 PM	7	7	6	7	6
	5 PM	7	7	7	7	7
	6 PM	7	7	6	7	6
	7 PM	7	7	6	7	6
	8 PM	6	6	6	6	6
	9 PM	6	6	6	6	6
	10 PM	6	6	6	6	6
	11 PM	4	4	4	4	4

Heavy Truck Volume						
	12 AM	5	5	4	5	4
	1 AM	3	3	3	4	3
	2 AM	2	2	2	2	1
	3 AM	1	1	1	1	1
	4 AM	1	1	1	1	1
	5 AM	2	2	2	2	2
	6 AM	5	5	5	5	5
	7 AM	6	6	5	6	5
	8 AM	7	7	7	7	7
	9 AM	9	9	8	9	8
	10 AM	6	6	6	7	6
	11 AM	6	6	5	6	5
	12 PM	7	7	6	7	6
	1 PM	5	5	5	6	5
	2 PM	5	5	5	5	4
	3 PM	4	4	4	4	4
	4 PM	3	3	3	3	3
	5 PM	4	4	4	4	4
	6 PM	4	4	4	4	4
	7 PM	6	6	5	6	5
	8 PM	5	5	5	5	4
	9 PM	5	5	5	5	5
	10 PM	6	6	5	6	5
	11 PM	4	4	4	4	4





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBExit_52_SB			Distance (mi): -	
	Facility: EB Exit I-66 interchange at US 29 [Centreville]				
	From: EB I-66		To: "SB" US 29 [Centreville] (EB travel)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	0	0	0	0	0
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	5	5	5	5	5
	Daily Volume	4,700	5,900	5,900	9,500	9,300
	Daily Truck %	8%	8%	8%	8%	8%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	31	39	39	64	62
	1 AM	18	22	23	36	35
	2 AM	9	11	11	18	18
	3 AM	9	11	11	18	18
	4 AM	27	34	34	54	53
	5 AM	107	135	136	219	214
	6 AM	490	620	610	980	960
	7 AM	465	584	586	945	923
	8 AM	452	567	568	917	896
	9 AM	362	455	456	735	718
	10 AM	255	320	321	517	506
	11 AM	183	230	231	372	364
	12 PM	201	253	253	408	399
	1 PM	197	247	248	399	390
	2 PM	197	247	248	399	390
	3 PM	201	253	253	408	399
	4 PM	224	281	282	455	444
	5 PM	330	410	410	650	650
	6 PM	261	327	325	526	513
	7 PM	233	292	293	472	461
	8 PM	157	197	197	318	310
	9 PM	139	174	174	281	275
	10 PM	107	135	135	218	213
	11 PM	45	56	56	91	89

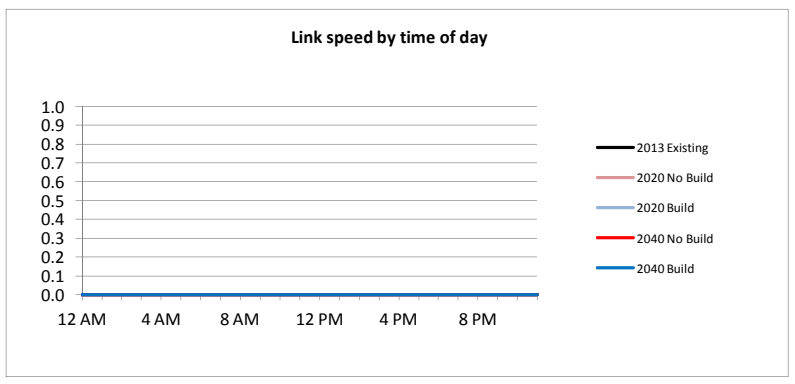
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 AM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	12 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	1 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	2 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	3 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	4 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	5 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	6 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	7 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	8 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	9 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	10 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	11 PM	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

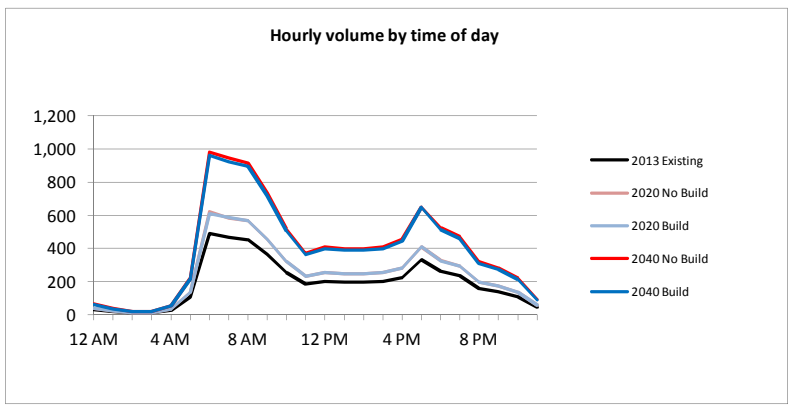
Passenger Vehicle Volume						
	12 AM	19	25	25	40	39
	1 AM	9	11	11	18	17
	2 AM	5	5	5	9	9
	3 AM	5	6	6	11	11
	4 AM	22	29	29	45	44
	5 AM	100	126	127	205	200
	6 AM	468	593	583	936	917
	7 AM	438	550	552	890	869
	8 AM	420	527	527	850	831
	9 AM	330	414	415	670	654
	10 AM	231	290	291	469	459
	11 AM	164	205	206	333	325
	12 PM	178	223	223	361	353
	1 PM	177	222	222	358	350
	2 PM	179	224	225	364	355
	3 PM	187	234	234	378	370
	4 PM	212	265	266	429	419
	5 PM	316	391	391	621	621
	6 PM	248	310	308	498	487
	7 PM	218	273	273	441	430
	8 PM	143	179	179	289	282
	9 PM	124	156	156	252	247
	10 PM	92	116	116	188	183
	11 PM	35	43	43	70	69

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	6	7	7	12	12
	1 AM	5	6	6	9	9
	2 AM	2	3	3	5	5
	3 AM	2	3	3	4	4
	4 AM	3	3	3	5	5
	5 AM	5	6	6	9	9
	6 AM	15	19	19	31	30
	7 AM	20	25	25	41	40
	8 AM	23	29	30	48	47
	9 AM	21	27	27	43	42
	10 AM	16	20	20	32	31
	11 AM	12	16	16	25	25
	12 PM	15	19	19	30	29
	1 PM	13	16	17	27	26
	2 PM	12	15	15	23	23
	3 PM	9	12	12	19	18
	4 PM	8	11	11	17	17
	5 PM	9	12	12	18	18
	6 PM	8	10	10	17	16
	7 PM	8	10	11	17	17
	8 PM	8	10	10	16	16
	9 PM	8	10	10	16	15
	10 PM	8	10	10	16	16
	11 PM	5	7	7	11	10

Heavy Truck Volume						
	12 AM	6	7	7	12	11
	1 AM	4	5	6	9	9
	2 AM	2	3	3	4	4
	3 AM	2	2	2	3	3
	4 AM	2	2	2	4	4
	5 AM	2	3	3	5	5
	6 AM	7	8	8	13	13
	7 AM	7	9	9	14	14
	8 AM	9	11	11	19	18
	9 AM	11	14	14	22	22
	10 AM	8	10	10	16	16
	11 AM	7	9	9	14	14
	12 PM	8	11	11	17	17
	1 PM	7	9	9	14	14
	2 PM	6	8	8	12	12
	3 PM	5	7	7	11	11
	4 PM	4	5	5	9	8
	5 PM	5	7	7	11	11
	6 PM	5	7	7	11	10
	7 PM	7	9	9	14	14
	8 PM	6	8	8	13	12
	9 PM	7	8	8	13	13
	10 PM	7	9	9	14	14
	11 PM	5	6	6	10	10





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_52_NBSB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at US 29 [Centreville]				
	From: US 29 [Centreville]		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	8,400	8,500	8,500	8,800	8,900
	Daily Truck %	8%	8%	8%	8%	8%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	33	34	34	34	35
	1 AM	17	17	17	18	18
	2 AM	17	17	17	18	18
	3 AM	25	25	25	27	27
	4 AM	84	85	84	87	88
	5 AM	392	396	395	410	413
	6 AM	790	800	810	830	840
	7 AM	759	767	765	793	800
	8 AM	751	759	757	784	791
	9 AM	675	683	681	705	713
	10 AM	543	548	547	567	572
	11 AM	509	515	513	531	536
	12 PM	409	414	412	427	431
	1 PM	426	430	428	444	449
	2 PM	383	388	387	401	404
	3 PM	376	379	379	392	396
	4 PM	350	355	353	366	369
	5 PM	420	430	440	460	480
	6 PM	432	437	438	452	457
	7 PM	325	329	328	340	342
	8 PM	251	253	252	261	264
	9 PM	192	194	193	200	203
	10 PM	150	152	152	157	158
	11 PM	91	93	93	96	96

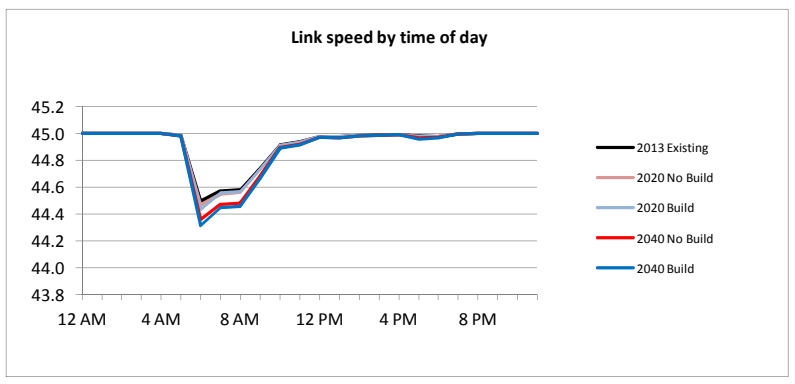
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	44.5	44.5	44.4	44.4	44.3
	7 AM	44.6	44.5	44.6	44.5	44.4
	8 AM	44.6	44.6	44.6	44.5	44.5
	9 AM	44.7	44.7	44.7	44.7	44.7
	10 AM	44.9	44.9	44.9	44.9	44.9
	11 AM	44.9	44.9	44.9	44.9	44.9
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

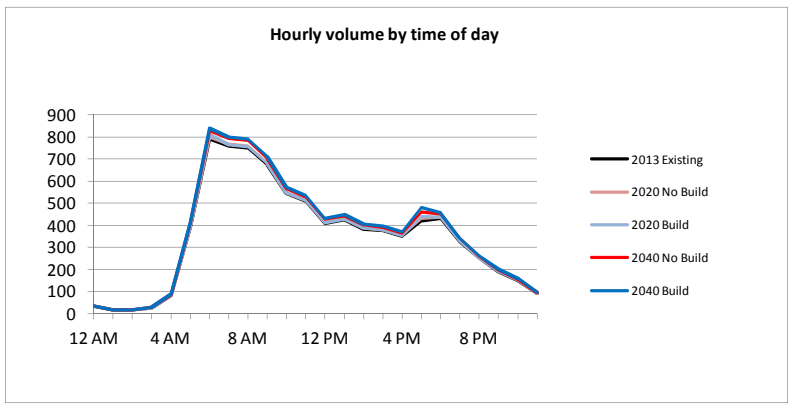
Passenger Vehicle Volume						
	12 AM	21	21	21	20	21
	1 AM	8	8	8	9	9
	2 AM	8	8	8	9	9
	3 AM	14	14	14	15	15
	4 AM	69	71	70	72	73
	5 AM	366	369	368	383	386
	6 AM	755	764	774	793	803
	7 AM	714	722	720	747	754
	8 AM	697	705	703	727	734
	9 AM	615	623	621	643	650
	10 AM	493	497	496	515	519
	11 AM	456	460	458	475	479
	12 PM	362	365	363	378	381
	1 PM	383	387	385	398	403
	2 PM	348	354	353	366	369
	3 PM	349	350	350	363	367
	4 PM	331	335	333	346	348
	5 PM	401	411	421	439	458
	6 PM	410	414	415	429	434
	7 PM	303	308	307	318	320
	8 PM	228	230	229	238	241
	9 PM	171	174	173	179	182
	10 PM	129	129	129	136	136
	11 PM	70	71	71	75	74

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	6	7	7	7	7
	1 AM	5	5	5	5	5
	2 AM	5	5	5	5	5
	3 AM	6	6	6	7	7
	4 AM	9	8	8	9	9
	5 AM	17	18	18	18	18
	6 AM	24	25	25	26	26
	7 AM	33	33	33	34	34
	8 AM	39	39	39	41	41
	9 AM	39	40	40	41	42
	10 AM	33	33	33	34	35
	11 AM	34	35	35	36	37
	12 PM	30	31	31	31	32
	1 PM	28	28	28	30	30
	2 PM	23	22	22	23	23
	3 PM	17	18	18	18	18
	4 PM	13	13	13	13	14
	5 PM	12	12	12	13	14
	6 PM	13	14	14	14	14
	7 PM	12	12	12	12	12
	8 PM	13	13	13	13	13
	9 PM	11	11	11	11	11
	10 PM	11	12	12	11	12
	11 PM	11	11	11	11	11

Heavy Truck Volume						
	12 AM	6	6	6	7	7
	1 AM	4	4	4	4	4
	2 AM	4	4	4	4	4
	3 AM	5	5	5	5	5
	4 AM	6	6	6	6	6
	5 AM	9	9	9	9	9
	6 AM	11	11	11	11	11
	7 AM	12	12	12	12	12
	8 AM	15	15	15	16	16
	9 AM	21	20	20	21	21
	10 AM	17	18	18	18	18
	11 AM	19	20	20	20	20
	12 PM	17	18	18	18	18
	1 PM	15	15	15	16	16
	2 PM	12	12	12	12	12
	3 PM	10	11	11	11	11
	4 PM	6	7	7	7	7
	5 PM	7	7	7	8	8
	6 PM	9	9	9	9	9
	7 PM	10	9	9	10	10
	8 PM	10	10	10	10	10
	9 PM	10	9	9	10	10
	10 PM	10	11	11	10	10
	11 PM	10	11	11	10	11





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_52_NB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at US 29 [Centreville]				
	From: "NB" US 29 [Centreville] (WB travel)		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)	Ramp (Loop)
	Lanes	1	1	1	1	1
	Lane capacity	1,400	1,400	1,400	1,400	1,400
	FF Speed	30	30	30	30	30
	Daily Volume	1,500	1,300	1,300	900	900
	Daily Truck %	8%	9%	9%	8%	8%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	6	5	5	3	3
	1 AM	3	3	3	2	2
	2 AM	3	3	3	2	2
	3 AM	4	4	4	3	3
	4 AM	15	13	13	9	9
	5 AM	70	60	59	41	40
	6 AM	140	130	130	90	90
	7 AM	135	116	115	79	78
	8 AM	134	115	114	78	77
	9 AM	120	103	102	70	70
	10 AM	97	83	82	57	56
	11 AM	91	78	77	53	52
	12 PM	73	63	62	43	42
	1 PM	76	65	64	44	44
	2 PM	68	59	58	40	39
	3 PM	67	57	57	39	39
	4 PM	62	54	53	37	36
	5 PM	80	70	80	60	70
	6 PM	76	65	66	44	45
	7 PM	58	50	49	34	33
	8 PM	45	38	38	26	26
	9 PM	34	29	29	20	20
	10 PM	27	23	23	16	15
	11 PM	16	14	14	10	9

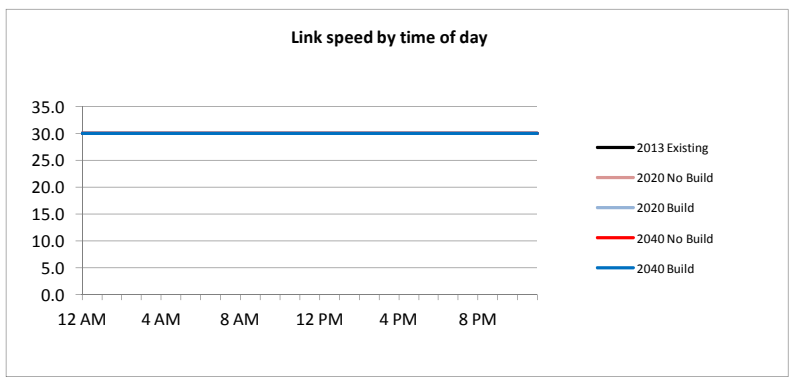
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	30.0	30.0	30.0	30.0	30.0
	1 AM	30.0	30.0	30.0	30.0	30.0
	2 AM	30.0	30.0	30.0	30.0	30.0
	3 AM	30.0	30.0	30.0	30.0	30.0
	4 AM	30.0	30.0	30.0	30.0	30.0
	5 AM	30.0	30.0	30.0	30.0	30.0
	6 AM	30.0	30.0	30.0	30.0	30.0
	7 AM	30.0	30.0	30.0	30.0	30.0
	8 AM	30.0	30.0	30.0	30.0	30.0
	9 AM	30.0	30.0	30.0	30.0	30.0
	10 AM	30.0	30.0	30.0	30.0	30.0
	11 AM	30.0	30.0	30.0	30.0	30.0
	12 PM	30.0	30.0	30.0	30.0	30.0
	1 PM	30.0	30.0	30.0	30.0	30.0
	2 PM	30.0	30.0	30.0	30.0	30.0
	3 PM	30.0	30.0	30.0	30.0	30.0
	4 PM	30.0	30.0	30.0	30.0	30.0
	5 PM	30.0	30.0	30.0	30.0	30.0
	6 PM	30.0	30.0	30.0	30.0	30.0
	7 PM	30.0	30.0	30.0	30.0	30.0
	8 PM	30.0	30.0	30.0	30.0	30.0
	9 PM	30.0	30.0	30.0	30.0	30.0
	10 PM	30.0	30.0	30.0	30.0	30.0
	11 PM	30.0	30.0	30.0	30.0	30.0

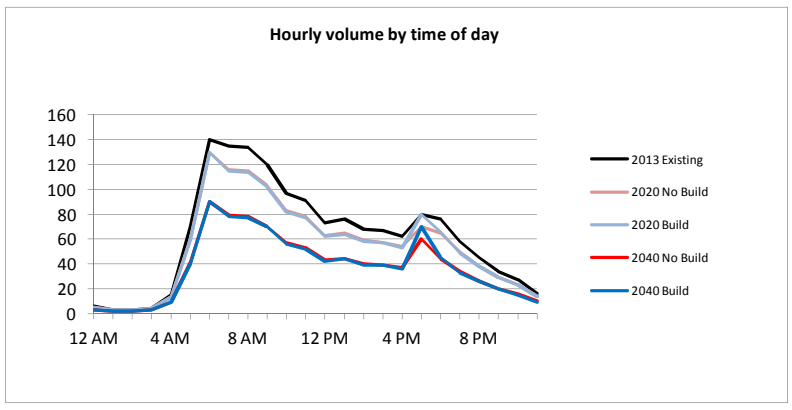
Passenger Vehicle Volume						
	12 AM	4	3	3	1	1
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	2	2	2	1	1
	4 AM	12	11	11	7	7
	5 AM	65	56	55	38	37
	6 AM	134	124	124	86	86
	7 AM	127	109	108	75	74
	8 AM	124	107	106	72	71
	9 AM	109	94	93	64	64
	10 AM	88	75	74	52	51
	11 AM	82	70	69	47	46
	12 PM	65	55	54	38	37
	1 PM	68	59	58	39	39
	2 PM	62	54	53	37	36
	3 PM	62	52	52	36	36
	4 PM	59	51	50	35	34
	5 PM	77	67	77	57	67
	6 PM	72	62	63	42	43
	7 PM	54	47	46	32	31
	8 PM	41	34	34	24	24
	9 PM	30	26	26	18	18
	10 PM	23	19	19	14	13
	11 PM	12	10	10	8	7

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	1	1
	1 AM	1	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	1	1	1	1	1
	4 AM	2	1	1	1	1
	5 AM	3	3	3	2	2
	6 AM	4	4	4	3	3
	7 AM	6	5	5	3	3
	8 AM	7	6	6	4	4
	9 AM	7	6	6	4	4
	10 AM	6	5	5	3	3
	11 AM	6	5	5	4	4
	12 PM	5	5	5	3	3
	1 PM	5	4	4	3	3
	2 PM	4	3	3	2	2
	3 PM	3	3	3	2	2
	4 PM	2	2	2	1	1
	5 PM	2	2	2	2	2
	6 PM	2	2	2	1	1
	7 PM	2	2	2	1	1
	8 PM	2	2	2	1	1
	9 PM	2	2	2	1	1
	10 PM	2	2	2	1	1
	11 PM	2	2	2	1	1

Heavy Truck Volume						
	12 AM	1	1	1	1	1
	1 AM	1	1	1	0	0
	2 AM	1	1	1	0	0
	3 AM	1	1	1	1	1
	4 AM	1	1	1	1	1
	5 AM	2	1	1	1	1
	6 AM	2	2	2	1	1
	7 AM	2	2	2	1	1
	8 AM	3	2	2	2	2
	9 AM	4	3	3	2	2
	10 AM	3	3	3	2	2
	11 AM	3	3	3	2	2
	12 PM	3	3	3	2	2
	1 PM	3	2	2	2	2
	2 PM	2	2	2	1	1
	3 PM	2	2	2	1	1
	4 PM	1	1	1	1	1
	5 PM	1	1	1	1	1
	6 PM	2	1	1	1	1
	7 PM	2	1	1	1	1
	8 PM	2	2	2	1	1
	9 PM	2	1	1	1	1
	10 PM	2	2	2	1	1
	11 PM	2	2	2	1	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: EBEntr_52_SB			Distance (mi): -	
	Facility: EB Entrance I-66 interchange at US 29 [Centreville]				
	From: "SB" US 29 [Centreville] (EB travel)		To: EB I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directiona	amp (Directional)
	Lanes	1	1	1	1	1
	Lane capacity	1,500	1,500	1,500	1,500	1,500
	FF Speed	45	45	45	45	45
	Daily Volume	6,900	7,200	7,200	7,900	8,000
	Daily Truck %	8%	8%	8%	8%	8%

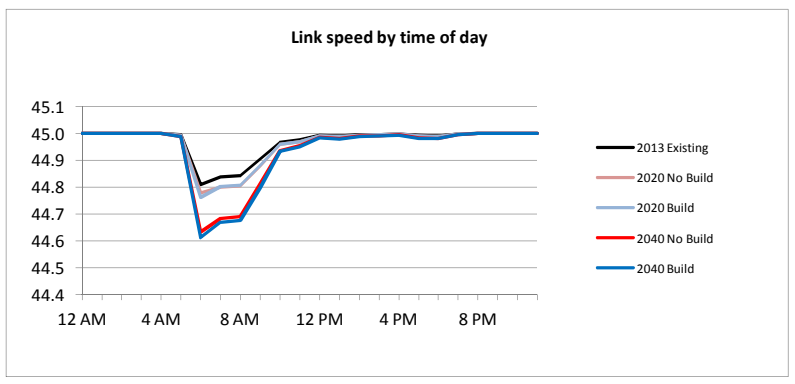
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	27	29	29	31	32
	1 AM	14	14	14	16	16
	2 AM	14	14	14	16	16
	3 AM	21	21	21	24	24
	4 AM	69	72	71	78	79
	5 AM	322	336	336	369	373
	6 AM	650	670	680	740	750
	7 AM	624	651	650	714	722
	8 AM	617	644	643	706	714
	9 AM	555	580	579	635	643
	10 AM	446	465	465	510	516
	11 AM	418	437	436	478	484
	12 PM	336	351	350	384	389
	1 PM	350	365	364	400	405
	2 PM	315	329	329	361	365
	3 PM	309	322	322	353	357
	4 PM	288	301	300	329	333
	5 PM	340	360	360	400	410
	6 PM	356	372	372	408	412
	7 PM	267	279	279	306	309
	8 PM	206	215	214	235	238
	9 PM	158	165	164	180	183
	10 PM	123	129	129	141	143
	11 PM	75	79	79	86	87

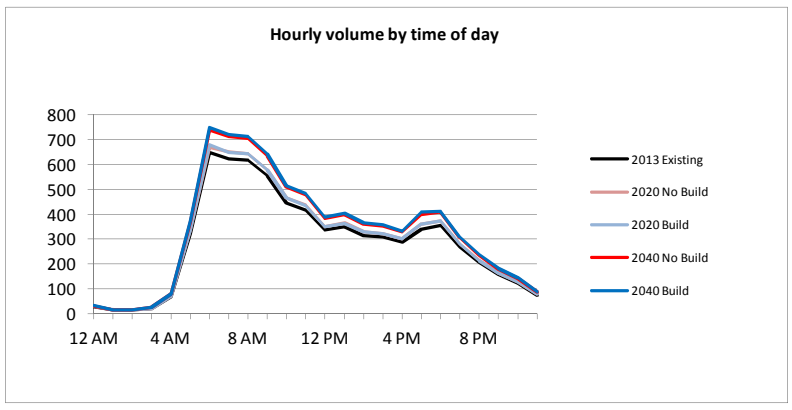
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.25	0.25	0.25	0.25	0.25
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	44.8	44.8	44.8	44.6	44.6
	7 AM	44.8	44.8	44.8	44.7	44.7
	8 AM	44.8	44.8	44.8	44.7	44.7
	9 AM	44.9	44.9	44.9	44.8	44.8
	10 AM	45.0	45.0	45.0	44.9	44.9
	11 AM	45.0	45.0	45.0	45.0	44.9
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

Passenger Vehicle Volume						
	12 AM	17	18	18	19	20
	1 AM	7	7	7	8	8
	2 AM	7	7	7	8	8
	3 AM	12	12	12	14	14
	4 AM	57	60	59	65	66
	5 AM	301	313	313	345	349
	6 AM	621	640	650	707	717
	7 AM	587	613	612	672	680
	8 AM	573	598	597	655	663
	9 AM	506	529	528	579	586
	10 AM	405	422	422	463	468
	11 AM	374	390	389	428	433
	12 PM	297	310	309	340	344
	1 PM	315	328	327	359	364
	2 PM	286	300	300	329	333
	3 PM	287	298	298	327	331
	4 PM	272	284	283	311	314
	5 PM	324	344	344	382	391
	6 PM	338	352	352	387	391
	7 PM	249	261	261	286	289
	8 PM	187	196	195	214	217
	9 PM	141	148	147	161	164
	10 PM	106	110	110	122	123
	11 PM	58	61	61	67	67

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	5	6	6	6	6
	1 AM	4	4	4	4	4
	2 AM	4	4	4	4	4
	3 AM	5	5	5	6	6
	4 AM	7	7	7	8	8
	5 AM	14	15	15	16	16
	6 AM	20	21	21	23	23
	7 AM	27	28	28	31	31
	8 AM	32	33	33	37	37
	9 AM	32	34	34	37	38
	10 AM	27	28	28	31	32
	11 AM	28	30	30	32	33
	12 PM	25	26	26	28	29
	1 PM	23	24	24	27	27
	2 PM	19	19	19	21	21
	3 PM	14	15	15	16	16
	4 PM	11	11	11	12	13
	5 PM	10	10	10	11	12
	6 PM	11	12	12	13	13
	7 PM	10	10	10	11	11
	8 PM	11	11	11	12	12
	9 PM	9	9	9	10	10
	10 PM	9	10	10	10	11
	11 PM	9	9	9	10	10

Heavy Truck Volume						
	12 AM	5	5	5	6	6
	1 AM	3	3	3	4	4
	2 AM	3	3	3	4	4
	3 AM	4	4	4	4	4
	4 AM	5	5	5	5	5
	5 AM	7	8	8	8	8
	6 AM	9	9	9	10	10
	7 AM	10	10	10	11	11
	8 AM	12	13	13	14	14
	9 AM	17	17	17	19	19
	10 AM	14	15	15	16	16
	11 AM	16	17	17	18	18
	12 PM	14	15	15	16	16
	1 PM	12	13	13	14	14
	2 PM	10	10	10	11	11
	3 PM	8	9	9	10	10
	4 PM	5	6	6	6	6
	5 PM	6	6	6	7	7
	6 PM	7	8	8	8	8
	7 PM	8	8	8	9	9
	8 PM	8	8	8	9	9
	9 PM	8	8	8	9	9
	10 PM	8	9	9	9	9
	11 PM	8	9	9	9	10





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPSB_1			Distance (mi): -	
	Facility: SB Tri-County Parkway				
	From: US 50		To: Tall Cedars Pkwy		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	0	12,200	0	20,100
	Daily Truck %	-	-	9%	-	9%

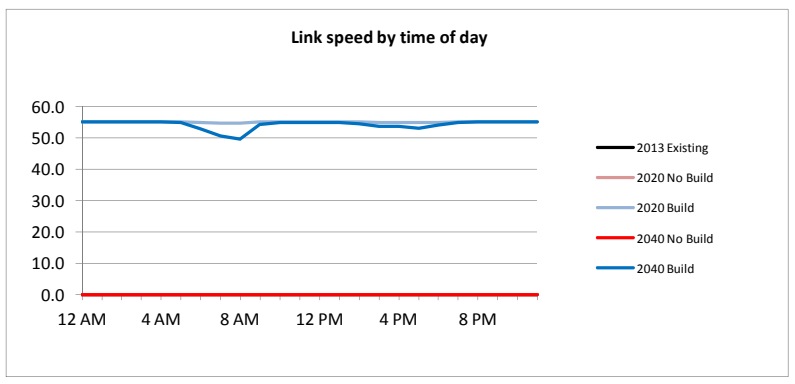
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	0	34	0	56
	1 AM	0	0	23	0	37
	2 AM	0	0	23	0	37
	3 AM	0	0	34	0	56
	4 AM	0	0	152	0	254
	5 AM	0	0	512	0	855
	6 AM	0	0	880	0	1,470
	7 AM	0	0	1,010	0	1,688
	8 AM	0	0	1,052	0	1,757
	9 AM	0	0	713	0	1,175
	10 AM	0	0	577	0	951
	11 AM	0	0	555	0	914
	12 PM	0	0	577	0	951
	1 PM	0	0	555	0	914
	2 PM	0	0	713	0	1,175
	3 PM	0	0	833	0	1,355
	4 PM	0	0	844	0	1,373
	5 PM	0	0	910	0	1,480
	6 PM	0	0	809	0	1,317
	7 PM	0	0	613	0	997
	8 PM	0	0	340	0	560
	9 PM	0	0	226	0	373
	10 PM	0	0	136	0	224
	11 PM	0	0	79	0	131

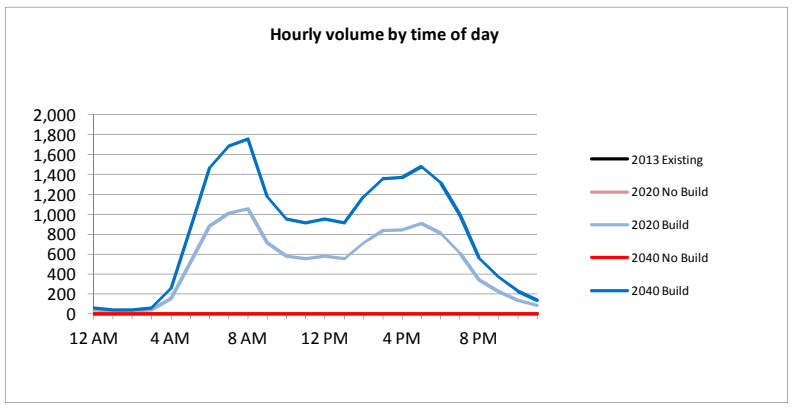
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	-	55.0	-	55.0
	1 AM	-	-	55.0	-	55.0
	2 AM	-	-	55.0	-	55.0
	3 AM	-	-	55.0	-	55.0
	4 AM	-	-	55.0	-	55.0
	5 AM	-	-	55.0	-	54.9
	6 AM	-	-	54.9	-	52.8
	7 AM	-	-	54.7	-	50.6
	8 AM	-	-	54.6	-	49.6
	9 AM	-	-	55.0	-	54.3
	10 AM	-	-	55.0	-	54.8
	11 AM	-	-	55.0	-	54.8
	12 PM	-	-	55.0	-	54.8
	1 PM	-	-	55.0	-	54.8
	2 PM	-	-	55.0	-	54.4
	3 PM	-	-	54.9	-	53.7
	4 PM	-	-	54.9	-	53.7
	5 PM	-	-	54.9	-	53.0
	6 PM	-	-	54.9	-	53.9
	7 PM	-	-	55.0	-	54.8
	8 PM	-	-	55.0	-	55.0
	9 PM	-	-	55.0	-	55.0
	10 PM	-	-	55.0	-	55.0
	11 PM	-	-	55.0	-	55.0

Passenger Vehicle Volume						
	12 AM	0	0	26	0	43
	1 AM	0	0	16	0	24
	2 AM	0	0	14	0	23
	3 AM	0	0	21	0	35
	4 AM	0	0	110	0	185
	5 AM	0	0	434	0	725
	6 AM	0	0	805	0	1,344
	7 AM	0	0	924	0	1,543
	8 AM	0	0	962	0	1,607
	9 AM	0	0	630	0	1,040
	10 AM	0	0	503	0	829
	11 AM	0	0	479	0	790
	12 PM	0	0	505	0	832
	1 PM	0	0	497	0	818
	2 PM	0	0	654	0	1,078
	3 PM	0	0	782	0	1,272
	4 PM	0	0	808	0	1,315
	5 PM	0	0	871	0	1,417
	6 PM	0	0	775	0	1,261
	7 PM	0	0	579	0	942
	8 PM	0	0	319	0	525
	9 PM	0	0	208	0	344
	10 PM	0	0	122	0	202
	11 PM	0	0	68	0	112

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	4	0	6
	1 AM	0	0	3	0	6
	2 AM	0	0	4	0	6
	3 AM	0	0	6	0	10
	4 AM	0	0	21	0	34
	5 AM	0	0	44	0	73
	6 AM	0	0	51	0	86
	7 AM	0	0	59	0	99
	8 AM	0	0	62	0	103
	9 AM	0	0	52	0	85
	10 AM	0	0	46	0	76
	11 AM	0	0	45	0	73
	12 PM	0	0	44	0	73
	1 PM	0	0	36	0	60
	2 PM	0	0	39	0	64
	3 PM	0	0	34	0	55
	4 PM	0	0	24	0	39
	5 PM	0	0	26	0	42
	6 PM	0	0	23	0	37
	7 PM	0	0	20	0	33
	8 PM	0	0	12	0	19
	9 PM	0	0	9	0	14
	10 PM	0	0	7	0	11
	11 PM	0	0	5	0	9

Heavy Truck Volume						
	12 AM	0	0	4	0	7
	1 AM	0	0	4	0	7
	2 AM	0	0	5	0	8
	3 AM	0	0	7	0	11
	4 AM	0	0	21	0	35
	5 AM	0	0	34	0	57
	6 AM	0	0	24	0	40
	7 AM	0	0	27	0	46
	8 AM	0	0	28	0	47
	9 AM	0	0	31	0	50
	10 AM	0	0	28	0	46
	11 AM	0	0	31	0	51
	12 PM	0	0	28	0	46
	1 PM	0	0	22	0	36
	2 PM	0	0	20	0	33
	3 PM	0	0	17	0	28
	4 PM	0	0	12	0	19
	5 PM	0	0	13	0	21
	6 PM	0	0	11	0	19
	7 PM	0	0	14	0	22
	8 PM	0	0	9	0	16
	9 PM	0	0	9	0	15
	10 PM	0	0	7	0	11
	11 PM	0	0	6	0	10





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPNB_1			Distance (mi): -	
	Facility: NB Tri-County Parkway				
	From: Tall Cedars Pkwy		To: US 50		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	0	12,200	0	20,100
	Daily Truck %	-	-	9%	-	9%

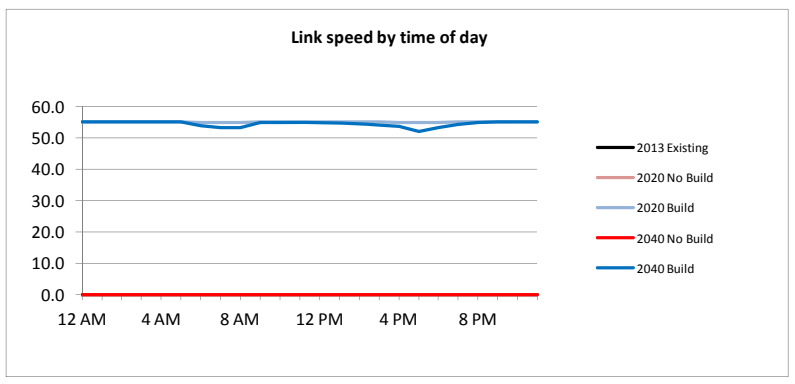
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	0	82	0	136
	1 AM	0	0	47	0	78
	2 AM	0	0	35	0	58
	3 AM	0	0	35	0	58
	4 AM	0	0	69	0	112
	5 AM	0	0	291	0	470
	6 AM	0	0	820	0	1,320
	7 AM	0	0	874	0	1,409
	8 AM	0	0	874	0	1,409
	9 AM	0	0	565	0	932
	10 AM	0	0	529	0	874
	11 AM	0	0	518	0	854
	12 PM	0	0	588	0	971
	1 PM	0	0	635	0	1,049
	2 PM	0	0	694	0	1,146
	3 PM	0	0	764	0	1,275
	4 PM	0	0	833	0	1,391
	5 PM	0	0	960	0	1,600
	6 PM	0	0	869	0	1,450
	7 PM	0	0	729	0	1,217
	8 PM	0	0	600	0	990
	9 PM	0	0	400	0	660
	10 PM	0	0	271	0	447
	11 PM	0	0	118	0	194

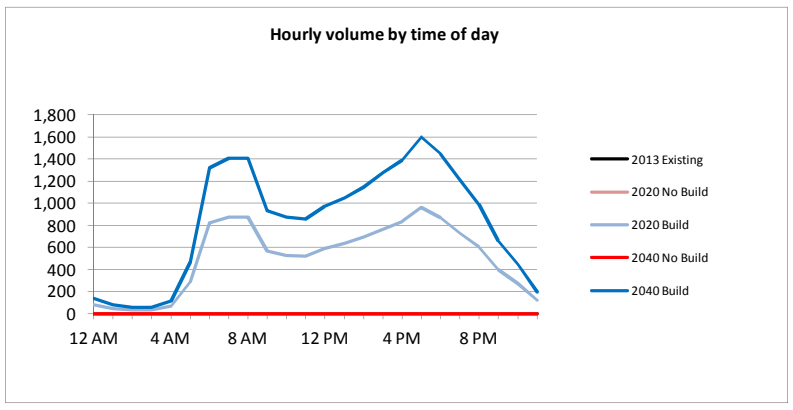
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	-	55.0	-	55.0
	1 AM	-	-	55.0	-	55.0
	2 AM	-	-	55.0	-	55.0
	3 AM	-	-	55.0	-	55.0
	4 AM	-	-	55.0	-	55.0
	5 AM	-	-	55.0	-	55.0
	6 AM	-	-	54.9	-	53.8
	7 AM	-	-	54.9	-	53.3
	8 AM	-	-	54.9	-	53.3
	9 AM	-	-	55.0	-	54.8
	10 AM	-	-	55.0	-	54.9
	11 AM	-	-	55.0	-	54.9
	12 PM	-	-	55.0	-	54.7
	1 PM	-	-	55.0	-	54.6
	2 PM	-	-	55.0	-	54.4
	3 PM	-	-	54.9	-	54.1
	4 PM	-	-	54.9	-	53.5
	5 PM	-	-	54.8	-	52.0
	6 PM	-	-	54.9	-	53.2
	7 PM	-	-	55.0	-	54.3
	8 PM	-	-	55.0	-	54.8
	9 PM	-	-	55.0	-	55.0
	10 PM	-	-	55.0	-	55.0
	11 PM	-	-	55.0	-	55.0

Passenger Vehicle Volume						
	12 AM	0	0	62	0	102
	1 AM	0	0	31	0	51
	2 AM	0	0	22	0	36
	3 AM	0	0	21	0	35
	4 AM	0	0	51	0	82
	5 AM	0	0	247	0	399
	6 AM	0	0	750	0	1,207
	7 AM	0	0	799	0	1,289
	8 AM	0	0	799	0	1,289
	9 AM	0	0	500	0	824
	10 AM	0	0	461	0	762
	11 AM	0	0	447	0	738
	12 PM	0	0	515	0	851
	1 PM	0	0	568	0	939
	2 PM	0	0	637	0	1,052
	3 PM	0	0	717	0	1,198
	4 PM	0	0	797	0	1,332
	5 PM	0	0	919	0	1,532
	6 PM	0	0	832	0	1,389
	7 PM	0	0	689	0	1,150
	8 PM	0	0	562	0	929
	9 PM	0	0	369	0	609
	10 PM	0	0	244	0	403
	11 PM	0	0	101	0	166

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	9	0	16
	1 AM	0	0	7	0	12
	2 AM	0	0	6	0	10
	3 AM	0	0	7	0	11
	4 AM	0	0	9	0	15
	5 AM	0	0	25	0	40
	6 AM	0	0	48	0	77
	7 AM	0	0	51	0	82
	8 AM	0	0	51	0	82
	9 AM	0	0	41	0	68
	10 AM	0	0	42	0	70
	11 AM	0	0	42	0	69
	12 PM	0	0	45	0	74
	1 PM	0	0	42	0	69
	2 PM	0	0	38	0	62
	3 PM	0	0	31	0	51
	4 PM	0	0	24	0	39
	5 PM	0	0	27	0	45
	6 PM	0	0	25	0	41
	7 PM	0	0	24	0	40
	8 PM	0	0	21	0	34
	9 PM	0	0	15	0	25
	10 PM	0	0	14	0	22
	11 PM	0	0	8	0	13

Heavy Truck Volume						
	12 AM	0	0	11	0	18
	1 AM	0	0	9	0	15
	2 AM	0	0	7	0	12
	3 AM	0	0	7	0	12
	4 AM	0	0	9	0	15
	5 AM	0	0	19	0	31
	6 AM	0	0	22	0	36
	7 AM	0	0	24	0	38
	8 AM	0	0	24	0	38
	9 AM	0	0	24	0	40
	10 AM	0	0	26	0	42
	11 AM	0	0	29	0	47
	12 PM	0	0	28	0	46
	1 PM	0	0	25	0	41
	2 PM	0	0	19	0	32
	3 PM	0	0	16	0	26
	4 PM	0	0	12	0	20
	5 PM	0	0	14	0	23
	6 PM	0	0	12	0	20
	7 PM	0	0	16	0	27
	8 PM	0	0	17	0	27
	9 PM	0	0	16	0	26
	10 PM	0	0	13	0	22
	11 PM	0	0	9	0	15





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPSB_2			Distance (mi): -	
	Facility: SB Tri-County Parkway/Northstar Blvd				
	From: Tall Cedars Pkwy		To: Braddock Rd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	700	1,000	13,000	2,000	22,300
	Daily Truck %	8%	8%	9%	9%	9%

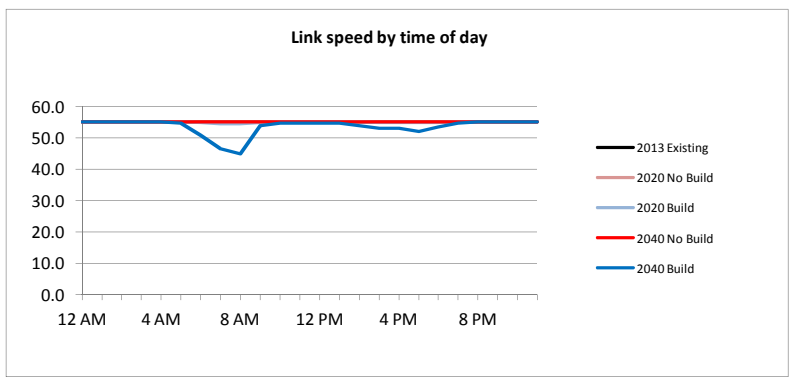
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	1	2	37	4	62
	1 AM	1	1	24	2	42
	2 AM	1	1	24	2	42
	3 AM	1	2	37	4	62
	4 AM	13	18	168	37	290
	5 AM	45	63	565	123	976
	6 AM	110	160	960	320	1,670
	7 AM	88	123	1,115	243	1,925
	8 AM	92	127	1,161	254	2,003
	9 AM	29	39	769	78	1,308
	10 AM	23	31	622	63	1,059
	11 AM	22	30	598	60	1,018
	12 PM	23	31	622	63	1,059
	1 PM	22	30	598	60	1,018
	2 PM	29	39	769	78	1,308
	3 PM	32	49	852	97	1,460
	4 PM	32	50	863	98	1,482
	5 PM	50	80	920	160	1,590
	6 PM	32	47	828	96	1,419
	7 PM	23	36	627	72	1,075
	8 PM	14	18	366	37	623
	9 PM	9	12	244	25	415
	10 PM	5	7	146	15	249
	11 PM	3	4	85	9	145

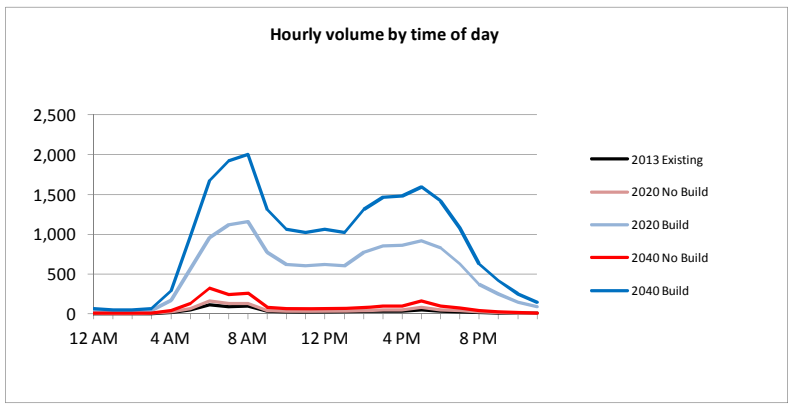
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	55.0	54.7
	6 AM	55.0	55.0	54.8	55.0	50.8
	7 AM	55.0	55.0	54.5	55.0	46.5
	8 AM	55.0	55.0	54.4	55.0	44.9
	9 AM	55.0	55.0	54.9	55.0	53.7
	10 AM	55.0	55.0	55.0	55.0	54.6
	11 AM	55.0	55.0	55.0	55.0	54.7
	12 PM	55.0	55.0	55.0	55.0	54.6
	1 PM	55.0	55.0	55.0	55.0	54.7
	2 PM	55.0	55.0	54.9	55.0	53.8
	3 PM	55.0	55.0	54.9	55.0	53.0
	4 PM	55.0	55.0	54.9	55.0	53.0
	5 PM	55.0	55.0	54.8	55.0	52.1
	6 PM	55.0	55.0	54.9	55.0	53.4
	7 PM	55.0	55.0	55.0	55.0	54.6
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

Passenger Vehicle Volume						
	12 AM	1	2	28	3	47
	1 AM	1	1	16	2	28
	2 AM	1	1	15	2	26
	3 AM	1	2	23	2	38
	4 AM	9	14	122	27	211
	5 AM	38	54	479	104	828
	6 AM	101	147	878	292	1,527
	7 AM	81	113	1,020	222	1,760
	8 AM	85	117	1,062	232	1,832
	9 AM	26	34	680	69	1,157
	10 AM	20	27	543	55	924
	11 AM	19	26	517	52	880
	12 PM	20	28	545	55	927
	1 PM	20	27	535	54	911
	2 PM	26	36	706	72	1,201
	3 PM	30	46	800	91	1,371
	4 PM	31	48	827	94	1,419
	5 PM	48	77	881	153	1,523
	6 PM	31	45	793	92	1,359
	7 PM	21	34	592	68	1,016
	8 PM	14	17	343	35	585
	9 PM	9	12	225	23	383
	10 PM	5	7	132	13	225
	11 PM	3	4	72	7	124

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	4	0	7
	1 AM	0	0	4	0	6
	2 AM	0	0	4	0	7
	3 AM	0	0	7	1	12
	4 AM	2	2	23	5	39
	5 AM	4	5	48	11	83
	6 AM	6	9	56	19	98
	7 AM	5	7	65	14	113
	8 AM	5	7	68	15	117
	9 AM	2	3	56	6	95
	10 AM	2	2	49	5	84
	11 AM	2	2	48	5	82
	12 PM	2	2	47	5	81
	1 PM	1	2	39	4	67
	2 PM	2	2	42	4	71
	3 PM	1	2	34	4	59
	4 PM	1	1	24	3	42
	5 PM	1	2	26	5	45
	6 PM	1	1	23	3	40
	7 PM	1	1	21	2	35
	8 PM	0	1	13	1	21
	9 PM	0	0	9	1	16
	10 PM	0	0	7	1	12
	11 PM	0	0	6	1	10

Heavy Truck Volume						
	12 AM	0	0	5	1	8
	1 AM	0	0	4	0	8
	2 AM	0	0	5	0	9
	3 AM	0	0	7	1	12
	4 AM	2	2	23	5	40
	5 AM	3	4	38	8	65
	6 AM	3	4	26	9	45
	7 AM	2	3	30	7	52
	8 AM	2	3	31	7	54
	9 AM	1	2	33	3	56
	10 AM	1	2	30	3	51
	11 AM	1	2	33	3	56
	12 PM	1	1	30	3	51
	1 PM	1	1	24	2	40
	2 PM	1	1	21	2	36
	3 PM	1	1	18	2	30
	4 PM	0	1	12	1	21
	5 PM	1	1	13	2	22
	6 PM	0	1	12	1	20
	7 PM	1	1	14	2	24
	8 PM	0	0	10	1	17
	9 PM	0	0	10	1	16
	10 PM	0	0	7	1	12
	11 PM	0	0	7	1	11





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPNB_2			Distance (mi): -	
	Facility: NB Tri-County Parkway/Northstar Blvd				
	From: Braddock Rd		To: Tall Cedars Pkwy		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	700	1,000	13,000	2,000	22,300
	Daily Truck %	8%	8%	9%	8%	9%

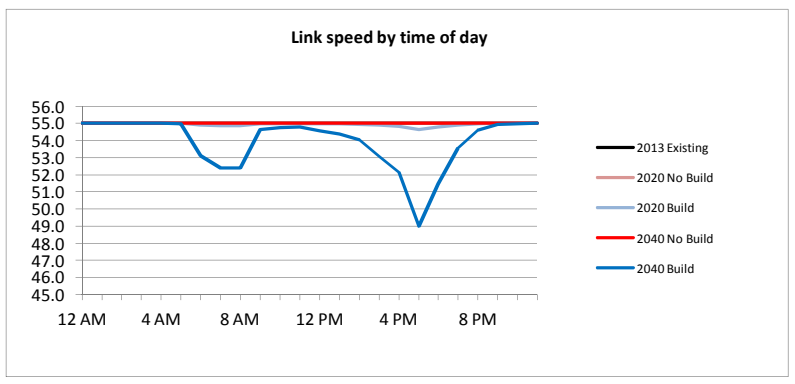
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	3	4	88	8	150
	1 AM	2	2	50	5	86
	2 AM	1	2	38	4	64
	3 AM	1	2	38	4	64
	4 AM	4	6	69	12	120
	5 AM	17	23	291	49	506
	6 AM	80	120	820	230	1,430
	7 AM	50	72	873	148	1,518
	8 AM	50	73	873	148	1,518
	9 AM	19	26	601	56	1,028
	10 AM	18	25	564	53	964
	11 AM	18	24	551	51	942
	12 PM	20	28	626	58	1,071
	1 PM	21	30	676	63	1,156
	2 PM	23	33	739	69	1,263
	3 PM	52	73	850	144	1,450
	4 PM	56	78	928	158	1,582
	5 PM	110	160	1,070	300	1,830
	6 PM	59	84	965	163	1,647
	7 PM	49	69	812	138	1,384
	8 PM	20	28	639	60	1,092
	9 PM	14	19	426	40	728
	10 PM	9	13	288	27	493
	11 PM	4	6	125	12	214

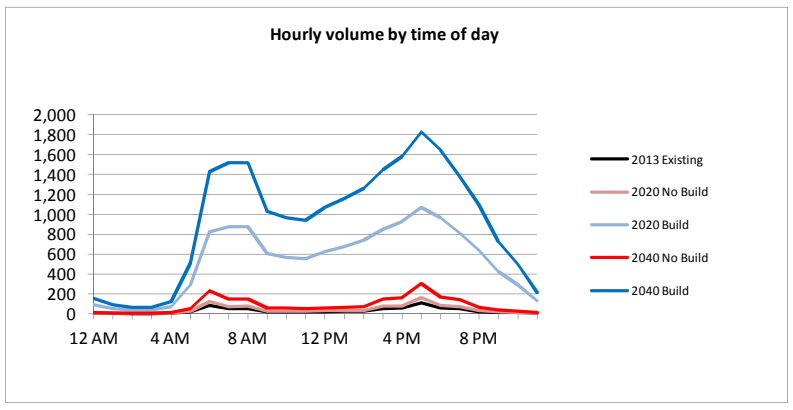
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	55.0	55.0
	6 AM	55.0	55.0	54.9	55.0	53.1
	7 AM	55.0	55.0	54.9	55.0	52.4
	8 AM	55.0	55.0	54.9	55.0	52.4
	9 AM	55.0	55.0	55.0	55.0	54.7
	10 AM	55.0	55.0	55.0	55.0	54.8
	11 AM	55.0	55.0	55.0	55.0	54.8
	12 PM	55.0	55.0	55.0	55.0	54.6
	1 PM	55.0	55.0	55.0	55.0	54.4
	2 PM	55.0	55.0	54.9	55.0	54.0
	3 PM	55.0	55.0	54.9	55.0	53.1
	4 PM	55.0	55.0	54.8	55.0	52.1
	5 PM	55.0	55.0	54.7	55.0	49.0
	6 PM	55.0	55.0	54.8	55.0	51.5
	7 PM	55.0	55.0	54.9	55.0	53.5
	8 PM	55.0	55.0	55.0	55.0	54.6
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

Passenger Vehicle Volume						
	12 AM	3	3	67	6	113
	1 AM	2	2	34	3	57
	2 AM	1	2	23	2	39
	3 AM	1	2	23	2	39
	4 AM	2	4	51	8	88
	5 AM	15	19	247	42	429
	6 AM	73	110	750	211	1,307
	7 AM	46	66	798	135	1,388
	8 AM	46	67	798	135	1,388
	9 AM	17	23	531	50	909
	10 AM	16	22	492	46	840
	11 AM	16	21	477	44	814
	12 PM	17	25	548	51	938
	1 PM	19	27	605	57	1,035
	2 PM	21	30	678	63	1,160
	3 PM	49	68	798	135	1,361
	4 PM	53	75	889	152	1,515
	5 PM	105	153	1,025	288	1,752
	6 PM	56	81	924	156	1,577
	7 PM	46	65	767	130	1,308
	8 PM	18	26	599	56	1,025
	9 PM	12	17	393	36	672
	10 PM	9	11	260	25	444
	11 PM	4	6	106	10	182

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	10	1	17
	1 AM	0	0	7	1	13
	2 AM	0	0	7	1	11
	3 AM	0	0	7	1	12
	4 AM	1	1	9	2	16
	5 AM	1	2	25	4	43
	6 AM	5	7	48	13	84
	7 AM	3	4	51	9	89
	8 AM	3	4	51	9	89
	9 AM	1	2	44	4	75
	10 AM	1	2	45	4	77
	11 AM	1	2	44	4	76
	12 PM	2	2	48	4	82
	1 PM	1	2	44	4	76
	2 PM	1	2	40	4	68
	3 PM	2	3	34	6	59
	4 PM	2	2	26	4	45
	5 PM	3	5	30	8	52
	6 PM	2	2	27	5	47
	7 PM	2	2	27	5	45
	8 PM	1	1	22	2	37
	9 PM	1	1	16	2	28
	10 PM	0	1	14	1	25
	11 PM	0	0	9	1	15

Heavy Truck Volume						
	12 AM	0	1	11	1	20
	1 AM	0	0	9	1	16
	2 AM	0	0	8	1	14
	3 AM	0	0	8	1	13
	4 AM	1	1	9	2	16
	5 AM	1	2	19	3	34
	6 AM	2	3	22	6	39
	7 AM	1	2	24	4	41
	8 AM	1	2	24	4	41
	9 AM	1	1	26	2	44
	10 AM	1	1	27	3	47
	11 AM	1	1	30	3	52
	12 PM	1	1	30	3	51
	1 PM	1	1	27	2	45
	2 PM	1	1	21	2	35
	3 PM	1	2	18	3	30
	4 PM	1	1	13	2	22
	5 PM	2	2	15	4	26
	6 PM	1	1	14	2	23
	7 PM	1	2	18	3	31
	8 PM	1	1	18	2	30
	9 PM	1	1	17	2	28
	10 PM	0	1	14	1	24
	11 PM	0	0	10	1	17





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPSB_3			Distance (mi): -	
	Facility: SB Tri-County Parkway				
	From: Braddock Rd		To: VA 234 (Sudley Rd)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	0	11,300	0	24,400
	Daily Truck %	-	-	9%	-	9%

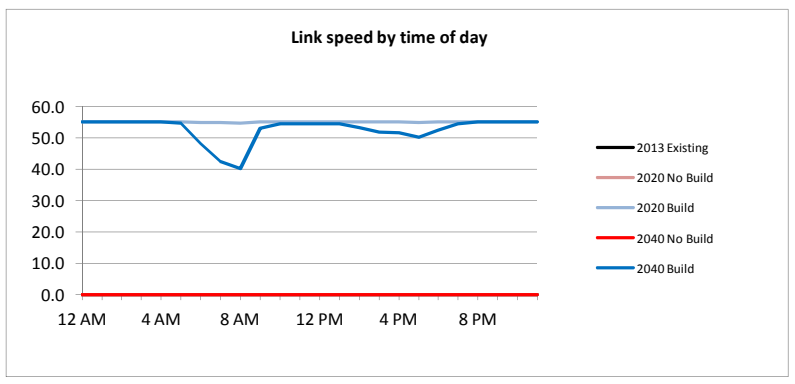
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	0	31	0	68
	1 AM	0	0	21	0	45
	2 AM	0	0	21	0	45
	3 AM	0	0	31	0	68
	4 AM	0	0	148	0	317
	5 AM	0	0	498	0	1,067
	6 AM	0	0	860	0	1,840
	7 AM	0	0	983	0	2,106
	8 AM	0	0	1,024	0	2,192
	9 AM	0	0	658	0	1,422
	10 AM	0	0	533	0	1,151
	11 AM	0	0	512	0	1,106
	12 PM	0	0	533	0	1,151
	1 PM	0	0	512	0	1,106
	2 PM	0	0	658	0	1,422
	3 PM	0	0	738	0	1,606
	4 PM	0	0	748	0	1,628
	5 PM	0	0	810	0	1,760
	6 PM	0	0	718	0	1,561
	7 PM	0	0	543	0	1,182
	8 PM	0	0	313	0	677
	9 PM	0	0	209	0	451
	10 PM	0	0	125	0	271
	11 PM	0	0	73	0	158

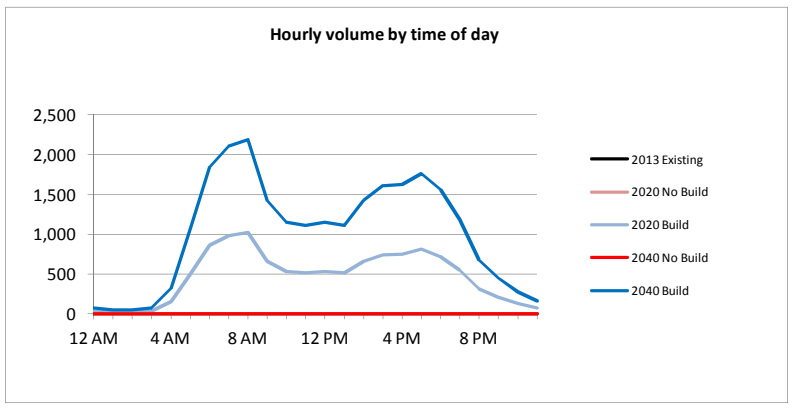
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	-	55.0	-	55.0
	1 AM	-	-	55.0	-	55.0
	2 AM	-	-	55.0	-	55.0
	3 AM	-	-	55.0	-	55.0
	4 AM	-	-	55.0	-	55.0
	5 AM	-	-	55.0	-	54.5
	6 AM	-	-	54.9	-	48.2
	7 AM	-	-	54.8	-	42.4
	8 AM	-	-	54.7	-	40.1
	9 AM	-	-	55.0	-	53.0
	10 AM	-	-	55.0	-	54.3
	11 AM	-	-	55.0	-	54.5
	12 PM	-	-	55.0	-	54.4
	1 PM	-	-	55.0	-	54.5
	2 PM	-	-	55.0	-	53.2
	3 PM	-	-	55.0	-	51.8
	4 PM	-	-	55.0	-	51.7
	5 PM	-	-	54.9	-	50.1
	6 PM	-	-	55.0	-	52.3
	7 PM	-	-	55.0	-	54.4
	8 PM	-	-	55.0	-	55.0
	9 PM	-	-	55.0	-	55.0
	10 PM	-	-	55.0	-	55.0
	11 PM	-	-	55.0	-	55.0

Passenger Vehicle Volume						
	12 AM	0	0	23	0	51
	1 AM	0	0	14	0	30
	2 AM	0	0	13	0	27
	3 AM	0	0	19	0	41
	4 AM	0	0	108	0	230
	5 AM	0	0	422	0	905
	6 AM	0	0	787	0	1,682
	7 AM	0	0	899	0	1,926
	8 AM	0	0	936	0	2,005
	9 AM	0	0	582	0	1,258
	10 AM	0	0	465	0	1,003
	11 AM	0	0	443	0	956
	12 PM	0	0	466	0	1,008
	1 PM	0	0	459	0	991
	2 PM	0	0	604	0	1,306
	3 PM	0	0	693	0	1,508
	4 PM	0	0	716	0	1,559
	5 PM	0	0	776	0	1,685
	6 PM	0	0	688	0	1,495
	7 PM	0	0	513	0	1,116
	8 PM	0	0	293	0	635
	9 PM	0	0	193	0	416
	10 PM	0	0	113	0	244
	11 PM	0	0	62	0	135

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	4	0	8
	1 AM	0	0	3	0	7
	2 AM	0	0	4	0	8
	3 AM	0	0	6	0	13
	4 AM	0	0	20	0	43
	5 AM	0	0	43	0	91
	6 AM	0	0	50	0	108
	7 AM	0	0	57	0	123
	8 AM	0	0	60	0	128
	9 AM	0	0	48	0	103
	10 AM	0	0	42	0	92
	11 AM	0	0	41	0	89
	12 PM	0	0	41	0	88
	1 PM	0	0	33	0	72
	2 PM	0	0	36	0	77
	3 PM	0	0	30	0	65
	4 PM	0	0	21	0	46
	5 PM	0	0	23	0	50
	6 PM	0	0	20	0	44
	7 PM	0	0	18	0	39
	8 PM	0	0	11	0	23
	9 PM	0	0	8	0	17
	10 PM	0	0	6	0	14
	11 PM	0	0	5	0	11

Heavy Truck Volume						
	12 AM	0	0	4	0	9
	1 AM	0	0	4	0	8
	2 AM	0	0	4	0	10
	3 AM	0	0	6	0	14
	4 AM	0	0	20	0	44
	5 AM	0	0	33	0	71
	6 AM	0	0	23	0	50
	7 AM	0	0	27	0	57
	8 AM	0	0	28	0	59
	9 AM	0	0	28	0	61
	10 AM	0	0	26	0	56
	11 AM	0	0	28	0	61
	12 PM	0	0	26	0	55
	1 PM	0	0	20	0	43
	2 PM	0	0	18	0	39
	3 PM	0	0	15	0	33
	4 PM	0	0	11	0	23
	5 PM	0	0	11	0	25
	6 PM	0	0	10	0	22
	7 PM	0	0	12	0	27
	8 PM	0	0	9	0	19
	9 PM	0	0	8	0	18
	10 PM	0	0	6	0	13
	11 PM	0	0	6	0	12

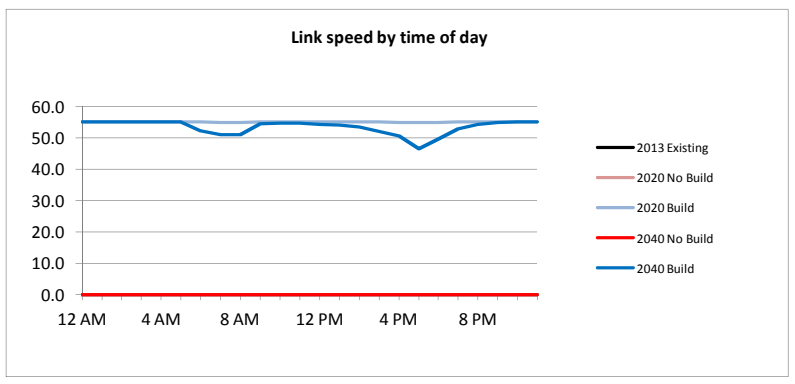


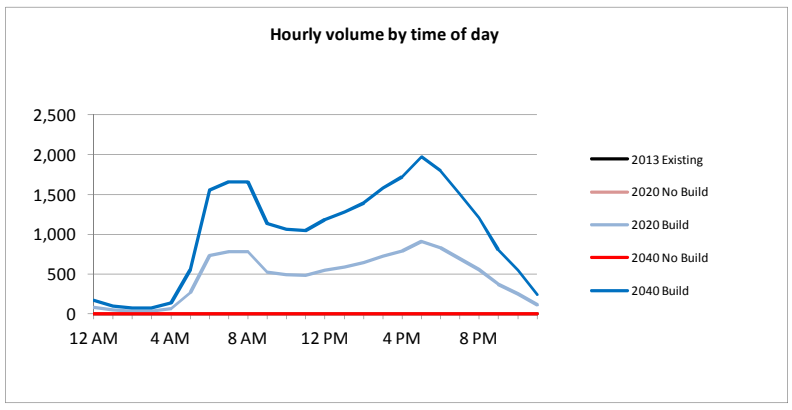


Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPNB_3			Distance (mi): -	
	Facility: NB Tri-County Parkway				
	From: VA 234 (Sudley Rd)		To: Braddock Rd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	0	11,300	0	24,400
	Daily Truck %	-	-	9%	-	9%
Total Volume (Passenger vehicles + medium truck + heavy truck)	*12 AM*	0	0	76	0	166
	1 AM	0	0	44	0	95
	2 AM	0	0	33	0	71
	3 AM	0	0	33	0	71
	4 AM	0	0	62	0	132
	5 AM	0	0	260	0	553
	6 AM	0	0	730	0	1,550
	7 AM	0	0	779	0	1,660
	8 AM	0	0	779	0	1,660
	9 AM	0	0	524	0	1,135
	10 AM	0	0	491	0	1,064
	11 AM	0	0	480	0	1,041
	12 PM	0	0	546	0	1,182
	1 PM	0	0	589	0	1,277
	2 PM	0	0	644	0	1,395
	3 PM	0	0	725	0	1,575
	4 PM	0	0	791	0	1,718
	5 PM	0	0	910	0	1,970
	6 PM	0	0	824	0	1,791
	7 PM	0	0	692	0	1,504
	8 PM	0	0	557	0	1,206
	9 PM	0	0	371	0	804
	10 PM	0	0	251	0	544
	11 PM	0	0	109	0	236
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	-	55.0	-	55.0
	1 AM	-	-	55.0	-	55.0
	2 AM	-	-	55.0	-	55.0
	3 AM	-	-	55.0	-	55.0
	4 AM	-	-	55.0	-	55.0
	5 AM	-	-	55.0	-	55.0
	6 AM	-	-	55.0	-	52.1
	7 AM	-	-	54.9	-	50.9
	8 AM	-	-	54.9	-	50.9
	9 AM	-	-	55.0	-	54.4
	10 AM	-	-	55.0	-	54.6
	11 AM	-	-	55.0	-	54.6
	12 PM	-	-	55.0	-	54.3
	1 PM	-	-	55.0	-	53.9
	2 PM	-	-	55.0	-	53.4
	3 PM	-	-	55.0	-	52.1
	4 PM	-	-	54.9	-	50.6
	5 PM	-	-	54.9	-	46.5
	6 PM	-	-	54.9	-	49.6
	7 PM	-	-	55.0	-	52.7
	8 PM	-	-	55.0	-	54.3
	9 PM	-	-	55.0	-	54.9
	10 PM	-	-	55.0	-	55.0
	11 PM	-	-	55.0	-	55.0
Passenger Vehicle Volume	*12 AM*	0	0	57	0	125
	1 AM	0	0	29	0	63
	2 AM	0	0	20	0	44
	3 AM	0	0	20	0	44
	4 AM	0	0	45	0	96
	5 AM	0	0	221	0	469
	6 AM	0	0	667	0	1,417
	7 AM	0	0	712	0	1,518
	8 AM	0	0	712	0	1,518
	9 AM	0	0	464	0	1,003
	10 AM	0	0	428	0	927
	11 AM	0	0	414	0	899
	12 PM	0	0	478	0	1,035
	1 PM	0	0	527	0	1,143
	2 PM	0	0	591	0	1,280
	3 PM	0	0	681	0	1,478
	4 PM	0	0	758	0	1,645
	5 PM	0	0	871	0	1,886
	6 PM	0	0	789	0	1,715
	7 PM	0	0	653	0	1,421
	8 PM	0	0	523	0	1,132
	9 PM	0	0	343	0	743
	10 PM	0	0	226	0	490
	11 PM	0	0	93	0	201

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	9	0	19
	1 AM	0	0	7	0	14
	2 AM	0	0	6	0	12
	3 AM	0	0	6	0	13
	4 AM	0	0	8	0	18
	5 AM	0	0	22	0	47
	6 AM	0	0	43	0	91
	7 AM	0	0	46	0	97
	8 AM	0	0	46	0	97
	9 AM	0	0	38	0	83
	10 AM	0	0	39	0	85
	11 AM	0	0	39	0	84
	12 PM	0	0	42	0	90
	1 PM	0	0	39	0	84
	2 PM	0	0	35	0	76
	3 PM	0	0	29	0	64
	4 PM	0	0	22	0	49
	5 PM	0	0	26	0	56
	6 PM	0	0	23	0	51
	7 PM	0	0	23	0	49
	8 PM	0	0	19	0	41
	9 PM	0	0	14	0	30
	10 PM	0	0	13	0	27
	11 PM	0	0	7	0	16
Heavy Truck Volume	*12 AM*	0	0	10	0	22
	1 AM	0	0	8	0	18
	2 AM	0	0	7	0	15
	3 AM	0	0	7	0	14
	4 AM	0	0	9	0	18
	5 AM	0	0	17	0	37
	6 AM	0	0	20	0	42
	7 AM	0	0	21	0	45
	8 AM	0	0	21	0	45
	9 AM	0	0	22	0	49
	10 AM	0	0	24	0	52
	11 AM	0	0	27	0	58
	12 PM	0	0	26	0	57
	1 PM	0	0	23	0	50
	2 PM	0	0	18	0	39
	3 PM	0	0	15	0	33
	4 PM	0	0	11	0	24
	5 PM	0	0	13	0	28
	6 PM	0	0	12	0	25
	7 PM	0	0	16	0	34
	8 PM	0	0	15	0	33
	9 PM	0	0	14	0	31
	10 PM	0	0	12	0	27
	11 PM	0	0	9	0	19





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPSB_4			Distance (mi): -	
	Facility: SB Tri-County Parkway/MNBPB				
	From: VA 234 (Sudley Rd)		To: US 29		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	7,800	14,800	16,300	30,500
	Daily Truck %	-	8%	9%	8%	9%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	14	43	30	89
	1 AM	0	9	28	20	60
	2 AM	0	9	28	20	60
	3 AM	0	14	43	30	89
	4 AM	0	69	170	134	341
	5 AM	0	232	574	452	1,146
	6 AM	0	630	950	1,180	1,870
	7 AM	0	458	1,132	891	2,261
	8 AM	0	477	1,177	928	2,354
	9 AM	0	289	897	627	1,878
	10 AM	0	234	726	507	1,520
	11 AM	0	225	698	488	1,460
	12 PM	0	234	726	507	1,520
	1 PM	0	225	698	488	1,460
	2 PM	0	289	897	627	1,878
	3 PM	0	748	1,053	1,613	2,197
	4 PM	0	759	1,069	1,636	2,228
	5 PM	0	1,290	1,110	2,680	2,280
	6 PM	0	727	1,023	1,568	2,135
	7 PM	0	551	775	1,188	1,617
	8 PM	0	138	427	298	894
	9 PM	0	92	285	199	596
	10 PM	0	55	171	119	358
	11 PM	0	32	100	70	209

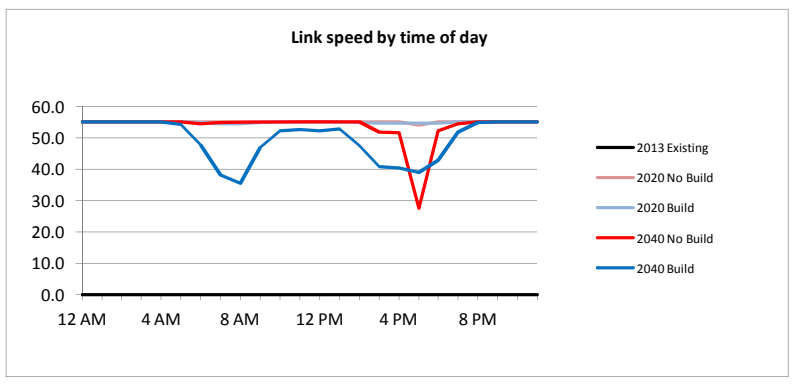
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	55.0	55.0	55.0	55.0
	1 AM	-	55.0	55.0	55.0	55.0
	2 AM	-	55.0	55.0	55.0	55.0
	3 AM	-	55.0	55.0	55.0	55.0
	4 AM	-	55.0	55.0	55.0	55.0
	5 AM	-	55.0	55.0	55.0	54.3
	6 AM	-	55.0	54.8	54.3	47.7
	7 AM	-	55.0	54.5	54.9	38.2
	8 AM	-	55.0	54.3	54.8	35.5
	9 AM	-	55.0	54.8	55.0	47.0
	10 AM	-	55.0	54.9	55.0	52.1
	11 AM	-	55.0	55.0	55.0	52.6
	12 PM	-	55.0	54.9	55.0	52.1
	1 PM	-	55.0	55.0	55.0	52.8
	2 PM	-	55.0	54.9	55.0	47.5
	3 PM	-	54.9	54.7	51.7	40.7
	4 PM	-	54.9	54.7	51.6	40.4
	5 PM	-	54.0	54.6	27.5	39.0
	6 PM	-	55.0	54.7	52.3	42.8
	7 PM	-	55.0	54.9	54.4	51.7
	8 PM	-	55.0	55.0	55.0	54.9
	9 PM	-	55.0	55.0	55.0	55.0
	10 PM	-	55.0	55.0	55.0	55.0
	11 PM	-	55.0	55.0	55.0	55.0

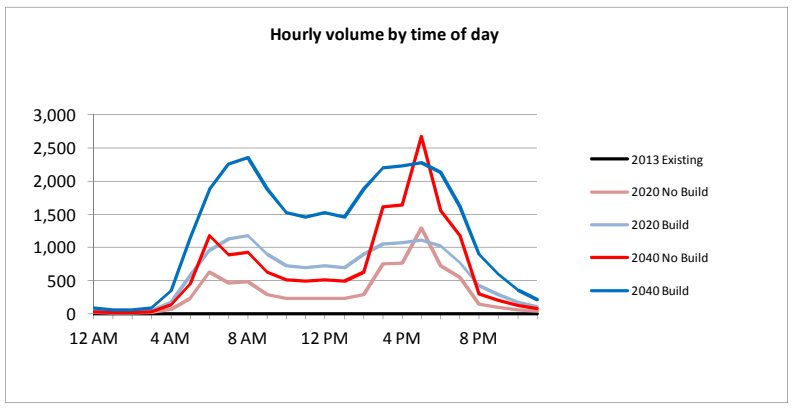
Passenger Vehicle Volume						
	12 AM	0	10	32	23	67
	1 AM	0	6	19	13	40
	2 AM	0	5	17	12	36
	3 AM	0	8	26	18	54
	4 AM	0	51	124	98	248
	5 AM	0	196	487	383	971
	6 AM	0	576	868	1,079	1,710
	7 AM	0	419	1,035	815	2,068
	8 AM	0	436	1,076	849	2,152
	9 AM	0	256	794	554	1,661
	10 AM	0	204	633	442	1,325
	11 AM	0	195	603	422	1,262
	12 PM	0	205	636	444	1,331
	1 PM	0	201	625	437	1,307
	2 PM	0	265	823	576	1,724
	3 PM	0	703	989	1,515	2,063
	4 PM	0	727	1,024	1,567	2,134
	5 PM	0	1,236	1,063	2,566	2,184
	6 PM	0	696	980	1,502	2,045
	7 PM	0	521	733	1,122	1,528
	8 PM	0	129	400	280	838
	9 PM	0	85	263	183	550
	10 PM	0	49	154	107	322
	11 PM	0	27	85	59	178

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	2	5	3	10
	1 AM	0	1	4	3	9
	2 AM	0	2	5	4	11
	3 AM	0	3	8	6	17
	4 AM	0	9	23	18	46
	5 AM	0	20	49	39	98
	6 AM	0	37	56	69	109
	7 AM	0	27	66	52	132
	8 AM	0	28	69	54	138
	9 AM	0	21	65	46	137
	10 AM	0	19	58	40	121
	11 AM	0	18	56	39	117
	12 PM	0	18	55	39	116
	1 PM	0	15	46	32	96
	2 PM	0	16	49	34	102
	3 PM	0	30	42	65	89
	4 PM	0	21	30	46	63
	5 PM	0	36	31	76	64
	6 PM	0	21	29	44	60
	7 PM	0	18	25	39	53
	8 PM	0	5	15	10	31
	9 PM	0	3	11	8	23
	10 PM	0	3	9	6	18
	11 PM	0	2	7	5	14

Heavy Truck Volume						
	12 AM	0	2	6	4	12
	1 AM	0	2	5	4	11
	2 AM	0	2	6	4	13
	3 AM	0	3	9	6	18
	4 AM	0	9	23	18	47
	5 AM	0	16	38	30	77
	6 AM	0	17	26	32	51
	7 AM	0	12	31	24	61
	8 AM	0	13	32	25	64
	9 AM	0	12	38	27	80
	10 AM	0	11	35	25	74
	11 AM	0	12	39	27	81
	12 PM	0	11	35	24	73
	1 PM	0	9	27	19	57
	2 PM	0	8	25	17	52
	3 PM	0	15	22	33	45
	4 PM	0	11	15	23	31
	5 PM	0	18	16	38	32
	6 PM	0	10	14	22	30
	7 PM	0	12	17	27	36
	8 PM	0	4	12	8	25
	9 PM	0	4	11	8	23
	10 PM	0	3	8	6	18
	11 PM	0	3	8	6	17





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPNB_4			Distance (mi): -	
	Facility: NB Tri-County Parkway/MNBPB				
	From: US 29		To: VA 234 (Sudley Rd)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	7,800	14,800	16,300	30,500
	Daily Truck %	-	8%	9%	8%	9%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	28	97	57	197
	1 AM	0	16	55	33	113
	2 AM	0	12	41	25	85
	3 AM	0	12	41	25	85
	4 AM	0	53	91	113	192
	5 AM	0	222	381	476	808
	6 AM	0	1,180	1,110	2,570	2,370
	7 AM	0	665	1,143	1,427	2,423
	8 AM	0	665	1,143	1,427	2,422
	9 AM	0	191	662	393	1,354
	10 AM	0	179	621	369	1,269
	11 AM	0	175	607	360	1,241
	12 PM	0	199	690	409	1,410
	1 PM	0	215	745	442	1,523
	2 PM	0	235	814	483	1,664
	3 PM	0	501	900	1,020	1,823
	4 PM	0	546	981	1,112	1,990
	5 PM	0	1,190	1,170	2,460	2,390
	6 PM	0	568	1,022	1,160	2,071
	7 PM	0	478	859	973	1,741
	8 PM	0	203	703	418	1,439
	9 PM	0	135	469	278	959
	10 PM	0	92	317	188	649
	11 PM	0	40	138	82	282

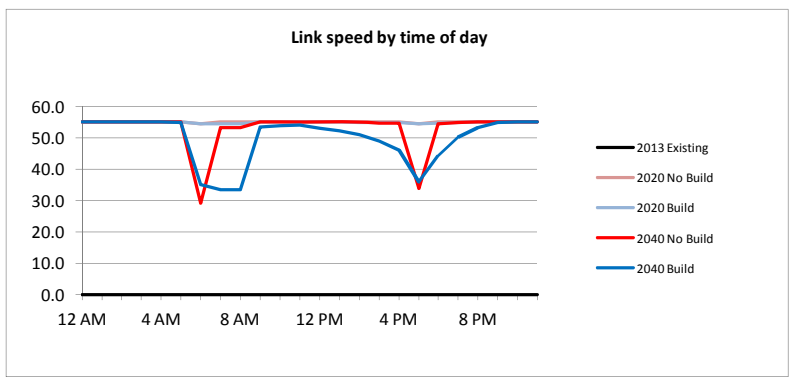
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	55.0	55.0	55.0	55.0
	1 AM	-	55.0	55.0	55.0	55.0
	2 AM	-	55.0	55.0	55.0	55.0
	3 AM	-	55.0	55.0	55.0	55.0
	4 AM	-	55.0	55.0	55.0	55.0
	5 AM	-	55.0	55.0	55.0	54.9
	6 AM	-	54.3	54.5	29.1	35.0
	7 AM	-	55.0	54.4	53.1	33.5
	8 AM	-	55.0	54.4	53.1	33.5
	9 AM	-	55.0	55.0	55.0	53.5
	10 AM	-	55.0	55.0	55.0	53.9
	11 AM	-	55.0	55.0	55.0	54.0
	12 PM	-	55.0	55.0	55.0	53.1
	1 PM	-	55.0	54.9	55.0	52.2
	2 PM	-	55.0	54.9	55.0	50.9
	3 PM	-	55.0	54.9	54.7	48.8
	4 PM	-	55.0	54.8	54.6	46.1
	5 PM	-	54.4	54.4	33.9	35.9
	6 PM	-	55.0	54.7	54.5	44.3
	7 PM	-	55.0	54.9	54.8	50.2
	8 PM	-	55.0	55.0	55.0	53.2
	9 PM	-	55.0	55.0	55.0	54.8
	10 PM	-	55.0	55.0	55.0	55.0
	11 PM	-	55.0	55.0	55.0	55.0

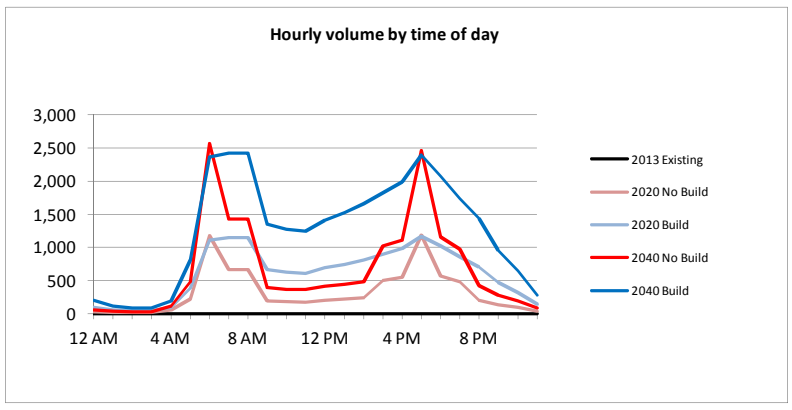
Passenger Vehicle Volume						
	12 AM	0	21	73	43	148
	1 AM	0	11	37	22	75
	2 AM	0	7	25	16	52
	3 AM	0	8	25	15	52
	4 AM	0	39	66	82	140
	5 AM	0	188	322	403	685
	6 AM	0	1,079	1,015	2,351	2,167
	7 AM	0	608	1,045	1,305	2,215
	8 AM	0	608	1,045	1,305	2,215
	9 AM	0	169	586	347	1,197
	10 AM	0	156	542	322	1,106
	11 AM	0	151	524	311	1,072
	12 PM	0	174	604	358	1,235
	1 PM	0	193	667	396	1,363
	2 PM	0	215	747	444	1,528
	3 PM	0	471	845	958	1,711
	4 PM	0	523	939	1,065	1,906
	5 PM	0	1,139	1,120	2,356	2,288
	6 PM	0	544	979	1,111	1,983
	7 PM	0	451	812	919	1,645
	8 PM	0	190	659	392	1,350
	9 PM	0	125	433	256	886
	10 PM	0	82	285	170	585
	11 PM	0	34	118	70	241

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	3	11	7	23
	1 AM	0	2	8	5	17
	2 AM	0	2	7	4	15
	3 AM	0	2	8	5	16
	4 AM	0	7	12	15	26
	5 AM	0	19	33	41	69
	6 AM	0	69	65	150	139
	7 AM	0	39	67	83	142
	8 AM	0	39	67	83	142
	9 AM	0	14	48	29	99
	10 AM	0	14	49	29	101
	11 AM	0	14	49	29	100
	12 PM	0	15	53	31	108
	1 PM	0	14	49	29	100
	2 PM	0	13	44	26	90
	3 PM	0	20	36	41	74
	4 PM	0	15	28	31	56
	5 PM	0	34	33	69	68
	6 PM	0	16	29	33	59
	7 PM	0	16	28	32	57
	8 PM	0	7	24	14	49
	9 PM	0	5	18	11	36
	10 PM	0	5	16	9	32
	11 PM	0	3	9	6	19

Heavy Truck Volume						
	12 AM	0	4	13	7	26
	1 AM	0	3	10	6	21
	2 AM	0	3	9	5	18
	3 AM	0	2	8	5	17
	4 AM	0	7	13	16	26
	5 AM	0	15	26	32	54
	6 AM	0	32	30	69	64
	7 AM	0	18	31	39	66
	8 AM	0	18	31	39	65
	9 AM	0	8	28	17	58
	10 AM	0	9	30	18	62
	11 AM	0	10	34	20	69
	12 PM	0	10	33	20	67
	1 PM	0	8	29	17	60
	2 PM	0	7	23	13	46
	3 PM	0	10	19	21	38
	4 PM	0	8	14	16	28
	5 PM	0	17	17	35	34
	6 PM	0	8	14	16	29
	7 PM	0	11	19	22	39
	8 PM	0	6	20	12	40
	9 PM	0	5	18	11	37
	10 PM	0	5	16	9	32
	11 PM	0	3	11	6	22

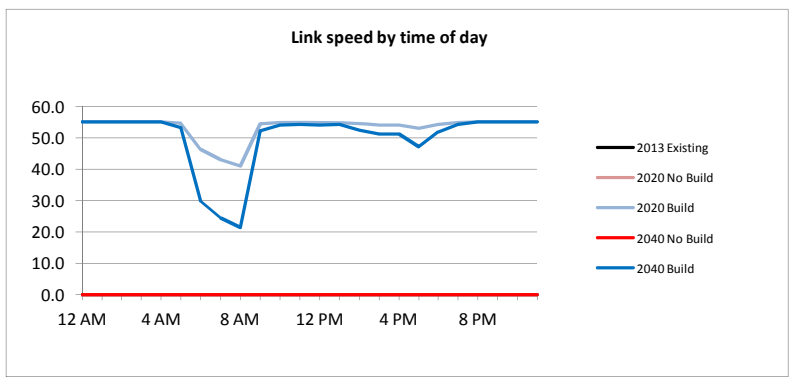


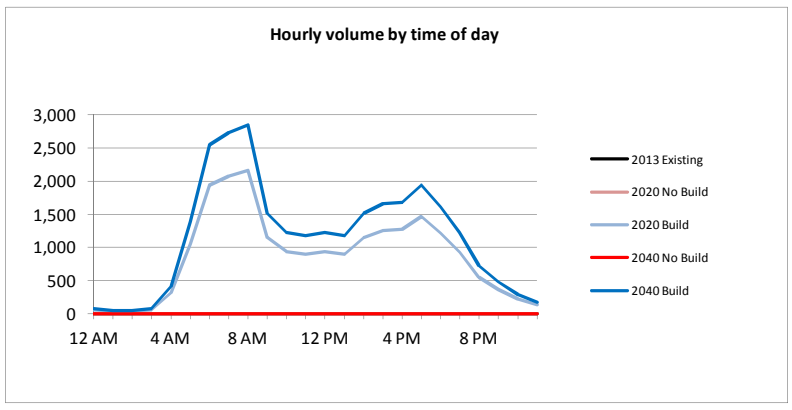


Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPSB_5			Distance (mi): -	
	Facility: SB Tri-County Parkway				
	From: US 29		To: I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	0	21,100	0	27,800
	Daily Truck %	-	-	9%	-	9%
Total Volume (Passenger vehicles + medium truck + heavy truck)	*12 AM*	0	0	55	0	72
	1 AM	0	0	37	0	48
	2 AM	0	0	37	0	48
	3 AM	0	0	55	0	72
	4 AM	0	0	313	0	412
	5 AM	0	0	1,054	0	1,386
	6 AM	0	0	1,940	0	2,550
	7 AM	0	0	2,079	0	2,734
	8 AM	0	0	2,165	0	2,847
	9 AM	0	0	1,152	0	1,518
	10 AM	0	0	932	0	1,229
	11 AM	0	0	896	0	1,181
	12 PM	0	0	932	0	1,229
	1 PM	0	0	896	0	1,181
	2 PM	0	0	1,152	0	1,518
	3 PM	0	0	1,256	0	1,658
	4 PM	0	0	1,273	0	1,681
	5 PM	0	0	1,470	0	1,940
	6 PM	0	0	1,220	0	1,612
	7 PM	0	0	925	0	1,221
	8 PM	0	0	548	0	723
	9 PM	0	0	366	0	482
	10 PM	0	0	219	0	289
	11 PM	0	0	128	0	169
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	-	55.0	-	55.0
	1 AM	-	-	55.0	-	55.0
	2 AM	-	-	55.0	-	55.0
	3 AM	-	-	55.0	-	55.0
	4 AM	-	-	55.0	-	55.0
	5 AM	-	-	54.6	-	53.1
	6 AM	-	-	46.2	-	29.7
	7 AM	-	-	43.1	-	24.5
	8 AM	-	-	40.9	-	21.5
	9 AM	-	-	54.4	-	52.2
	10 AM	-	-	54.8	-	54.1
	11 AM	-	-	54.8	-	54.2
	12 PM	-	-	54.8	-	54.1
	1 PM	-	-	54.8	-	54.3
	2 PM	-	-	54.4	-	52.5
	3 PM	-	-	54.1	-	51.2
	4 PM	-	-	54.1	-	51.1
	5 PM	-	-	53.0	-	47.1
	6 PM	-	-	54.3	-	51.8
	7 PM	-	-	54.8	-	54.3
	8 PM	-	-	55.0	-	55.0
	9 PM	-	-	55.0	-	55.0
	10 PM	-	-	55.0	-	55.0
	11 PM	-	-	55.0	-	55.0
Passenger Vehicle Volume	*12 AM*	0	0	42	0	55
	1 AM	0	0	24	0	32
	2 AM	0	0	23	0	30
	3 AM	0	0	34	0	45
	4 AM	0	0	228	0	299
	5 AM	0	0	893	0	1,175
	6 AM	0	0	1,775	0	2,332
	7 AM	0	0	1,901	0	2,500
	8 AM	0	0	1,979	0	2,604
	9 AM	0	0	1,019	0	1,343
	10 AM	0	0	813	0	1,071
	11 AM	0	0	774	0	1,021
	12 PM	0	0	816	0	1,076
	1 PM	0	0	802	0	1,058
	2 PM	0	0	1,058	0	1,394
	3 PM	0	0	1,179	0	1,557
	4 PM	0	0	1,219	0	1,610
	5 PM	0	0	1,407	0	1,858
	6 PM	0	0	1,169	0	1,543
	7 PM	0	0	874	0	1,153
	8 PM	0	0	514	0	678
	9 PM	0	0	338	0	445
	10 PM	0	0	197	0	261
	11 PM	0	0	109	0	144

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	6	0	8
	1 AM	0	0	6	0	7
	2 AM	0	0	6	0	8
	3 AM	0	0	10	0	13
	4 AM	0	0	42	0	56
	5 AM	0	0	90	0	118
	6 AM	0	0	113	0	149
	7 AM	0	0	122	0	160
	8 AM	0	0	127	0	166
	9 AM	0	0	84	0	110
	10 AM	0	0	74	0	98
	11 AM	0	0	72	0	95
	12 PM	0	0	71	0	94
	1 PM	0	0	59	0	77
	2 PM	0	0	62	0	82
	3 PM	0	0	51	0	67
	4 PM	0	0	36	0	47
	5 PM	0	0	42	0	55
	6 PM	0	0	34	0	46
	7 PM	0	0	30	0	40
	8 PM	0	0	19	0	25
	9 PM	0	0	14	0	18
	10 PM	0	0	11	0	14
	11 PM	0	0	9	0	12
Heavy Truck Volume	*12 AM*	0	0	7	0	9
	1 AM	0	0	7	0	9
	2 AM	0	0	8	0	10
	3 AM	0	0	11	0	14
	4 AM	0	0	43	0	57
	5 AM	0	0	71	0	93
	6 AM	0	0	52	0	69
	7 AM	0	0	56	0	74
	8 AM	0	0	59	0	77
	9 AM	0	0	49	0	65
	10 AM	0	0	45	0	60
	11 AM	0	0	50	0	65
	12 PM	0	0	45	0	59
	1 PM	0	0	35	0	46
	2 PM	0	0	32	0	42
	3 PM	0	0	26	0	34
	4 PM	0	0	18	0	24
	5 PM	0	0	21	0	27
	6 PM	0	0	17	0	23
	7 PM	0	0	21	0	28
	8 PM	0	0	15	0	20
	9 PM	0	0	14	0	19
	10 PM	0	0	11	0	14
	11 PM	0	0	10	0	13





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TCPNB_5			Distance (mi): -	
	Facility: NB Tri-County Parkway				
	From: I-66		To: US 29		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	0	0	21,100	0	27,800
	Daily Truck %	-	-	9%	-	9%

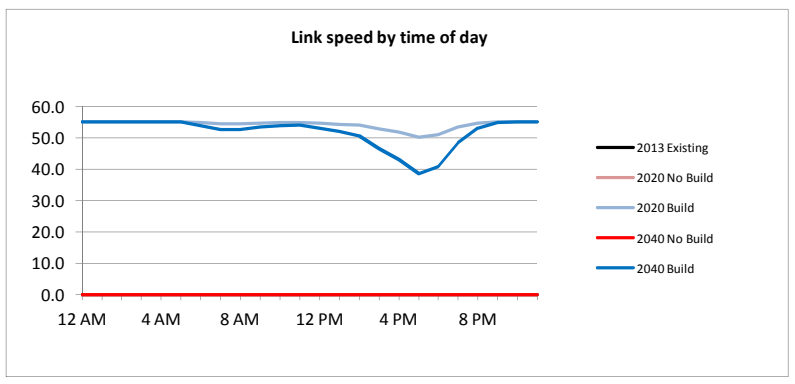
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	0	0	152	0	200
	1 AM	0	0	87	0	114
	2 AM	0	0	65	0	86
	3 AM	0	0	65	0	86
	4 AM	0	0	89	0	118
	5 AM	0	0	375	0	496
	6 AM	0	0	990	0	1,310
	7 AM	0	0	1,125	0	1,489
	8 AM	0	0	1,125	0	1,489
	9 AM	0	0	1,041	0	1,372
	10 AM	0	0	976	0	1,287
	11 AM	0	0	955	0	1,258
	12 PM	0	0	1,085	0	1,430
	1 PM	0	0	1,172	0	1,544
	2 PM	0	0	1,280	0	1,687
	3 PM	0	0	1,485	0	1,951
	4 PM	0	0	1,619	0	2,129
	5 PM	0	0	1,750	0	2,300
	6 PM	0	0	1,687	0	2,217
	7 PM	0	0	1,417	0	1,863
	8 PM	0	0	1,106	0	1,458
	9 PM	0	0	738	0	972
	10 PM	0	0	499	0	658
	11 PM	0	0	217	0	286

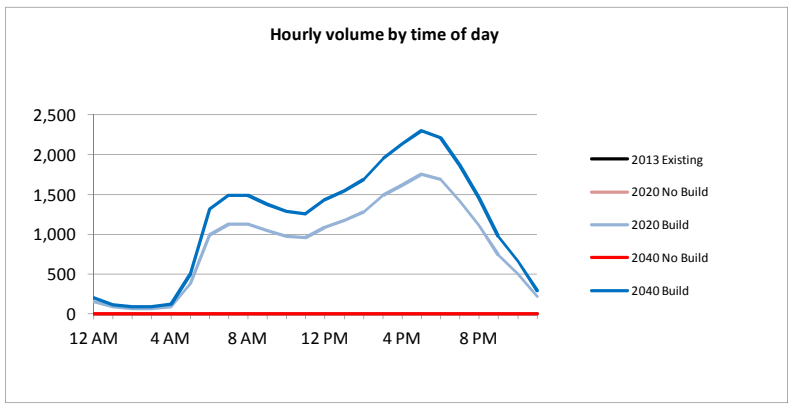
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	-	-	55.0	-	55.0
	1 AM	-	-	55.0	-	55.0
	2 AM	-	-	55.0	-	55.0
	3 AM	-	-	55.0	-	55.0
	4 AM	-	-	55.0	-	55.0
	5 AM	-	-	55.0	-	55.0
	6 AM	-	-	54.7	-	53.8
	7 AM	-	-	54.5	-	52.7
	8 AM	-	-	54.5	-	52.7
	9 AM	-	-	54.6	-	53.4
	10 AM	-	-	54.7	-	53.8
	11 AM	-	-	54.8	-	53.9
	12 PM	-	-	54.5	-	52.9
	1 PM	-	-	54.3	-	52.0
	2 PM	-	-	54.0	-	50.6
	3 PM	-	-	52.8	-	46.5
	4 PM	-	-	51.8	-	42.9
	5 PM	-	-	50.2	-	38.4
	6 PM	-	-	51.0	-	40.7
	7 PM	-	-	53.3	-	48.3
	8 PM	-	-	54.6	-	53.0
	9 PM	-	-	55.0	-	54.8
	10 PM	-	-	55.0	-	55.0
	11 PM	-	-	55.0	-	55.0

Passenger Vehicle Volume						
	12 AM	0	0	115	0	151
	1 AM	0	0	58	0	76
	2 AM	0	0	40	0	53
	3 AM	0	0	40	0	53
	4 AM	0	0	65	0	86
	5 AM	0	0	318	0	421
	6 AM	0	0	905	0	1,198
	7 AM	0	0	1,029	0	1,362
	8 AM	0	0	1,029	0	1,362
	9 AM	0	0	920	0	1,213
	10 AM	0	0	851	0	1,122
	11 AM	0	0	825	0	1,087
	12 PM	0	0	950	0	1,253
	1 PM	0	0	1,049	0	1,382
	2 PM	0	0	1,175	0	1,549
	3 PM	0	0	1,394	0	1,832
	4 PM	0	0	1,550	0	2,039
	5 PM	0	0	1,676	0	2,203
	6 PM	0	0	1,615	0	2,123
	7 PM	0	0	1,339	0	1,760
	8 PM	0	0	1,037	0	1,368
	9 PM	0	0	681	0	897
	10 PM	0	0	449	0	592
	11 PM	0	0	185	0	243

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	17	0	23
	1 AM	0	0	13	0	17
	2 AM	0	0	11	0	15
	3 AM	0	0	12	0	16
	4 AM	0	0	12	0	16
	5 AM	0	0	32	0	42
	6 AM	0	0	58	0	77
	7 AM	0	0	66	0	87
	8 AM	0	0	66	0	87
	9 AM	0	0	76	0	100
	10 AM	0	0	78	0	102
	11 AM	0	0	77	0	101
	12 PM	0	0	83	0	109
	1 PM	0	0	77	0	101
	2 PM	0	0	69	0	91
	3 PM	0	0	60	0	79
	4 PM	0	0	46	0	60
	5 PM	0	0	49	0	65
	6 PM	0	0	48	0	63
	7 PM	0	0	46	0	61
	8 PM	0	0	38	0	50
	9 PM	0	0	28	0	37
	10 PM	0	0	25	0	33
	11 PM	0	0	15	0	20

Heavy Truck Volume						
	12 AM	0	0	20	0	26
	1 AM	0	0	16	0	21
	2 AM	0	0	14	0	18
	3 AM	0	0	13	0	17
	4 AM	0	0	12	0	16
	5 AM	0	0	25	0	33
	6 AM	0	0	27	0	35
	7 AM	0	0	30	0	40
	8 AM	0	0	30	0	40
	9 AM	0	0	45	0	59
	10 AM	0	0	47	0	63
	11 AM	0	0	53	0	70
	12 PM	0	0	52	0	68
	1 PM	0	0	46	0	61
	2 PM	0	0	36	0	47
	3 PM	0	0	31	0	40
	4 PM	0	0	23	0	30
	5 PM	0	0	25	0	32
	6 PM	0	0	24	0	31
	7 PM	0	0	32	0	42
	8 PM	0	0	31	0	40
	9 PM	0	0	29	0	38
	10 PM	0	0	25	0	33
	11 PM	0	0	17	0	23





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: PWPSB_1			Distance (mi): -	
	Facility: SB Prince William Parkway				
	From: I-66		To: Balls Ford Rd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	50	50	50	50	50
	Daily Volume	24,500	34,400	36,400	46,200	47,900
	Daily Truck %	9%	9%	9%	9%	9%

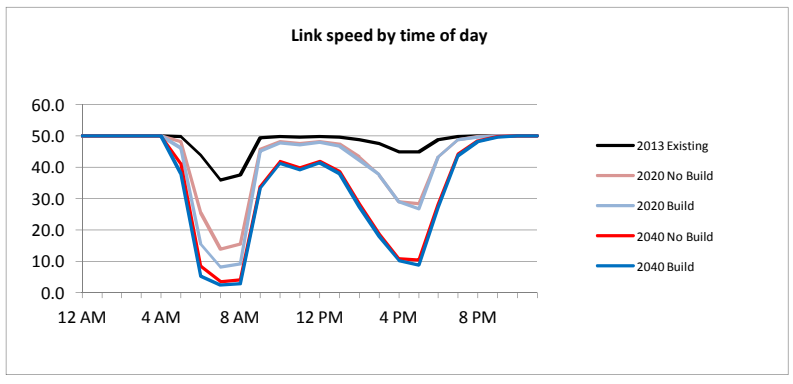
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	205	286	295	384	388
	1 AM	136	191	196	256	259
	2 AM	91	127	131	171	173
	3 AM	114	159	164	213	216
	4 AM	379	535	607	720	777
	5 AM	1,012	1,427	1,620	1,921	2,070
	6 AM	1,840	2,610	3,040	3,510	3,880
	7 AM	2,213	3,122	3,543	4,201	4,529
	8 AM	2,150	3,034	3,442	4,080	4,401
	9 AM	1,205	1,683	1,735	2,260	2,287
	10 AM	1,023	1,429	1,473	1,919	1,942
	11 AM	1,068	1,493	1,538	2,005	2,028
	12 PM	1,023	1,429	1,473	1,919	1,942
	1 PM	1,114	1,556	1,604	2,090	2,114
	2 PM	1,341	1,874	1,931	2,516	2,546
	3 PM	1,553	2,178	2,179	2,920	2,958
	4 PM	1,805	2,530	2,533	3,395	3,436
	5 PM	1,810	2,550	2,620	3,420	3,550
	6 PM	1,363	1,914	1,914	2,565	2,598
	7 PM	987	1,383	1,384	1,855	1,879
	8 PM	773	1,080	1,113	1,450	1,467
	9 PM	568	794	818	1,066	1,079
	10 PM	432	603	622	810	820
	11 PM	295	413	425	554	561

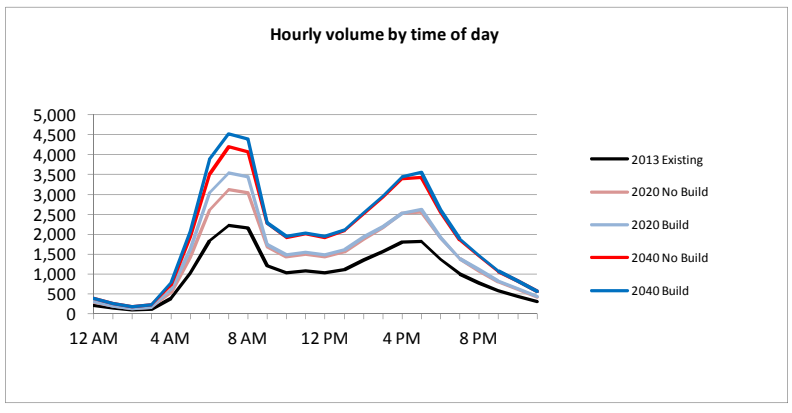
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	50.0	50.0	50.0	50.0	50.0
	1 AM	50.0	50.0	50.0	50.0	50.0
	2 AM	50.0	50.0	50.0	50.0	50.0
	3 AM	50.0	50.0	50.0	50.0	50.0
	4 AM	50.0	50.0	50.0	49.9	49.9
	5 AM	49.7	48.0	46.2	41.2	37.8
	6 AM	43.8	25.4	15.4	8.4	5.2
	7 AM	36.0	13.9	8.1	3.5	2.4
	8 AM	37.5	15.6	9.2	4.1	2.8
	9 AM	49.3	45.7	45.0	33.9	33.2
	10 AM	49.7	48.1	47.8	41.7	41.2
	11 AM	49.6	47.6	47.2	39.7	39.2
	12 PM	49.7	48.1	47.8	41.7	41.3
	1 PM	49.5	47.2	46.7	38.5	37.9
	2 PM	48.8	43.3	42.3	28.1	27.2
	3 PM	47.5	37.5	37.4	18.6	17.9
	4 PM	44.9	28.9	28.9	10.7	10.2
	5 PM	44.8	28.4	26.6	10.4	8.8
	6 PM	48.8	43.2	43.2	28.1	27.2
	7 PM	49.8	48.7	48.7	44.0	43.6
	8 PM	49.9	49.6	49.6	48.3	48.2
	9 PM	50.0	49.9	49.9	49.7	49.6
	10 PM	50.0	50.0	50.0	49.9	49.9
	11 PM	50.0	50.0	50.0	50.0	50.0

Passenger Vehicle Volume						
	12 AM	155	216	223	290	293
	1 AM	91	126	130	170	172
	2 AM	56	78	80	105	106
	3 AM	70	97	100	131	133
	4 AM	276	388	442	523	565
	5 AM	857	1,209	1,374	1,628	1,754
	6 AM	1,682	2,386	2,780	3,210	3,548
	7 AM	2,024	2,855	3,240	3,841	4,142
	8 AM	1,966	2,775	3,148	3,731	4,025
	9 AM	1,065	1,489	1,535	1,999	2,023
	10 AM	892	1,246	1,284	1,673	1,693
	11 AM	923	1,290	1,330	1,733	1,753
	12 PM	896	1,252	1,291	1,680	1,701
	1 PM	997	1,393	1,436	1,871	1,893
	2 PM	1,231	1,720	1,772	2,310	2,337
	3 PM	1,458	2,045	2,046	2,742	2,778
	4 PM	1,729	2,423	2,425	3,251	3,290
	5 PM	1,733	2,442	2,509	3,275	3,400
	6 PM	1,305	1,833	1,833	2,457	2,488
	7 PM	933	1,307	1,308	1,752	1,775
	8 PM	726	1,013	1,044	1,360	1,376
	9 PM	525	733	755	984	996
	10 PM	389	543	560	729	738
	11 PM	252	352	362	472	479

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	23	33	34	44	44
	1 AM	20	29	29	38	39
	2 AM	16	22	23	30	30
	3 AM	21	30	31	40	40
	4 AM	51	73	82	98	105
	5 AM	87	122	138	164	177
	6 AM	108	153	178	205	227
	7 AM	129	183	207	246	265
	8 AM	126	177	201	239	257
	9 AM	88	122	126	164	166
	10 AM	81	114	117	153	155
	11 AM	86	120	123	161	163
	12 PM	78	109	112	147	148
	1 PM	73	102	105	137	138
	2 PM	73	102	105	136	138
	3 PM	63	88	88	118	119
	4 PM	51	71	72	96	97
	5 PM	51	72	74	97	100
	6 PM	39	54	54	72	73
	7 PM	32	45	45	61	62
	8 PM	26	37	38	50	50
	9 PM	21	30	31	40	41
	10 PM	22	30	31	41	41
	11 PM	20	28	29	38	38

Heavy Truck Volume						
	12 AM	27	37	38	50	51
	1 AM	25	36	37	48	48
	2 AM	19	27	28	36	37
	3 AM	23	32	33	42	43
	4 AM	52	74	83	99	107
	5 AM	68	96	108	129	139
	6 AM	50	71	82	95	105
	7 AM	60	84	96	114	122
	8 AM	58	82	93	110	119
	9 AM	52	72	74	97	98
	10 AM	50	69	72	93	94
	11 AM	59	83	85	111	112
	12 PM	49	68	70	92	93
	1 PM	44	61	63	82	83
	2 PM	37	52	54	70	71
	3 PM	32	45	45	60	61
	4 PM	25	36	36	48	49
	5 PM	26	36	37	48	50
	6 PM	19	27	27	36	37
	7 PM	22	31	31	42	42
	8 PM	21	30	31	40	41
	9 PM	22	31	32	42	42
	10 PM	21	30	31	40	41
	11 PM	23	33	34	44	44





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: PWPNB_1			Distance (mi): -	
	Facility: NB Prince William Parkway				
	From: Balls Ford Rd		To: I-66		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Parkway	Parkway	Parkway	Parkway	Parkway
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	50	50	50	50	50
	Daily Volume	24,500	34,400	36,400	46,200	47,900
	Daily Truck %	10%	10%	10%	10%	10%

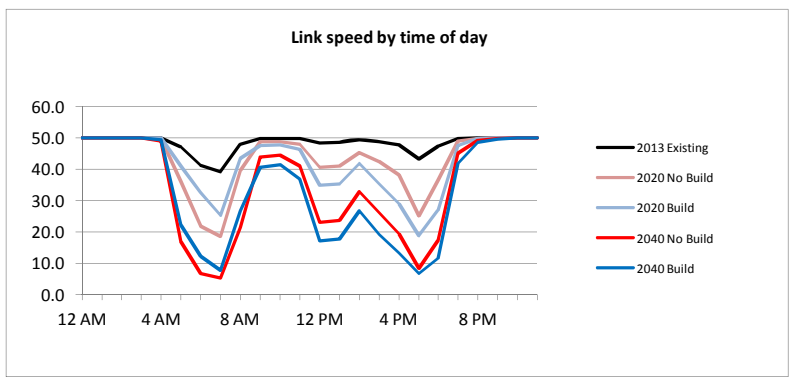
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	116	164	185	221	242
	1 AM	116	164	185	221	242
	2 AM	186	263	296	353	387
	3 AM	256	362	407	486	533
	4 AM	648	901	815	1,210	1,116
	5 AM	1,539	2,141	1,935	2,873	2,652
	6 AM	1,990	2,750	2,340	3,690	3,220
	7 AM	2,080	2,892	2,614	3,881	3,582
	8 AM	1,485	2,065	1,867	2,772	2,558
	9 AM	954	1,348	1,515	1,811	1,986
	10 AM	931	1,315	1,479	1,767	1,937
	11 AM	1,024	1,447	1,626	1,944	2,131
	12 PM	1,397	1,973	2,218	2,651	2,906
	1 PM	1,397	1,973	2,218	2,651	2,906
	2 PM	1,234	1,743	1,959	2,341	2,567
	3 PM	1,378	1,946	2,267	2,614	2,895
	4 PM	1,539	2,173	2,532	2,919	3,234
	5 PM	1,910	2,680	2,940	3,600	3,770
	6 PM	1,586	2,238	2,607	3,007	3,329
	7 PM	942	1,330	1,549	1,786	1,978
	8 PM	675	954	1,072	1,281	1,405
	9 PM	559	789	887	1,060	1,162
	10 PM	349	493	554	663	726
	11 PM	209	296	333	398	436

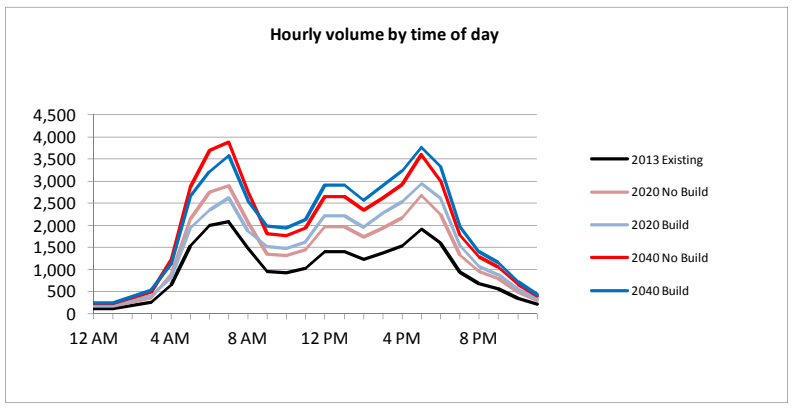
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	50.0	50.0	50.0	50.0	50.0
	1 AM	50.0	50.0	50.0	50.0	50.0
	2 AM	50.0	50.0	50.0	50.0	50.0
	3 AM	50.0	50.0	50.0	50.0	50.0
	4 AM	50.0	49.8	49.9	48.9	49.3
	5 AM	47.0	36.1	40.9	17.0	22.1
	6 AM	41.1	21.8	32.7	6.7	12.3
	7 AM	39.1	18.5	25.3	5.2	7.7
	8 AM	47.9	39.5	43.4	21.3	26.8
	9 AM	49.8	48.7	47.5	43.8	40.6
	10 AM	49.8	48.8	47.7	44.4	41.3
	11 AM	49.7	47.9	46.2	41.0	36.7
	12 PM	48.3	40.6	34.8	23.1	17.1
	1 PM	48.4	41.0	35.3	23.7	17.6
	2 PM	49.2	45.3	41.7	32.7	26.7
	3 PM	48.7	42.3	35.3	26.1	19.2
	4 PM	47.7	38.0	28.9	19.3	13.2
	5 PM	43.3	25.0	18.8	8.3	6.7
	6 PM	47.4	36.5	26.9	17.4	11.7
	7 PM	49.8	48.9	47.6	45.0	41.9
	8 PM	50.0	49.8	49.7	49.1	48.5
	9 PM	50.0	49.9	49.9	49.7	49.5
	10 PM	50.0	50.0	50.0	50.0	50.0
	11 PM	50.0	50.0	50.0	50.0	50.0

Passenger Vehicle Volume						
	12 AM	88	124	140	167	182
	1 AM	77	108	122	147	161
	2 AM	114	161	181	216	237
	3 AM	157	222	250	298	327
	4 AM	471	655	593	880	812
	5 AM	1,304	1,815	1,640	2,435	2,247
	6 AM	1,820	2,515	2,140	3,374	2,945
	7 AM	1,902	2,645	2,390	3,549	3,276
	8 AM	1,358	1,888	1,708	2,535	2,339
	9 AM	844	1,192	1,340	1,601	1,757
	10 AM	812	1,146	1,289	1,540	1,689
	11 AM	885	1,251	1,405	1,681	1,842
	12 PM	1,223	1,728	1,943	2,322	2,545
	1 PM	1,251	1,766	1,986	2,374	2,602
	2 PM	1,133	1,600	1,799	2,149	2,357
	3 PM	1,293	1,827	2,129	2,455	2,718
	4 PM	1,474	2,081	2,424	2,796	3,097
	5 PM	1,829	2,566	2,815	3,447	3,610
	6 PM	1,519	2,143	2,496	2,880	3,188
	7 PM	890	1,256	1,463	1,688	1,868
	8 PM	633	895	1,005	1,201	1,318
	9 PM	516	728	818	979	1,073
	10 PM	315	444	498	597	654
	11 PM	178	253	284	340	372

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	13	19	21	25	28
	1 AM	17	25	28	33	36
	2 AM	33	46	52	62	68
	3 AM	48	68	76	91	100
	4 AM	88	122	110	164	151
	5 AM	132	183	165	246	227
	6 AM	116	161	137	216	188
	7 AM	122	169	153	227	209
	8 AM	87	121	109	162	150
	9 AM	69	98	110	132	144
	10 AM	74	105	118	141	154
	11 AM	82	116	131	156	171
	12 PM	107	151	169	202	222
	1 PM	91	129	145	173	190
	2 PM	67	95	106	127	139
	3 PM	56	79	91	105	117
	4 PM	43	61	72	82	91
	5 PM	54	76	83	102	107
	6 PM	45	63	74	85	94
	7 PM	31	44	51	58	65
	8 PM	23	33	37	44	48
	9 PM	21	30	34	40	44
	10 PM	17	25	28	33	36
	11 PM	14	20	23	27	30

Heavy Truck Volume						
	12 AM	15	21	24	29	32
	1 AM	22	31	35	41	45
	2 AM	39	56	63	75	82
	3 AM	51	72	81	97	106
	4 AM	89	124	112	166	153
	5 AM	103	143	130	192	178
	6 AM	54	74	63	100	87
	7 AM	56	78	71	105	97
	8 AM	40	56	50	75	69
	9 AM	41	58	65	78	85
	10 AM	45	64	72	86	94
	11 AM	57	80	90	107	118
	12 PM	67	94	106	127	139
	1 PM	55	78	87	104	114
	2 PM	34	48	54	65	71
	3 PM	29	40	47	54	60
	4 PM	22	31	36	41	46
	5 PM	27	38	42	51	53
	6 PM	22	32	37	42	47
	7 PM	21	30	35	40	45
	8 PM	19	26	30	36	39
	9 PM	22	31	35	41	45
	10 PM	17	24	28	33	36
	11 PM	17	23	26	31	34





Location						
	Environmental traffic		Date: 4/4/2013		Prepared by: PTG	
	Project:	Tri-County Parkway EIS				
	Location:	Loudoun, Prince William and Fairfax Counties, VA				
	Display Code:	SudleyEB_10			Distance (mi): -	
	Facility:					
	EB	VA 234 (Sudley Rd)				
	From:		To:			
	Catharpin Rd		Sanders Ln			

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	55	55	55	55	55
	Daily Volume	3,800	5,200	5,500	9,100	10,200
	Daily Truck %	7%	7%	7%	7%	7%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	12	18	19	35	39
	1 AM	5	7	8	14	15
	2 AM	2	4	4	7	8
	3 AM	7	11	12	21	23
	4 AM	60	76	78	122	127
	5 AM	215	275	280	438	458
	6 AM	570	660	670	940	1,010
	7 AM	562	717	732	1,143	1,196
	8 AM	801	1,022	1,044	1,630	1,705
	9 AM	182	274	292	537	586
	10 AM	148	223	238	438	478
	11 AM	146	220	234	431	470
	12 PM	136	205	219	403	439
	1 PM	153	231	245	452	493
	2 PM	134	202	215	396	432
	3 PM	86	143	168	293	396
	4 PM	97	160	188	330	445
	5 PM	160	240	280	440	610
	6 PM	109	178	208	366	493
	7 PM	60	100	117	205	277
	8 PM	67	101	107	198	216
	9 PM	45	68	73	134	146
	10 PM	29	43	46	85	92
	11 PM	14	22	23	42	46

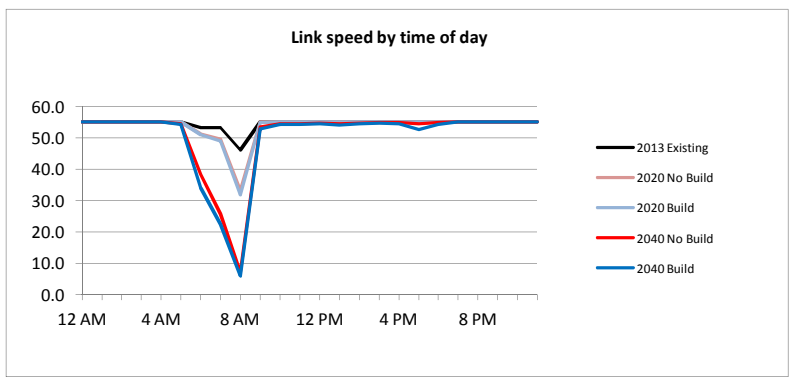
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	54.9	54.9	54.4	54.3
	6 AM	53.1	51.2	50.9	38.4	34.0
	7 AM	53.2	49.5	48.9	25.6	22.5
	8 AM	46.0	33.2	31.8	7.1	5.8
	9 AM	55.0	54.9	54.9	53.5	52.7
	10 AM	55.0	55.0	55.0	54.4	54.1
	11 AM	55.0	55.0	55.0	54.5	54.2
	12 PM	55.0	55.0	55.0	54.6	54.4
	1 PM	55.0	55.0	55.0	54.4	54.0
	2 PM	55.0	55.0	55.0	54.7	54.5
	3 PM	55.0	55.0	55.0	54.9	54.7
	4 PM	55.0	55.0	55.0	54.9	54.5
	5 PM	55.0	55.0	54.9	54.5	52.6
	6 PM	55.0	55.0	55.0	54.8	54.1
	7 PM	55.0	55.0	55.0	55.0	54.9
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

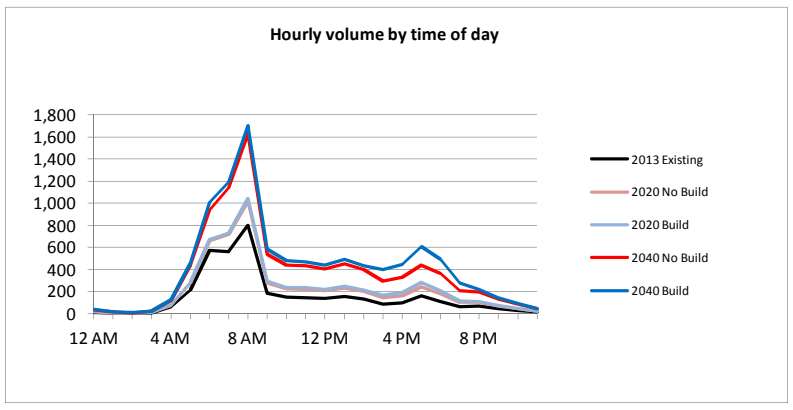
Passenger Vehicle Volume						
	12 AM	9	14	15	28	31
	1 AM	4	5	5	10	11
	2 AM	2	3	3	4	5
	3 AM	4	8	8	14	16
	4 AM	47	60	61	95	99
	5 AM	191	243	248	388	405
	6 AM	536	621	631	885	951
	7 AM	529	674	689	1,076	1,125
	8 AM	754	961	982	1,534	1,605
	9 AM	167	251	268	492	537
	10 AM	134	202	215	397	433
	11 AM	131	197	210	386	421
	12 PM	124	186	198	365	397
	1 PM	141	212	226	415	453
	2 PM	126	189	202	372	406
	3 PM	82	136	160	280	377
	4 PM	94	155	182	319	430
	5 PM	155	232	271	425	590
	6 PM	105	172	201	354	477
	7 PM	57	95	112	195	264
	8 PM	64	96	101	187	205
	9 PM	42	64	69	125	136
	10 PM	26	39	42	78	85
	11 PM	12	19	20	36	40

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	2	2
	1 AM	0	1	1	1	1
	2 AM	0	0	0	1	1
	3 AM	1	1	1	2	2
	4 AM	4	5	5	9	9
	5 AM	9	12	12	19	20
	6 AM	17	20	20	28	30
	7 AM	17	22	22	34	36
	8 AM	24	31	32	49	51
	9 AM	7	10	11	20	22
	10 AM	6	9	10	18	20
	11 AM	6	9	10	18	20
	12 PM	5	8	9	16	18
	1 PM	5	8	8	16	17
	2 PM	4	6	6	11	12
	3 PM	2	3	4	6	9
	4 PM	1	2	3	5	7
	5 PM	2	4	4	7	9
	6 PM	2	3	3	6	7
	7 PM	1	2	2	4	5
	8 PM	1	2	2	4	4
	9 PM	1	1	1	3	3
	10 PM	1	1	1	2	2
	11 PM	1	1	1	2	2

Heavy Truck Volume						
	12 AM	2	3	3	5	6
	1 AM	1	1	2	3	3
	2 AM	0	1	1	2	2
	3 AM	2	2	3	5	5
	4 AM	9	11	12	18	19
	5 AM	15	20	20	31	33
	6 AM	17	19	19	27	29
	7 AM	16	21	21	33	35
	8 AM	23	30	30	47	49
	9 AM	8	13	13	25	27
	10 AM	8	12	13	23	25
	11 AM	9	14	14	27	29
	12 PM	7	11	12	22	24
	1 PM	7	11	11	21	23
	2 PM	4	7	7	13	14
	3 PM	2	4	4	7	10
	4 PM	2	3	3	6	8
	5 PM	3	4	5	8	11
	6 PM	2	3	4	6	9
	7 PM	2	3	3	6	8
	8 PM	2	3	4	7	7
	9 PM	2	3	3	6	7
	10 PM	2	3	3	5	5
	11 PM	1	2	2	4	4





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SudleyWB_10			Distance (mi): -	
	Facility: WB VA 234 (Sudley Rd)				
	From: Sanders Ln		To: Catharpin Rd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	55	55	55	55	55
	Daily Volume	3,800	5,200	5,500	9,100	10,200
	Daily Truck %	6%	6%	6%	6%	6%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	10	14	15	25	28
	1 AM	5	7	8	12	14
	2 AM	5	7	8	12	14
	3 AM	5	7	8	12	14
	4 AM	7	14	16	33	39
	5 AM	45	96	106	224	265
	6 AM	140	300	330	710	820
	7 AM	92	195	215	456	539
	8 AM	105	223	247	521	618
	9 AM	170	232	246	400	460
	10 AM	139	189	201	326	375
	11 AM	142	192	204	332	382
	12 PM	181	246	261	424	488
	1 PM	168	228	242	394	453
	2 PM	165	225	238	387	446
	3 PM	440	543	566	855	928
	4 PM	403	497	518	784	849
	5 PM	620	770	800	1,230	1,300
	6 PM	415	513	533	806	874
	7 PM	291	360	375	566	614
	8 PM	97	132	140	228	262
	9 PM	100	135	144	234	269
	10 PM	37	50	53	86	99
	11 PM	18	25	26	43	50

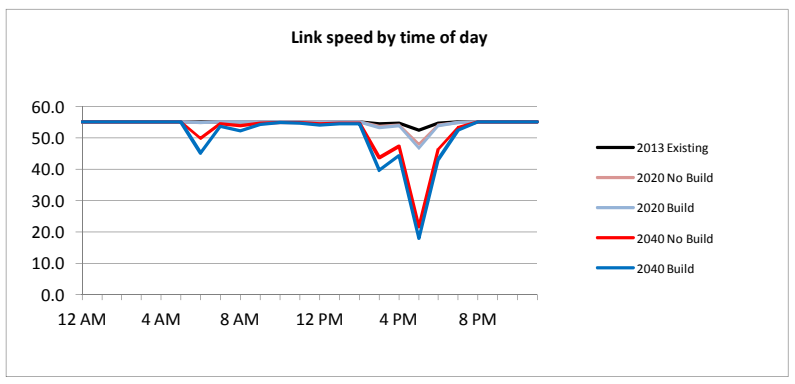
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	55.0	55.0
	6 AM	55.0	54.9	54.9	49.7	45.1
	7 AM	55.0	55.0	55.0	54.4	53.6
	8 AM	55.0	55.0	55.0	53.8	52.2
	9 AM	55.0	55.0	55.0	54.7	54.3
	10 AM	55.0	55.0	55.0	54.9	54.7
	11 AM	55.0	55.0	55.0	54.9	54.7
	12 PM	55.0	55.0	55.0	54.5	54.0
	1 PM	55.0	55.0	55.0	54.7	54.4
	2 PM	55.0	55.0	55.0	54.7	54.4
	3 PM	54.5	53.6	53.2	43.6	39.5
	4 PM	54.7	54.1	53.9	47.3	44.2
	5 PM	52.4	47.8	46.6	21.6	18.0
	6 PM	54.6	53.9	53.7	46.3	42.9
	7 PM	54.9	54.8	54.8	53.2	52.4
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

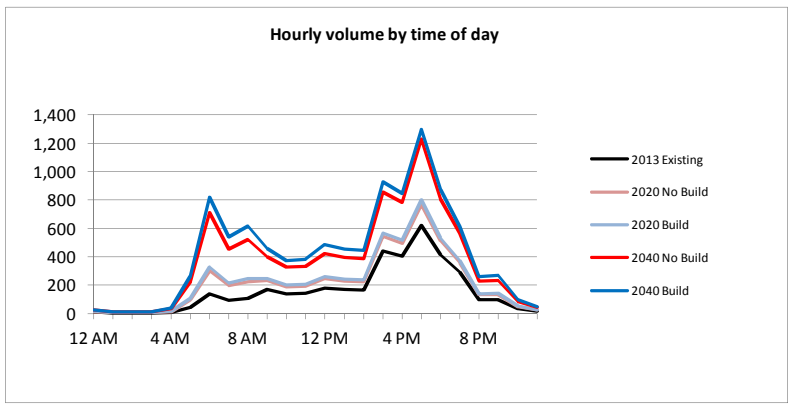
Passenger Vehicle Volume						
	12 AM	8	11	12	20	22
	1 AM	4	5	5	8	10
	2 AM	4	4	5	8	10
	3 AM	4	4	5	8	10
	4 AM	6	11	13	26	30
	5 AM	40	85	93	198	234
	6 AM	132	282	310	668	771
	7 AM	86	183	203	429	507
	8 AM	99	210	233	490	581
	9 AM	156	212	226	367	422
	10 AM	126	171	182	296	340
	11 AM	127	172	182	298	342
	12 PM	164	223	237	384	441
	1 PM	154	210	223	362	416
	2 PM	155	212	223	363	418
	3 PM	420	517	540	815	884
	4 PM	390	480	501	758	821
	5 PM	600	745	774	1,190	1,257
	6 PM	402	496	516	780	846
	7 PM	278	344	358	540	586
	8 PM	92	126	132	216	248
	9 PM	93	126	134	218	251
	10 PM	34	46	49	79	90
	11 PM	15	22	23	37	43

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	1	2
	1 AM	0	1	1	1	1
	2 AM	0	1	1	1	1
	3 AM	0	1	1	1	1
	4 AM	0	1	1	2	3
	5 AM	2	4	5	10	12
	6 AM	4	9	10	21	25
	7 AM	3	6	6	14	16
	8 AM	3	7	7	16	19
	9 AM	6	9	9	15	17
	10 AM	6	8	8	13	15
	11 AM	6	8	9	14	16
	12 PM	7	10	10	17	20
	1 PM	6	8	8	14	16
	2 PM	5	6	7	11	13
	3 PM	9	12	12	18	20
	4 PM	6	8	8	12	13
	5 PM	9	12	12	19	20
	6 PM	6	8	8	12	13
	7 PM	5	6	7	10	11
	8 PM	2	2	3	4	5
	9 PM	2	3	3	5	5
	10 PM	1	1	1	2	3
	11 PM	1	1	1	2	2

Heavy Truck Volume						
	12 AM	1	2	2	4	4
	1 AM	1	1	2	3	3
	2 AM	1	2	2	3	3
	3 AM	1	2	2	3	3
	4 AM	1	2	2	5	6
	5 AM	3	7	8	16	19
	6 AM	4	9	10	21	24
	7 AM	3	6	6	13	16
	8 AM	3	6	7	15	18
	9 AM	8	11	11	18	21
	10 AM	7	10	11	17	20
	11 AM	9	12	13	20	24
	12 PM	10	13	14	23	27
	1 PM	8	10	11	18	21
	2 PM	5	7	8	13	15
	3 PM	11	14	14	22	24
	4 PM	7	9	9	14	15
	5 PM	11	13	14	21	23
	6 PM	7	9	9	14	15
	7 PM	8	10	10	16	17
	8 PM	3	4	5	8	9
	9 PM	5	6	7	11	13
	10 PM	2	3	3	5	6
	11 PM	2	2	2	4	5





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SudleyEB_11			Distance (mi): -	
	Facility: EB VA 234 (Sudley Rd)				
	From: Sanders Ln		To: Pageland Ln		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	55	55	55	55	55
	Daily Volume	4,400	6,100	6,200	10,900	11,400
	Daily Truck %	7%	7%	7%	7%	7%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	14	21	21	41	43
	1 AM	6	8	9	16	17
	2 AM	3	4	4	8	9
	3 AM	8	12	13	24	26
	4 AM	70	92	90	155	144
	5 AM	254	332	323	559	519
	6 AM	670	810	780	1,250	1,150
	7 AM	662	867	844	1,459	1,354
	8 AM	944	1,236	1,203	2,079	1,930
	9 AM	211	317	325	617	651
	10 AM	172	258	266	503	531
	11 AM	169	254	261	495	523
	12 PM	158	237	244	463	488
	1 PM	178	267	274	520	548
	2 PM	155	233	240	455	480
	3 PM	92	153	178	307	433
	4 PM	103	171	200	345	486
	5 PM	170	260	300	480	670
	6 PM	116	190	223	383	539
	7 PM	64	107	124	214	302
	8 PM	78	117	120	227	240
	9 PM	53	79	81	154	163
	10 PM	33	50	51	97	103
	11 PM	17	25	26	49	51

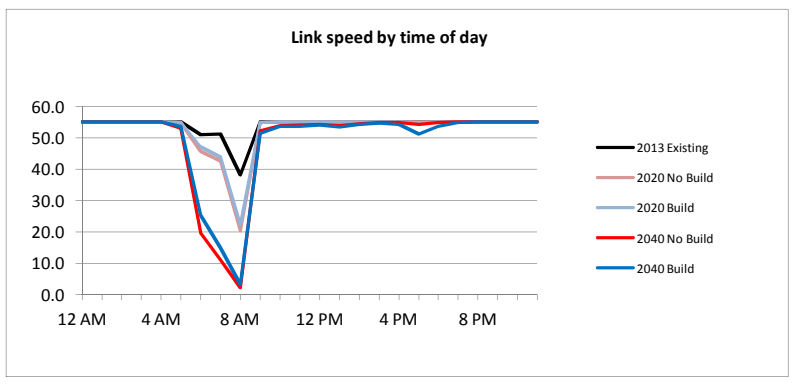
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	54.9	54.9	53.0	53.6
	6 AM	50.9	45.6	47.0	19.7	25.2
	7 AM	51.2	42.7	43.9	11.3	15.0
	8 AM	38.2	20.4	22.1	2.3	3.3
	9 AM	55.0	54.9	54.9	52.1	51.3
	10 AM	55.0	55.0	55.0	53.9	53.6
	11 AM	55.0	55.0	55.0	53.9	53.6
	12 PM	55.0	55.0	55.0	54.3	54.0
	1 PM	55.0	55.0	54.9	53.7	53.4
	2 PM	55.0	55.0	55.0	54.4	54.2
	3 PM	55.0	55.0	55.0	54.9	54.5
	4 PM	55.0	55.0	55.0	54.9	54.2
	5 PM	55.0	55.0	54.9	54.2	51.2
	6 PM	55.0	55.0	55.0	54.8	53.7
	7 PM	55.0	55.0	55.0	55.0	54.9
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

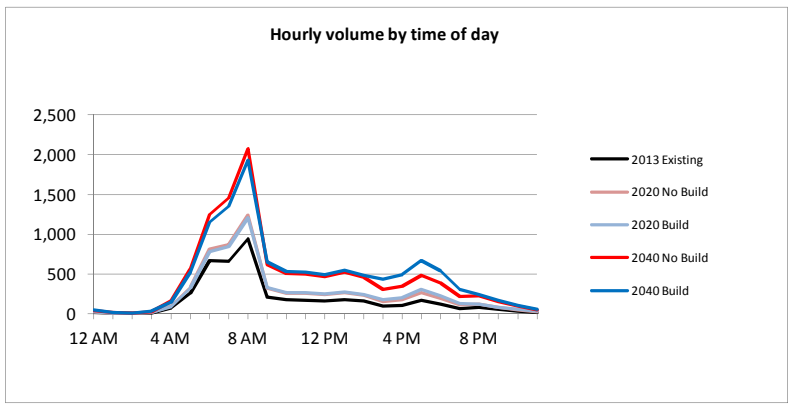
Passenger Vehicle Volume						
	12 AM	11	17	17	33	34
	1 AM	5	5	6	12	12
	2 AM	2	3	3	5	6
	3 AM	5	8	9	17	17
	4 AM	55	72	71	121	113
	5 AM	225	293	286	494	459
	6 AM	631	763	733	1,176	1,082
	7 AM	623	816	795	1,373	1,274
	8 AM	889	1,163	1,132	1,956	1,816
	9 AM	193	290	298	566	597
	10 AM	156	233	241	455	481
	11 AM	152	227	234	444	469
	12 PM	143	215	221	419	441
	1 PM	164	246	252	478	504
	2 PM	146	218	225	427	450
	3 PM	88	146	169	292	413
	4 PM	99	165	194	334	471
	5 PM	164	251	290	465	648
	6 PM	112	184	216	370	522
	7 PM	61	102	119	204	289
	8 PM	74	111	114	215	228
	9 PM	50	73	75	144	152
	10 PM	30	46	47	88	94
	11 PM	14	22	23	43	44

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	2	3
	1 AM	0	1	1	1	1
	2 AM	0	0	0	1	1
	3 AM	1	1	1	2	3
	4 AM	5	6	6	11	10
	5 AM	11	15	14	25	23
	6 AM	20	24	24	38	35
	7 AM	20	26	25	44	41
	8 AM	28	37	36	63	58
	9 AM	8	12	12	23	24
	10 AM	7	11	11	21	22
	11 AM	7	11	11	21	22
	12 PM	6	9	10	19	20
	1 PM	6	9	9	18	19
	2 PM	4	7	7	13	14
	3 PM	2	3	4	7	9
	4 PM	2	3	3	5	7
	5 PM	3	4	5	7	10
	6 PM	2	3	3	6	8
	7 PM	1	2	2	4	5
	8 PM	1	2	2	4	4
	9 PM	1	2	2	3	3
	10 PM	1	1	1	3	3
	11 PM	1	1	1	2	2

Heavy Truck Volume						
	12 AM	2	3	3	6	6
	1 AM	1	2	2	3	4
	2 AM	1	1	1	2	2
	3 AM	2	3	3	5	6
	4 AM	10	14	13	23	21
	5 AM	18	24	23	40	37
	6 AM	19	23	23	36	33
	7 AM	19	25	24	42	39
	8 AM	27	36	35	60	56
	9 AM	10	15	15	28	30
	10 AM	9	14	14	27	28
	11 AM	10	16	16	30	32
	12 PM	9	13	13	25	27
	1 PM	8	12	13	24	25
	2 PM	5	8	8	15	16
	3 PM	2	4	5	8	11
	4 PM	2	3	3	6	8
	5 PM	3	5	5	8	12
	6 PM	2	3	4	7	9
	7 PM	2	3	3	6	8
	8 PM	3	4	4	8	8
	9 PM	2	4	4	7	8
	10 PM	2	3	3	6	6
	11 PM	2	2	2	4	5





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SudleyWB_11			Distance (mi): -	
	Facility: WB VA 234 (Sudley Rd)				
	From: Pageland Ln		To: Sanders Ln		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	55	55	55	55	55
	Daily Volume	4,400	6,100	6,200	10,900	11,400
	Daily Truck %	6%	6%	6%	6%	6%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	12	17	17	30	32
	1 AM	6	8	9	15	16
	2 AM	6	8	9	15	16
	3 AM	6	8	9	15	16
	4 AM	8	16	18	34	44
	5 AM	53	106	118	232	297
	6 AM	160	330	370	720	920
	7 AM	107	216	241	472	606
	8 AM	121	248	277	541	696
	9 AM	199	274	278	490	516
	10 AM	162	223	227	399	421
	11 AM	165	228	231	407	429
	12 PM	211	291	295	520	548
	1 PM	196	270	274	482	508
	2 PM	193	265	269	475	500
	3 PM	509	647	639	1,082	1,032
	4 PM	467	592	584	990	943
	5 PM	710	910	900	1,520	1,440
	6 PM	479	611	602	1,021	974
	7 PM	337	428	423	716	683
	8 PM	113	156	158	279	294
	9 PM	116	160	162	286	302
	10 PM	43	59	60	106	111
	11 PM	21	29	30	53	56

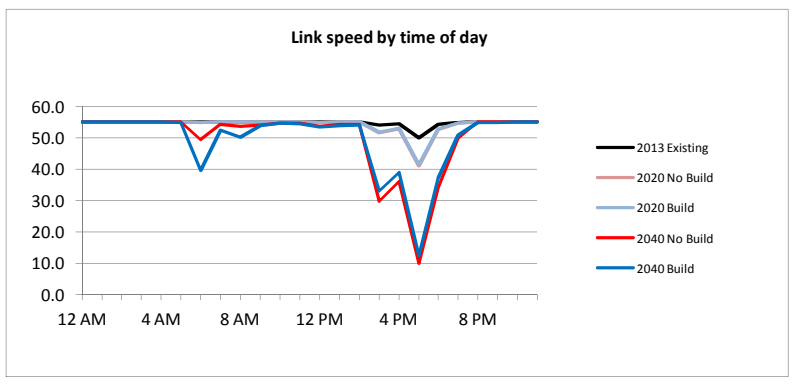
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	55.0	54.9
	6 AM	55.0	54.9	54.8	49.4	39.6
	7 AM	55.0	55.0	55.0	54.3	52.5
	8 AM	55.0	55.0	54.9	53.5	50.2
	9 AM	55.0	54.9	54.9	54.0	53.8
	10 AM	55.0	55.0	55.0	54.6	54.5
	11 AM	55.0	55.0	55.0	54.6	54.5
	12 PM	55.0	54.9	54.9	53.7	53.3
	1 PM	55.0	55.0	54.9	54.1	53.9
	2 PM	55.0	55.0	55.0	54.2	54.0
	3 PM	53.9	51.6	51.8	29.8	33.0
	4 PM	54.3	52.9	53.0	36.1	39.0
	5 PM	50.0	40.9	41.5	10.0	12.4
	6 PM	54.2	52.5	52.7	34.1	37.1
	7 PM	54.9	54.6	54.6	49.7	50.7
	8 PM	55.0	55.0	55.0	54.9	54.9
	9 PM	55.0	55.0	55.0	54.9	54.9
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

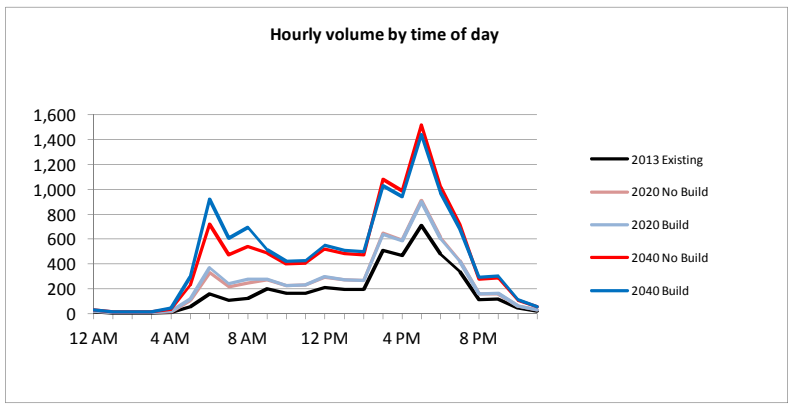
Passenger Vehicle Volume						
	12 AM	9	13	13	24	25
	1 AM	5	5	6	11	12
	2 AM	4	5	6	10	11
	3 AM	4	5	6	11	11
	4 AM	6	13	14	27	34
	5 AM	47	93	105	205	263
	6 AM	150	310	348	677	865
	7 AM	101	203	227	444	570
	8 AM	113	234	261	509	655
	9 AM	183	251	255	449	473
	10 AM	146	202	206	362	382
	11 AM	148	204	207	365	385
	12 PM	191	263	267	471	496
	1 PM	180	249	252	443	467
	2 PM	181	248	252	445	469
	3 PM	485	616	609	1,031	984
	4 PM	452	573	565	958	913
	5 PM	687	880	870	1,470	1,393
	6 PM	464	591	582	988	942
	7 PM	322	409	404	683	652
	8 PM	107	148	150	265	279
	9 PM	109	150	151	267	282
	10 PM	39	54	55	97	102
	11 PM	18	25	26	46	49

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	2	2
	1 AM	0	1	1	1	1
	2 AM	1	1	1	1	1
	3 AM	1	1	1	1	2
	4 AM	1	1	1	2	3
	5 AM	2	5	5	10	13
	6 AM	5	10	11	22	28
	7 AM	3	7	7	14	18
	8 AM	4	7	8	16	21
	9 AM	7	10	10	18	19
	10 AM	7	9	9	16	17
	11 AM	7	10	10	17	18
	12 PM	8	12	12	21	22
	1 PM	7	9	9	17	18
	2 PM	6	8	8	14	14
	3 PM	11	14	14	23	22
	4 PM	7	9	9	15	14
	5 PM	11	14	14	23	22
	6 PM	7	9	9	15	15
	7 PM	6	7	7	13	12
	8 PM	2	3	3	5	5
	9 PM	2	3	3	6	6
	10 PM	1	2	2	3	3
	11 PM	1	1	1	2	2

Heavy Truck Volume						
	12 AM	2	3	3	4	5
	1 AM	1	2	2	3	3
	2 AM	1	2	2	4	4
	3 AM	1	2	2	3	3
	4 AM	1	2	3	5	7
	5 AM	4	8	8	17	21
	6 AM	5	10	11	21	27
	7 AM	3	6	7	14	18
	8 AM	4	7	8	16	20
	9 AM	9	13	13	23	24
	10 AM	9	12	12	21	22
	11 AM	10	14	14	25	26
	12 PM	12	16	16	28	30
	1 PM	9	12	13	22	23
	2 PM	6	9	9	16	17
	3 PM	13	17	16	28	26
	4 PM	8	10	10	17	16
	5 PM	12	16	16	27	25
	6 PM	8	11	11	18	17
	7 PM	9	12	12	20	19
	8 PM	4	5	5	9	10
	9 PM	5	7	8	13	14
	10 PM	3	3	3	6	6
	11 PM	2	3	3	5	5





Location						
	Environmental traffic		Date: 4/4/2013		Prepared by: PTG	
	Project:	Tri-County Parkway EIS				
	Location:	Loudoun, Prince William and Fairfax Counties, VA				
	Display Code:	SudleyEB_12			Distance (mi): -	
	Facility:					
	EB	VA 234 (Sudley Rd)				
	From:			To:		
	Pageland Ln			TCP		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	55	55	55	55	55
	Daily Volume	4,200	6,300	6,700	12,400	14,000
	Daily Truck %	7%	7%	7%	7%	7%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	13	22	23	46	52
	1 AM	5	9	9	18	21
	2 AM	3	4	5	9	10
	3 AM	8	13	14	28	31
	4 AM	68	94	98	174	181
	5 AM	246	339	351	626	651
	6 AM	650	810	850	1,400	1,470
	7 AM	642	884	917	1,635	1,701
	8 AM	916	1,261	1,308	2,331	2,424
	9 AM	201	334	351	703	786
	10 AM	164	272	286	573	641
	11 AM	162	268	282	564	631
	12 PM	151	250	263	527	589
	1 PM	170	281	295	592	662
	2 PM	148	246	258	518	579
	3 PM	81	162	189	365	514
	4 PM	91	182	213	410	577
	5 PM	150	270	320	570	810
	6 PM	102	201	236	455	640
	7 PM	57	113	132	255	359
	8 PM	74	123	129	259	289
	9 PM	50	83	88	176	196
	10 PM	32	53	55	111	124
	11 PM	16	26	28	55	62

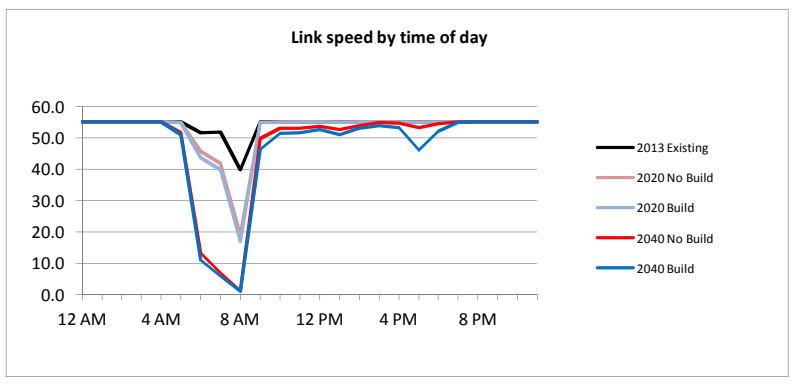
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	54.8	54.8	51.6	51.0
	6 AM	51.5	45.6	43.6	13.2	10.9
	7 AM	51.7	41.7	39.8	7.0	5.9
	8 AM	39.8	19.1	16.9	1.3	1.1
	9 AM	55.0	54.9	54.8	49.7	46.3
	10 AM	55.0	54.9	54.9	52.9	51.4
	11 AM	55.0	55.0	54.9	53.0	51.6
	12 PM	55.0	55.0	55.0	53.6	52.6
	1 PM	55.0	54.9	54.9	52.6	51.0
	2 PM	55.0	55.0	55.0	53.8	53.0
	3 PM	55.0	55.0	55.0	54.8	53.9
	4 PM	55.0	55.0	55.0	54.7	53.1
	5 PM	55.0	55.0	54.9	53.2	46.2
	6 PM	55.0	55.0	55.0	54.4	51.9
	7 PM	55.0	55.0	55.0	55.0	54.8
	8 PM	55.0	55.0	55.0	55.0	54.9
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

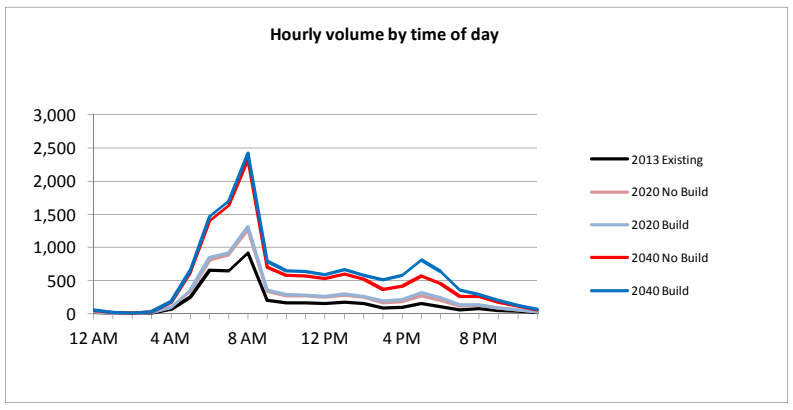
Passenger Vehicle Volume						
	12 AM	10	18	19	36	41
	1 AM	4	6	6	13	15
	2 AM	2	3	4	6	7
	3 AM	5	9	10	19	21
	4 AM	53	73	76	136	141
	5 AM	217	300	311	553	575
	6 AM	611	763	799	1,317	1,383
	7 AM	604	831	862	1,539	1,601
	8 AM	861	1,186	1,231	2,193	2,281
	9 AM	184	306	322	645	720
	10 AM	148	247	259	519	581
	11 AM	145	240	253	505	566
	12 PM	137	226	238	477	533
	1 PM	156	258	271	545	609
	2 PM	139	231	242	486	543
	3 PM	77	155	180	348	490
	4 PM	88	176	206	397	558
	5 PM	145	261	309	551	784
	6 PM	98	194	228	440	619
	7 PM	54	108	126	244	343
	8 PM	71	117	123	245	274
	9 PM	47	77	82	164	183
	10 PM	29	49	51	102	114
	11 PM	14	23	24	48	54

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	3	3
	1 AM	0	1	1	1	2
	2 AM	0	0	0	1	1
	3 AM	1	1	1	3	3
	4 AM	5	7	7	12	13
	5 AM	11	15	15	28	29
	6 AM	20	24	26	42	44
	7 AM	19	27	28	49	51
	8 AM	28	38	39	70	73
	9 AM	8	13	13	26	30
	10 AM	7	11	12	24	26
	11 AM	7	11	12	24	26
	12 PM	6	10	11	21	24
	1 PM	6	10	10	20	23
	2 PM	4	7	7	15	17
	3 PM	2	3	4	8	11
	4 PM	1	3	3	6	9
	5 PM	2	4	5	9	12
	6 PM	2	3	4	7	10
	7 PM	1	2	2	4	6
	8 PM	1	2	2	5	5
	9 PM	1	2	2	4	4
	10 PM	1	1	1	3	3
	11 PM	1	1	1	2	2

Heavy Truck Volume						
	12 AM	2	3	3	7	8
	1 AM	1	2	2	4	4
	2 AM	1	1	1	2	2
	3 AM	2	3	3	6	7
	4 AM	10	14	15	26	27
	5 AM	18	24	25	45	47
	6 AM	19	23	25	41	43
	7 AM	19	26	27	47	49
	8 AM	27	37	38	68	70
	9 AM	9	15	16	32	36
	10 AM	9	14	15	30	34
	11 AM	10	17	17	35	39
	12 PM	8	14	14	29	32
	1 PM	8	13	14	27	30
	2 PM	5	8	9	17	19
	3 PM	2	4	5	9	13
	4 PM	2	3	4	7	10
	5 PM	3	5	6	10	14
	6 PM	2	4	4	8	11
	7 PM	2	3	4	7	10
	8 PM	2	4	4	9	10
	9 PM	2	4	4	8	9
	10 PM	2	3	3	6	7
	11 PM	1	2	3	5	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SudleyWB_12			Distance (mi): -	
	Facility: WB VA 234 (Sudley Rd)				
	From: TCP		To: Pageland Ln		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	55	55	55	55	55
	Daily Volume	4,200	6,300	6,700	12,400	14,000
	Daily Truck %	6%	6%	6%	6%	6%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	12	17	19	34	40
	1 AM	6	9	9	17	20
	2 AM	6	9	9	17	20
	3 AM	6	9	9	17	20
	4 AM	6	16	18	40	51
	5 AM	42	111	123	273	343
	6 AM	130	350	380	840	1,040
	7 AM	85	226	250	554	699
	8 AM	98	259	286	634	802
	9 AM	189	279	302	560	646
	10 AM	154	228	246	456	526
	11 AM	157	232	251	465	536
	12 PM	201	297	320	594	685
	1 PM	186	275	297	551	636
	2 PM	183	271	293	543	626
	3 PM	499	667	699	1,215	1,300
	4 PM	457	611	640	1,113	1,189
	5 PM	700	950	980	1,700	1,780
	6 PM	472	630	659	1,146	1,227
	7 PM	331	442	463	804	860
	8 PM	108	159	172	319	368
	9 PM	111	163	177	327	377
	10 PM	41	60	65	121	139
	11 PM	20	30	33	60	70

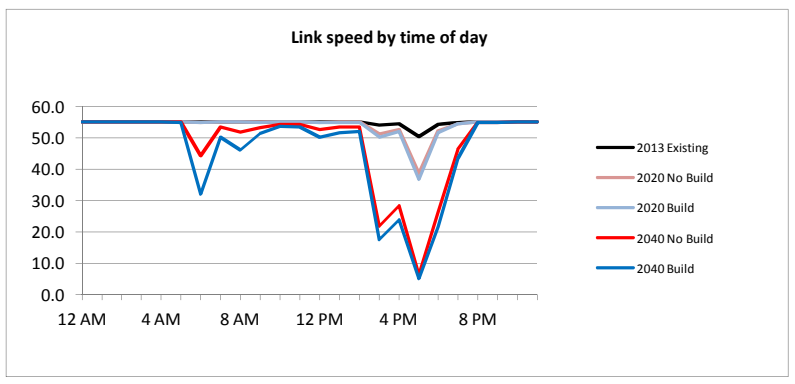
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	54.9	54.8
	6 AM	55.0	54.8	54.7	44.1	32.1
	7 AM	55.0	55.0	55.0	53.4	50.1
	8 AM	55.0	55.0	54.9	51.9	46.0
	9 AM	55.0	54.9	54.9	53.2	51.4
	10 AM	55.0	55.0	55.0	54.3	53.6
	11 AM	55.0	55.0	55.0	54.2	53.4
	12 PM	55.0	54.9	54.9	52.5	50.2
	1 PM	55.0	54.9	54.9	53.3	51.7
	2 PM	55.0	55.0	54.9	53.5	52.0
	3 PM	54.0	51.1	50.2	21.9	17.6
	4 PM	54.4	52.5	51.9	28.3	23.8
	5 PM	50.3	38.6	36.7	6.2	5.1
	6 PM	54.3	52.1	51.5	26.3	21.7
	7 PM	54.9	54.5	54.3	46.2	43.4
	8 PM	55.0	55.0	55.0	54.9	54.8
	9 PM	55.0	55.0	55.0	54.9	54.8
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

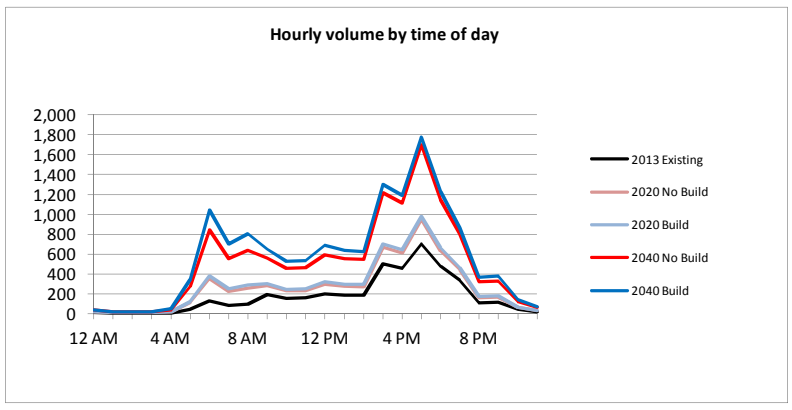
Passenger Vehicle Volume						
	12 AM	9	13	15	27	32
	1 AM	5	6	6	12	14
	2 AM	4	6	6	11	13
	3 AM	4	6	6	11	14
	4 AM	5	13	14	31	39
	5 AM	37	98	109	241	303
	6 AM	122	329	358	791	979
	7 AM	80	212	235	521	658
	8 AM	92	243	269	597	755
	9 AM	173	256	277	513	592
	10 AM	140	207	223	413	476
	11 AM	140	208	225	417	481
	12 PM	182	269	290	538	621
	1 PM	171	253	273	507	585
	2 PM	172	254	275	509	587
	3 PM	475	636	666	1,158	1,239
	4 PM	442	591	619	1,077	1,150
	5 PM	677	919	948	1,644	1,722
	6 PM	457	609	637	1,109	1,187
	7 PM	316	422	442	768	821
	8 PM	102	151	163	302	349
	9 PM	104	152	165	305	351
	10 PM	38	55	59	111	127
	11 PM	17	26	29	53	61

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	1	1	1	2	2
	1 AM	0	1	1	1	2
	2 AM	1	1	1	2	2
	3 AM	1	1	1	2	2
	4 AM	0	1	1	3	4
	5 AM	2	5	5	12	15
	6 AM	4	11	11	25	31
	7 AM	3	7	8	17	21
	8 AM	3	8	9	19	24
	9 AM	7	10	11	21	24
	10 AM	6	9	10	19	22
	11 AM	7	10	11	19	22
	12 PM	8	12	13	24	27
	1 PM	6	9	10	19	22
	2 PM	5	8	8	16	18
	3 PM	11	14	15	26	28
	4 PM	7	9	10	17	18
	5 PM	11	14	15	26	27
	6 PM	7	10	10	17	19
	7 PM	6	8	8	14	15
	8 PM	2	3	3	6	7
	9 PM	2	3	4	7	8
	10 PM	1	2	2	3	4
	11 PM	1	1	1	2	3

Heavy Truck Volume						
	12 AM	2	3	3	5	6
	1 AM	1	2	2	4	4
	2 AM	1	2	2	4	5
	3 AM	1	2	2	4	4
	4 AM	1	2	3	6	8
	5 AM	3	8	9	20	25
	6 AM	4	10	11	24	30
	7 AM	2	7	7	16	20
	8 AM	3	8	8	18	23
	9 AM	9	13	14	26	30
	10 AM	8	12	13	24	28
	11 AM	10	14	15	29	33
	12 PM	11	16	17	32	37
	1 PM	9	13	14	25	29
	2 PM	6	9	10	18	21
	3 PM	13	17	18	31	33
	4 PM	8	11	11	19	21
	5 PM	12	17	17	30	31
	6 PM	8	11	12	20	21
	7 PM	9	12	13	22	24
	8 PM	4	5	6	11	12
	9 PM	5	8	8	15	18
	10 PM	2	3	4	7	8
	11 PM	2	3	3	5	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SudleyEB_13			Distance (mi): -	
	Facility: EB VA 234 (Sudley Rd)				
	From: TCP		To: Marble Hill Ln		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Minor Arterial	Parkway	Parkway	Parkway	Parkway
	Lanes	1	2	2	2	2
	Lane capacity	900	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	4,200	7,600	6,100	17,400	11,500
	Daily Truck %	7%	7%	7%	7%	7%

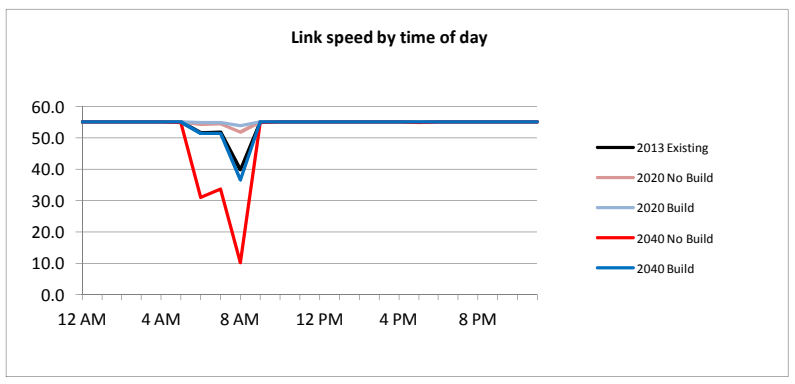
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	13	23	19	53	37
	1 AM	5	9	8	21	15
	2 AM	3	5	4	11	7
	3 AM	8	14	11	32	22
	4 AM	68	120	98	260	175
	5 AM	246	432	352	938	631
	6 AM	650	1,200	940	2,540	1,640
	7 AM	642	1,128	918	2,447	1,649
	8 AM	916	1,607	1,309	3,487	2,350
	9 AM	201	346	289	813	561
	10 AM	164	283	236	663	458
	11 AM	162	278	232	652	450
	12 PM	151	260	217	610	421
	1 PM	170	292	243	684	472
	2 PM	148	255	213	599	413
	3 PM	81	175	129	486	292
	4 PM	91	197	144	547	328
	5 PM	150	340	240	920	530
	6 PM	102	217	160	604	365
	7 PM	57	122	90	339	204
	8 PM	74	128	107	299	207
	9 PM	50	87	72	203	140
	10 PM	32	55	46	128	89
	11 PM	16	27	23	64	44

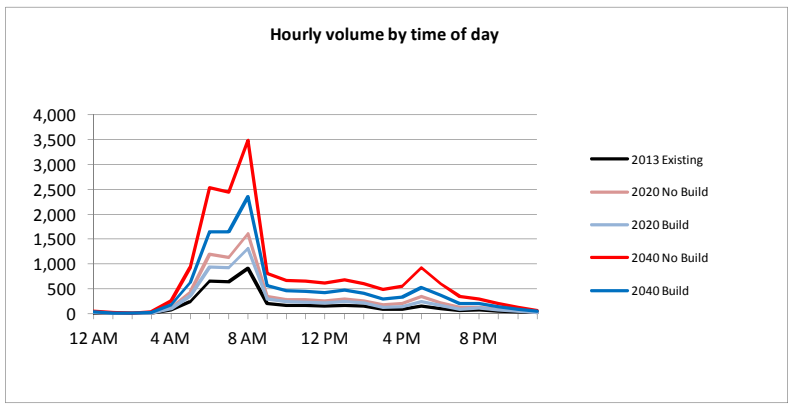
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	6	6	6	6
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	54.8	55.0
	6 AM	51.5	54.3	54.8	30.9	51.4
	7 AM	51.7	54.5	54.8	33.7	51.3
	8 AM	39.8	51.8	53.9	10.1	36.5
	9 AM	55.0	55.0	55.0	54.9	55.0
	10 AM	55.0	55.0	55.0	55.0	55.0
	11 AM	55.0	55.0	55.0	55.0	55.0
	12 PM	55.0	55.0	55.0	55.0	55.0
	1 PM	55.0	55.0	55.0	55.0	55.0
	2 PM	55.0	55.0	55.0	55.0	55.0
	3 PM	55.0	55.0	55.0	55.0	55.0
	4 PM	55.0	55.0	55.0	55.0	55.0
	5 PM	55.0	55.0	55.0	54.9	55.0
	6 PM	55.0	55.0	55.0	55.0	55.0
	7 PM	55.0	55.0	55.0	55.0	55.0
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

Passenger Vehicle Volume						
	12 AM	10	19	15	42	30
	1 AM	4	6	5	15	11
	2 AM	2	4	3	7	4
	3 AM	5	10	8	22	15
	4 AM	53	94	76	203	137
	5 AM	217	382	311	830	558
	6 AM	611	1,129	885	2,389	1,543
	7 AM	604	1,061	863	2,302	1,551
	8 AM	861	1,511	1,231	3,281	2,211
	9 AM	184	317	265	745	514
	10 AM	148	256	213	601	415
	11 AM	145	249	208	585	403
	12 PM	137	236	196	553	381
	1 PM	156	269	224	629	434
	2 PM	139	240	200	562	387
	3 PM	77	167	123	464	279
	4 PM	88	191	139	529	317
	5 PM	145	329	232	890	513
	6 PM	98	210	155	584	353
	7 PM	54	117	85	324	194
	8 PM	71	122	101	284	196
	9 PM	47	81	68	190	130
	10 PM	29	51	42	118	82
	11 PM	14	24	20	56	38

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	1	1	1	3	2
	1 AM	0	1	1	2	1
	2 AM	0	0	0	1	1
	3 AM	1	1	1	3	2
	4 AM	5	8	7	18	12
	5 AM	11	19	16	41	28
	6 AM	20	36	28	77	49
	7 AM	19	34	28	74	50
	8 AM	28	49	40	105	71
	9 AM	8	13	11	31	21
	10 AM	7	12	10	27	19
	11 AM	7	12	10	27	19
	12 PM	6	10	9	24	17
	1 PM	6	10	8	24	16
	2 PM	4	7	6	17	12
	3 PM	2	4	3	10	6
	4 PM	1	3	2	8	5
	5 PM	2	5	4	14	8
	6 PM	2	3	2	9	6
	7 PM	1	2	2	6	4
	8 PM	1	2	2	5	4
	9 PM	1	2	1	4	3
	10 PM	1	1	1	3	2
	11 PM	1	1	1	2	2

Heavy Truck Volume						
	12 AM	2	3	3	8	5
	1 AM	1	2	2	4	3
	2 AM	1	1	1	3	2
	3 AM	2	3	2	7	5
	4 AM	10	18	15	39	26
	5 AM	18	31	25	67	45
	6 AM	19	35	27	74	48
	7 AM	19	33	27	71	48
	8 AM	27	47	38	101	68
	9 AM	9	16	13	37	26
	10 AM	9	15	13	35	24
	11 AM	10	17	14	40	28
	12 PM	8	14	12	33	23
	1 PM	8	13	11	31	22
	2 PM	5	8	7	20	14
	3 PM	2	4	3	12	7
	4 PM	2	3	3	10	6
	5 PM	3	6	4	16	9
	6 PM	2	4	3	11	6
	7 PM	2	3	3	9	6
	8 PM	2	4	4	10	7
	9 PM	2	4	3	9	7
	10 PM	2	3	3	7	5
	11 PM	1	2	2	6	4





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SudleyWB_13			Distance (mi): -	
	Facility: WB VA 234 (Sudley Rd)				
	From: Marble Hill Ln		To: TCP		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Minor Arterial	Parkway	Parkway	Parkway	Parkway
	Lanes	1	2	2	2	2
	Lane capacity	900	1,100	1,100	1,100	1,100
	FF Speed	55	55	55	55	55
	Daily Volume	4,200	7,600	6,100	17,400	11,500
	Daily Truck %	6%	6%	6%	6%	6%

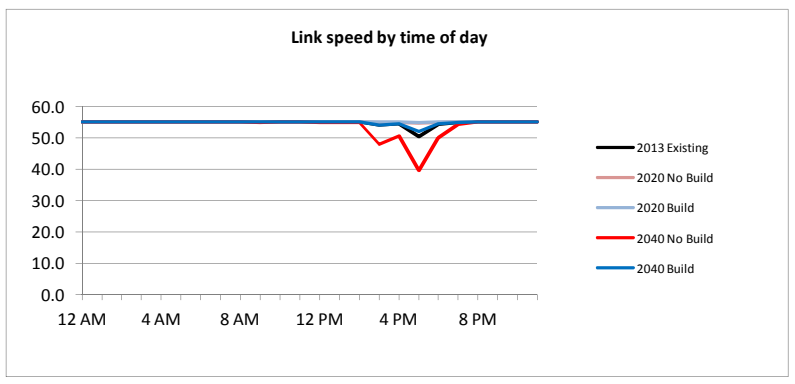
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	12	23	18	56	35
	1 AM	6	12	9	28	18
	2 AM	6	12	9	28	18
	3 AM	6	12	9	28	18
	4 AM	6	10	9	33	22
	5 AM	42	68	62	223	150
	6 AM	130	190	180	590	420
	7 AM	85	139	126	453	306
	8 AM	98	159	144	518	351
	9 AM	189	381	292	914	575
	10 AM	154	311	238	745	469
	11 AM	157	317	243	759	478
	12 PM	201	405	310	970	610
	1 PM	186	375	288	900	566
	2 PM	183	370	283	886	557
	3 PM	499	890	713	1,888	1,266
	4 PM	457	814	652	1,730	1,159
	5 PM	700	1,120	940	2,270	1,600
	6 PM	472	840	672	1,782	1,195
	7 PM	331	589	472	1,250	838
	8 PM	108	217	166	520	327
	9 PM	111	223	171	534	336
	10 PM	41	82	63	197	124
	11 PM	20	41	31	98	62

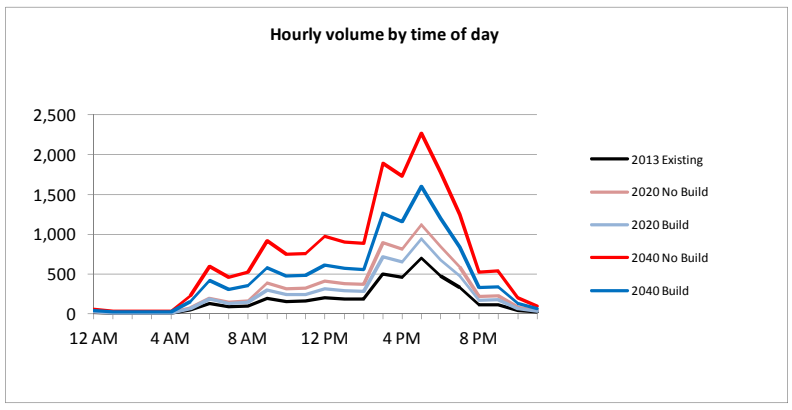
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	6	6	6	6
	12 AM	55.0	55.0	55.0	55.0	55.0
	1 AM	55.0	55.0	55.0	55.0	55.0
	2 AM	55.0	55.0	55.0	55.0	55.0
	3 AM	55.0	55.0	55.0	55.0	55.0
	4 AM	55.0	55.0	55.0	55.0	55.0
	5 AM	55.0	55.0	55.0	55.0	55.0
	6 AM	55.0	55.0	55.0	55.0	55.0
	7 AM	55.0	55.0	55.0	55.0	55.0
	8 AM	55.0	55.0	55.0	55.0	55.0
	9 AM	55.0	55.0	55.0	54.8	55.0
	10 AM	55.0	55.0	55.0	54.9	55.0
	11 AM	55.0	55.0	55.0	54.9	55.0
	12 PM	55.0	55.0	55.0	54.8	55.0
	1 PM	55.0	55.0	55.0	54.9	55.0
	2 PM	55.0	55.0	55.0	54.9	55.0
	3 PM	54.0	54.9	55.0	47.9	54.1
	4 PM	54.4	54.9	55.0	50.6	54.5
	5 PM	50.3	54.6	54.8	39.6	52.0
	6 PM	54.3	54.9	55.0	49.9	54.4
	7 PM	54.9	55.0	55.0	54.2	54.9
	8 PM	55.0	55.0	55.0	55.0	55.0
	9 PM	55.0	55.0	55.0	55.0	55.0
	10 PM	55.0	55.0	55.0	55.0	55.0
	11 PM	55.0	55.0	55.0	55.0	55.0

Passenger Vehicle Volume						
	12 AM	9	19	14	45	28
	1 AM	5	8	6	20	13
	2 AM	4	8	6	18	12
	3 AM	4	8	6	19	12
	4 AM	5	8	7	26	17
	5 AM	37	60	55	197	132
	6 AM	122	178	170	555	395
	7 AM	80	131	118	426	288
	8 AM	92	149	136	487	330
	9 AM	173	349	268	838	527
	10 AM	140	281	215	674	425
	11 AM	140	284	218	680	429
	12 PM	182	367	281	878	553
	1 PM	171	345	265	828	520
	2 PM	172	347	266	830	522
	3 PM	475	848	680	1,799	1,207
	4 PM	442	788	631	1,674	1,121
	5 PM	677	1,083	910	2,196	1,548
	6 PM	457	812	650	1,724	1,156
	7 PM	316	563	451	1,193	800
	8 PM	102	206	157	493	310
	9 PM	104	209	160	498	313
	10 PM	38	75	57	181	114
	11 PM	17	36	27	85	54

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	1	1	1	3	2
	1 AM	0	1	1	2	1
	2 AM	1	1	1	3	2
	3 AM	1	1	1	3	2
	4 AM	0	1	1	2	2
	5 AM	2	3	3	10	7
	6 AM	4	6	5	18	13
	7 AM	3	4	4	14	9
	8 AM	3	5	4	16	11
	9 AM	7	14	11	34	22
	10 AM	6	13	10	31	19
	11 AM	7	13	10	32	20
	12 PM	8	16	12	39	24
	1 PM	6	13	10	31	20
	2 PM	5	11	8	26	16
	3 PM	11	19	15	41	27
	4 PM	7	12	10	26	18
	5 PM	11	17	14	34	24
	6 PM	7	13	10	27	18
	7 PM	6	10	8	22	15
	8 PM	2	4	3	9	6
	9 PM	2	4	3	11	7
	10 PM	1	2	2	5	3
	11 PM	1	1	1	4	2

Heavy Truck Volume						
	12 AM	2	3	3	8	5
	1 AM	1	3	2	6	4
	2 AM	1	3	2	7	4
	3 AM	1	3	2	6	4
	4 AM	1	1	1	5	3
	5 AM	3	5	4	16	11
	6 AM	4	6	5	17	12
	7 AM	2	4	4	13	9
	8 AM	3	5	4	15	10
	9 AM	9	18	13	42	26
	10 AM	8	17	13	40	25
	11 AM	10	20	15	47	29
	12 PM	11	22	17	53	33
	1 PM	9	17	13	41	26
	2 PM	6	12	9	30	19
	3 PM	13	23	18	48	32
	4 PM	8	14	11	30	20
	5 PM	12	20	16	40	28
	6 PM	8	15	12	31	21
	7 PM	9	16	13	35	23
	8 PM	4	7	6	18	11
	9 PM	5	10	8	25	16
	10 PM	2	5	4	11	7
	11 PM	2	4	3	9	6





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SandersSB_1			Distance (mi): -	
	Facility: SB VA 705 (Sanders Ln)				
	From: Boxwood Farms D		To: VA 234 (Sudley Rd)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Collector	Collector	Collector	Collector	Collector
	Lanes	1	1	1	1	1
	Lane capacity	800	800	800	800	800
	FF Speed	50	50	50	50	50
	Daily Volume	1,200	1,900	1,300	4,000	1,500
	Daily Truck %	5%	5%	5%	5%	5%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	5	8	5	16	7
	1 AM	3	4	3	9	4
	2 AM	3	4	3	9	4
	3 AM	4	6	4	13	5
	4 AM	14	22	14	48	15
	5 AM	59	96	61	209	64
	6 AM	130	210	130	460	130
	7 AM	134	217	138	473	147
	8 AM	129	207	132	451	141
	9 AM	82	129	91	270	112
	10 AM	57	89	63	186	77
	11 AM	50	78	55	164	68
	12 PM	52	81	57	171	71
	1 PM	51	81	57	169	70
	2 PM	57	89	63	187	78
	3 PM	58	90	67	179	81
	4 PM	59	93	69	185	83
	5 PM	70	110	80	220	90
	6 PM	58	89	66	176	81
	7 PM	46	72	54	143	64
	8 PM	31	49	35	103	43
	9 PM	23	37	26	77	32
	10 PM	16	25	17	52	21
	11 PM	9	14	10	30	12

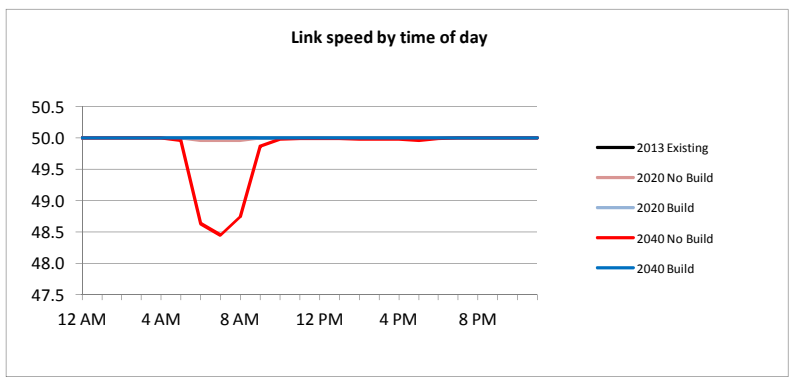
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	50.0	50.0	50.0	50.0	50.0
	1 AM	50.0	50.0	50.0	50.0	50.0
	2 AM	50.0	50.0	50.0	50.0	50.0
	3 AM	50.0	50.0	50.0	50.0	50.0
	4 AM	50.0	50.0	50.0	50.0	50.0
	5 AM	50.0	50.0	50.0	50.0	50.0
	6 AM	50.0	50.0	50.0	48.6	50.0
	7 AM	50.0	50.0	50.0	48.5	50.0
	8 AM	50.0	50.0	50.0	48.7	50.0
	9 AM	50.0	50.0	50.0	49.9	50.0
	10 AM	50.0	50.0	50.0	50.0	50.0
	11 AM	50.0	50.0	50.0	50.0	50.0
	12 PM	50.0	50.0	50.0	50.0	50.0
	1 PM	50.0	50.0	50.0	50.0	50.0
	2 PM	50.0	50.0	50.0	50.0	50.0
	3 PM	50.0	50.0	50.0	50.0	50.0
	4 PM	50.0	50.0	50.0	50.0	50.0
	5 PM	50.0	50.0	50.0	50.0	50.0
	6 PM	50.0	50.0	50.0	50.0	50.0
	7 PM	50.0	50.0	50.0	50.0	50.0
	8 PM	50.0	50.0	50.0	50.0	50.0
	9 PM	50.0	50.0	50.0	50.0	50.0
	10 PM	50.0	50.0	50.0	50.0	50.0
	11 PM	50.0	50.0	50.0	50.0	50.0

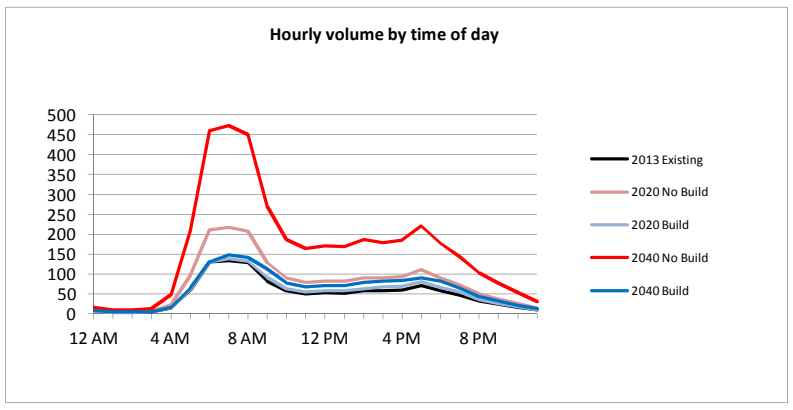
Passenger Vehicle Volume						
	12 AM	5	7	5	15	6
	1 AM	3	4	3	8	4
	2 AM	3	3	3	8	3
	3 AM	3	5	3	11	4
	4 AM	12	19	12	42	13
	5 AM	54	88	56	192	59
	6 AM	123	199	123	434	123
	7 AM	127	205	131	447	139
	8 AM	122	196	125	426	133
	9 AM	77	120	85	251	105
	10 AM	53	83	59	172	72
	11 AM	47	73	51	152	64
	12 PM	49	76	54	160	67
	1 PM	49	77	54	160	67
	2 PM	55	86	61	181	75
	3 PM	57	88	66	175	79
	4 PM	58	92	68	182	82
	5 PM	69	108	79	217	89
	6 PM	57	88	65	173	80
	7 PM	45	71	53	140	63
	8 PM	30	48	34	101	42
	9 PM	22	36	25	75	31
	10 PM	15	24	16	50	20
	11 PM	9	13	10	29	11

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	1	0	1	1
	1 AM	0	0	0	1	0
	2 AM	0	1	0	1	1
	3 AM	1	1	1	2	1
	4 AM	2	3	2	6	2
	5 AM	5	8	5	16	5
	6 AM	7	11	7	25	7
	7 AM	7	12	7	25	8
	8 AM	7	11	7	24	8
	9 AM	5	9	6	18	7
	10 AM	4	6	4	13	5
	11 AM	3	5	4	11	4
	12 PM	3	5	3	10	4
	1 PM	2	4	3	8	3
	2 PM	2	3	2	6	3
	3 PM	1	2	1	4	2
	4 PM	1	1	1	3	1
	5 PM	1	2	1	3	1
	6 PM	1	1	1	3	1
	7 PM	1	1	1	3	1
	8 PM	1	1	1	2	1
	9 PM	1	1	1	2	1
	10 PM	1	1	1	2	1
	11 PM	0	1	0	1	1

Heavy Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	1	0
	6 AM	0	0	0	1	0
	7 AM	0	0	0	1	0
	8 AM	0	0	0	1	0
	9 AM	0	0	0	1	0
	10 AM	0	0	0	1	0
	11 AM	0	0	0	1	0
	12 PM	0	0	0	1	0
	1 PM	0	0	0	1	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	0	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: SandersNB_1			Distance (mi): -	
	Facility: NB VA 705 (Sanders Ln)				
	From: VA 234 (Sudley Rd)		To: Boxwood Farms D		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Collector	Collector	Collector	Collector	Collector
	Lanes	1	1	1	1	1
	Lane capacity	800	800	800	800	800
	FF Speed	50	50	50	50	50
	Daily Volume	1,200	1,900	1,300	4,000	1,500
	Daily Truck %	4%	4%	4%	4%	4%

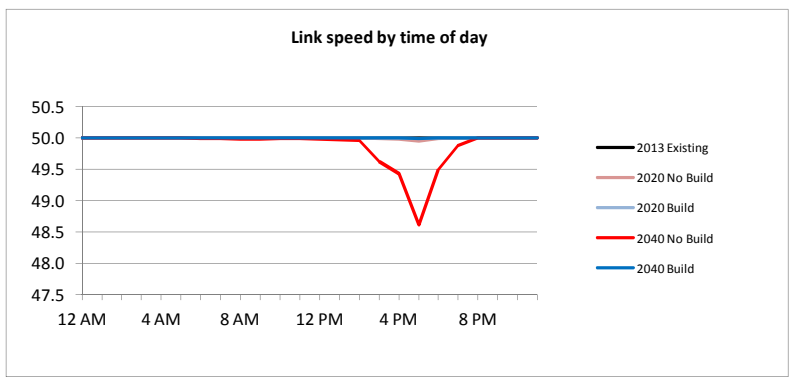
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	7	12	8	26	9
	1 AM	4	7	5	15	5
	2 AM	4	6	4	13	4
	3 AM	4	6	4	14	5
	4 AM	8	14	9	26	13
	5 AM	22	41	27	76	40
	6 AM	50	90	60	160	90
	7 AM	50	92	61	171	90
	8 AM	54	97	64	181	95
	9 AM	52	82	56	181	63
	10 AM	46	72	49	160	56
	11 AM	48	75	51	166	58
	12 PM	54	84	57	187	65
	1 PM	57	89	61	197	69
	2 PM	61	95	65	210	74
	3 PM	107	162	113	349	118
	4 PM	117	179	124	385	130
	5 PM	150	230	160	470	170
	6 PM	116	175	122	376	127
	7 PM	83	126	87	271	91
	8 PM	42	66	45	145	51
	9 PM	31	49	34	109	38
	10 PM	21	33	22	72	25
	11 PM	12	18	12	40	14

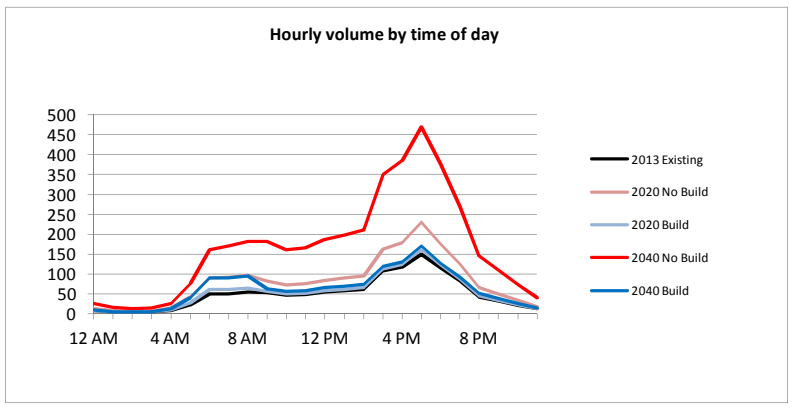
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	50.0	50.0	50.0	50.0	50.0
	1 AM	50.0	50.0	50.0	50.0	50.0
	2 AM	50.0	50.0	50.0	50.0	50.0
	3 AM	50.0	50.0	50.0	50.0	50.0
	4 AM	50.0	50.0	50.0	50.0	50.0
	5 AM	50.0	50.0	50.0	50.0	50.0
	6 AM	50.0	50.0	50.0	50.0	50.0
	7 AM	50.0	50.0	50.0	50.0	50.0
	8 AM	50.0	50.0	50.0	50.0	50.0
	9 AM	50.0	50.0	50.0	50.0	50.0
	10 AM	50.0	50.0	50.0	50.0	50.0
	11 AM	50.0	50.0	50.0	50.0	50.0
	12 PM	50.0	50.0	50.0	50.0	50.0
	1 PM	50.0	50.0	50.0	50.0	50.0
	2 PM	50.0	50.0	50.0	50.0	50.0
	3 PM	50.0	50.0	50.0	49.6	50.0
	4 PM	50.0	50.0	50.0	49.4	50.0
	5 PM	50.0	49.9	50.0	48.6	50.0
	6 PM	50.0	50.0	50.0	49.5	50.0
	7 PM	50.0	50.0	50.0	49.9	50.0
	8 PM	50.0	50.0	50.0	50.0	50.0
	9 PM	50.0	50.0	50.0	50.0	50.0
	10 PM	50.0	50.0	50.0	50.0	50.0
	11 PM	50.0	50.0	50.0	50.0	50.0

Passenger Vehicle Volume						
	12 AM	6	11	7	24	8
	1 AM	4	6	4	13	4
	2 AM	3	5	3	11	3
	3 AM	3	5	3	12	4
	4 AM	7	12	8	23	11
	5 AM	20	38	25	70	37
	6 AM	47	85	57	151	85
	7 AM	47	87	58	162	85
	8 AM	51	92	61	171	90
	9 AM	49	77	52	169	59
	10 AM	43	67	46	149	52
	11 AM	45	70	48	154	54
	12 PM	51	79	54	175	61
	1 PM	54	85	58	187	66
	2 PM	59	92	63	203	71
	3 PM	105	158	110	340	115
	4 PM	115	176	122	379	128
	5 PM	148	226	158	462	167
	6 PM	114	172	120	370	125
	7 PM	82	124	85	265	89
	8 PM	41	65	44	142	50
	9 PM	30	48	33	106	37
	10 PM	20	32	21	70	24
	11 PM	11	17	11	38	13

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	1	1	1	2	1
	1 AM	0	1	1	2	1
	2 AM	1	1	1	2	1
	3 AM	1	1	1	2	1
	4 AM	1	2	1	3	2
	5 AM	2	3	2	6	3
	6 AM	3	5	3	9	5
	7 AM	3	5	3	9	5
	8 AM	3	5	3	10	5
	9 AM	3	5	4	12	4
	10 AM	3	5	3	11	4
	11 AM	3	5	3	11	4
	12 PM	3	5	3	11	4
	1 PM	3	4	3	9	3
	2 PM	2	3	2	7	3
	3 PM	2	4	3	8	3
	4 PM	2	3	2	6	2
	5 PM	2	4	2	7	3
	6 PM	2	3	2	6	2
	7 PM	1	2	2	5	2
	8 PM	1	1	1	3	1
	9 PM	1	1	1	3	1
	10 PM	1	1	1	2	1
	11 PM	1	1	1	2	1

Heavy Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	0	0
	6 AM	0	0	0	0	0
	7 AM	0	0	0	0	0
	8 AM	0	0	0	0	0
	9 AM	0	0	0	0	0
	10 AM	0	0	0	0	0
	11 AM	0	0	0	1	0
	12 PM	0	0	0	1	0
	1 PM	0	0	0	1	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	1	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	1	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	1	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: PagelandSB_1			Distance (mi): -	
	Facility: SB VA 705 (Sanders Ln)				
	From: VA 234 (Sudley Rd)		To: Livia Dr		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Collector	Collector	Collector	Collector	Collector
	Lanes	1	1	1	1	1
	Lane capacity	800	800	800	800	800
	FF Speed	50	50	50	50	50
	Daily Volume	400	800	1,000	2,000	2,900
	Daily Truck %	4%	4%	4%	4%	4%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	3	4	6	12	20
	1 AM	1	2	3	5	8
	2 AM	1	1	2	3	5
	3 AM	1	1	2	3	5
	4 AM	3	7	6	13	13
	5 AM	5	13	11	26	27
	6 AM	30	80	60	140	130
	7 AM	40	91	80	182	187
	8 AM	42	96	84	191	196
	9 AM	14	23	34	67	107
	10 AM	14	23	33	65	104
	11 AM	16	26	39	75	121
	12 PM	18	30	44	85	137
	1 PM	18	31	46	89	142
	2 PM	23	39	57	110	177
	3 PM	25	48	74	138	233
	4 PM	30	59	91	171	287
	5 PM	40	90	120	230	350
	6 PM	28	52	82	153	255
	7 PM	17	33	51	95	160
	8 PM	16	26	39	75	121
	9 PM	9	15	21	42	67
	10 PM	5	8	12	23	37
	11 PM	1	2	3	7	11

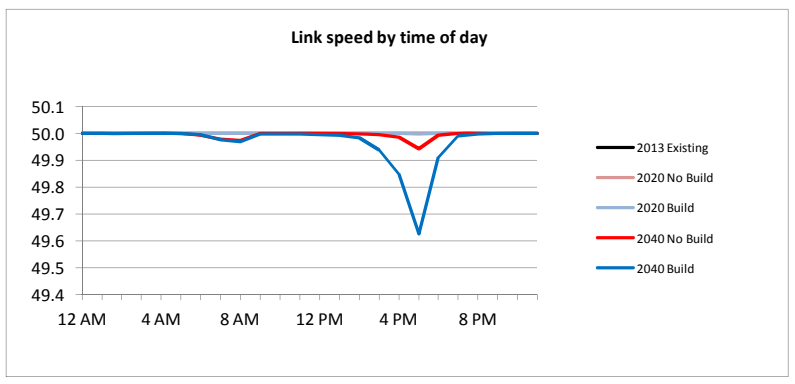
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	50.0	50.0	50.0	50.0	50.0
	1 AM	50.0	50.0	50.0	50.0	50.0
	2 AM	50.0	50.0	50.0	50.0	50.0
	3 AM	50.0	50.0	50.0	50.0	50.0
	4 AM	50.0	50.0	50.0	50.0	50.0
	5 AM	50.0	50.0	50.0	50.0	50.0
	6 AM	50.0	50.0	50.0	50.0	50.0
	7 AM	50.0	50.0	50.0	50.0	50.0
	8 AM	50.0	50.0	50.0	50.0	50.0
	9 AM	50.0	50.0	50.0	50.0	50.0
	10 AM	50.0	50.0	50.0	50.0	50.0
	11 AM	50.0	50.0	50.0	50.0	50.0
	12 PM	50.0	50.0	50.0	50.0	50.0
	1 PM	50.0	50.0	50.0	50.0	50.0
	2 PM	50.0	50.0	50.0	50.0	50.0
	3 PM	50.0	50.0	50.0	50.0	49.9
	4 PM	50.0	50.0	50.0	50.0	49.8
	5 PM	50.0	50.0	50.0	49.9	49.6
	6 PM	50.0	50.0	50.0	50.0	49.9
	7 PM	50.0	50.0	50.0	50.0	50.0
	8 PM	50.0	50.0	50.0	50.0	50.0
	9 PM	50.0	50.0	50.0	50.0	50.0
	10 PM	50.0	50.0	50.0	50.0	50.0
	11 PM	50.0	50.0	50.0	50.0	50.0

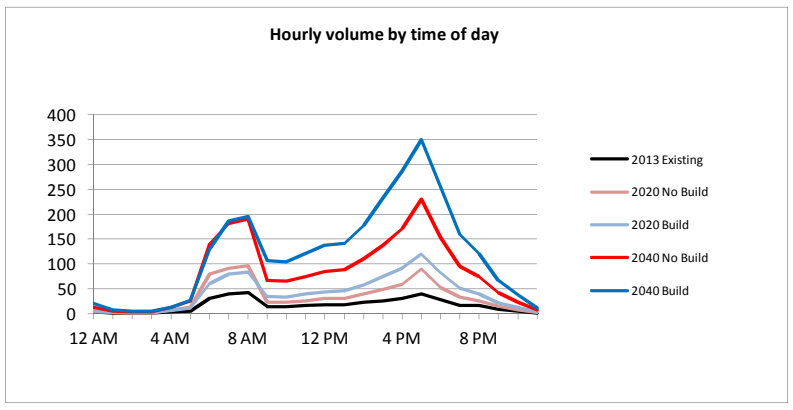
Passenger Vehicle Volume						
	12 AM	3	4	5	11	18
	1 AM	1	2	3	4	7
	2 AM	1	1	2	3	4
	3 AM	1	1	2	3	4
	4 AM	3	6	5	11	11
	5 AM	5	12	10	24	25
	6 AM	28	76	57	132	123
	7 AM	38	86	76	172	177
	8 AM	40	91	79	181	185
	9 AM	13	21	32	63	100
	10 AM	13	21	31	61	97
	11 AM	15	24	36	70	113
	12 PM	17	28	41	80	129
	1 PM	17	30	44	85	136
	2 PM	22	38	55	106	171
	3 PM	24	47	72	135	228
	4 PM	30	58	90	168	283
	5 PM	39	89	118	226	345
	6 PM	28	51	81	151	251
	7 PM	17	32	50	93	157
	8 PM	16	25	38	73	119
	9 PM	9	15	20	41	65
	10 PM	5	8	12	22	36
	11 PM	1	2	3	7	10

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	1	1	2
	1 AM	0	0	0	1	1
	2 AM	0	0	0	0	1
	3 AM	0	0	0	0	1
	4 AM	0	1	1	2	2
	5 AM	0	1	1	2	2
	6 AM	2	4	3	8	7
	7 AM	2	5	4	10	10
	8 AM	2	5	5	10	11
	9 AM	1	2	2	4	7
	10 AM	1	2	2	4	7
	11 AM	1	2	3	5	8
	12 PM	1	2	3	5	8
	1 PM	1	1	2	4	6
	2 PM	1	1	2	4	6
	3 PM	1	1	2	3	5
	4 PM	0	1	1	3	4
	5 PM	1	1	2	4	5
	6 PM	0	1	1	2	4
	7 PM	0	1	1	2	3
	8 PM	0	1	1	2	2
	9 PM	0	0	1	1	2
	10 PM	0	0	0	1	1
	11 PM	0	0	0	0	1

Heavy Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	0	0
	6 AM	0	0	0	0	0
	7 AM	0	0	0	0	0
	8 AM	0	0	0	0	0
	9 AM	0	0	0	0	0
	10 AM	0	0	0	0	0
	11 AM	0	0	0	0	0
	12 PM	0	0	0	0	0
	1 PM	0	0	0	0	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	0	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: PagelandNB_1			Distance (mi): -	
	Facility: NB VA 705 (Sanders Ln)				
	From: Livia Dr		To: VA 234 (Sudley Rd)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Collector	Collector	Collector	Collector	Collector
	Lanes	1	1	1	1	1
	Lane capacity	800	800	800	800	800
	FF Speed	50	50	50	50	50
	Daily Volume	400	800	1,000	2,000	2,900
	Daily Truck %	4%	4%	4%	4%	5%

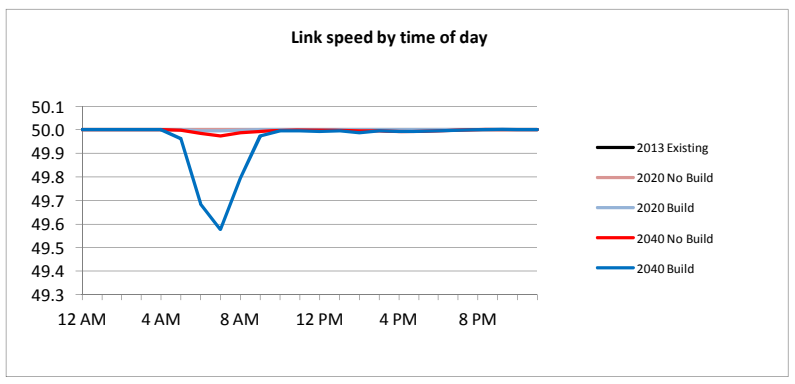
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	2	4	4	10	13
	1 AM	0	1	1	2	3
	2 AM	0	1	1	2	3
	3 AM	1	2	2	4	6
	4 AM	3	6	10	15	29
	5 AM	23	38	69	108	203
	6 AM	40	60	120	170	330
	7 AM	40	67	120	188	352
	8 AM	35	58	102	161	301
	9 AM	25	55	61	136	190
	10 AM	17	38	42	93	131
	11 AM	16	35	39	87	122
	12 PM	17	39	43	95	134
	1 PM	17	38	42	93	131
	2 PM	21	47	52	114	160
	3 PM	24	54	47	123	127
	4 PM	27	59	54	138	143
	5 PM	30	60	60	140	150
	6 PM	24	55	47	124	127
	7 PM	17	38	34	87	90
	8 PM	10	22	24	53	74
	9 PM	6	13	14	32	45
	10 PM	3	7	8	17	24
	11 PM	2	3	4	8	12

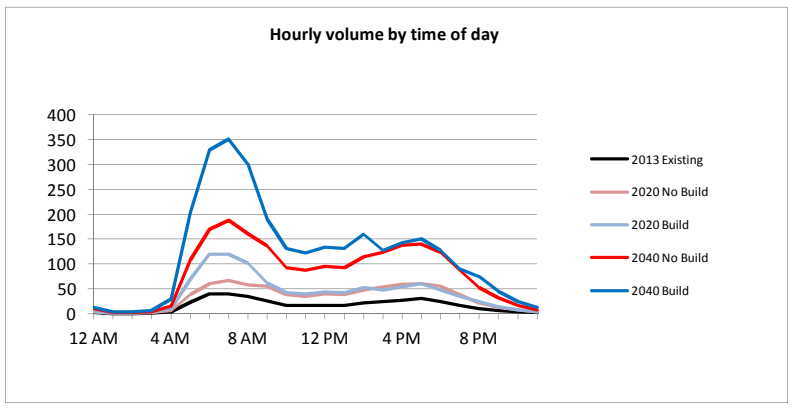
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	50.0	50.0	50.0	50.0	50.0
	1 AM	50.0	50.0	50.0	50.0	50.0
	2 AM	50.0	50.0	50.0	50.0	50.0
	3 AM	50.0	50.0	50.0	50.0	50.0
	4 AM	50.0	50.0	50.0	50.0	50.0
	5 AM	50.0	50.0	50.0	50.0	50.0
	6 AM	50.0	50.0	50.0	50.0	49.7
	7 AM	50.0	50.0	50.0	50.0	49.6
	8 AM	50.0	50.0	50.0	50.0	49.8
	9 AM	50.0	50.0	50.0	50.0	50.0
	10 AM	50.0	50.0	50.0	50.0	50.0
	11 AM	50.0	50.0	50.0	50.0	50.0
	12 PM	50.0	50.0	50.0	50.0	50.0
	1 PM	50.0	50.0	50.0	50.0	50.0
	2 PM	50.0	50.0	50.0	50.0	50.0
	3 PM	50.0	50.0	50.0	50.0	50.0
	4 PM	50.0	50.0	50.0	50.0	50.0
	5 PM	50.0	50.0	50.0	50.0	50.0
	6 PM	50.0	50.0	50.0	50.0	50.0
	7 PM	50.0	50.0	50.0	50.0	50.0
	8 PM	50.0	50.0	50.0	50.0	50.0
	9 PM	50.0	50.0	50.0	50.0	50.0
	10 PM	50.0	50.0	50.0	50.0	50.0
	11 PM	50.0	50.0	50.0	50.0	50.0

Passenger Vehicle Volume						
	12 AM	2	4	4	9	12
	1 AM	0	1	1	2	3
	2 AM	0	1	1	2	3
	3 AM	1	2	2	3	5
	4 AM	3	5	9	13	26
	5 AM	21	35	64	100	186
	6 AM	38	57	114	161	312
	7 AM	38	63	114	178	332
	8 AM	33	55	97	152	285
	9 AM	23	51	57	127	177
	10 AM	16	35	39	87	122
	11 AM	15	33	36	81	114
	12 PM	16	37	41	90	126
	1 PM	16	36	40	89	125
	2 PM	20	45	50	110	155
	3 PM	23	53	46	120	124
	4 PM	27	58	53	136	141
	5 PM	30	59	59	138	148
	6 PM	24	54	46	122	125
	7 PM	17	37	33	85	88
	8 PM	10	22	24	52	72
	9 PM	6	13	14	31	44
	10 PM	3	7	8	16	23
	11 PM	2	3	4	8	11

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	0	1	1
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	1	1
	4 AM	0	1	1	2	3
	5 AM	2	3	5	8	16
	6 AM	2	3	6	9	18
	7 AM	2	4	6	10	19
	8 AM	2	3	5	9	16
	9 AM	2	4	4	9	13
	10 AM	1	3	3	6	9
	11 AM	1	2	3	6	8
	12 PM	1	2	2	5	8
	1 PM	1	2	2	4	6
	2 PM	1	2	2	4	5
	3 PM	1	1	1	3	3
	4 PM	0	1	1	2	2
	5 PM	0	1	1	2	2
	6 PM	0	1	1	2	2
	7 PM	0	1	1	2	2
	8 PM	0	0	0	1	2
	9 PM	0	0	0	1	1
	10 PM	0	0	0	1	1
	11 PM	0	0	0	0	1

Heavy Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	0	1
	6 AM	0	0	0	0	0
	7 AM	0	0	0	0	1
	8 AM	0	0	0	0	0
	9 AM	0	0	0	0	0
	10 AM	0	0	0	0	0
	11 AM	0	0	0	0	0
	12 PM	0	0	0	0	0
	1 PM	0	0	0	0	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	0	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: US50EB_10			Distance (mi): -	
	Facility: EB US 50				
	From: Racefield Ln		To: TCP/Dulle Connector		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Major Arterial	Major Arterial	Major Arterial	Major Arterial	Major Arterial
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	60	60	60	60	60
	Daily Volume	11,400	14,500	14,500	23,200	23,200
	Daily Truck %	6%	6%	6%	6%	6%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	49	62	62	98	98
	1 AM	27	34	34	55	55
	2 AM	27	34	34	55	55
	3 AM	41	51	51	82	82
	4 AM	138	176	179	285	285
	5 AM	600	768	777	1,241	1,241
	6 AM	1,220	1,570	1,590	2,550	2,550
	7 AM	1,357	1,734	1,757	2,806	2,806
	8 AM	1,294	1,652	1,675	2,675	2,675
	9 AM	832	1,050	1,051	1,674	1,674
	10 AM	574	725	726	1,156	1,156
	11 AM	504	636	637	1,014	1,014
	12 PM	526	663	664	1,058	1,058
	1 PM	520	657	657	1,047	1,047
	2 PM	577	728	729	1,161	1,161
	3 PM	465	592	575	929	929
	4 PM	481	614	596	961	961
	5 PM	530	680	660	1,070	1,070
	6 PM	461	586	570	922	922
	7 PM	372	473	460	742	742
	8 PM	317	400	400	638	638
	9 PM	236	297	298	474	474
	10 PM	160	202	202	322	322
	11 PM	92	116	116	185	185

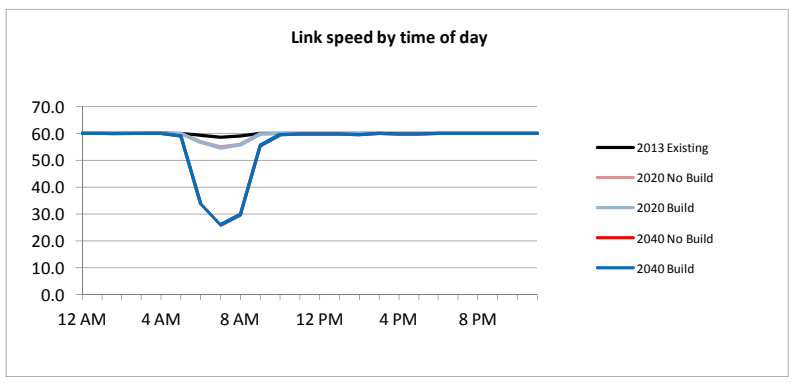
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	60.0	60.0	60.0	60.0	60.0
	1 AM	60.0	60.0	60.0	60.0	60.0
	2 AM	60.0	60.0	60.0	60.0	60.0
	3 AM	60.0	60.0	60.0	60.0	60.0
	4 AM	60.0	60.0	60.0	60.0	60.0
	5 AM	60.0	59.9	59.9	59.0	59.0
	6 AM	59.2	56.9	56.7	33.7	33.7
	7 AM	58.6	54.8	54.5	25.8	25.8
	8 AM	58.9	56.0	55.7	29.7	29.7
	9 AM	59.9	59.6	59.6	55.5	55.5
	10 AM	60.0	60.0	60.0	59.4	59.4
	11 AM	60.0	60.0	60.0	59.7	59.7
	12 PM	60.0	60.0	60.0	59.6	59.6
	1 PM	60.0	60.0	60.0	59.6	59.6
	2 PM	60.0	60.0	60.0	59.4	59.4
	3 PM	60.0	60.0	60.0	59.8	59.8
	4 PM	60.0	60.0	60.0	59.8	59.8
	5 PM	60.0	60.0	60.0	59.6	59.6
	6 PM	60.0	60.0	60.0	59.8	59.8
	7 PM	60.0	60.0	60.0	60.0	60.0
	8 PM	60.0	60.0	60.0	60.0	60.0
	9 PM	60.0	60.0	60.0	60.0	60.0
	10 PM	60.0	60.0	60.0	60.0	60.0
	11 PM	60.0	60.0	60.0	60.0	60.0

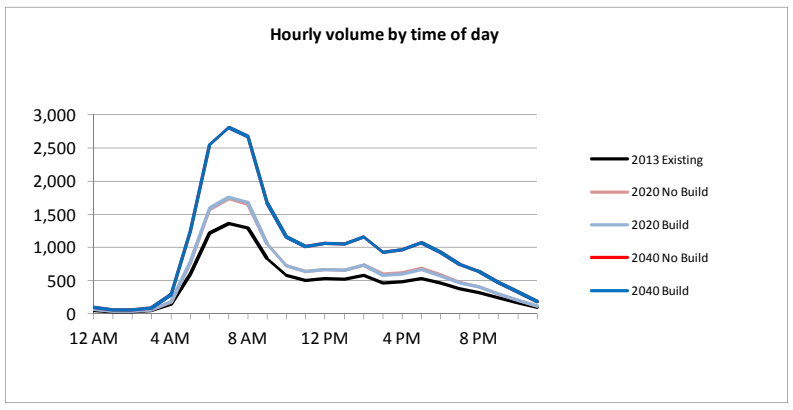
Passenger Vehicle Volume						
	12 AM	42	53	53	82	82
	1 AM	22	27	27	43	43
	2 AM	20	25	25	41	41
	3 AM	31	38	38	62	62
	4 AM	114	145	148	235	235
	5 AM	541	694	702	1,121	1,121
	6 AM	1,154	1,486	1,505	2,412	2,412
	7 AM	1,284	1,641	1,663	2,655	2,655
	8 AM	1,225	1,564	1,585	2,531	2,531
	9 AM	771	973	974	1,552	1,552
	10 AM	527	667	668	1,063	1,063
	11 AM	461	581	582	927	927
	12 PM	485	611	612	976	976
	1 PM	486	614	614	979	979
	2 PM	548	691	692	1,103	1,103
	3 PM	447	569	554	894	894
	4 PM	468	598	580	936	936
	5 PM	516	662	642	1,042	1,042
	6 PM	449	571	555	898	898
	7 PM	359	456	444	716	716
	8 PM	305	384	384	613	613
	9 PM	225	282	283	451	451
	10 PM	150	189	189	302	302
	11 PM	83	105	105	168	168

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	3	4	4	7	7
	1 AM	2	3	3	5	5
	2 AM	3	4	4	6	6
	3 AM	5	6	6	9	9
	4 AM	11	15	15	24	24
	5 AM	32	40	41	65	65
	6 AM	44	56	57	92	92
	7 AM	49	62	63	101	101
	8 AM	46	59	60	96	96
	9 AM	37	47	47	75	75
	10 AM	28	35	35	56	56
	11 AM	24	31	31	49	49
	12 PM	24	30	30	48	48
	1 PM	20	25	25	40	40
	2 PM	18	23	23	36	36
	3 PM	11	14	13	21	21
	4 PM	8	10	10	15	15
	5 PM	9	11	11	17	17
	6 PM	7	9	9	15	15
	7 PM	7	9	9	14	14
	8 PM	6	8	8	13	13
	9 PM	5	7	7	10	10
	10 PM	5	6	6	9	9
	11 PM	4	5	5	7	7

Heavy Truck Volume						
	12 AM	4	5	5	9	9
	1 AM	3	4	4	7	7
	2 AM	4	5	5	8	8
	3 AM	5	7	7	11	11
	4 AM	13	16	16	26	26
	5 AM	27	34	34	55	55
	6 AM	22	28	28	46	46
	7 AM	24	31	31	50	50
	8 AM	23	29	30	48	48
	9 AM	24	30	30	47	47
	10 AM	19	23	23	37	37
	11 AM	19	24	24	38	38
	12 PM	17	22	22	34	34
	1 PM	14	18	18	28	28
	2 PM	11	14	14	22	22
	3 PM	7	9	8	14	14
	4 PM	5	6	6	10	10
	5 PM	5	7	7	11	11
	6 PM	5	6	6	9	9
	7 PM	6	8	7	12	12
	8 PM	6	8	8	12	12
	9 PM	6	8	8	13	13
	10 PM	5	7	7	11	11
	11 PM	5	6	6	10	10





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: US50WB_10			Distance (mi): -	
	Facility: WB US 50				
	From: TCP/Dulle Connector		To: Racefield Ln		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Major Arterial	Major Arterial	Major Arterial	Major Arterial	Major Arterial
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	60	60	60	60	60
	Daily Volume	11,400	14,500	14,500	23,200	23,200
	Daily Truck %	5%	5%	5%	5%	5%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	76	97	97	154	155
	1 AM	44	56	56	89	89
	2 AM	37	47	48	76	76
	3 AM	41	52	53	83	84
	4 AM	63	78	75	124	122
	5 AM	185	232	221	367	361
	6 AM	380	470	450	750	730
	7 AM	420	524	501	830	814
	8 AM	445	552	531	877	861
	9 AM	535	684	686	1,089	1,098
	10 AM	471	602	604	959	967
	11 AM	489	625	627	995	1,003
	12 PM	551	704	706	1,120	1,129
	1 PM	580	741	744	1,180	1,190
	2 PM	621	794	796	1,264	1,274
	3 PM	1,021	1,304	1,316	2,096	2,098
	4 PM	1,128	1,442	1,453	2,317	2,319
	5 PM	1,330	1,690	1,700	2,730	2,710
	6 PM	1,106	1,409	1,424	2,267	2,268
	7 PM	794	1,013	1,023	1,629	1,630
	8 PM	429	548	550	873	880
	9 PM	321	411	412	654	659
	10 PM	214	273	274	435	439
	11 PM	119	152	153	242	244

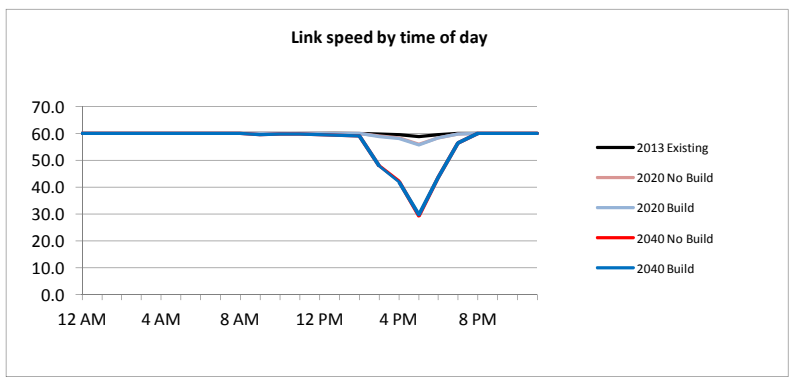
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	60.0	60.0	60.0	60.0	60.0
	1 AM	60.0	60.0	60.0	60.0	60.0
	2 AM	60.0	60.0	60.0	60.0	60.0
	3 AM	60.0	60.0	60.0	60.0	60.0
	4 AM	60.0	60.0	60.0	60.0	60.0
	5 AM	60.0	60.0	60.0	60.0	60.0
	6 AM	60.0	60.0	60.0	59.9	60.0
	7 AM	60.0	60.0	60.0	59.9	59.9
	8 AM	60.0	60.0	60.0	59.9	59.9
	9 AM	60.0	60.0	60.0	59.5	59.5
	10 AM	60.0	60.0	60.0	59.8	59.8
	11 AM	60.0	60.0	60.0	59.7	59.7
	12 PM	60.0	60.0	60.0	59.5	59.4
	1 PM	60.0	59.9	59.9	59.3	59.3
	2 PM	60.0	59.9	59.9	59.0	59.0
	3 PM	59.7	58.9	58.8	47.8	47.7
	4 PM	59.5	58.2	58.1	42.0	41.9
	5 PM	58.8	55.8	55.7	29.2	29.8
	6 PM	59.6	58.4	58.3	43.5	43.4
	7 PM	59.9	59.7	59.7	56.4	56.4
	8 PM	60.0	60.0	60.0	59.9	59.9
	9 PM	60.0	60.0	60.0	60.0	60.0
	10 PM	60.0	60.0	60.0	60.0	60.0
	11 PM	60.0	60.0	60.0	60.0	60.0

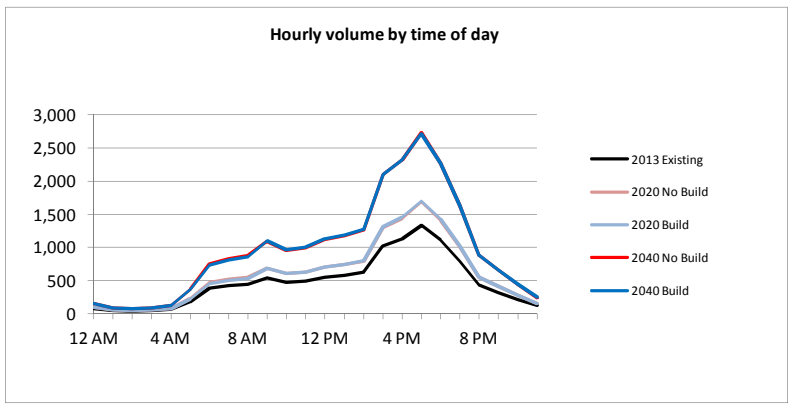
Passenger Vehicle Volume						
	12 AM	64	81	81	130	130
	1 AM	34	44	44	70	70
	2 AM	28	35	36	57	57
	3 AM	31	39	40	63	63
	4 AM	52	65	62	103	101
	5 AM	167	210	199	332	326
	6 AM	359	445	426	710	691
	7 AM	398	496	474	785	770
	8 AM	421	522	503	830	815
	9 AM	496	634	636	1,009	1,018
	10 AM	433	554	555	882	889
	11 AM	447	572	574	910	918
	12 PM	508	649	651	1,033	1,041
	1 PM	542	693	695	1,103	1,112
	2 PM	590	754	756	1,200	1,209
	3 PM	983	1,255	1,267	2,017	2,019
	4 PM	1,099	1,405	1,416	2,257	2,259
	5 PM	1,296	1,646	1,656	2,659	2,640
	6 PM	1,077	1,372	1,387	2,208	2,209
	7 PM	766	978	988	1,573	1,574
	8 PM	413	526	528	839	846
	9 PM	305	391	392	622	627
	10 PM	201	256	257	407	411
	11 PM	108	138	139	219	221

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	5	7	7	10	11
	1 AM	4	5	5	8	8
	2 AM	4	5	5	8	8
	3 AM	5	6	6	9	10
	4 AM	5	6	6	10	10
	5 AM	10	12	12	19	19
	6 AM	14	17	16	27	26
	7 AM	15	19	18	30	29
	8 AM	16	20	19	31	31
	9 AM	24	31	31	49	49
	10 AM	23	29	29	46	47
	11 AM	24	30	30	48	48
	12 PM	25	32	32	51	51
	1 PM	22	28	29	45	46
	2 PM	19	25	25	40	40
	3 PM	23	30	30	48	48
	4 PM	18	23	23	37	37
	5 PM	21	27	27	44	43
	6 PM	18	23	23	36	36
	7 PM	15	19	19	30	30
	8 PM	8	11	11	17	17
	9 PM	7	9	9	14	14
	10 PM	6	8	8	13	13
	11 PM	5	6	6	10	10

Heavy Truck Volume						
	12 AM	7	9	9	14	14
	1 AM	6	7	7	11	11
	2 AM	5	7	7	11	11
	3 AM	5	7	7	11	11
	4 AM	6	7	7	11	11
	5 AM	8	10	10	16	16
	6 AM	7	8	8	13	13
	7 AM	7	9	9	15	15
	8 AM	8	10	9	16	15
	9 AM	15	19	19	31	31
	10 AM	15	19	20	31	31
	11 AM	18	23	23	37	37
	12 PM	18	23	23	36	37
	1 PM	16	20	20	32	32
	2 PM	12	15	15	24	25
	3 PM	15	19	19	31	31
	4 PM	11	14	14	23	23
	5 PM	13	17	17	27	27
	6 PM	11	14	14	23	23
	7 PM	13	16	16	26	26
	8 PM	8	11	11	17	17
	9 PM	9	11	11	18	18
	10 PM	7	9	9	15	15
	11 PM	6	8	8	13	13





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: US50EB_11			Distance (mi): -	
	Facility: EB US 50				
	From: TCP/Dulle Connector		To: Stone Springs Blvd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Major Arterial	Major Arterial	Major Arterial	Major Arterial	Major Arterial
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	60	60	60	60	60
	Daily Volume	11,400	14,200	13,500	22,100	19,600
	Daily Truck %	6%	6%	6%	6%	6%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	49	61	58	94	84
	1 AM	27	34	32	52	47
	2 AM	27	34	32	52	47
	3 AM	41	51	48	78	70
	4 AM	138	171	161	269	237
	5 AM	600	745	702	1,171	1,033
	6 AM	1,220	1,510	1,420	2,390	2,100
	7 AM	1,357	1,685	1,586	2,645	2,336
	8 AM	1,294	1,606	1,511	2,521	2,227
	9 AM	832	1,039	988	1,603	1,430
	10 AM	574	718	682	1,107	987
	11 AM	504	630	599	971	866
	12 PM	526	657	625	1,013	903
	1 PM	520	650	618	1,003	894
	2 PM	577	721	686	1,112	992
	3 PM	465	581	564	899	799
	4 PM	481	601	584	931	826
	5 PM	530	660	640	1,030	910
	6 PM	461	577	558	890	791
	7 PM	372	464	450	718	638
	8 PM	317	396	377	611	545
	9 PM	236	294	280	454	405
	10 PM	160	200	190	308	275
	11 PM	92	115	109	178	158

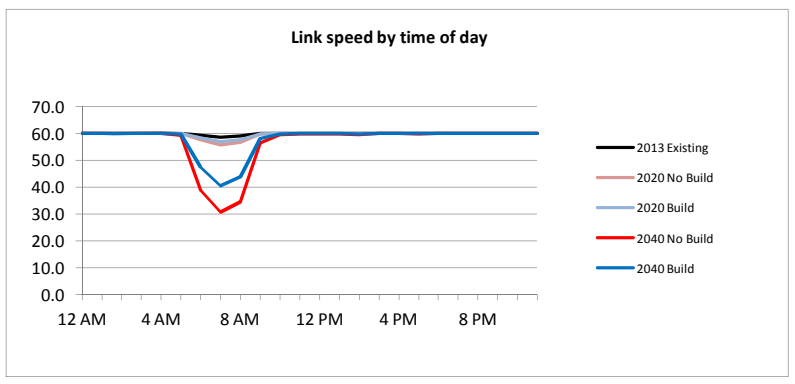
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	60.0	60.0	60.0	60.0	60.0
	1 AM	60.0	60.0	60.0	60.0	60.0
	2 AM	60.0	60.0	60.0	60.0	60.0
	3 AM	60.0	60.0	60.0	60.0	60.0
	4 AM	60.0	60.0	60.0	60.0	60.0
	5 AM	60.0	59.9	60.0	59.3	59.6
	6 AM	59.2	57.5	58.2	38.7	47.3
	7 AM	58.6	55.5	56.8	30.6	40.5
	8 AM	58.9	56.5	57.5	34.6	43.7
	9 AM	59.9	59.6	59.7	56.4	58.0
	10 AM	60.0	60.0	60.0	59.5	59.7
	11 AM	60.0	60.0	60.0	59.8	59.9
	12 PM	60.0	60.0	60.0	59.7	59.8
	1 PM	60.0	60.0	60.0	59.7	59.8
	2 PM	60.0	60.0	60.0	59.5	59.7
	3 PM	60.0	60.0	60.0	59.9	59.9
	4 PM	60.0	60.0	60.0	59.8	59.9
	5 PM	60.0	60.0	60.0	59.7	59.9
	6 PM	60.0	60.0	60.0	59.9	59.9
	7 PM	60.0	60.0	60.0	60.0	60.0
	8 PM	60.0	60.0	60.0	60.0	60.0
	9 PM	60.0	60.0	60.0	60.0	60.0
	10 PM	60.0	60.0	60.0	60.0	60.0
	11 PM	60.0	60.0	60.0	60.0	60.0

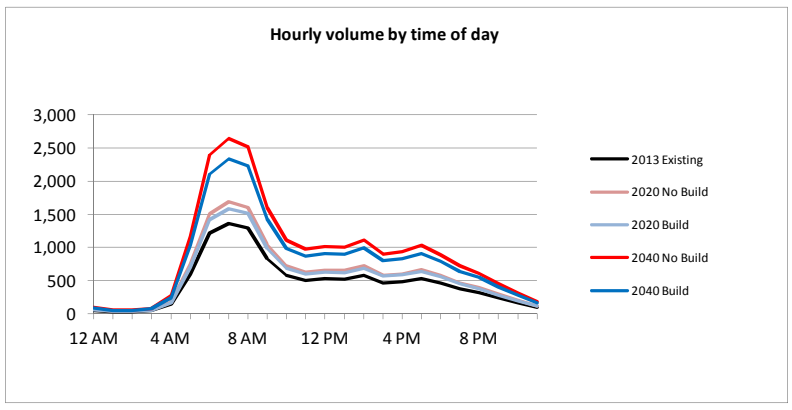
Passenger Vehicle Volume						
	12 AM	42	52	49	80	71
	1 AM	22	27	25	40	37
	2 AM	20	25	24	40	35
	3 AM	31	38	37	59	53
	4 AM	114	141	133	222	195
	5 AM	541	673	634	1,058	933
	6 AM	1,154	1,429	1,344	2,261	1,988
	7 AM	1,284	1,594	1,501	2,503	2,210
	8 AM	1,225	1,519	1,430	2,385	2,107
	9 AM	771	964	916	1,486	1,326
	10 AM	527	660	627	1,017	907
	11 AM	461	577	548	888	792
	12 PM	485	606	577	934	833
	1 PM	486	607	577	938	836
	2 PM	548	684	652	1,056	942
	3 PM	447	560	543	865	769
	4 PM	468	585	569	907	805
	5 PM	516	642	624	1,003	886
	6 PM	449	562	543	867	770
	7 PM	359	448	435	694	616
	8 PM	305	380	363	587	523
	9 PM	225	280	266	432	385
	10 PM	150	187	178	288	258
	11 PM	83	104	99	161	143

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	3	4	4	6	6
	1 AM	2	3	3	5	4
	2 AM	3	4	3	5	5
	3 AM	5	6	5	9	8
	4 AM	11	14	13	22	20
	5 AM	32	39	37	61	54
	6 AM	44	54	51	86	75
	7 AM	49	61	57	95	84
	8 AM	46	58	54	91	80
	9 AM	37	46	44	72	64
	10 AM	28	35	33	54	48
	11 AM	24	30	29	47	42
	12 PM	24	30	28	46	41
	1 PM	20	25	24	38	34
	2 PM	18	23	21	35	31
	3 PM	11	13	13	21	18
	4 PM	8	10	9	15	13
	5 PM	9	11	10	17	15
	6 PM	7	9	9	14	13
	7 PM	7	9	8	13	12
	8 PM	6	8	7	12	11
	9 PM	5	6	6	10	9
	10 PM	5	6	6	9	8
	11 PM	4	5	4	7	6

Heavy Truck Volume						
	12 AM	4	5	5	8	7
	1 AM	3	4	4	7	6
	2 AM	4	5	5	7	7
	3 AM	5	7	6	10	9
	4 AM	13	16	15	25	22
	5 AM	27	33	31	52	46
	6 AM	22	27	25	43	37
	7 AM	24	30	28	47	42
	8 AM	23	29	27	45	40
	9 AM	24	29	28	45	40
	10 AM	19	23	22	36	32
	11 AM	19	23	22	36	32
	12 PM	17	21	20	33	29
	1 PM	14	18	17	27	24
	2 PM	11	14	13	21	19
	3 PM	7	8	8	13	12
	4 PM	5	6	6	9	8
	5 PM	5	7	6	10	9
	6 PM	5	6	6	9	8
	7 PM	6	7	7	11	10
	8 PM	6	8	7	12	11
	9 PM	6	8	8	12	11
	10 PM	5	7	6	11	9
	11 PM	5	6	6	10	9





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: US50WB_11			Distance (mi): -	
	Facility: WB US 50				
	From: Stone Springs Blvd		To: TCP/Dulle Connector		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Major Arterial	Major Arterial	Major Arterial	Major Arterial	Major Arterial
	Lanes	2	2	2	2	2
	Lane capacity	1,100	1,100	1,100	1,100	1,100
	FF Speed	60	60	60	60	60
	Daily Volume	11,400	14,200	13,500	22,100	19,600
	Daily Truck %	5%	5%	5%	5%	5%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	76	94	89	146	130
	1 AM	44	54	51	84	75
	2 AM	37	46	44	72	64
	3 AM	41	51	48	79	71
	4 AM	63	81	80	124	108
	5 AM	185	239	235	366	319
	6 AM	380	490	480	750	650
	7 AM	420	541	530	827	721
	8 AM	445	571	561	875	762
	9 AM	535	664	633	1,034	922
	10 AM	471	585	557	910	812
	11 AM	489	607	578	945	843
	12 PM	551	684	651	1,064	949
	1 PM	580	720	686	1,121	1,000
	2 PM	621	771	734	1,200	1,070
	3 PM	1,021	1,263	1,188	1,975	1,755
	4 PM	1,128	1,396	1,314	2,183	1,940
	5 PM	1,330	1,650	1,550	2,580	2,280
	6 PM	1,106	1,366	1,286	2,137	1,899
	7 PM	794	982	924	1,535	1,364
	8 PM	429	533	507	829	739
	9 PM	321	399	380	621	554
	10 PM	214	265	253	413	368
	11 PM	119	148	141	230	205

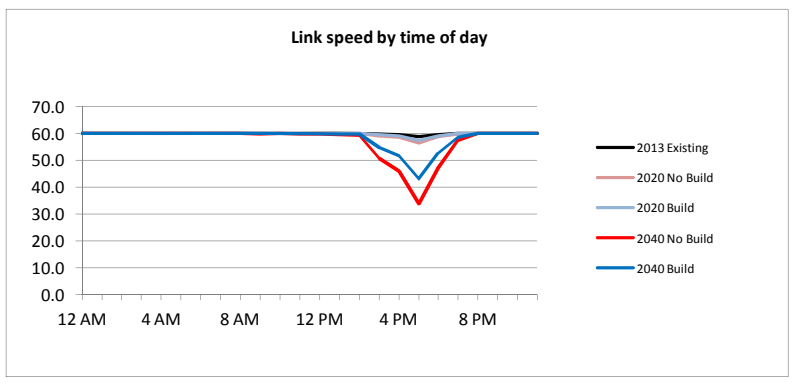
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	6	6	6	6	6
	12 AM	60.0	60.0	60.0	60.0	60.0
	1 AM	60.0	60.0	60.0	60.0	60.0
	2 AM	60.0	60.0	60.0	60.0	60.0
	3 AM	60.0	60.0	60.0	60.0	60.0
	4 AM	60.0	60.0	60.0	60.0	60.0
	5 AM	60.0	60.0	60.0	60.0	60.0
	6 AM	60.0	60.0	60.0	59.9	60.0
	7 AM	60.0	60.0	60.0	59.9	60.0
	8 AM	60.0	60.0	60.0	59.9	59.9
	9 AM	60.0	60.0	60.0	59.7	59.8
	10 AM	60.0	60.0	60.0	59.8	59.9
	11 AM	60.0	60.0	60.0	59.8	59.9
	12 PM	60.0	60.0	60.0	59.6	59.8
	1 PM	60.0	60.0	60.0	59.5	59.7
	2 PM	60.0	59.9	60.0	59.3	59.6
	3 PM	59.7	59.1	59.3	50.7	54.7
	4 PM	59.5	58.5	58.9	45.9	51.7
	5 PM	58.8	56.3	57.3	33.8	43.1
	6 PM	59.6	58.6	59.0	47.1	52.5
	7 PM	59.9	59.8	59.8	57.4	58.6
	8 PM	60.0	60.0	60.0	59.9	60.0
	9 PM	60.0	60.0	60.0	60.0	60.0
	10 PM	60.0	60.0	60.0	60.0	60.0
	11 PM	60.0	60.0	60.0	60.0	60.0

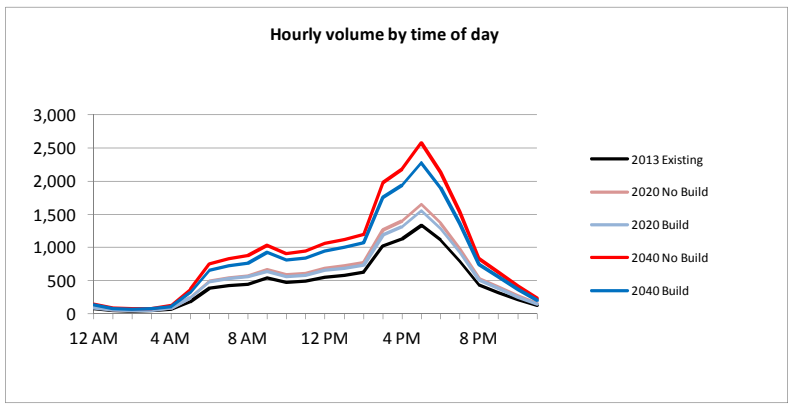
Passenger Vehicle Volume						
	12 AM	64	80	75	123	110
	1 AM	34	42	40	65	59
	2 AM	28	34	33	54	48
	3 AM	31	38	37	60	54
	4 AM	52	67	66	103	89
	5 AM	167	215	213	331	288
	6 AM	359	463	454	710	615
	7 AM	398	512	502	782	682
	8 AM	421	540	531	828	721
	9 AM	496	615	587	959	855
	10 AM	433	538	512	837	747
	11 AM	447	555	529	864	771
	12 PM	508	631	600	981	875
	1 PM	542	673	641	1,048	935
	2 PM	590	732	697	1,139	1,015
	3 PM	983	1,216	1,144	1,901	1,689
	4 PM	1,099	1,360	1,280	2,126	1,890
	5 PM	1,296	1,608	1,510	2,513	2,220
	6 PM	1,077	1,330	1,252	2,082	1,850
	7 PM	766	948	892	1,482	1,317
	8 PM	413	513	487	797	711
	9 PM	305	379	362	590	527
	10 PM	201	248	237	387	344
	11 PM	108	134	127	209	186

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	5	6	6	10	9
	1 AM	4	5	5	8	7
	2 AM	4	5	5	8	7
	3 AM	5	6	5	9	8
	4 AM	5	7	7	10	9
	5 AM	10	13	12	19	17
	6 AM	14	18	17	27	23
	7 AM	15	19	19	30	26
	8 AM	16	21	20	31	27
	9 AM	24	30	28	46	41
	10 AM	23	28	27	44	39
	11 AM	24	29	28	46	41
	12 PM	25	31	30	48	43
	1 PM	22	28	26	43	38
	2 PM	19	24	23	38	34
	3 PM	23	29	27	45	40
	4 PM	18	22	21	35	31
	5 PM	21	26	25	41	37
	6 PM	18	22	21	34	30
	7 PM	15	18	17	29	25
	8 PM	8	10	10	16	14
	9 PM	7	9	8	14	12
	10 PM	6	8	7	12	11
	11 PM	5	6	6	9	8

Heavy Truck Volume						
	12 AM	7	8	8	13	11
	1 AM	6	7	6	11	9
	2 AM	5	7	6	10	9
	3 AM	5	7	6	10	9
	4 AM	6	7	7	11	10
	5 AM	8	11	10	16	14
	6 AM	7	9	9	13	12
	7 AM	7	10	9	15	13
	8 AM	8	10	10	16	14
	9 AM	15	19	18	29	26
	10 AM	15	19	18	29	26
	11 AM	18	23	21	35	31
	12 PM	18	22	21	35	31
	1 PM	16	19	19	30	27
	2 PM	12	15	14	23	21
	3 PM	15	18	17	29	26
	4 PM	11	14	13	22	19
	5 PM	13	16	15	26	23
	6 PM	11	14	13	21	19
	7 PM	13	16	15	24	22
	8 PM	8	10	10	16	14
	9 PM	9	11	10	17	15
	10 PM	7	9	9	14	13
	11 PM	6	8	8	12	11





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TallCedarsEB_1			Distance (mi): -	
	Facility: EB Tall Cedars Pkwy				
	From: TCP/Northstar Blvd		To: Stone Springs Blvd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	45	45	45	45	45
	Daily Volume	700	1,000	1,000	2,000	2,000
	Daily Truck %	0%	0%	0%	0%	0%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	3	4	4	8	8
	1 AM	2	2	2	5	5
	2 AM	1	2	2	4	4
	3 AM	2	2	2	4	5
	4 AM	8	12	10	24	24
	5 AM	24	34	28	70	71
	6 AM	80	120	100	230	230
	7 AM	53	77	64	157	160
	8 AM	56	82	68	166	169
	9 AM	20	27	27	58	59
	10 AM	17	24	24	51	52
	11 AM	18	25	25	53	54
	12 PM	20	28	28	60	61
	1 PM	21	30	30	63	64
	2 PM	23	32	32	67	69
	3 PM	51	72	80	142	140
	4 PM	56	79	89	157	155
	5 PM	110	160	180	300	290
	6 PM	55	77	88	154	152
	7 PM	40	56	62	110	109
	8 PM	16	22	22	46	47
	9 PM	12	16	16	35	35
	10 PM	8	11	11	23	24
	11 PM	4	6	6	13	13

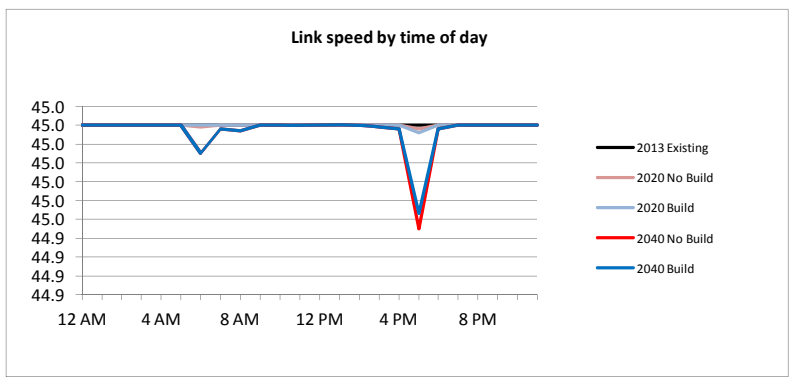
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	45.0	45.0
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	44.9	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

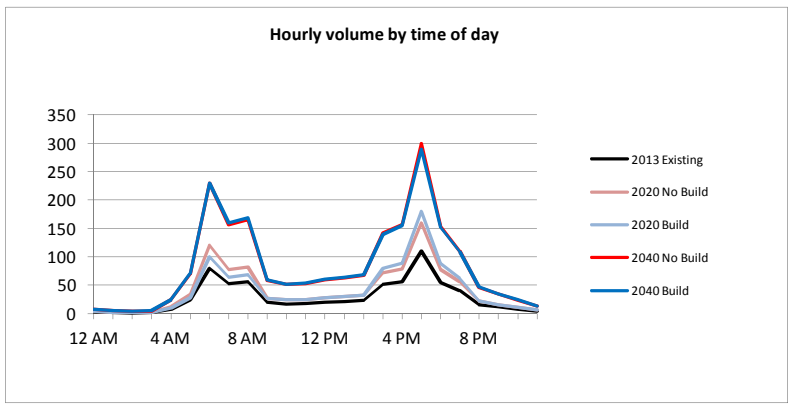
Passenger Vehicle Volume						
	12 AM	3	4	4	8	8
	1 AM	2	2	2	5	5
	2 AM	1	2	2	4	4
	3 AM	2	2	2	4	5
	4 AM	8	12	10	24	24
	5 AM	24	34	28	70	71
	6 AM	80	120	100	230	230
	7 AM	53	77	64	157	160
	8 AM	56	82	68	166	169
	9 AM	20	27	27	58	59
	10 AM	17	24	24	51	52
	11 AM	18	25	25	53	54
	12 PM	20	28	28	60	61
	1 PM	21	30	30	63	64
	2 PM	23	32	32	67	69
	3 PM	51	72	80	142	140
	4 PM	56	79	89	157	155
	5 PM	110	160	180	300	290
	6 PM	55	77	88	154	152
	7 PM	40	56	62	110	109
	8 PM	16	22	22	46	47
	9 PM	12	16	16	35	35
	10 PM	8	11	11	23	24
	11 PM	4	6	6	13	13

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	0	0
	6 AM	0	0	0	0	0
	7 AM	0	0	0	0	0
	8 AM	0	0	0	0	0
	9 AM	0	0	0	0	0
	10 AM	0	0	0	0	0
	11 AM	0	0	0	0	0
	12 PM	0	0	0	0	0
	1 PM	0	0	0	0	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	0	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0

Heavy Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	0	0
	6 AM	0	0	0	0	0
	7 AM	0	0	0	0	0
	8 AM	0	0	0	0	0
	9 AM	0	0	0	0	0
	10 AM	0	0	0	0	0
	11 AM	0	0	0	0	0
	12 PM	0	0	0	0	0
	1 PM	0	0	0	0	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	0	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: TallCedarsWB_1			Distance (mi): -	
	Facility: WB Tall Cedars Pkwy				
	From: Stone Springs Blvd		To: TCP/Northstar Blvd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	45	45	45	45	45
	Daily Volume	700	1,000	1,000	2,000	2,000
	Daily Truck %	0%	0%	0%	0%	0%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	2	3	3	6	6
	1 AM	1	2	2	3	3
	2 AM	1	2	2	3	3
	3 AM	2	2	2	5	5
	4 AM	9	12	13	25	24
	5 AM	40	54	56	108	107
	6 AM	110	160	180	320	320
	7 AM	89	122	128	245	240
	8 AM	84	117	122	233	228
	9 AM	37	50	46	100	98
	10 AM	25	35	32	69	68
	11 AM	22	30	28	61	59
	12 PM	23	32	29	63	62
	1 PM	23	31	29	63	61
	2 PM	26	35	32	70	68
	3 PM	32	48	45	96	100
	4 PM	34	50	46	100	105
	5 PM	50	80	80	160	170
	6 PM	30	47	44	97	98
	7 PM	25	39	36	77	80
	8 PM	14	19	18	38	37
	9 PM	10	14	13	28	28
	10 PM	7	10	9	19	19
	11 PM	4	6	5	11	11

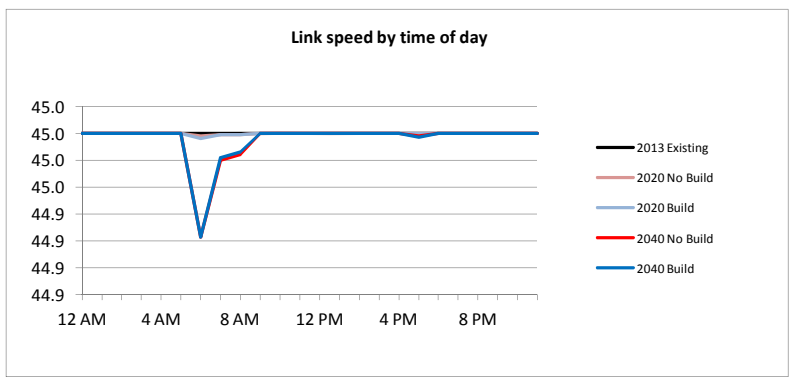
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	45.0	45.0	45.0	45.0	45.0
	1 AM	45.0	45.0	45.0	45.0	45.0
	2 AM	45.0	45.0	45.0	45.0	45.0
	3 AM	45.0	45.0	45.0	45.0	45.0
	4 AM	45.0	45.0	45.0	45.0	45.0
	5 AM	45.0	45.0	45.0	45.0	45.0
	6 AM	45.0	45.0	45.0	44.9	44.9
	7 AM	45.0	45.0	45.0	45.0	45.0
	8 AM	45.0	45.0	45.0	45.0	45.0
	9 AM	45.0	45.0	45.0	45.0	45.0
	10 AM	45.0	45.0	45.0	45.0	45.0
	11 AM	45.0	45.0	45.0	45.0	45.0
	12 PM	45.0	45.0	45.0	45.0	45.0
	1 PM	45.0	45.0	45.0	45.0	45.0
	2 PM	45.0	45.0	45.0	45.0	45.0
	3 PM	45.0	45.0	45.0	45.0	45.0
	4 PM	45.0	45.0	45.0	45.0	45.0
	5 PM	45.0	45.0	45.0	45.0	45.0
	6 PM	45.0	45.0	45.0	45.0	45.0
	7 PM	45.0	45.0	45.0	45.0	45.0
	8 PM	45.0	45.0	45.0	45.0	45.0
	9 PM	45.0	45.0	45.0	45.0	45.0
	10 PM	45.0	45.0	45.0	45.0	45.0
	11 PM	45.0	45.0	45.0	45.0	45.0

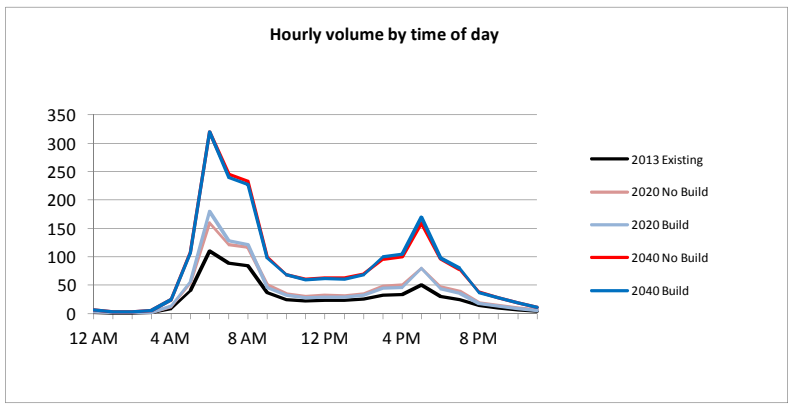
Passenger Vehicle Volume						
	12 AM	2	3	3	6	6
	1 AM	1	2	2	3	3
	2 AM	1	2	2	3	3
	3 AM	2	2	2	5	5
	4 AM	9	12	13	25	24
	5 AM	40	54	56	108	107
	6 AM	110	160	180	320	320
	7 AM	89	122	128	245	240
	8 AM	84	117	122	233	228
	9 AM	37	50	46	100	98
	10 AM	25	35	32	69	68
	11 AM	22	30	28	61	59
	12 PM	23	32	29	63	62
	1 PM	23	31	29	63	61
	2 PM	26	35	32	70	68
	3 PM	32	48	45	96	100
	4 PM	34	50	46	100	105
	5 PM	50	80	80	160	170
	6 PM	30	47	44	97	98
	7 PM	25	39	36	77	80
	8 PM	14	19	18	38	37
	9 PM	10	14	13	28	28
	10 PM	7	10	9	19	19
	11 PM	4	6	5	11	11

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	0	0
	6 AM	0	0	0	0	0
	7 AM	0	0	0	0	0
	8 AM	0	0	0	0	0
	9 AM	0	0	0	0	0
	10 AM	0	0	0	0	0
	11 AM	0	0	0	0	0
	12 PM	0	0	0	0	0
	1 PM	0	0	0	0	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	0	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0

Heavy Truck Volume						
	12 AM	0	0	0	0	0
	1 AM	0	0	0	0	0
	2 AM	0	0	0	0	0
	3 AM	0	0	0	0	0
	4 AM	0	0	0	0	0
	5 AM	0	0	0	0	0
	6 AM	0	0	0	0	0
	7 AM	0	0	0	0	0
	8 AM	0	0	0	0	0
	9 AM	0	0	0	0	0
	10 AM	0	0	0	0	0
	11 AM	0	0	0	0	0
	12 PM	0	0	0	0	0
	1 PM	0	0	0	0	0
	2 PM	0	0	0	0	0
	3 PM	0	0	0	0	0
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	0
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	0
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	0
	10 PM	0	0	0	0	0
	11 PM	0	0	0	0	0





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: BraddockEB_10			Distance (mi): -	
	Facility: EB VA 620 (Braddock Rd)				
	From: VA 705 (Lightridge Farm Rd)		To: TCP/Northstar Blvd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	35	35	35	35	35
	Daily Volume	500	1,100	1,400	3,000	4,100
	Daily Truck %	5%	5%	6%	6%	6%

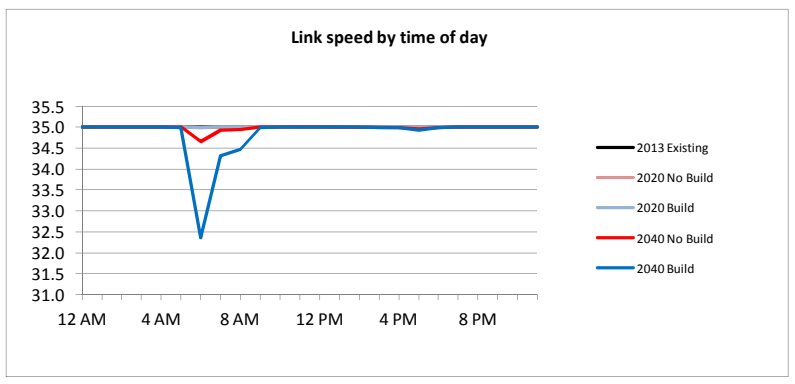
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	1	3	4	9	12
	1 AM	1	2	2	5	7
	2 AM	1	2	2	5	7
	3 AM	1	2	3	7	10
	4 AM	5	11	16	33	51
	5 AM	20	50	70	143	223
	6 AM	70	170	230	440	670
	7 AM	45	113	159	324	504
	8 AM	43	108	151	309	481
	9 AM	21	48	63	145	202
	10 AM	14	33	44	100	140
	11 AM	13	29	38	88	123
	12 PM	13	30	40	92	128
	1 PM	13	30	40	91	127
	2 PM	15	33	44	101	140
	3 PM	35	68	76	175	196
	4 PM	37	70	79	180	203
	5 PM	70	130	140	300	330
	6 PM	34	68	77	173	194
	7 PM	28	54	61	140	157
	8 PM	8	18	24	55	77
	9 PM	6	14	18	41	57
	10 PM	4	9	12	28	39
	11 PM	2	5	7	16	22

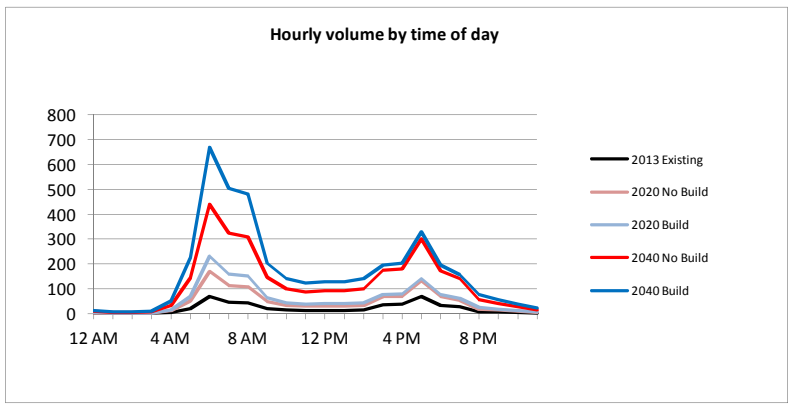
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	35.0	35.0	35.0	34.7	32.4
	7 AM	35.0	35.0	35.0	34.9	34.3
	8 AM	35.0	35.0	35.0	34.9	34.5
	9 AM	35.0	35.0	35.0	35.0	35.0
	10 AM	35.0	35.0	35.0	35.0	35.0
	11 AM	35.0	35.0	35.0	35.0	35.0
	12 PM	35.0	35.0	35.0	35.0	35.0
	1 PM	35.0	35.0	35.0	35.0	35.0
	2 PM	35.0	35.0	35.0	35.0	35.0
	3 PM	35.0	35.0	35.0	35.0	35.0
	4 PM	35.0	35.0	35.0	35.0	35.0
	5 PM	35.0	35.0	35.0	35.0	34.9
	6 PM	35.0	35.0	35.0	35.0	35.0
	7 PM	35.0	35.0	35.0	35.0	35.0
	8 PM	35.0	35.0	35.0	35.0	35.0
	9 PM	35.0	35.0	35.0	35.0	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

Passenger Vehicle Volume						
	12 AM	1	3	4	8	10
	1 AM	1	2	2	4	5
	2 AM	1	2	2	3	5
	3 AM	1	2	3	5	7
	4 AM	4	9	13	27	41
	5 AM	17	44	61	127	196
	6 AM	65	158	213	409	623
	7 AM	42	105	148	301	468
	8 AM	40	100	141	287	448
	9 AM	19	44	57	131	183
	10 AM	13	30	40	90	126
	11 AM	12	26	34	80	112
	12 PM	12	27	37	85	118
	1 PM	12	29	37	86	119
	2 PM	14	32	43	97	134
	3 PM	34	67	74	170	191
	4 PM	36	69	78	177	199
	5 PM	69	128	138	294	324
	6 PM	33	67	76	170	191
	7 PM	28	53	60	137	153
	8 PM	8	18	24	54	75
	9 PM	6	14	18	40	55
	10 PM	4	9	12	27	37
	11 PM	2	5	7	15	20

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	0	1	1
	1 AM	0	0	0	1	1
	2 AM	0	0	0	1	1
	3 AM	0	0	0	1	2
	4 AM	1	1	2	4	6
	5 AM	2	4	6	11	18
	6 AM	4	9	13	24	37
	7 AM	2	6	9	18	28
	8 AM	2	6	8	17	26
	9 AM	1	3	4	10	14
	10 AM	1	2	3	7	10
	11 AM	1	2	3	6	8
	12 PM	1	2	2	5	7
	1 PM	1	1	2	4	6
	2 PM	1	1	1	3	5
	3 PM	1	1	2	4	4
	4 PM	1	1	1	3	3
	5 PM	1	2	2	5	5
	6 PM	1	1	1	3	3
	7 PM	0	1	1	2	3
	8 PM	0	0	0	1	2
	9 PM	0	0	0	1	1
	10 PM	0	0	0	1	1
	11 PM	0	0	0	1	1

Heavy Truck Volume						
	12 AM	0	0	0	0	1
	1 AM	0	0	0	0	1
	2 AM	0	0	0	1	1
	3 AM	0	0	0	1	1
	4 AM	0	1	1	2	4
	5 AM	1	2	3	5	9
	6 AM	1	3	4	7	10
	7 AM	1	2	2	5	8
	8 AM	1	2	2	5	7
	9 AM	1	1	2	4	5
	10 AM	0	1	1	3	4
	11 AM	0	1	1	2	3
	12 PM	0	1	1	2	3
	1 PM	0	0	1	1	2
	2 PM	0	0	0	1	1
	3 PM	0	0	0	1	1
	4 PM	0	0	0	0	1
	5 PM	0	0	0	1	1
	6 PM	0	0	0	0	0
	7 PM	0	0	0	1	1
	8 PM	0	0	0	0	0
	9 PM	0	0	0	0	1
	10 PM	0	0	0	0	1
	11 PM	0	0	0	0	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: BraddockWB_10			Distance (mi): -	
	Facility: WB VA 620 (Braddock Rd)				
	From: TCP/Northstar Blvd		To: VA 705 (Lightridge Farm Rd)		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Basic Properties	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	35	35	35	35	35
	Daily Volume	500	1,100	1,400	3,000	4,100
	Daily Truck %	5%	5%	5%	6%	5%

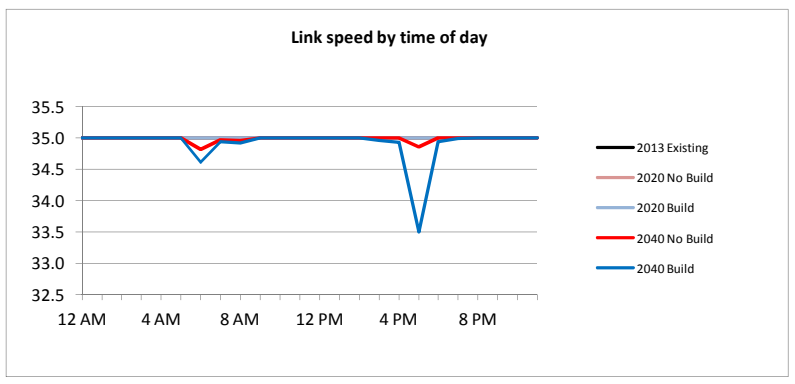
Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	2	4	6	13	17
	1 AM	1	3	3	7	10
	2 AM	1	2	3	6	8
	3 AM	1	2	3	7	9
	4 AM	7	15	17	41	47
	5 AM	20	44	50	122	140
	6 AM	70	150	170	390	450
	7 AM	45	100	113	276	315
	8 AM	48	105	120	291	333
	9 AM	14	31	40	90	122
	10 AM	12	27	35	79	107
	11 AM	13	28	36	82	111
	12 PM	14	32	41	93	125
	1 PM	15	34	43	97	132
	2 PM	16	36	46	104	141
	3 PM	31	69	97	186	296
	4 PM	35	76	107	206	328
	5 PM	70	150	210	380	610
	6 PM	34	75	104	203	322
	7 PM	24	54	75	145	230
	8 PM	11	25	32	72	98
	9 PM	8	19	24	54	73
	10 PM	5	12	16	36	49
	11 PM	3	7	9	20	27

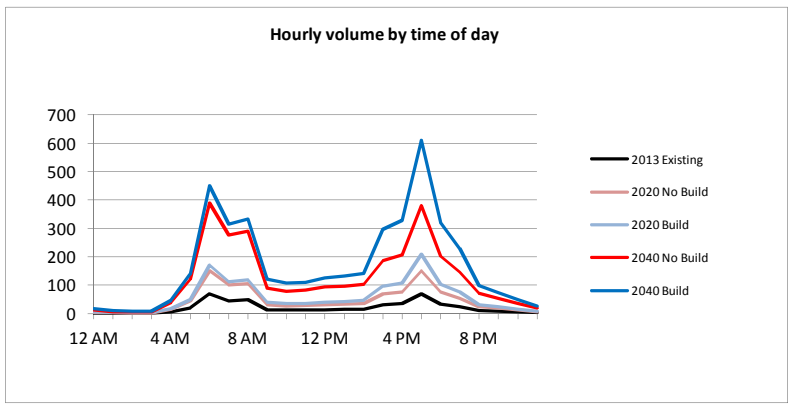
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	35.0	35.0	35.0	34.8	34.6
	7 AM	35.0	35.0	35.0	35.0	34.9
	8 AM	35.0	35.0	35.0	35.0	34.9
	9 AM	35.0	35.0	35.0	35.0	35.0
	10 AM	35.0	35.0	35.0	35.0	35.0
	11 AM	35.0	35.0	35.0	35.0	35.0
	12 PM	35.0	35.0	35.0	35.0	35.0
	1 PM	35.0	35.0	35.0	35.0	35.0
	2 PM	35.0	35.0	35.0	35.0	35.0
	3 PM	35.0	35.0	35.0	35.0	35.0
	4 PM	35.0	35.0	35.0	35.0	34.9
	5 PM	35.0	35.0	35.0	34.9	33.5
	6 PM	35.0	35.0	35.0	35.0	34.9
	7 PM	35.0	35.0	35.0	35.0	35.0
	8 PM	35.0	35.0	35.0	35.0	35.0
	9 PM	35.0	35.0	35.0	35.0	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

Passenger Vehicle Volume						
	12 AM	2	4	5	11	15
	1 AM	1	3	3	5	8
	2 AM	1	2	3	4	6
	3 AM	1	2	3	5	7
	4 AM	5	12	14	33	37
	5 AM	17	38	44	107	124
	6 AM	65	140	158	363	418
	7 AM	42	93	105	257	293
	8 AM	44	97	111	270	310
	9 AM	13	28	36	82	111
	10 AM	11	24	32	71	96
	11 AM	12	25	33	75	101
	12 PM	13	29	38	86	116
	1 PM	14	32	40	92	124
	2 PM	15	35	44	99	135
	3 PM	30	67	95	181	289
	4 PM	34	75	105	202	322
	5 PM	69	148	206	373	599
	6 PM	33	74	102	199	316
	7 PM	24	53	74	141	225
	8 PM	11	24	31	71	95
	9 PM	8	19	23	52	70
	10 PM	5	12	15	34	46
	11 PM	3	7	9	18	25

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build
Medium Truck Volume	*12 AM*	0	0	1	1	1
	1 AM	0	0	0	1	1
	2 AM	0	0	0	1	1
	3 AM	0	0	0	1	1
	4 AM	1	2	2	5	6
	5 AM	2	4	4	10	11
	6 AM	4	8	9	21	25
	7 AM	2	5	6	15	17
	8 AM	3	6	7	16	18
	9 AM	1	2	3	6	8
	10 AM	1	2	2	6	8
	11 AM	1	2	2	5	7
	12 PM	1	2	2	5	7
	1 PM	1	2	2	4	6
	2 PM	1	1	2	4	5
	3 PM	1	2	2	4	6
	4 PM	1	1	2	3	5
	5 PM	1	2	3	6	9
	6 PM	1	1	2	3	5
	7 PM	0	1	1	3	4
	8 PM	0	1	1	1	2
	9 PM	0	0	1	1	2
	10 PM	0	0	1	1	2
	11 PM	0	0	0	1	1

Heavy Truck Volume						
	12 AM	0	0	0	1	1
	1 AM	0	0	0	1	1
	2 AM	0	0	0	1	1
	3 AM	0	0	0	1	1
	4 AM	1	1	1	3	4
	5 AM	1	2	2	5	5
	6 AM	1	2	3	6	7
	7 AM	1	2	2	4	5
	8 AM	1	2	2	5	5
	9 AM	0	1	1	2	3
	10 AM	0	1	1	2	3
	11 AM	0	1	1	2	3
	12 PM	0	1	1	2	2
	1 PM	0	0	1	1	2
	2 PM	0	0	0	1	1
	3 PM	0	0	0	1	1
	4 PM	0	0	0	1	1
	5 PM	0	0	1	1	2
	6 PM	0	0	0	1	1
	7 PM	0	0	0	1	1
	8 PM	0	0	0	0	1
	9 PM	0	0	0	1	1
	10 PM	0	0	0	1	1
	11 PM	0	0	0	1	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: BraddockEB_11			Distance (mi): -	
	Facility: EB VA 620 (Braddock Rd)				
	From: TCP/Northstar Blvd		To: Summerall Dr		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	35	35	35	35	35
	Daily Volume	500	800	1,400	1,800	4,000
	Daily Truck %	6%	6%	6%	6%	6%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	1	2	4	5	12
	1 AM	1	1	2	3	7
	2 AM	1	1	2	3	7
	3 AM	1	2	3	4	10
	4 AM	6	11	18	25	51
	5 AM	28	47	78	107	219
	6 AM	90	150	230	320	630
	7 AM	64	106	175	242	496
	8 AM	61	101	166	231	474
	9 AM	23	37	69	89	207
	10 AM	16	25	48	62	143
	11 AM	14	22	42	54	125
	12 PM	15	23	44	56	131
	1 PM	15	23	43	56	129
	2 PM	16	26	48	62	144
	3 PM	22	33	66	72	187
	4 PM	23	34	69	74	192
	5 PM	40	60	110	120	300
	6 PM	22	34	64	72	186
	7 PM	18	27	52	57	149
	8 PM	9	14	26	34	79
	9 PM	7	10	20	25	59
	10 PM	4	7	13	17	40
	11 PM	3	4	8	10	23

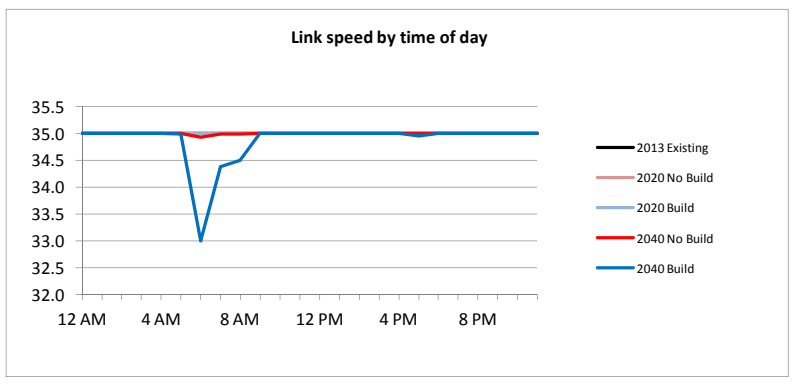
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	35.0	35.0	35.0	34.9	33.0
	7 AM	35.0	35.0	35.0	35.0	34.4
	8 AM	35.0	35.0	35.0	35.0	34.5
	9 AM	35.0	35.0	35.0	35.0	35.0
	10 AM	35.0	35.0	35.0	35.0	35.0
	11 AM	35.0	35.0	35.0	35.0	35.0
	12 PM	35.0	35.0	35.0	35.0	35.0
	1 PM	35.0	35.0	35.0	35.0	35.0
	2 PM	35.0	35.0	35.0	35.0	35.0
	3 PM	35.0	35.0	35.0	35.0	35.0
	4 PM	35.0	35.0	35.0	35.0	35.0
	5 PM	35.0	35.0	35.0	35.0	35.0
	6 PM	35.0	35.0	35.0	35.0	35.0
	7 PM	35.0	35.0	35.0	35.0	35.0
	8 PM	35.0	35.0	35.0	35.0	35.0
	9 PM	35.0	35.0	35.0	35.0	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

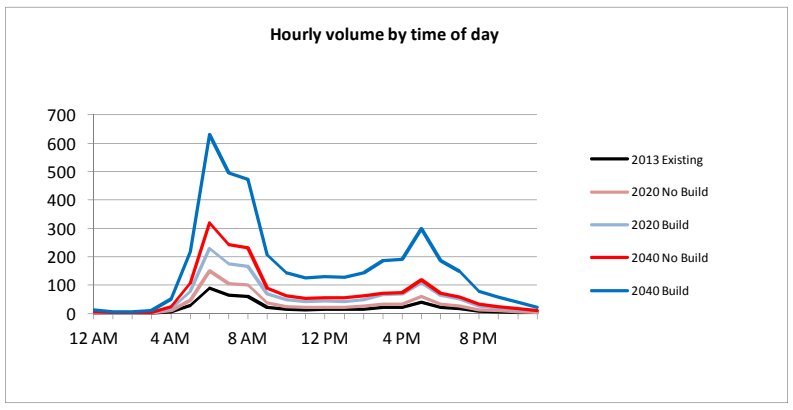
Passenger Vehicle Volume						
	12 AM	1	2	4	5	10
	1 AM	1	1	2	3	5
	2 AM	1	1	2	3	5
	3 AM	1	2	3	3	7
	4 AM	5	9	15	20	41
	5 AM	25	41	69	94	193
	6 AM	84	140	213	297	585
	7 AM	59	98	162	225	461
	8 AM	57	93	154	214	441
	9 AM	20	33	62	81	188
	10 AM	15	22	44	56	129
	11 AM	13	20	38	49	114
	12 PM	14	22	40	52	120
	1 PM	14	22	40	52	121
	2 PM	15	25	46	60	138
	3 PM	22	32	65	70	182
	4 PM	23	33	68	73	189
	5 PM	39	59	108	118	294
	6 PM	22	33	63	71	183
	7 PM	18	27	51	56	145
	8 PM	9	14	25	33	76
	9 PM	7	10	20	24	57
	10 PM	4	7	13	16	38
	11 PM	3	4	8	10	21

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	0	0	1
	1 AM	0	0	0	0	1
	2 AM	0	0	0	0	1
	3 AM	0	0	0	1	2
	4 AM	1	1	2	3	6
	5 AM	2	4	6	9	18
	6 AM	5	8	13	18	35
	7 AM	4	6	10	13	27
	8 AM	3	6	9	13	26
	9 AM	2	3	5	6	14
	10 AM	1	2	3	4	10
	11 AM	1	1	3	4	8
	12 PM	1	1	3	3	8
	1 PM	1	1	2	3	6
	2 PM	1	1	2	2	5
	3 PM	0	1	1	2	4
	4 PM	0	1	1	1	3
	5 PM	1	1	2	2	5
	6 PM	0	1	1	1	3
	7 PM	0	0	1	1	3
	8 PM	0	0	1	1	2
	9 PM	0	0	0	1	1
	10 PM	0	0	0	1	1
	11 PM	0	0	0	0	1

Heavy Truck Volume						
	12 AM	0	0	0	0	1
	1 AM	0	0	0	0	1
	2 AM	0	0	0	0	1
	3 AM	0	0	0	0	1
	4 AM	0	1	1	2	4
	5 AM	1	2	3	4	8
	6 AM	1	2	4	5	10
	7 AM	1	2	3	4	8
	8 AM	1	2	3	4	7
	9 AM	1	1	2	2	5
	10 AM	0	1	1	2	4
	11 AM	0	1	1	1	3
	12 PM	0	0	1	1	3
	1 PM	0	0	1	1	2
	2 PM	0	0	0	0	1
	3 PM	0	0	0	0	1
	4 PM	0	0	0	0	0
	5 PM	0	0	0	0	1
	6 PM	0	0	0	0	0
	7 PM	0	0	0	0	1
	8 PM	0	0	0	0	1
	9 PM	0	0	0	0	1
	10 PM	0	0	0	0	1
	11 PM	0	0	0	0	1





Location					
	Environmental traffic	Date: 4/4/2013		Prepared by: PTG	
	Project: Tri-County Parkway EIS				
	Location: Loudoun, Prince William and Fairfax Counties, VA				
	Display Code: BraddockWB_11			Distance (mi): -	
	Facility: WB VA 620 (Braddock Rd)				
	From: Summerall Dr		To: TCP/Northstar Blvd		

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Basic Properties						
	Facility type	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
	Lanes	1	1	1	1	1
	Lane capacity	900	900	900	900	900
	FF Speed	35	35	35	35	35
	Daily Volume	500	800	1,400	1,800	4,000
	Daily Truck %	5%	4%	5%	5%	5%

Total Volume (Passenger vehicles + medium truck + heavy truck)						
	12 AM	2	3	5	7	16
	1 AM	1	2	3	4	9
	2 AM	1	1	3	3	8
	3 AM	1	1	3	4	9
	4 AM	5	8	16	17	47
	5 AM	14	23	46	50	138
	6 AM	60	90	160	180	460
	7 AM	32	51	104	112	311
	8 AM	35	54	110	118	329
	9 AM	12	19	38	47	115
	10 AM	10	17	34	42	101
	11 AM	11	18	35	43	105
	12 PM	12	20	40	49	118
	1 PM	13	21	42	51	124
	2 PM	14	22	45	55	133
	3 PM	38	63	103	147	286
	4 PM	42	70	114	162	316
	5 PM	100	160	230	340	610
	6 PM	43	69	111	158	310
	7 PM	30	49	80	114	222
	8 PM	9	15	31	38	92
	9 PM	7	12	23	29	69
	10 PM	5	8	15	19	46
	11 PM	3	4	9	11	26

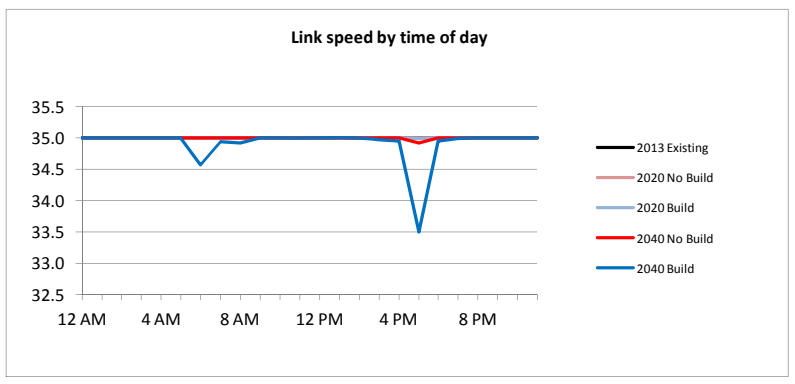
Speed (mph)	BPR speed estimate =	FFS / (1 + a * ((v/c)^b))				
	a:	0.30	0.30	0.30	0.30	0.30
	b:	5	5	5	5	5
	12 AM	35.0	35.0	35.0	35.0	35.0
	1 AM	35.0	35.0	35.0	35.0	35.0
	2 AM	35.0	35.0	35.0	35.0	35.0
	3 AM	35.0	35.0	35.0	35.0	35.0
	4 AM	35.0	35.0	35.0	35.0	35.0
	5 AM	35.0	35.0	35.0	35.0	35.0
	6 AM	35.0	35.0	35.0	35.0	34.6
	7 AM	35.0	35.0	35.0	35.0	34.9
	8 AM	35.0	35.0	35.0	35.0	34.9
	9 AM	35.0	35.0	35.0	35.0	35.0
	10 AM	35.0	35.0	35.0	35.0	35.0
	11 AM	35.0	35.0	35.0	35.0	35.0
	12 PM	35.0	35.0	35.0	35.0	35.0
	1 PM	35.0	35.0	35.0	35.0	35.0
	2 PM	35.0	35.0	35.0	35.0	35.0
	3 PM	35.0	35.0	35.0	35.0	35.0
	4 PM	35.0	35.0	35.0	35.0	34.9
	5 PM	35.0	35.0	35.0	34.9	33.5
	6 PM	35.0	35.0	35.0	35.0	34.9
	7 PM	35.0	35.0	35.0	35.0	35.0
	8 PM	35.0	35.0	35.0	35.0	35.0
	9 PM	35.0	35.0	35.0	35.0	35.0
	10 PM	35.0	35.0	35.0	35.0	35.0
	11 PM	35.0	35.0	35.0	35.0	35.0

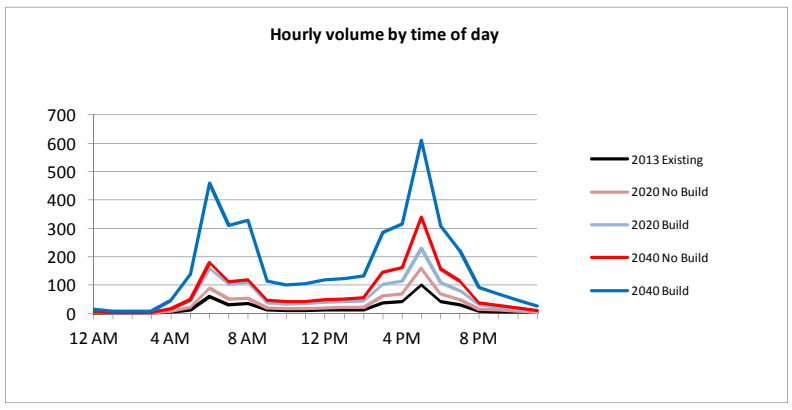
Passenger Vehicle Volume						
	12 AM	2	3	5	6	14
	1 AM	1	2	3	4	7
	2 AM	1	1	3	3	6
	3 AM	1	1	3	3	7
	4 AM	4	6	13	14	37
	5 AM	12	20	40	44	122
	6 AM	56	84	149	167	428
	7 AM	30	47	96	104	289
	8 AM	32	50	102	110	306
	9 AM	11	18	34	43	104
	10 AM	9	16	31	38	91
	11 AM	10	17	32	39	95
	12 PM	11	19	37	45	109
	1 PM	12	20	39	48	116
	2 PM	14	21	43	53	127
	3 PM	37	62	101	143	279
	4 PM	41	69	112	160	310
	5 PM	98	158	225	334	599
	6 PM	42	68	109	156	304
	7 PM	29	48	79	112	217
	8 PM	9	15	30	37	89
	9 PM	7	12	22	28	66
	10 PM	5	8	14	18	43
	11 PM	3	4	9	10	24

Scenario	Scenario	2013	2020		2040	
		Existing	No Build	Build	No Build	Build
		2013 Existing	2020 No Build	2020 Build	2040 No Build	2040 Build

Medium Truck Volume						
	12 AM	0	0	0	1	1
	1 AM	0	0	0	0	1
	2 AM	0	0	0	0	1
	3 AM	0	0	0	1	1
	4 AM	1	1	2	2	6
	5 AM	1	2	4	4	11
	6 AM	3	5	9	10	25
	7 AM	2	3	6	6	17
	8 AM	2	3	6	6	18
	9 AM	1	1	3	3	8
	10 AM	1	1	2	3	7
	11 AM	1	1	2	3	7
	12 PM	1	1	2	3	7
	1 PM	1	1	2	2	6
	2 PM	0	1	2	2	5
	3 PM	1	1	2	3	6
	4 PM	1	1	2	2	5
	5 PM	2	2	4	5	9
	6 PM	1	1	2	2	5
	7 PM	1	1	1	2	4
	8 PM	0	0	1	1	2
	9 PM	0	0	1	1	2
	10 PM	0	0	1	1	2
	11 PM	0	0	0	1	1

Heavy Truck Volume						
	12 AM	0	0	0	0	1
	1 AM	0	0	0	0	1
	2 AM	0	0	0	0	1
	3 AM	0	0	0	0	1
	4 AM	0	1	1	1	4
	5 AM	1	1	2	2	5
	6 AM	1	1	2	3	7
	7 AM	0	1	2	2	5
	8 AM	1	1	2	2	5
	9 AM	0	0	1	1	3
	10 AM	0	0	1	1	3
	11 AM	0	0	1	1	3
	12 PM	0	0	1	1	2
	1 PM	0	0	1	1	2
	2 PM	0	0	0	0	1
	3 PM	0	0	0	1	1
	4 PM	0	0	0	0	1
	5 PM	0	0	1	1	2
	6 PM	0	0	0	0	1
	7 PM	0	0	0	0	1
	8 PM	0	0	0	0	1
	9 PM	0	0	0	0	1
	10 PM	0	0	0	0	1
	11 PM	0	0	0	0	1





APPENDIX E

INTERIM YEAR (2020) TRAFFIC DATA

This appendix contains the data that was used for the interim year (2020) analyses. Interim year 2020 forecasts were calculated using the linear extrapolation method between the existing 2013 counts and the horizon year 2040 forecasts. The linear extrapolation was applied to each link within the study area. Because growth rates varied between links, turning movement counts were forecasted using iterative Fratar methodology.

The Build condition includes the construction of the Tri-County Parkway, in addition to all projects in the 2012 CLRP. It is important to note that the No-Build condition, which includes all projects in the 2012 CLRP with the exception of the Tri-County Parkway, incorporates the Manassas National Battlefield Park Bypass, as well as the associated closure of VA 234 and US 29 through Manassas National Battlefield Park. A portion of the Manassas National Battlefield Park Bypass shares the same alignment of the proposed Tri-County Parkway. Consequently, even in the No-Build scenario, a north-south four-lane parkway is included between VA 234 (Sudley Rd) and US 29 in the vicinity of Pageland Lane.

In addition, a Build (No US 29 Access) scenario (referred to as "Build2" in the data in this appendix) in the interim year assuming that the Manassas National Battlefield Park Bypass is not constructed prior to the Tri-County Parkway was developed given the indefinite schedule of the Manassas National Battlefield Park Bypass and the associated closure of VA 234 and US 29 through the Manassas National Battlefield Park. This scenario assumes that the Tri-County Parkway does not provide access to US 29 and would consequently have no access points between I-66 and VA 234.

Consistent with the data presented in the *Traffic Modeling and Analysis Technical Memorandum,* this appendix contains data on the following for the interim year 2020 No-Build, Build, and Build (No US 29 Access) scenarios:

- Forecast Volumes
- Intersection Operations (Synchro data)
- Freeway and Ramp Operations (HCM traffic data)

Forecast Volumes

2020 No-Build, Build, and Build (No US 29 Access)

Intersection No	Intersection Name
A	US 40 at VA 659 (Gum Spring Rd)
B	US 50 at VA 606 (Loudoun County Pkwy)
C	VA 620 (Braddock Rd) at VA 659 (Gum Spring Rd)
D	VA 620 (Braddock Rd) at VA 606 (Loudoun County Pkwy)
E	US 15 at VA 234 (Sudley Rd)
F	VA 234 (Sudley Rd) at VA 659 (Gum Spring Rd)
G	US 29 at VA 609 (Pleasant Valley Rd)
H	US 15 at Heathcote Blvd
I	Heathcote Blvd at Catharpin Rd
J	Heathcote Blvd at US 29/ WB I-66 Exit
K	US 234 Byp at Balls Ford Rd
L	US 234 (Sudley Rd) at Balls Ford Rd

2020 No-Build AM

A
230 | 445
R 35
45 155 30 T 420
530 R T L L 170 625
1,545 55 L L T R 1,550
1,420 T 65 355 100
70 R
395 | 520

643
2,080

595 | 718

B
925 | 1,900
R 390
190 200 535 T 420
660 R T L L 50 860
2,610 850 L L T R 2,665
1,720 T 50 660 410
40 R
290 | 1,120

490 | 955

C
795 | 915
R 140
120 420 255 T 160
380 R T L L 160 460
525 110 L L T R 945
350 T 100 665 340
65 R
645 | 1,105

475
900

435 | 1,103

D
690 | 790
R 160
310 240 140 T 160
490 R T L L 55 375
855 500 L L T R 495
325 T 20 130 30
30 R
325 | 180

E
560 | 765
R 60
10 370 180 T 10
60 R T L L 250 320
220 55 L L T R 560
90 T 40 650 290
75 R
695 | 980

330
860

948 | 980

F
225 | 1,100
R 360
125 100 T 215
340 R L 575
1,160 740 L 520
420 T

480
1,088

G
460 | 2,160
R 20
180 220 60 T 0
480 R T L L 0 20
665 570 L L T R 95
5 T 300 1,570 30
90 R
310 | 1,900

H
1,200 | 980
R 80
90 1,020 90 T 100
325 R T L L 60 240
380 90 L L T R 240
100 T 135 810 50
190 R
1,270 | 995

365
485

I
525 | 240
R 70
160 140 225 T 260
490 R T L L 40 370
730 105 L L T R 750
445 T 70 65 80
180 R
360 | 215

425
910

J
480 | 1,510
R 100
215 265 0 T 180
480 R T L L 15 295
1,070 650 L L T R 0
0 T 85 760 0
420 R
700 | 845

K
2,875 | 2,340
R 265
455 2,040 380 T 150
645 R T L L 190 605
1,020 530 L L T R 1,225
480 T 40 1,545 365
10 R
2,240 | 1,950

568
1,255

L
1,665 | 2,855
R 270
370 1,135 160 T 100
530 R T L L 80 450
1,285 820 L L T R 600
400 T 60 1,765 40
65 R
1,280 | 1,865

No-Build Volumes - 2020 AM

2020 No-Build PM

A			350	275			
				R	45		
	85	260	5	T	1,600		
1,785	R	T	L	L	770		2,415
710		80	L	L	T	R	600
		570	T	100	150	25	
		60	R				
			1,090	275			

Between A and B: 2,078 / 868

Between A and C: 965 | 473

B			1,755	1,395			
				R	700		
	680	770	305	T	920		
1,740	R	T	L	L	475		2,095
1,135		180	L	L	T	R	1,280
		875	T	140	515	100	
		80	R				
			1,325	755			

Between B and D: 1,013 | 648

C			840	670			
				R	310		
	120	540	180	T	295		
505	R	T	L	L	280		885
265		60	L	L	T	R	460
		180	T	90	300	100	
		25	R				
			845	490			

Between C and D: 818 / 418

Between C and F: 943 | 458

D			700	540			
				R	250		
	395	55	250	T	335		
750	R	T	L	L	10		595
375		220	L	L	T	R	410
		150	T	20	70	10	
		5	R				
			70	100			

E			965	585			
				R	120		
	85	700	180	T	120		
290	R	T	L	L	315		555
110		15	L	L	T	R	450
		30	T	85	450	240	
		65	R				
			1,080	775			

Between E and F: 885 / 405

Between E and H: 1,138 | 1,050

F			1,040	425			
				R	275		
	780		260	T	435		
1,215	R		L				710
360		150	L				470
		210	T				

	G			1,820	685			
					R	20		
		730	1,080	10	T	5		
1,173	875	R	T	L	L	15		40
940	650		450	L	L	T	R	30
			10	T	140	215	10	
			190	R				
				1,285	365			

H			1,195	1,325			
				R	135		
	120	925	150	T	155		
475	R	T	L	L	60		350
450		110	L	L	T	R	380
		170	T	200	1,080	60	
		170	R				
		1,090	Out	In	1,260		

Between H and I: 780 / 518

I			405	420			
				R	255		
	120	150	135	T	950		
1,210	R	T	L	L	290		1,495
655		75	L	L	T	R	610
		410	T	140	90	65	
		170	R				
			610	295			

Between I and J: 1,480 / 715

J			1,470	1,230			
				R	340		
	690	780	0	T	505		
1,465	R	T	L	L	140		985
820		560	L	L	T	R	0
		0	T	270	330	0	
		260	R				
			1,180	600			

K			2,190	2,320			
				R	430		
	545	1,410	235	T	390		
965	R	T	L	L	365		1,185
580		340	L	L	T	R	585
		200	T	30	1,550	150	
		40	R				
			1,815	1,730			

Between K and L: 1,225 / 760

L			3,345	2,445			
				R	170		
	855	2,230	260	T	150		
1,265	R	T	L	L	150		470
935		510	L	L	T	R	590
		230	T	260	1,765	100	
		195	R				
			2,575	2,125			

2020 Build AM

A

A			235	450			
				R	50		
	50	135	50	T	420		
505	R	T	L	L	170		640
1,515		70	L	L	T	R	1,515
		1,395	T	35	330	70	
		50	R				
			355	435			

Between A and B: 643 / 2,050

B

B			915	1,855			
				R	400		
	185	190	540	T	410		
645	R	T	L	L	50		860
2,585		840	L	L	T	R	2,630
		1,705	T	50	615	385	
		40	R				
			280	1,050			

Between A and C: 465 / 535

Between B and D: 450 / 878

C

C			575	635			
				R	120		
	75	280	220	T	160		
310	R	T	L	L	170		450
435		70	L	L	T	R	900
		320	T	75	445	360	
		45	R				
			495	880			

Between C and D: 460 / 858

D

D			620	705			
				R	130		
	270	230	120	T	170		
470	R	T	L	L	65		365
815		445	L	L	T	R	480
		340	T	30	130	20	
		30	R				
			325	180			

Between C and F: 345 / 890

E

E			535	730			
				R	60		
	5	340	190	T	150		
195	R	T	L	L	245		455
225		60	L	L	T	R	555
		95	T	40	610	270	
		70	R				
			655	920			

Between E and F: 370 / 743

F

F			195	900			
				R	360		
	90		105	T	195		
285	R		L				555
930		540	L				495
		390	T				

G

G			455	2,150			
				R	20		
	170	220	65	T	5		
470	R	T	L	L	5		30
655		570	L	L	T	R	90
		5	T	295	1,560	20	
		80	R				
			305	1,875			

West of G: 523 / 965

Between E and H: 918 / 945

H

H			1,180	970			
				R	75		
	100	990	90	T	105		
325	R	T	L	L	60		240
380		100	L	L	T	R	240
		100	T	120	795	50	
		180	R				
			1,230	965			

Between H and I: 370 / 500

I

I			535	245			
				R	80		
	165	135	235	T	265		
500	R	T	L	L	40		385
760		105	L	L	T	R	790
		475	T	70	60	80	
		180	R				
			355	210			

Between I and J: 453 / 945

J

J			575	1,275			
				R	85		
	230	345	0	T	160		
520	R	T	L	L	5		250
1,100		640	L	L	T	R	0
		0	T	130	550	0	
		460	R				
			810	680			

K

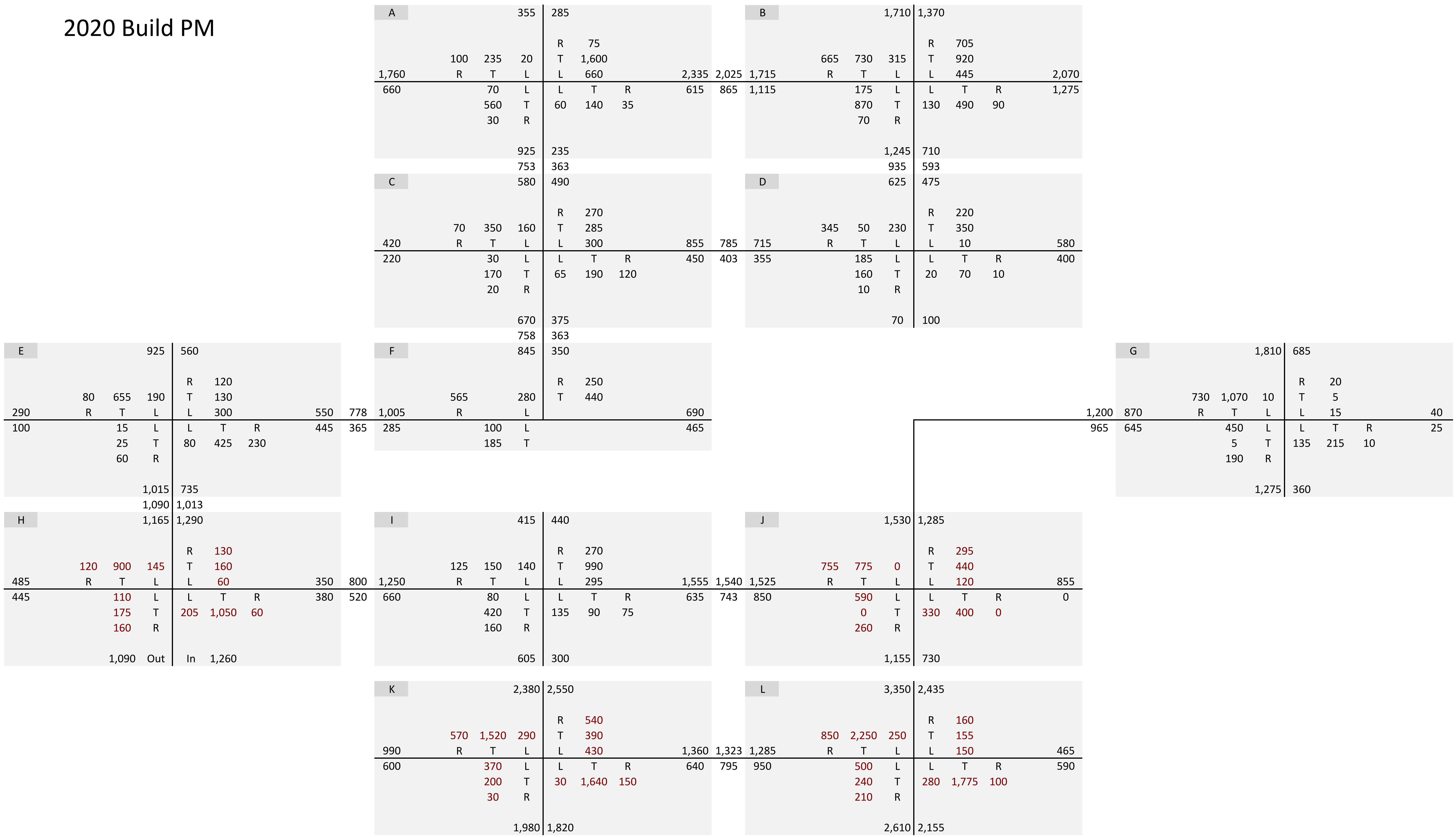
K			2,580	2,550			
				R	330		
	485	1,610	485	T	150		
660	R	T	L	L	185		665
1,050		570	L	L	T	R	1,315
		470	T	25	1,650	360	
		10	R				
			1,805	2,035			

Between K and L: 603 / 1,245

L

L			1,660	2,720			
				R	260		
	365	1,145	150	T	100		
540	R	T	L	L	90		450
1,175		690	L	L	T	R	600
		410	T	75	1,770	40	
		75	R				
			1,310	1,885			

2020 Build PM



Build Volumes - 2020 PM

2020 Build2 AM

A			235	450			
				R	60		
	45	140	50	T	420		
505	R	T	L	L	170		650
1,505		60	L	L	T	R	1,535
		1,400	T	40	330	85	
		45	R				
			355	455			

A–B: 650 / 2,070

B			915	1,855			
				R	400		
	190	185	540	T	410		
650	R	T	L	L	50		860
2,605		840	L	L	T	R	2,650
		1,720	T	50	615	390	
		45	R				
			280	1,055			

A–C: 490 / 573 B–D: 450 / 883

C			625	690			
				R	130		
	85	300	240	T	165		
330	R	T	L	L	155		450
460		80	L	L	T	R	905
		330	T	80	480	335	
		50	R				
			505	895			

C–D: 465 / 870

D			620	710			
				R	135		
	270	225	125	T	180		
480	R	T	L	L	60		375
835		445	L	L	T	R	495
		350	T	30	130	20	
		40	R				
			325	180			

C–F: 350 / 908

E			530	725			
				R	50		
	10	360	160	T	15		
60	R	T	L	L	220		285
220		55	L	L	T	R	500
		90	T	35	620	250	
		75	R				
			655	905			

E–F: 228 / 645

F			195	920			
				R	420		
	60		135	T	110		
170	R		L				530
790		500	L				425
		290	T				

448 / 1,015

G			445	2,185			
				R	25		
	160	230	55	T	0		
490	R	T	L	L	5		30
675		570	L	L	T	R	90
		5	T	330	1,590	30	
		100	R				
			335	1,950			

E–H: 915 / 938

H			1,175	970			
				R	80		
	95	990	90	T	105		
330	R	T	L	L	55		240
385		100	L	L	T	R	240
		100	T	130	790	50	
		185	R				
			1,230	970			

H–I: 368 / 495

I			540	250			
				R	70		
	175	135	230	T	250		
495	R	T	L	L	40		360
750		120	L	L	T	R	760
		450	T	70	60	80	
		180	R				
			355	210			

I–J: 430 / 908

J			405	1,355			
				R	75		
	205	200	0	T	180		
500	R	T	L	L	10		265
1,055		590	L	L	T	R	0
		0	T	115	690	0	
		465	R				
			675	805			

K			2,425	2,350			
				R	240		
	470	1,595	360	T	170		
685	R	T	L	L	205		615
1,055		530	L	L	T	R	1,280
		510	T	45	1,580	410	
		15	R				
			1,815	2,035			

K–L: 575 / 1,290

L			1,685	2,885			
				R	270		
	365	1,160	160	T	100		
535	R	T	L	L	85		455
1,300		820	L	L	T	R	605
		410	T	70	1,795	35	
		70	R				
			1,315	1,900			

2020 Build2 PM

A			355	280			
				R	75		
	95	240	20	T	1,610		
1,770	R	T	L	L	680		2,365
660		65	L	L	T	R	620
		570	T	65	140	30	
		25	R				
			945	235			

Between A and B: 2,050 / 873

Between A and C: 790 | 383

B			1,720	1,380			
				R	710		
	680	730	310	T	925		
1,735	R	T	L	L	450		2,085
1,125		180	L	L	T	R	1,275
		875	T	130	490	90	
		70	R				
			1,250	710			

Between B and D: 940 | 595

C			635	530			
				R	280		
	80	385	170	T	290		
435	R	T	L	L	280		850
230		40	L	L	T	R	450
		170	T	65	210	110	
		20	R				
			685	385			

Between C and D: 793 / 408

Between C and F: 775 | 373

D			630	480			
				R	210		
	355	50	225	T	360		
735	R	T	L	L	20		590
365		200	L	L	T	R	400
		165	T	20	70	10	
		0	R				
			70	100			

E			920	555			
				R	105		
	80	670	170	T	125		
290	R	T	L	L	270		500
100		20	L	L	T	R	400
		20	T	85	430	210	
		60	R				
			1,000	725			

Between E and F: 678 / 293

Between E and H: 1,093 | 1,010

F			865	360			
				R	295		
	525		340	T	330		
855	R		L				625
185		65	L				460
		120	T				

Left of G: 1,108 / 873

G			1,830	675			
				R	15		
	730	1,090	10	T	5		
895	R	T	L	L	20		40
665		440	L	L	T	R	25
		10	T	160	220	5	
		215	R				
			1,325	385			

H			1,185	1,295			
				R	135		
	120	910	155	T	160		
490	R	T	L	L	60		355
440		110	L	L	T	R	385
		170	T	210	1,050	60	
		160	R				
		1,090	Out	In	1,260		

Between H and I: 788 / 520

I			420	435			
				R	260		
	130	150	140	T	950		
1,220	R	T	L	L	280		1,490
655		80	L	L	T	R	610
		400	T	140	95	70	
		175	R				
			605	305			

Between I and J: 1,475 / 718

J			1,320	1,080			
				R	265		
	650	670	0	T	500		
1,460	R	T	L	L	130		895
825		535	L	L	T	R	0
		0	T	310	280	0	
		290	R				
			1,090	590			

K			2,290	2,480			
				R	470		
	570	1,480	240	T	400		
1,000	R	T	L	L	380		1,250
610		360	L	L	T	R	600
		210	T	30	1,650	150	
		40	R				
			1,900	1,830			

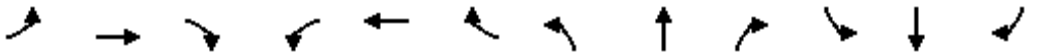
Between K and L: 1,263 / 773

L			3,385	2,470			
				R	170		
	855	2,270	260	T	150		
1,275	R	T	L	L	150		470
945		510	L	L	T	R	590
		230	T	270	1,790	100	
		205	R				
			2,625	2,160			

Build2 Volumes - 2020 PM

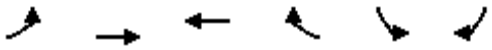
Intersection Operations

2020 No-Build, Build, and Build (No US 29 Access)



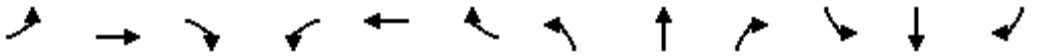
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	1420	70	170	420	35	65	355	100	30	155	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		0.95			0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		3416			3413	
Flt Permitted	0.48	1.00	1.00	0.17	1.00	1.00		0.88			0.86	
Satd. Flow (perm)	893	5085	1583	309	5085	1583		3025			2943	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1543	76	185	457	38	71	386	109	33	168	49
RTOR Reduction (vph)	0	0	48	0	0	18	0	38	0	0	33	0
Lane Group Flow (vph)	60	1543	28	185	457	20	0	528	0	0	217	0
Turn Type	Perm		Perm	pm+pt		Perm	Perm			Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	20.1	20.1	20.1	28.7	28.7	28.7		17.1			17.1	
Effective Green, g (s)	20.1	20.1	20.1	28.7	28.7	28.7		17.1			17.1	
Actuated g/C Ratio	0.37	0.37	0.37	0.53	0.53	0.53		0.32			0.32	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	334	1900	591	290	2713	844		961			935	
v/s Ratio Prot		c0.30		c0.05	0.09							
v/s Ratio Perm	0.07		0.02	0.29		0.01		c0.17			0.07	
v/c Ratio	0.18	0.81	0.05	0.64	0.17	0.02		0.55			0.23	
Uniform Delay, d1	11.3	15.2	10.7	9.4	6.4	5.9		15.2			13.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.3	2.8	0.0	4.6	0.0	0.0		2.3			0.6	
Delay (s)	11.6	17.9	10.8	13.9	6.5	5.9		17.4			14.1	
Level of Service	B	B	B	B	A	A		B			B	
Approach Delay (s)		17.4			8.5			17.4			14.1	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	53.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



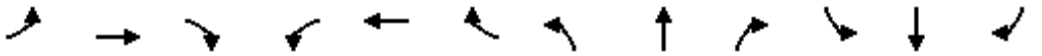
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	740	420	215	360	100	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.44	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	815	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	457	234	391	109	136
RTOR Reduction (vph)	0	0	0	317	0	96
Lane Group Flow (vph)	804	457	234	74	109	40
Turn Type	pm+pt			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	30.5	30.5	10.4	10.4	16.1	16.1
Effective Green, g (s)	30.5	30.5	10.4	10.4	16.1	16.1
Actuated g/C Ratio	0.56	0.56	0.19	0.19	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	737	1977	674	302	522	467
v/s Ratio Prot	c0.32	0.13	0.07		c0.06	
v/s Ratio Perm	c0.29			0.05		0.03
v/c Ratio	1.09	0.23	0.35	0.25	0.21	0.09
Uniform Delay, d1	9.9	6.1	19.2	18.8	14.5	13.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	60.7	0.1	0.3	0.4	0.9	0.4
Delay (s)	70.6	6.2	19.5	19.2	15.4	14.3
Level of Service	E	A	B	B	B	B
Approach Delay (s)		47.2	19.3		14.8	
Approach LOS		D	B		B	

Intersection Summary			
HCM Average Control Delay	35.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	54.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



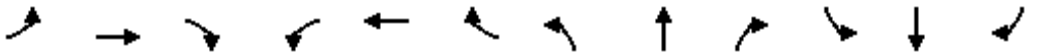
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	850	1720	40	50	420	390	50	660	410	535	200	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.47	1.00	1.00	0.12	1.00	1.00	0.62	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1716	5085	1583	438	5085	1583	2226	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	924	1870	43	54	457	424	54	717	446	582	217	207
RTOR Reduction (vph)	0	0	24	0	0	214	0	0	2	0	0	113
Lane Group Flow (vph)	924	1870	19	54	457	210	54	717	444	582	217	94
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Prot		Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2			6
Actuated Green, G (s)	33.0	33.0	33.0	33.0	33.0	33.0	20.0	20.0	20.0	10.0	34.0	34.0
Effective Green, g (s)	33.0	33.0	33.0	33.0	33.0	33.0	20.0	20.0	20.0	10.0	34.0	34.0
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44	0.27	0.27	0.27	0.13	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	755	2237	697	193	2237	697	594	944	422	458	1604	718
v/s Ratio Prot		0.37			0.09			0.20		c0.17	0.06	
v/s Ratio Perm	c0.54		0.01	0.12		0.13	0.02		c0.28			0.06
v/c Ratio	1.22	0.84	0.03	0.28	0.20	0.30	0.09	0.76	1.05	1.27	0.14	0.13
Uniform Delay, d1	21.0	18.6	11.9	13.4	12.9	13.6	20.7	25.3	27.5	32.5	11.9	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	112.4	2.9	0.0	0.8	0.0	0.2	0.3	5.7	58.0	138.1	0.2	0.4
Delay (s)	133.4	21.5	11.9	14.2	13.0	13.8	21.0	31.0	85.5	170.6	12.1	12.3
Level of Service	F	C	B	B	B	B	C	C	F	F	B	B
Approach Delay (s)		57.8			13.4			50.5			103.8	
Approach LOS		E			B			D			F	

Intersection Summary			
HCM Average Control Delay	57.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	350	65	160	160	140	100	665	340	255	420	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1841	1583		1817	1583	1770	3360		1770	3539	1583
Flt Permitted		0.78	1.00		0.38	1.00	0.49	1.00		0.20	1.00	1.00
Satd. Flow (perm)		1444	1583		700	1583	910	3360		373	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	380	71	174	174	152	109	723	370	277	457	130
RTOR Reduction (vph)	0	0	44	0	0	79	0	144	0	0	0	72
Lane Group Flow (vph)	0	500	27	0	348	73	109	949	0	277	457	58
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		17.0	17.0		17.0	17.0	20.0	20.0		20.0	20.0	20.0
Effective Green, g (s)		17.0	17.0		17.0	17.0	20.0	20.0		20.0	20.0	20.0
Actuated g/C Ratio		0.38	0.38		0.38	0.38	0.44	0.44		0.44	0.44	0.44
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		546	598		264	598	404	1493		166	1573	704
v/s Ratio Prot								0.28			0.13	
v/s Ratio Perm		0.35	0.02		c0.50	0.05	0.12			c0.74		0.04
v/c Ratio		0.92	0.04		1.32	0.12	0.27	0.64		1.67	0.29	0.08
Uniform Delay, d1		13.3	8.9		14.0	9.1	7.9	9.7		12.5	8.0	7.2
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		20.1	0.0		167.3	0.1	1.6	2.1		325.9	0.5	0.2
Delay (s)		33.4	8.9		181.3	9.2	9.5	11.8		338.4	8.4	7.4
Level of Service		C	A		F	A	A	B		F	A	A
Approach Delay (s)		30.3			129.0			11.5			114.1	
Approach LOS		C			F			B			F	

Intersection Summary			
HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

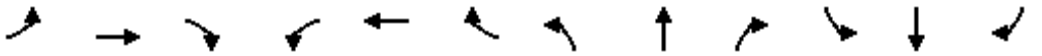


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	325	30	55	160	160	20	130	30	140	240	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.65	1.00	1.00	0.50	1.00	1.00	0.56	1.00	1.00	0.67	1.00	1.00
Satd. Flow (perm)	1206	1863	1583	933	1863	1583	1050	1863	1583	1243	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	353	33	60	174	174	22	141	33	152	261	337
RTOR Reduction (vph)	0	0	18	0	0	93	0	0	21	0	0	217
Lane Group Flow (vph)	543	353	15	60	174	81	22	141	12	152	261	120
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.0	21.0	21.0	21.0	21.0	21.0	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	21.0	21.0	21.0	21.0	21.0	21.0	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	563	869	739	435	869	739	373	662	563	442	662	563
v/s Ratio Prot		0.19			0.09			0.08			c0.14	
v/s Ratio Perm	c0.45		0.01	0.06		0.05	0.02		0.01	0.12		0.08
v/c Ratio	0.96	0.41	0.02	0.14	0.20	0.11	0.06	0.21	0.02	0.34	0.39	0.21
Uniform Delay, d1	11.6	7.9	6.5	6.8	7.1	6.7	9.5	10.1	9.4	10.6	10.9	10.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.9	0.3	0.0	0.1	0.1	0.1	0.3	0.7	0.1	2.1	1.8	0.9
Delay (s)	40.6	8.2	6.5	7.0	7.2	6.8	9.8	10.8	9.5	12.8	12.6	11.0
Level of Service	D	A	A	A	A	A	A	B	A	B	B	B
Approach Delay (s)		27.1			7.0			10.5			11.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	90	75	250	10	60	40	650	290	180	370	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.87		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1624		1770	3376		1770	3525	
Flt Permitted	0.71	1.00	1.00	0.69	1.00		0.51	1.00		0.24	1.00	
Satd. Flow (perm)	1318	1863	1583	1292	1624		950	3376		443	3525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	98	82	272	11	65	43	707	315	196	402	11
RTOR Reduction (vph)	0	0	62	0	49	0	0	74	0	0	3	0
Lane Group Flow (vph)	60	98	20	272	27	0	43	948	0	196	410	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	16.3	16.3	16.3	16.3	16.3		42.1	42.1		42.1	42.1	
Effective Green, g (s)	16.3	16.3	16.3	16.3	16.3		42.1	42.1		42.1	42.1	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.63	0.63		0.63	0.63	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	324	457	389	317	399		602	2141		281	2235	
v/s Ratio Prot		0.05			0.02			0.28			0.12	
v/s Ratio Perm	0.05		0.01	c0.21			0.05			c0.44		
v/c Ratio	0.19	0.21	0.05	0.86	0.07		0.07	0.44		0.70	0.18	
Uniform Delay, d1	19.8	20.0	19.1	23.9	19.2		4.7	6.2		8.0	5.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2	0.1	19.9	0.1		0.2	0.7		13.4	0.2	
Delay (s)	20.1	20.2	19.2	43.8	19.3		4.9	6.8		21.4	5.2	
Level of Service	C	C	B	D	B		A	A		C	A	
Approach Delay (s)		19.8			38.5			6.8			10.4	
Approach LOS		B			D			A			B	

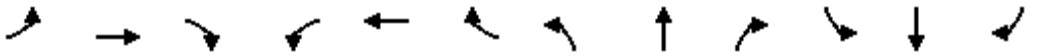
Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	100	190	60	100	80	135	810	50	90	1020	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.68	1.00	1.00	0.69	1.00	1.00	0.23	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	1273	1863	1583	2482	3539	1583	430	3539	1583	571	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	109	207	65	109	87	147	880	54	98	1109	98
RTOR Reduction (vph)	0	0	98	0	0	73	0	0	15	0	0	27
Lane Group Flow (vph)	98	109	109	65	109	14	147	880	39	98	1109	71
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	10.7	10.7	10.7	10.7	10.7	10.7	48.5	48.5	48.5	48.5	48.5	48.5
Effective Green, g (s)	10.7	10.7	10.7	10.7	10.7	10.7	48.5	48.5	48.5	48.5	48.5	48.5
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.72	0.72	0.72	0.72	0.72	0.72
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	203	297	252	395	564	252	310	2554	1142	412	2554	1142
v/s Ratio Prot		0.06			0.03			0.25			0.31	
v/s Ratio Perm	c0.08		0.07	0.03		0.01	c0.34		0.02	0.17		0.04
v/c Ratio	0.48	0.37	0.43	0.16	0.19	0.05	0.47	0.34	0.03	0.24	0.43	0.06
Uniform Delay, d1	25.7	25.2	25.5	24.4	24.5	24.0	4.0	3.5	2.7	3.1	3.8	2.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.8	1.2	0.2	0.2	0.1	5.1	0.4	0.1	1.4	0.5	0.1
Delay (s)	27.5	26.0	26.7	24.6	24.7	24.1	9.1	3.8	2.7	4.5	4.3	2.8
Level of Service	C	C	C	C	C	C	A	A	A	A	A	A
Approach Delay (s)		26.7			24.4			4.5			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	67.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

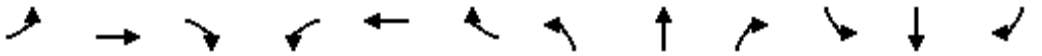
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	445	180	40	260	70	70	65	80	225	140	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.58	1.00	1.00	0.48	1.00	1.00	0.66	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	1077	3539	1583	887	3539	1583	1221	3539	1583	1320	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	484	196	43	283	76	76	71	87	245	152	174
RTOR Reduction (vph)	0	0	131	0	0	51	0	0	48	0	0	96
Lane Group Flow (vph)	114	484	65	43	283	25	76	71	39	245	152	78
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	12.0	12.0	12.0	12.0	12.0	12.0	16.1	16.1	16.1	16.1	16.1	16.1
Effective Green, g (s)	12.0	12.0	12.0	12.0	12.0	12.0	16.1	16.1	16.1	16.1	16.1	16.1
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.33	0.45	0.45	0.45	0.45	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	358	1176	526	295	1176	526	545	1578	706	589	1578	706
v/s Ratio Prot		c0.14			0.08			0.02			0.04	
v/s Ratio Perm	0.11		0.04	0.05		0.02	0.06		0.02	c0.19		0.05
v/c Ratio	0.32	0.41	0.12	0.15	0.24	0.05	0.14	0.04	0.05	0.42	0.10	0.11
Uniform Delay, d1	9.0	9.3	8.4	8.5	8.7	8.2	5.9	5.7	5.7	6.8	5.8	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.1	0.2	0.1	0.0	0.5	0.1	0.1	2.2	0.1	0.3
Delay (s)	9.5	9.6	8.5	8.7	8.9	8.2	6.4	5.7	5.8	9.0	5.9	6.1
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)		9.3			8.7			6.0			7.3	
Approach LOS		A			A			A			A	

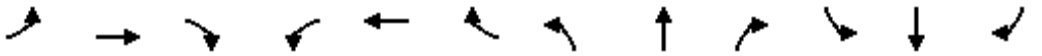
Intersection Summary			
HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	36.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	650	0	420	15	180	100	85	760	0	0	265	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		1583	1770	3539	1583	1770	3539			3539	1583
Flt Permitted	0.63		1.00	0.95	1.00	1.00	0.58	1.00			1.00	1.00
Satd. Flow (perm)	2271		1583	1770	3539	1583	1072	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	707	0	457	16	196	109	92	826	0	0	288	234
RTOR Reduction (vph)	0	0	265	0	0	42	0	0	0	0	0	138
Lane Group Flow (vph)	707	0	192	16	196	67	92	826	0	0	288	96
Turn Type	custom		custom	Perm		Perm	Perm					Perm
Protected Phases					8			2			6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	15.0		15.0	15.0	15.0	15.0	16.0	16.0			16.0	16.0
Effective Green, g (s)	15.0		15.0	15.0	15.0	15.0	16.0	16.0			16.0	16.0
Actuated g/C Ratio	0.38		0.38	0.38	0.38	0.38	0.41	0.41			0.41	0.41
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	873		609	681	1361	609	440	1452			1452	649
v/s Ratio Prot					0.06			c0.23			0.08	
v/s Ratio Perm	c0.31		0.12	0.01		0.04	0.09					0.06
v/c Ratio	0.81		0.31	0.02	0.14	0.11	0.21	0.57			0.20	0.15
Uniform Delay, d1	10.7		8.4	7.5	7.8	7.7	7.4	8.8			7.4	7.2
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	5.6		0.3	0.0	0.0	0.1	1.1	1.6			0.3	0.5
Delay (s)	16.3		8.7	7.5	7.9	7.8	8.5	10.5			7.7	7.7
Level of Service	B		A	A	A	A	A	B			A	A
Approach Delay (s)		13.3			7.8			10.3			7.7	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	39.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



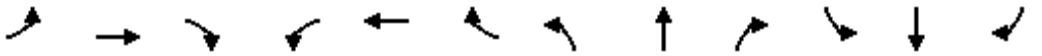
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	5	90	0	0	20	300	1570	30	60	220	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85			0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00			1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583			1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.76	1.00	1.00			1.00	0.58	1.00	1.00	0.04	1.00	1.00
Satd. Flow (perm)	1410	3539	1583			1583	1088	1863	1583	84	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	5	98	0	0	22	326	1707	33	65	239	196
RTOR Reduction (vph)	0	0	68	0	0	15	0	0	5	0	0	71
Lane Group Flow (vph)	620	5	30	0	0	7	326	1707	28	65	239	125
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	43.0	43.0	43.0			43.0	89.0	89.0	89.0	89.0	89.0	89.0
Effective Green, g (s)	43.0	43.0	43.0			43.0	89.0	89.0	89.0	89.0	89.0	89.0
Actuated g/C Ratio	0.31	0.31	0.31			0.31	0.64	0.64	0.64	0.64	0.64	0.64
Clearance Time (s)	4.0	4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	433	1087	486			486	692	1184	1006	53	1184	1006
v/s Ratio Prot		0.00						c0.92			0.13	
v/s Ratio Perm	c0.44		0.02			0.00	0.30		0.02	0.78		0.08
v/c Ratio	1.43	0.00	0.06			0.01	0.47	1.44	0.03	1.23	0.20	0.12
Uniform Delay, d1	48.5	33.7	34.3			33.7	13.3	25.5	9.5	25.5	10.7	10.1
Progression Factor	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	207.3	0.0	0.1			0.0	2.3	203.6	0.1	197.0	0.4	0.3
Delay (s)	255.8	33.7	34.3			33.8	15.6	229.1	9.5	222.5	11.0	10.3
Level of Service	F	C	C			C	B	F	A	F	B	B
Approach Delay (s)		224.2			33.8			191.9			38.3	
Approach LOS		F			C			F			D	

Intersection Summary			
HCM Average Control Delay	174.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	530	480	10	190	150	265	40	1545	365	380	2040	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.65	1.00	1.00	0.40	1.00	1.00	0.15	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	2344	3539	1583	1428	3539	1583	287	3539	1583	556	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	576	522	11	207	163	288	43	1679	397	413	2217	495
RTOR Reduction (vph)	0	0	2	0	0	9	0	0	60	0	0	234
Lane Group Flow (vph)	576	522	9	207	163	279	43	1679	337	413	2217	261
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	15.3	15.3	15.3	15.3	15.3	15.3	26.0	26.0	26.0	26.0	26.0	26.0
Effective Green, g (s)	15.3	15.3	15.3	15.3	15.3	15.3	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	727	1098	491	443	1098	491	151	1866	835	293	1866	835
v/s Ratio Prot		0.15			0.05			0.47			0.63	
v/s Ratio Perm	c0.25		0.01	0.15		0.18	0.15		0.21	c0.74		0.16
v/c Ratio	0.79	0.48	0.02	0.47	0.15	0.57	0.28	0.90	0.40	1.41	1.19	0.31
Uniform Delay, d1	15.5	13.8	11.8	13.7	12.3	14.2	6.5	10.5	7.0	11.6	11.6	6.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	0.3	0.0	0.8	0.1	1.5	4.7	7.4	1.5	203.5	90.4	1.0
Delay (s)	21.5	14.1	11.8	14.5	12.4	15.7	11.2	17.9	8.4	215.1	102.0	7.6
Level of Service	C	B	B	B	B	B	B	B	A	F	F	A
Approach Delay (s)		17.9			14.5			16.0			102.0	
Approach LOS		B			B			B			F	

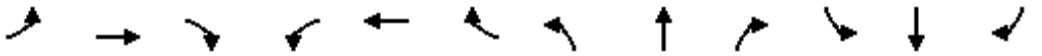
Intersection Summary			
HCM Average Control Delay	54.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	49.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



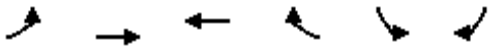
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	820	400	65	80	100	270	60	1765	40	160	1135	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		0.95	1.00	0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		3462	1583	3433	5069		1770	5085	1583
Flt Permitted	0.63	1.00	1.00		0.68	1.00	0.19	1.00		0.19	1.00	1.00
Satd. Flow (perm)	2271	1863	1583		2396	1583	688	5069		355	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	435	71	87	109	293	65	1918	43	174	1234	402
RTOR Reduction (vph)	0	0	20	0	0	3	0	5	0	0	0	214
Lane Group Flow (vph)	891	435	51	0	196	290	65	1956	0	174	1234	188
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	16.0	16.0	16.0		16.0	16.0	21.0	21.0		21.0	21.0	21.0
Effective Green, g (s)	16.0	16.0	16.0		16.0	16.0	21.0	21.0		21.0	21.0	21.0
Actuated g/C Ratio	0.36	0.36	0.36		0.36	0.36	0.47	0.47		0.47	0.47	0.47
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	807	662	563		852	563	321	2366		166	2373	739
v/s Ratio Prot		0.23						0.39			0.24	
v/s Ratio Perm	c0.39		0.03		0.08	0.18	0.09			c0.49		0.12
v/c Ratio	1.10	0.66	0.09		0.23	0.52	0.20	0.83		1.05	0.52	0.25
Uniform Delay, d1	14.5	12.2	9.7		10.2	11.4	7.1	10.4		12.0	8.5	7.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	64.1	2.4	0.1		0.1	0.8	1.4	3.5		83.2	0.8	0.8
Delay (s)	78.6	14.6	9.7		10.3	12.2	8.5	13.9		95.2	9.3	8.1
Level of Service	E	B	A		B	B	A	B		F	A	A
Approach Delay (s)		55.2			11.5			13.7			17.3	
Approach LOS		E			B			B			B	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



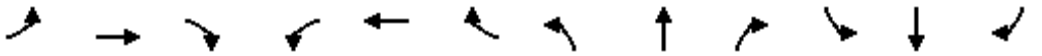
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	570	60	770	1600	45	100	150	25	5	260	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		0.95			0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.99			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98			1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		3429			3408	
Flt Permitted	0.16	1.00	1.00	0.30	1.00	1.00		0.64			0.95	
Satd. Flow (perm)	293	5085	1583	556	5085	1583		2240			3241	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	620	65	837	1739	49	109	163	27	5	283	92
RTOR Reduction (vph)	0	0	44	0	0	15	0	10	0	0	30	0
Lane Group Flow (vph)	87	620	21	837	1739	34	0	289	0	0	350	0
Turn Type	Perm		Perm	pm+pt		Perm	Perm			Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.4	25.4	25.4	55.4	55.4	55.4		16.0			16.0	
Effective Green, g (s)	25.4	25.4	25.4	55.4	55.4	55.4		16.0			16.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.70	0.70	0.70		0.20			0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	94	1627	506	785	3548	1105		451			653	
v/s Ratio Prot		0.12		c0.35	0.34							
v/s Ratio Perm	0.30		0.01	c0.39		0.02		c0.13			0.11	
v/c Ratio	0.93	0.38	0.04	1.07	0.49	0.03		0.64			0.54	
Uniform Delay, d1	26.1	20.9	18.6	14.2	5.5	3.7		29.1			28.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	68.3	0.1	0.0	51.3	0.1	0.0		6.9			3.1	
Delay (s)	94.4	21.1	18.6	65.4	5.6	3.7		35.9			31.5	
Level of Service	F	C	B	E	A	A		D			C	
Approach Delay (s)		29.1			24.7			35.9			31.5	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



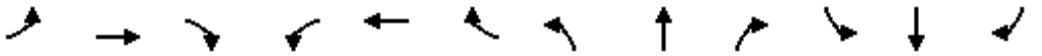
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	150	210	435	275	260	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.16	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	293	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	228	473	299	283	848
RTOR Reduction (vph)	0	0	0	248	0	149
Lane Group Flow (vph)	163	228	473	51	283	699
Turn Type	pm+pt			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	44.0	44.0	24.9	24.9	94.1	94.1
Effective Green, g (s)	44.0	44.0	24.9	24.9	94.1	94.1
Actuated g/C Ratio	0.30	0.30	0.17	0.17	0.64	0.64
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	1066	603	270	1140	1020
v/s Ratio Prot	c0.07	0.06	c0.13		0.16	
v/s Ratio Perm	0.13			0.03		c0.44
v/c Ratio	0.68	0.21	0.78	0.19	0.25	0.68
Uniform Delay, d1	40.9	38.1	58.0	51.9	11.0	16.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.3	0.1	6.6	0.3	0.5	3.7
Delay (s)	48.2	38.2	64.7	52.3	11.5	20.3
Level of Service	D	D	E	D	B	C
Approach Delay (s)		42.4	59.9		18.1	
Approach LOS		D	E		B	

Intersection Summary			
HCM Average Control Delay	36.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	146.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



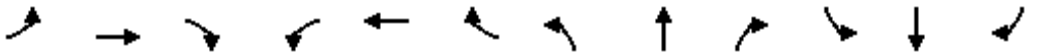
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	875	80	475	920	700	140	515	100	305	770	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.23	1.00	1.00	0.25	1.00	1.00	0.30	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	830	5085	1583	887	5085	1583	1078	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	951	87	516	1000	761	152	560	109	332	837	739
RTOR Reduction (vph)	0	0	31	0	0	165	0	0	68	0	0	57
Lane Group Flow (vph)	196	951	56	516	1000	596	152	560	41	332	837	682
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Prot		Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8		8	2		2			6
Actuated Green, G (s)	76.0	76.0	76.0	76.0	76.0	76.0	37.0	37.0	37.0	15.0	56.0	56.0
Effective Green, g (s)	76.0	76.0	76.0	76.0	76.0	76.0	37.0	37.0	37.0	15.0	56.0	56.0
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54	0.26	0.26	0.26	0.11	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	451	2760	859	482	2760	859	285	935	418	368	1416	633
v/s Ratio Prot		0.19			0.20			0.16		0.10	0.24	
v/s Ratio Perm	0.24		0.04	c0.58		0.38	0.14		0.03			c0.43
v/c Ratio	0.43	0.34	0.07	1.07	0.36	0.69	0.53	0.60	0.10	0.90	0.59	1.08
Uniform Delay, d1	19.1	18.0	15.2	32.0	18.2	23.5	44.1	45.0	38.9	61.8	33.0	42.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1	0.0	61.2	0.1	2.5	7.0	2.8	0.5	24.4	1.8	58.4
Delay (s)	19.8	18.1	15.2	93.2	18.3	25.9	51.1	47.8	39.4	86.2	34.8	100.4
Level of Service	B	B	B	F	B	C	D	D	D	F	C	F
Approach Delay (s)		18.1			37.8			47.3			69.2	
Approach LOS		B			D			D			E	

Intersection Summary			
HCM Average Control Delay	44.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	180	25	280	295	310	90	300	100	180	540	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1840	1583		1819	1583	1770	3406		1770	3539	1583
Flt Permitted		0.57	1.00		0.71	1.00	0.40	1.00		0.50	1.00	1.00
Satd. Flow (perm)		1061	1583		1331	1583	753	3406		930	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	196	27	304	321	337	98	326	109	196	587	130
RTOR Reduction (vph)	0	0	16	0	0	202	0	65	0	0	0	78
Lane Group Flow (vph)	0	261	11	0	625	135	98	370	0	196	587	52
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		16.0	16.0		16.0	16.0	16.0	16.0		16.0	16.0	16.0
Effective Green, g (s)		16.0	16.0		16.0	16.0	16.0	16.0		16.0	16.0	16.0
Actuated g/C Ratio		0.40	0.40		0.40	0.40	0.40	0.40		0.40	0.40	0.40
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		424	633		532	633	301	1362		372	1416	633
v/s Ratio Prot								0.11			0.17	
v/s Ratio Perm		0.25	0.01		c0.47	0.09	0.13			c0.21		0.03
v/c Ratio		0.62	0.02		1.17	0.21	0.33	0.27		0.53	0.41	0.08
Uniform Delay, d1		9.6	7.2		12.0	7.9	8.3	8.1		9.1	8.6	7.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.7	0.0		97.1	0.2	2.9	0.5		5.3	0.9	0.3
Delay (s)		12.2	7.3		109.1	8.0	11.1	8.6		14.4	9.5	7.7
Level of Service		B	A		F	A	B	A		B	A	A
Approach Delay (s)		11.7			73.7			9.0			10.3	
Approach LOS		B			E			A			B	

Intersection Summary			
HCM Average Control Delay	32.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

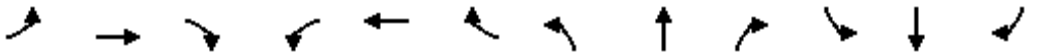


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	150	5	10	335	250	20	70	10	250	55	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.37	1.00	1.00	0.63	1.00	1.00	0.72	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	687	1863	1583	1178	1863	1583	1337	1863	1583	1318	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	163	5	11	364	272	22	76	11	272	60	429
RTOR Reduction (vph)	0	0	3	0	0	177	0	0	5	0	0	195
Lane Group Flow (vph)	239	163	2	11	364	95	22	76	6	272	60	234
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	26.0	26.0	26.0	26.0	26.0	26.0	40.8	40.8	40.8	40.8	40.8	40.8
Effective Green, g (s)	26.0	26.0	26.0	26.0	26.0	26.0	40.8	40.8	40.8	40.8	40.8	40.8
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.35	0.35	0.55	0.55	0.55	0.55	0.55	0.55
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	239	648	550	409	648	550	729	1016	863	719	1016	863
v/s Ratio Prot		0.09			0.20			0.04			0.03	
v/s Ratio Perm	c0.35		0.00	0.01		0.06	0.02		0.00	c0.21		0.15
v/c Ratio	1.00	0.25	0.00	0.03	0.56	0.17	0.03	0.07	0.01	0.38	0.06	0.27
Uniform Delay, d1	24.4	17.4	15.9	16.1	19.8	16.9	7.9	8.1	7.8	9.7	8.0	9.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	58.2	0.2	0.0	0.0	1.1	0.1	0.1	0.1	0.0	1.5	0.1	0.8
Delay (s)	82.6	17.6	15.9	16.1	20.9	17.1	7.9	8.2	7.8	11.3	8.1	9.8
Level of Service	F	B	B	B	C	B	A	A	A	B	A	A
Approach Delay (s)		55.8			19.2			8.1			10.2	
Approach LOS		E			B			A			B	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	74.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

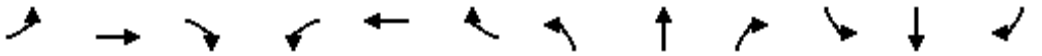
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	30	65	315	120	120	85	450	240	180	700	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1723		1770	3354		1770	3482	
Flt Permitted	0.59	1.00	1.00	0.74	1.00		0.27	1.00		0.32	1.00	
Satd. Flow (perm)	1099	1863	1583	1370	1723		504	3354		603	3482	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	33	71	342	130	130	92	489	261	196	761	92
RTOR Reduction (vph)	0	0	46	0	85	0	0	146	0	0	22	0
Lane Group Flow (vph)	16	33	25	342	175	0	92	604	0	196	831	0
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	13.3	13.3	13.3	13.3	13.3		16.8	16.8		16.8	16.8	
Effective Green, g (s)	13.3	13.3	13.3	13.3	13.3		16.8	16.8		16.8	16.8	
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.35		0.44	0.44		0.44	0.44	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	384	650	553	478	601		222	1479		266	1535	
v/s Ratio Prot		0.02			0.10			0.18			0.24	
v/s Ratio Perm	0.01		0.02	c0.25			0.18			c0.33		
v/c Ratio	0.04	0.05	0.04	0.72	0.29		0.41	0.41		0.74	0.54	
Uniform Delay, d1	8.2	8.2	8.2	10.8	9.0		7.3	7.3		8.8	7.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.0	0.0	5.0	0.3		5.6	0.8		16.6	1.4	
Delay (s)	8.2	8.2	8.2	15.8	9.3		12.9	8.1		25.4	9.2	
Level of Service	A	A	A	B	A		B	A		C	A	
Approach Delay (s)		8.2			13.0			8.6			12.2	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



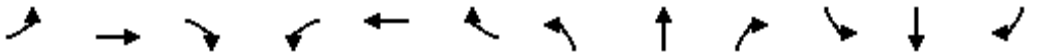
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	170	170	60	155	135	200	1080	60	150	925	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.65	1.00	1.00	0.58	1.00	1.00	0.25	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	1203	1863	1583	2088	3539	1583	472	3539	1583	373	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	185	185	65	168	147	217	1174	65	163	1005	130
RTOR Reduction (vph)	0	0	95	0	0	64	0	0	23	0	0	45
Lane Group Flow (vph)	120	185	90	65	168	83	217	1174	42	163	1005	85
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	11.5	11.5	11.5	11.5	11.5	11.5	36.8	36.8	36.8	36.8	36.8	36.8
Effective Green, g (s)	11.5	11.5	11.5	11.5	11.5	11.5	36.8	36.8	36.8	36.8	36.8	36.8
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.65	0.65	0.65	0.65	0.65	0.65
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	246	381	323	427	723	323	309	2313	1035	244	2313	1035
v/s Ratio Prot		0.10			0.05			0.33			0.28	
v/s Ratio Perm	c0.10		0.06	0.03		0.05	c0.46		0.03	0.44		0.05
v/c Ratio	0.49	0.49	0.28	0.15	0.23	0.26	0.70	0.51	0.04	0.67	0.43	0.08
Uniform Delay, d1	19.8	19.8	18.9	18.4	18.7	18.8	6.2	5.1	3.5	6.0	4.7	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.0	0.5	0.2	0.2	0.4	12.6	0.8	0.1	13.6	0.6	0.2
Delay (s)	21.3	20.8	19.4	18.6	18.9	19.2	18.8	5.9	3.5	19.6	5.3	3.7
Level of Service	C	C	B	B	B	B	B	A	A	B	A	A
Approach Delay (s)		20.4			19.0			7.7			6.9	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	410	170	290	950	255	140	90	65	135	150	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.25	1.00	1.00	0.49	1.00	1.00	0.65	1.00	1.00	0.69	1.00	1.00
Satd. Flow (perm)	472	3539	1583	920	3539	1583	1208	3539	1583	1286	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	446	185	315	1033	277	152	98	71	147	163	130
RTOR Reduction (vph)	0	0	112	0	0	167	0	0	42	0	0	20
Lane Group Flow (vph)	82	446	73	315	1033	110	152	98	29	147	163	110
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	15.8	15.8	15.8	15.8	15.8	15.8	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	15.8	15.8	15.8	15.8	15.8	15.8	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	187	1405	628	365	1405	628	486	1423	636	517	1423	636
v/s Ratio Prot		0.13			0.29			0.03			0.05	
v/s Ratio Perm	0.17		0.05	c0.34		0.07	c0.13		0.02	0.11		0.07
v/c Ratio	0.44	0.32	0.12	0.86	0.74	0.18	0.31	0.07	0.04	0.28	0.11	0.17
Uniform Delay, d1	8.8	8.3	7.6	11.0	10.2	7.8	8.1	7.3	7.2	8.0	7.5	7.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1	0.1	18.5	2.0	0.1	1.7	0.1	0.1	1.4	0.2	0.6
Delay (s)	10.4	8.4	7.7	29.5	12.3	7.9	9.8	7.4	7.4	9.4	7.6	8.2
Level of Service	B	A	A	C	B	A	A	A	A	A	A	A
Approach Delay (s)		8.4			14.9			8.5			8.4	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	39.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

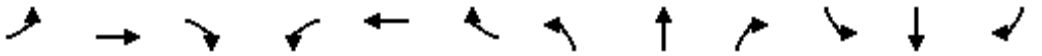


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	560	0	260	140	505	340	270	330	0	0	780	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		1583	1770	3539	1583	1770	3539			3539	1583
Flt Permitted	0.36		1.00	0.95	1.00	1.00	0.26	1.00			1.00	1.00
Satd. Flow (perm)	1286		1583	1770	3539	1583	480	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	609	0	283	152	549	370	293	359	0	0	848	750
RTOR Reduction (vph)	0	0	80	0	0	222	0	0	0	0	0	84
Lane Group Flow (vph)	609	0	203	152	549	148	293	359	0	0	848	666
Turn Type	custom		custom	Perm		Perm	Perm					Perm
Protected Phases					8			2			6	
Permitted Phases	4		4	8		8	2					6
Actuated Green, G (s)	48.0		48.0	48.0	48.0	48.0	64.0	64.0			64.0	64.0
Effective Green, g (s)	48.0		48.0	48.0	48.0	48.0	64.0	64.0			64.0	64.0
Actuated g/C Ratio	0.40		0.40	0.40	0.40	0.40	0.53	0.53			0.53	0.53
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	514		633	708	1416	633	256	1887			1887	844
v/s Ratio Prot					0.16			0.10			0.24	
v/s Ratio Perm	c0.47		0.13	0.09		0.09	c0.61					0.42
v/c Ratio	1.18		0.32	0.21	0.39	0.23	1.14	0.19			0.45	0.79
Uniform Delay, d1	36.0		24.8	23.6	25.6	23.8	28.0	14.5			17.2	22.6
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	101.6		0.3	0.2	0.2	0.2	100.9	0.2			0.8	7.4
Delay (s)	137.6		25.1	23.8	25.7	24.0	128.9	14.8			18.0	30.0
Level of Service	F		C	C	C	C	F	B			B	C
Approach Delay (s)		101.9			24.9			66.1			23.6	
Approach LOS		F			C			E			C	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

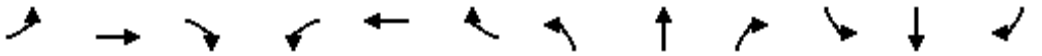
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	10	190	15	5	20	140	215	10	10	1080	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.75	1.00	1.00	0.75	1.00	1.00	0.06	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	1405	3539	1583	1397	3539	1583	112	1863	1583	1112	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	489	11	207	16	5	22	152	234	11	11	1174	793
RTOR Reduction (vph)	0	0	90	0	0	17	0	0	3	0	0	238
Lane Group Flow (vph)	489	11	117	16	5	5	152	234	8	11	1174	555
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	37.0	37.0	37.0	37.0	37.0	37.0	105.0	105.0	105.0	105.0	105.0	105.0
Effective Green, g (s)	37.0	37.0	37.0	37.0	37.0	37.0	105.0	105.0	105.0	105.0	105.0	105.0
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.70	0.70	0.70	0.70	0.70	0.70
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	347	873	390	345	873	390	78	1304	1108	778	1304	1108
v/s Ratio Prot		0.00			0.00			0.13			0.63	
v/s Ratio Perm	c0.35		0.07	0.01		0.00	c1.36		0.00	0.01		0.35
v/c Ratio	1.41	0.01	0.30	0.05	0.01	0.01	1.95	0.18	0.01	0.01	0.90	0.50
Uniform Delay, d1	56.5	42.7	46.0	43.1	42.6	42.7	22.5	7.7	6.8	6.8	18.3	10.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	200.6	0.0	0.4	0.1	0.0	0.0	470.0	0.3	0.0	0.0	10.2	1.6
Delay (s)	257.1	42.7	46.4	43.1	42.6	42.7	492.5	8.0	6.8	6.9	28.4	12.0
Level of Service	F	D	D	D	D	D	F	A	A	A	C	B
Approach Delay (s)		192.0			42.9			193.5			21.7	
Approach LOS		F			D			F			C	

Intersection Summary			
HCM Average Control Delay	82.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.80		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



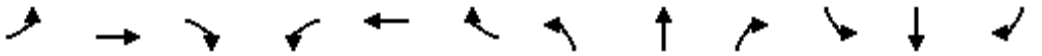
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	200	40	365	390	430	30	1550	150	235	1410	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.48	1.00	1.00	0.62	1.00	1.00	0.15	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	1731	3539	1583	2226	3539	1583	287	3539	1583	556	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	217	43	397	424	467	33	1685	163	255	1533	592
RTOR Reduction (vph)	0	0	14	0	0	9	0	0	78	0	0	92
Lane Group Flow (vph)	370	217	29	397	424	458	33	1685	85	255	1533	500
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	26.0	26.0	26.0	26.0	26.0	26.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	554	1132	507	712	1132	507	149	1840	823	289	1840	823
v/s Ratio Prot		0.06			0.12			c0.48			0.43	
v/s Ratio Perm	0.21		0.02	0.18		c0.29	0.12		0.05	0.46		0.32
v/c Ratio	0.67	0.19	0.06	0.56	0.37	0.90	0.22	0.92	0.10	0.88	0.83	0.61
Uniform Delay, d1	14.7	12.3	11.8	14.1	13.1	16.3	6.5	11.0	6.1	10.6	10.2	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.1	0.0	1.0	0.2	19.3	3.4	8.7	0.3	29.9	4.6	3.3
Delay (s)	17.7	12.4	11.8	15.0	13.3	35.6	9.9	19.7	6.3	40.5	14.8	11.7
Level of Service	B	B	B	B	B	D	A	B	A	D	B	B
Approach Delay (s)		15.5			21.9			18.3			16.8	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



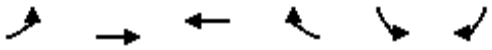
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	510	230	195	150	150	170	260	1765	100	260	2230	855
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		0.95	1.00	0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		3453	1583	3433	5044		1770	5085	1583
Flt Permitted	0.51	1.00	1.00		0.65	1.00	0.10	1.00		0.10	1.00	1.00
Satd. Flow (perm)	1859	1863	1583		2291	1583	353	5044		182	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	554	250	212	163	163	185	283	1918	109	283	2424	929
RTOR Reduction (vph)	0	0	4	0	0	13	0	10	0	0	0	172
Lane Group Flow (vph)	554	250	208	0	326	172	283	2017	0	283	2424	757
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	16.0	16.0	16.0		16.0	16.0	41.0	41.0		41.0	41.0	41.0
Effective Green, g (s)	16.0	16.0	16.0		16.0	16.0	41.0	41.0		41.0	41.0	41.0
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.25	0.63	0.63		0.63	0.63	0.63
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	458	459	390		564	390	223	3182		115	3207	999
v/s Ratio Prot		0.13						0.40			0.48	
v/s Ratio Perm	c0.30		0.13		0.14	0.11	0.80			c1.56		0.48
v/c Ratio	1.21	0.54	0.53		0.58	0.44	1.27	0.63		2.46	0.76	0.76
Uniform Delay, d1	24.5	21.3	21.3		21.5	20.7	12.0	7.4		12.0	8.5	8.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	113.2	1.3	1.4		1.4	0.8	151.5	1.0		682.8	1.7	5.4
Delay (s)	137.7	22.7	22.7		23.0	21.5	163.5	8.4		694.8	10.2	13.9
Level of Service	F	C	C		C	C	F	A		F	B	B
Approach Delay (s)		85.4			22.4			27.4			64.4	
Approach LOS		F			C			C			E	

Intersection Summary			
HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	2.11		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



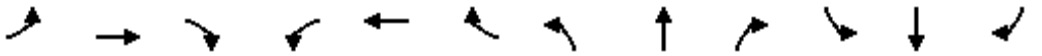
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1395	50	170	420	50	35	330	70	50	135	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		0.95			0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.98			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		3440			3391	
Flt Permitted	0.48	1.00	1.00	0.14	1.00	1.00		0.91			0.80	
Satd. Flow (perm)	893	5085	1583	270	5085	1583		3150			2749	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1516	54	185	457	54	38	359	76	54	147	54
RTOR Reduction (vph)	0	0	32	0	0	22	0	26	0	0	39	0
Lane Group Flow (vph)	76	1516	22	185	457	32	0	447	0	0	216	0
Turn Type	Perm		Perm	pm+pt		Perm	Perm			Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	23.6	23.6	23.6	35.1	35.1	35.1		16.0			16.0	
Effective Green, g (s)	23.6	23.6	23.6	35.1	35.1	35.1		16.0			16.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.59	0.59	0.59		0.27			0.27	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	357	2031	632	351	3020	940		853			744	
v/s Ratio Prot		c0.30		c0.07	0.09							
v/s Ratio Perm	0.09		0.01	0.25		0.02		c0.14			0.08	
v/c Ratio	0.21	0.75	0.03	0.53	0.15	0.03		0.52			0.29	
Uniform Delay, d1	11.7	15.2	10.8	8.4	5.4	5.0		18.3			17.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.3	1.5	0.0	1.4	0.0	0.0		2.3			1.0	
Delay (s)	12.0	16.7	10.8	9.9	5.4	5.0		20.6			18.0	
Level of Service	B	B	B	A	A	A		C			B	
Approach Delay (s)		16.3			6.5			20.6			18.0	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



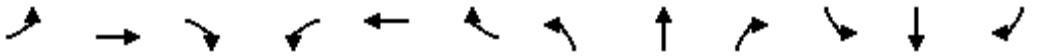
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	540	390	195	360	105	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.45	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	846	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	424	212	391	114	98
RTOR Reduction (vph)	0	0	0	323	0	70
Lane Group Flow (vph)	587	424	212	68	114	28
Turn Type	pm+pt			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	37.4	37.4	11.0	11.0	18.2	18.2
Effective Green, g (s)	37.4	37.4	11.0	11.0	18.2	18.2
Actuated g/C Ratio	0.59	0.59	0.17	0.17	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	823	2081	612	274	507	453
v/s Ratio Prot	c0.25	0.12	0.06		c0.06	
v/s Ratio Perm	c0.17			0.04		0.02
v/c Ratio	0.71	0.20	0.35	0.25	0.22	0.06
Uniform Delay, d1	8.3	6.1	23.1	22.7	17.3	16.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	0.0	0.3	0.5	1.0	0.3
Delay (s)	11.3	6.2	23.5	23.2	18.3	16.8
Level of Service	B	A	C	C	B	B
Approach Delay (s)		9.1	23.3		17.6	
Approach LOS		A	C		B	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	63.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



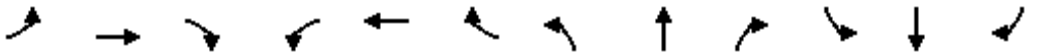
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	840	1705	40	50	410	400	50	615	385	540	190	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	913	1853	43	54	446	435	54	668	418	587	207	201
RTOR Reduction (vph)	0	0	26	0	0	218	0	0	52	0	0	118
Lane Group Flow (vph)	913	1853	17	54	446	217	54	668	366	587	207	83
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	32.9	48.0	48.0	3.2	18.3	18.3	4.0	32.8	32.8	21.0	49.8	49.8
Effective Green, g (s)	32.9	48.0	48.0	3.2	18.3	18.3	4.0	32.8	32.8	21.0	49.8	49.8
Actuated g/C Ratio	0.27	0.40	0.40	0.03	0.15	0.15	0.03	0.27	0.27	0.17	0.41	0.41
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	933	2017	628	91	769	239	113	959	429	596	1457	652
v/s Ratio Prot	c0.27	c0.36		0.02	0.09		0.02	0.19		c0.17	0.06	
v/s Ratio Perm			0.01			0.14			c0.23			0.05
v/c Ratio	0.98	0.92	0.03	0.59	0.58	0.91	0.48	0.70	0.85	0.98	0.14	0.13
Uniform Delay, d1	43.7	34.6	22.3	58.3	47.8	50.5	57.5	39.6	41.8	49.8	22.2	22.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	24.0	7.2	0.0	10.0	1.1	34.1	3.2	4.2	18.8	32.8	0.2	0.4
Delay (s)	67.7	41.9	22.3	68.2	48.8	84.6	60.6	43.8	60.6	82.6	22.5	22.5
Level of Service	E	D	C	E	D	F	E	D	E	F	C	C
Approach Delay (s)		50.0			66.6			50.8			57.9	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM Average Control Delay	54.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	121.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



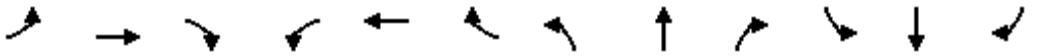
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	320	45	170	160	120	75	445	360	220	280	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.97	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1846	1583		1816	1583	1770	3302		1770	3539	1583
Flt Permitted		0.86	1.00		0.46	1.00	0.57	1.00		0.16	1.00	1.00
Satd. Flow (perm)		1605	1583		851	1583	1055	3302		295	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	348	49	185	174	130	82	484	391	239	304	82
RTOR Reduction (vph)	0	0	28	0	0	75	0	174	0	0	0	52
Lane Group Flow (vph)	0	424	21	0	359	55	82	701	0	239	304	30
Turn Type	Perm		Perm	Perm		Perm	pm+pt			pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		31.7	31.7		31.7	31.7	25.1	21.3		34.9	27.1	27.1
Effective Green, g (s)		31.7	31.7		31.7	31.7	25.1	21.3		34.9	27.1	27.1
Actuated g/C Ratio		0.42	0.42		0.42	0.42	0.34	0.29		0.47	0.36	0.36
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		682	673		362	673	391	943		328	1286	575
v/s Ratio Prot							0.01	0.21		c0.09	0.09	
v/s Ratio Perm		0.26	0.01		c0.42	0.03	0.06			c0.25		0.02
v/c Ratio		0.62	0.03		0.99	0.08	0.21	0.74		0.73	0.24	0.05
Uniform Delay, d1		16.8	12.5		21.3	12.8	17.2	24.2		15.1	16.5	15.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.8	0.0		44.9	0.1	0.3	5.3		7.9	0.4	0.2
Delay (s)		18.5	12.5		66.2	12.8	17.5	29.4		23.0	17.0	15.6
Level of Service		B	B		E	B	B	C		C	B	B
Approach Delay (s)		17.9			52.0			28.4			19.1	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



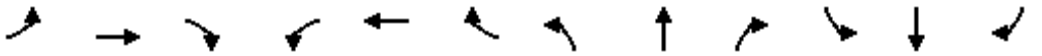
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	445	340	30	65	170	130	30	130	20	120	230	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.39	1.00	1.00	0.54	1.00	1.00	0.52	1.00	1.00	0.67	1.00	1.00
Satd. Flow (perm)	731	1863	1583	1008	1863	1583	975	1863	1583	1243	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	484	370	33	71	185	141	33	141	22	130	250	293
RTOR Reduction (vph)	0	0	15	0	0	116	0	0	15	0	0	195
Lane Group Flow (vph)	484	370	18	71	185	25	33	141	7	130	250	98
Turn Type	pm+pt		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	34.3	34.3	34.3	11.4	11.4	11.4	21.2	21.2	21.2	21.2	21.2	21.2
Effective Green, g (s)	34.3	34.3	34.3	11.4	11.4	11.4	21.2	21.2	21.2	21.2	21.2	21.2
Actuated g/C Ratio	0.54	0.54	0.54	0.18	0.18	0.18	0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	704	1006	855	181	334	284	326	622	528	415	622	528
v/s Ratio Prot	c0.20	0.20			0.10			0.08			c0.13	
v/s Ratio Perm	c0.17		0.01	0.07		0.02	0.03		0.00	0.10		0.06
v/c Ratio	0.69	0.37	0.02	0.39	0.55	0.09	0.10	0.23	0.01	0.31	0.40	0.19
Uniform Delay, d1	9.7	8.4	6.8	23.0	23.7	21.7	14.6	15.2	14.2	15.7	16.3	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.2	0.0	1.4	2.0	0.1	0.6	0.8	0.0	2.0	1.9	0.8
Delay (s)	12.5	8.6	6.8	24.4	25.7	21.9	15.2	16.1	14.2	17.7	18.2	15.8
Level of Service	B	A	A	C	C	C	B	B	B	B	B	B
Approach Delay (s)		10.7			24.1			15.7			17.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	95	70	245	150	60	40	610	270	190	340	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1783		1770	3377		1770	3532	
Flt Permitted	0.62	1.00	1.00	0.46	1.00		0.53	1.00		0.16	1.00	
Satd. Flow (perm)	1148	1863	1583	861	1783		985	3377		291	3532	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	103	76	266	163	65	43	663	293	207	370	5
RTOR Reduction (vph)	0	0	67	0	21	0	0	61	0	0	1	0
Lane Group Flow (vph)	65	103	9	266	207	0	43	895	0	207	374	0
Turn Type	Perm		Perm	pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	8.1	8.1	8.1	19.3	19.3		28.1	28.1		40.4	40.4	
Effective Green, g (s)	8.1	8.1	8.1	19.3	19.3		28.1	28.1		40.4	40.4	
Actuated g/C Ratio	0.12	0.12	0.12	0.29	0.29		0.42	0.42		0.60	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	137	223	189	342	508		409	1402		355	2108	
v/s Ratio Prot		0.06		c0.08	0.12			c0.26		c0.07	0.11	
v/s Ratio Perm	0.06		0.01	c0.14			0.04			0.28		
v/c Ratio	0.47	0.46	0.05	0.78	0.41		0.11	0.64		0.58	0.18	
Uniform Delay, d1	27.8	27.8	26.4	21.1	19.6		12.1	15.8		9.0	6.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	1.5	0.1	10.6	0.5		0.5	2.2		2.4	0.2	
Delay (s)	30.4	29.3	26.5	31.7	20.1		12.6	18.0		11.4	6.3	
Level of Service	C	C	C	C	C		B	B		B	A	
Approach Delay (s)		28.7			26.4			17.8			8.2	
Approach LOS		C			C			B			A	

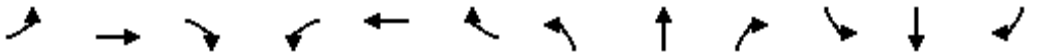
Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	67.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	100	180	60	105	75	120	195	50	90	990	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.48	1.00	1.00	0.95	1.00	1.00	0.18	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	899	1863	1583	3433	3539	1583	343	3539	1583	1153	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	109	196	65	114	82	130	212	54	98	1076	109
RTOR Reduction (vph)	0	0	168	0	0	74	0	0	16	0	0	45
Lane Group Flow (vph)	109	109	28	65	114	8	130	212	38	98	1076	64
Turn Type	pm+pt		Perm	Prot		Perm	pm+pt		Perm	Perm		Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	22.4	14.4	14.4	4.0	9.8	9.8	71.0	71.0	71.0	59.1	59.1	59.1
Effective Green, g (s)	22.4	14.4	14.4	4.0	9.8	9.8	71.0	71.0	71.0	59.1	59.1	59.1
Actuated g/C Ratio	0.22	0.14	0.14	0.04	0.10	0.10	0.70	0.70	0.70	0.58	0.58	0.58
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272	265	225	135	342	153	351	2478	1108	672	2063	923
v/s Ratio Prot	c0.03	c0.06		0.02	0.03		c0.03	0.06			c0.30	
v/s Ratio Perm	0.05		0.02			0.01	0.23		0.02	0.08		0.04
v/c Ratio	0.40	0.41	0.12	0.48	0.33	0.05	0.37	0.09	0.03	0.15	0.52	0.07
Uniform Delay, d1	32.9	39.6	38.0	47.7	42.8	41.6	7.4	4.8	4.7	9.6	12.7	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.0	0.2	2.7	0.6	0.1	0.7	0.1	0.1	0.5	0.9	0.1
Delay (s)	33.9	40.7	38.2	50.4	43.3	41.7	8.1	4.9	4.7	10.1	13.6	9.3
Level of Service	C	D	D	D	D	D	A	A	A	B	B	A
Approach Delay (s)		37.7			44.6			5.9			13.0	
Approach LOS		D			D			A			B	

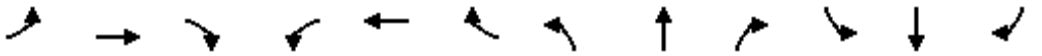
Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



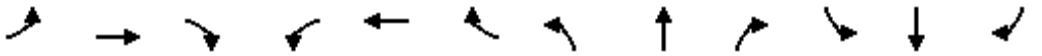
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	475	180	40	265	80	70	60	80	235	135	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.41	1.00	1.00	0.40	1.00	1.00	0.66	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	767	3539	1583	745	3539	1583	1227	3539	1583	1147	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	516	196	43	288	87	76	65	87	255	147	179
RTOR Reduction (vph)	0	0	147	0	0	70	0	0	57	0	0	102
Lane Group Flow (vph)	114	516	49	43	288	17	76	65	30	255	147	77
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	24.2	18.2	18.2	16.6	14.4	14.4	30.5	25.4	25.4	40.5	31.4	31.4
Effective Green, g (s)	24.2	18.2	18.2	16.6	14.4	14.4	30.5	25.4	25.4	40.5	31.4	31.4
Actuated g/C Ratio	0.33	0.25	0.25	0.23	0.20	0.20	0.42	0.35	0.35	0.56	0.43	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	337	884	395	201	699	313	551	1233	552	732	1524	682
v/s Ratio Prot	c0.03	c0.15		0.01	0.08		0.01	0.02		c0.05	0.04	
v/s Ratio Perm	0.08		0.03	0.04		0.01	0.05		0.02	c0.14		0.05
v/c Ratio	0.34	0.58	0.12	0.21	0.41	0.05	0.14	0.05	0.05	0.35	0.10	0.11
Uniform Delay, d1	17.6	24.0	21.2	22.3	25.6	23.7	12.9	15.8	15.8	8.5	12.3	12.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.0	0.1	0.5	0.4	0.1	0.1	0.1	0.2	0.3	0.1	0.3
Delay (s)	18.2	25.0	21.3	22.8	25.9	23.8	13.0	15.8	16.0	8.8	12.5	12.8
Level of Service	B	C	C	C	C	C	B	B	B	A	B	B
Approach Delay (s)		23.2			25.2			14.9			11.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	72.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



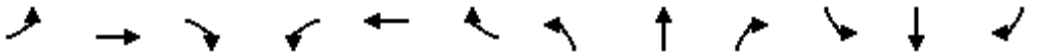
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	640	0	460	5	160	85	130	550	0	0	345	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		1583	1770	3539	1583	1770	3539			3539	1583
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.51	1.00			1.00	1.00
Satd. Flow (perm)	3433		1583	1770	3539	1583	950	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	696	0	500	5	174	92	141	598	0	0	375	250
RTOR Reduction (vph)	0	0	180	0	0	82	0	0	0	0	0	125
Lane Group Flow (vph)	696	0	320	5	174	10	141	598	0	0	375	125
Turn Type	Prot		custom	Perm		Perm	Perm					Perm
Protected Phases	7				8			2			6	
Permitted Phases			4	8		8	2					6
Actuated Green, G (s)	24.1		38.1	10.0	10.0	10.0	46.3	46.3			46.3	46.3
Effective Green, g (s)	24.1		38.1	10.0	10.0	10.0	46.3	46.3			46.3	46.3
Actuated g/C Ratio	0.26		0.41	0.11	0.11	0.11	0.50	0.50			0.50	0.50
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	895		653	192	383	171	476	1773			1773	793
v/s Ratio Prot	c0.20				0.05			c0.17			0.11	
v/s Ratio Perm			c0.20	0.00		0.01	0.15					0.08
v/c Ratio	0.78		0.49	0.03	0.45	0.06	0.30	0.34			0.21	0.16
Uniform Delay, d1	31.7		20.0	36.8	38.6	37.0	13.5	13.8			12.9	12.5
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	4.3		0.6	0.1	0.9	0.1	1.6	0.5			0.3	0.4
Delay (s)	36.0		20.6	36.9	39.5	37.1	15.1	14.4			13.1	12.9
Level of Service	D		C	D	D	D	B	B			B	B
Approach Delay (s)		29.5			38.6			14.5			13.0	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



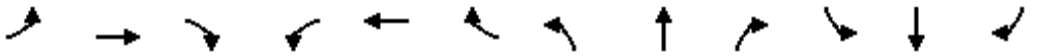
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	5	80	5	5	20	295	1560	20	65	220	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.43	1.00	1.00	0.75	1.00	1.00	0.55	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	807	3539	1583	1405	3539	1583	1020	1863	1583	116	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	5	87	5	5	22	321	1696	22	71	239	185
RTOR Reduction (vph)	0	0	73	0	0	21	0	0	3	0	0	77
Lane Group Flow (vph)	620	5	14	5	5	1	321	1696	19	71	239	108
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	22.4	17.6	17.6	6.2	5.4	5.4	79.2	72.1	72.1	67.2	64.1	64.1
Effective Green, g (s)	22.4	17.6	17.6	6.2	5.4	5.4	79.2	72.1	72.1	67.2	64.1	64.1
Actuated g/C Ratio	0.20	0.16	0.16	0.06	0.05	0.05	0.72	0.66	0.66	0.61	0.58	0.58
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	279	568	254	82	174	78	813	1226	1041	118	1090	926
v/s Ratio Prot	c0.26	0.00		0.00	0.00		0.04	c0.91		c0.02	0.13	
v/s Ratio Perm	c0.19		0.01	0.00		0.00	0.25		0.01	0.35		0.07
v/c Ratio	2.22	0.01	0.06	0.06	0.03	0.01	0.39	1.38	0.02	0.60	0.22	0.12
Uniform Delay, d1	42.2	38.7	39.0	48.9	49.6	49.6	5.5	18.8	6.5	25.7	10.8	10.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	561.5	0.0	0.1	0.3	0.1	0.1	0.3	177.7	0.0	8.4	0.5	0.3
Delay (s)	603.7	38.7	39.0	49.2	49.7	49.6	5.8	196.4	6.5	34.0	11.3	10.4
Level of Service	F	D	D	D	D	D	A	F	A	C	B	B
Approach Delay (s)		530.7			49.6			164.3			14.2	
Approach LOS		F			D			F			B	

Intersection Summary			
HCM Average Control Delay	220.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	109.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	134.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



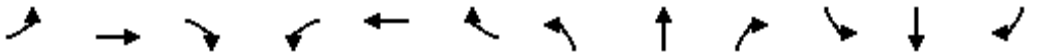
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	470	10	185	150	330	25	1650	360	485	1610	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	132	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	511	11	201	163	359	27	1793	391	527	1750	527
RTOR Reduction (vph)	0	0	9	0	0	134	0	0	140	0	0	227
Lane Group Flow (vph)	620	511	2	201	163	225	27	1793	251	527	1750	300
Turn Type	Prot		Perm	Prot		Perm	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2			6
Actuated Green, G (s)	18.0	25.0	25.0	9.0	16.0	16.0	59.0	56.6	56.6	15.0	69.2	69.2
Effective Green, g (s)	18.0	25.0	25.0	9.0	16.0	16.0	59.0	56.6	56.6	15.0	69.2	69.2
Actuated g/C Ratio	0.15	0.21	0.21	0.07	0.13	0.13	0.49	0.47	0.47	0.12	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	508	728	325	254	466	208	96	1647	737	423	2014	901
v/s Ratio Prot	c0.18	0.14		0.06	0.05		0.01	c0.51		c0.15	0.49	
v/s Ratio Perm			0.00			c0.14	0.13		0.16			0.19
v/c Ratio	1.22	0.70	0.01	0.79	0.35	1.08	0.28	1.09	0.34	1.25	0.87	0.33
Uniform Delay, d1	51.8	44.8	38.4	55.4	48.1	52.8	22.8	32.5	20.7	53.3	22.3	13.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	116.0	3.1	0.0	15.4	0.5	86.2	1.6	50.5	1.3	129.1	5.4	1.0
Delay (s)	167.8	47.9	38.4	70.8	48.5	139.0	24.4	83.0	21.9	182.4	27.8	14.9
Level of Service	F	D	D	E	D	F	C	F	C	F	C	B
Approach Delay (s)		112.9			99.7			71.5			54.4	
Approach LOS		F			F			E			D	

Intersection Summary			
HCM Average Control Delay	74.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



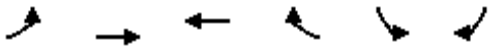
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	690	410	75	90	100	260	75	1770	40	150	1145	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		0.95	1.00	0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		3457	1583	3433	5069		1770	5085	1583
Flt Permitted	0.95	1.00	1.00		0.67	1.00	0.95	1.00		0.08	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		2360	1583	3433	5069		141	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	750	446	82	98	109	283	82	1924	43	163	1245	397
RTOR Reduction (vph)	0	0	48	0	0	72	0	2	0	0	0	220
Lane Group Flow (vph)	750	446	34	0	207	211	82	1965	0	163	1245	177
Turn Type	Prot		Perm	Perm		Perm	Prot			pm+pt		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8				6		6
Actuated Green, G (s)	27.4	49.3	49.3		17.9	17.9	4.7	48.9		61.9	53.2	53.2
Effective Green, g (s)	27.4	49.3	49.3		17.9	17.9	4.7	48.9		61.9	53.2	53.2
Actuated g/C Ratio	0.23	0.41	0.41		0.15	0.15	0.04	0.41		0.52	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	789	771	655		354	238	135	2079		196	2269	707
v/s Ratio Prot	c0.22	0.24					0.02	c0.39		c0.06	0.24	
v/s Ratio Perm			0.02		0.09	c0.13				0.37		0.11
v/c Ratio	0.95	0.58	0.05		0.58	0.89	0.61	0.95		0.83	0.55	0.25
Uniform Delay, d1	45.2	26.9	20.9		47.2	49.6	56.3	33.9		29.6	24.2	20.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	20.8	1.1	0.0		2.5	29.9	7.5	10.5		24.9	1.0	0.8
Delay (s)	66.1	28.0	21.0		49.6	79.6	63.9	44.3		54.5	25.2	21.4
Level of Service	E	C	C		D	E	E	D		D	C	C
Approach Delay (s)		49.9			66.9			45.1			27.0	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	42.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	119.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	560	30	660	1600	75	60	140	35	20	235	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		0.95			0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.98			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		3417			3380	
Flt Permitted	0.15	1.00	1.00	0.32	1.00	1.00		0.74			0.93	
Satd. Flow (perm)	275	5085	1583	593	5085	1583		2563			3143	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	609	33	717	1739	82	65	152	38	22	255	109
RTOR Reduction (vph)	0	0	21	0	0	27	0	18	0	0	28	0
Lane Group Flow (vph)	76	609	12	717	1739	55	0	237	0	0	358	0
Turn Type	Perm		Perm	pm+pt		Perm	Perm			Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	27.1	27.1	27.1	51.3	51.3	51.3		17.1			17.1	
Effective Green, g (s)	27.1	27.1	27.1	51.3	51.3	51.3		17.1			17.1	
Actuated g/C Ratio	0.35	0.35	0.35	0.67	0.67	0.67		0.22			0.22	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	98	1804	562	709	3414	1063		574			703	
v/s Ratio Prot		0.12		c0.27	0.34							
v/s Ratio Perm	0.28		0.01	c0.41		0.03		0.09			c0.11	
v/c Ratio	0.78	0.34	0.02	1.01	0.51	0.05		0.41			0.51	
Uniform Delay, d1	21.9	18.1	16.0	12.0	6.3	4.3		25.4			26.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	31.0	0.1	0.0	36.6	0.1	0.0		2.2			2.6	
Delay (s)	52.9	18.2	16.0	48.6	6.4	4.3		27.5			28.6	
Level of Service	D	B	B	D	A	A		C			C	
Approach Delay (s)		21.8			18.3			27.5			28.6	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	76.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

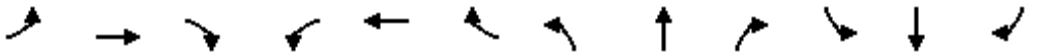


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	185	440	250	280	565
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.23	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	433	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	201	478	272	304	614
RTOR Reduction (vph)	0	0	0	218	0	144
Lane Group Flow (vph)	109	201	478	54	304	470
Turn Type	pm+pt			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	22.9	22.9	14.3	14.3	41.4	41.4
Effective Green, g (s)	22.9	22.9	14.3	14.3	41.4	41.4
Actuated g/C Ratio	0.32	0.32	0.20	0.20	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	222	1121	700	313	1014	906
v/s Ratio Prot	c0.03	0.06	c0.14		0.17	
v/s Ratio Perm	0.12			0.03		c0.30
v/c Ratio	0.49	0.18	0.68	0.17	0.30	0.52
Uniform Delay, d1	18.7	17.9	26.9	24.1	8.0	9.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.1	2.8	0.3	0.8	2.1
Delay (s)	20.4	18.0	29.7	24.3	8.7	11.5
Level of Service	C	B	C	C	A	B
Approach Delay (s)		18.8	27.7		10.6	
Approach LOS		B	C		B	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	72.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	175	870	70	445	920	705	130	490	90	315	730	685
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	946	76	484	1000	766	141	533	98	342	793	745
RTOR Reduction (vph)	0	0	57	0	0	215	0	0	67	0	0	101
Lane Group Flow (vph)	190	946	19	484	1000	551	141	533	31	342	793	644
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.0	30.5	30.5	19.5	43.0	43.0	6.0	37.8	37.8	16.2	48.0	48.0
Effective Green, g (s)	7.0	30.5	30.5	19.5	43.0	43.0	6.0	37.8	37.8	16.2	48.0	48.0
Actuated g/C Ratio	0.06	0.25	0.25	0.16	0.36	0.36	0.05	0.31	0.31	0.13	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	200	1292	402	558	1822	567	172	1115	499	463	1416	633
v/s Ratio Prot	0.06	0.19		c0.14	0.20		0.04	0.15		c0.10	0.22	
v/s Ratio Perm			0.01			c0.35			0.02			c0.41
v/c Ratio	0.95	0.73	0.05	0.87	0.55	0.97	0.82	0.48	0.06	0.74	0.56	1.02
Uniform Delay, d1	56.3	41.0	33.8	49.0	30.8	37.9	56.5	33.1	28.7	49.9	27.8	36.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	48.8	2.2	0.0	13.4	0.3	30.6	25.3	1.5	0.2	6.1	1.6	40.3
Delay (s)	105.1	43.2	33.8	62.4	31.1	68.5	81.7	34.6	29.0	55.9	29.4	76.3
Level of Service	F	D	C	E	C	E	F	C	C	E	C	E
Approach Delay (s)		52.3			50.5			42.5			52.8	
Approach LOS		D			D			D			D	

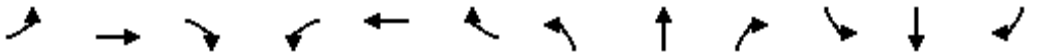
Intersection Summary			
HCM Average Control Delay	50.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	170	20	300	285	270	65	190	120	160	350	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1849	1583		1816	1583	1770	3334		1770	3539	1583
Flt Permitted		0.88	1.00		0.72	1.00	0.49	1.00		0.53	1.00	1.00
Satd. Flow (perm)		1647	1583		1338	1583	910	3334		978	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	185	22	326	310	293	71	207	130	174	380	76
RTOR Reduction (vph)	0	0	10	0	0	135	0	85	0	0	0	50
Lane Group Flow (vph)	0	218	12	0	636	158	71	252	0	174	380	26
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		38.2	38.2		38.2	38.2	24.5	24.5		24.5	24.5	24.5
Effective Green, g (s)		38.2	38.2		38.2	38.2	24.5	24.5		24.5	24.5	24.5
Actuated g/C Ratio		0.54	0.54		0.54	0.54	0.35	0.35		0.35	0.35	0.35
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		890	855		723	855	315	1155		339	1226	549
v/s Ratio Prot								0.08			0.11	
v/s Ratio Perm		0.13	0.01		c0.48	0.10	0.08			c0.18		0.02
v/c Ratio		0.24	0.01		0.88	0.19	0.23	0.22		0.51	0.31	0.05
Uniform Delay, d1		8.6	7.5		14.2	8.3	16.4	16.3		18.4	16.9	15.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.1	0.0		11.8	0.1	1.7	0.4		5.5	0.7	0.2
Delay (s)		8.8	7.5		26.1	8.4	18.0	16.8		23.8	17.6	15.5
Level of Service		A	A		C	A	B	B		C	B	B
Approach Delay (s)		8.6			20.5			17.0			19.0	
Approach LOS		A			C			B			B	

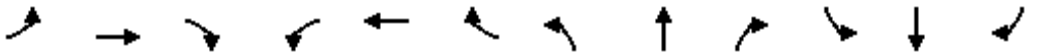
Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	70.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



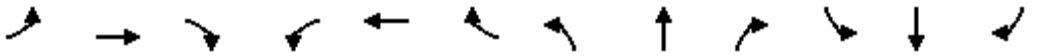
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	160	10	10	350	220	20	70	10	230	50	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.23	1.00	1.00	0.65	1.00	1.00	0.72	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	437	1863	1583	1206	1863	1583	1345	1863	1583	1318	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	174	11	11	380	239	22	76	11	250	54	375
RTOR Reduction (vph)	0	0	6	0	0	172	0	0	7	0	0	224
Lane Group Flow (vph)	201	174	5	11	380	67	22	76	4	250	54	151
Turn Type	pm+pt		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	31.0	31.0	31.0	18.3	18.3	18.3	26.2	26.2	26.2	26.2	26.2	26.2
Effective Green, g (s)	31.0	31.0	31.0	18.3	18.3	18.3	26.2	26.2	26.2	26.2	26.2	26.2
Actuated g/C Ratio	0.48	0.48	0.48	0.28	0.28	0.28	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	386	886	753	338	523	444	540	749	636	530	749	636
v/s Ratio Prot	c0.07	0.09			c0.20			0.04			0.03	
v/s Ratio Perm	0.18		0.00	0.01		0.04	0.02		0.00	c0.19		0.10
v/c Ratio	0.52	0.20	0.01	0.03	0.73	0.15	0.04	0.10	0.01	0.47	0.07	0.24
Uniform Delay, d1	11.6	9.9	9.0	17.0	21.2	17.6	11.9	12.2	11.7	14.4	12.0	12.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	0.0	0.0	5.0	0.2	0.1	0.3	0.0	3.0	0.2	0.9
Delay (s)	12.9	10.0	9.0	17.1	26.2	17.8	12.0	12.4	11.7	17.4	12.2	13.8
Level of Service	B	B	A	B	C	B	B	B	B	B	B	B
Approach Delay (s)		11.5			22.8			12.3			15.0	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



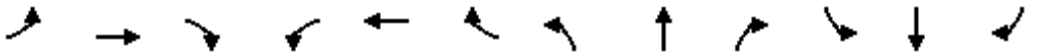
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	25	60	300	130	120	80	425	230	190	655	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1729		1770	3353		1770	3481	
Flt Permitted	0.75	1.00	1.00	0.43	1.00		0.35	1.00		0.24	1.00	
Satd. Flow (perm)	1406	1863	1583	801	1729		651	3353		449	3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	27	65	326	141	130	87	462	250	207	712	87
RTOR Reduction (vph)	0	0	60	0	52	0	0	87	0	0	10	0
Lane Group Flow (vph)	16	27	5	326	219	0	87	625	0	207	789	0
Turn Type	Perm		Perm	pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	5.3	5.3	5.3	20.1	20.1		24.5	24.5		36.2	36.2	
Effective Green, g (s)	5.3	5.3	5.3	20.1	20.1		24.5	24.5		36.2	36.2	
Actuated g/C Ratio	0.08	0.08	0.08	0.31	0.31		0.38	0.38		0.56	0.56	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	116	154	130	413	540		248	1278		411	1960	
v/s Ratio Prot		0.01		c0.13	0.13			0.19		c0.06	0.23	
v/s Ratio Perm	0.01		0.00	c0.11			0.13			c0.22		
v/c Ratio	0.14	0.18	0.04	0.79	0.41		0.35	0.49		0.50	0.40	
Uniform Delay, d1	27.4	27.5	27.2	18.8	17.4		14.2	15.1		8.2	7.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.5	0.1	9.7	0.5		3.9	1.3		1.0	0.6	
Delay (s)	27.9	28.0	27.3	28.4	17.9		18.1	16.5		9.1	8.6	
Level of Service	C	C	C	C	B		B	B		A	A	
Approach Delay (s)		27.6			23.7			16.7			8.7	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



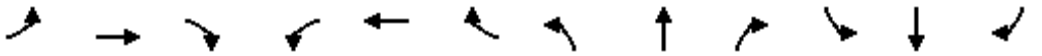
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	175	160	60	160	130	205	1050	60	145	900	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.57	1.00	1.00	0.95	1.00	1.00	0.22	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	1054	1863	1583	3433	3539	1583	417	3539	1583	461	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	190	174	65	174	141	223	1141	65	158	978	130
RTOR Reduction (vph)	0	0	149	0	0	121	0	0	18	0	0	50
Lane Group Flow (vph)	120	190	25	65	174	20	223	1141	47	158	978	80
Turn Type	pm+pt		Perm	Prot		Perm	pm+pt		Perm	Perm		Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	19.6	15.6	15.6	3.2	14.8	14.8	78.1	78.1	78.1	67.1	67.1	67.1
Effective Green, g (s)	19.6	15.6	15.6	3.2	14.8	14.8	78.1	78.1	78.1	67.1	67.1	67.1
Actuated g/C Ratio	0.18	0.14	0.14	0.03	0.14	0.14	0.72	0.72	0.72	0.62	0.62	0.62
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	216	267	227	101	481	215	386	2538	1135	284	2181	975
v/s Ratio Prot	c0.02	c0.10		0.02	0.05		c0.04	0.32			0.28	
v/s Ratio Perm	0.08		0.02			0.01	c0.38		0.03	0.34		0.05
v/c Ratio	0.56	0.71	0.11	0.64	0.36	0.09	0.58	0.45	0.04	0.56	0.45	0.08
Uniform Delay, d1	40.2	44.5	40.6	52.3	42.8	41.2	7.2	6.4	4.5	12.2	11.1	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	8.6	0.2	13.2	0.5	0.2	2.1	0.6	0.1	7.7	0.7	0.2
Delay (s)	43.2	53.1	40.8	65.5	43.2	41.4	9.3	7.0	4.6	19.9	11.8	8.6
Level of Service	D	D	D	E	D	D	A	A	A	B	B	A
Approach Delay (s)		46.3			46.3			7.2			12.4	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	108.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



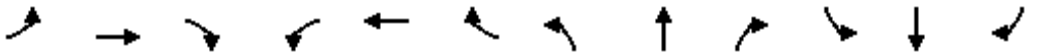
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	420	160	295	990	270	135	90	75	140	150	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583		3499	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.09	1.00	1.00		0.73	1.00	0.65	1.00	1.00	0.69	1.00	1.00
Satd. Flow (perm)	169	3539	1583		2585	1583	1208	3539	1583	1286	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	457	174	321	1076	293	147	98	82	152	163	136
RTOR Reduction (vph)	0	0	70	0	0	145	0	0	65	0	0	87
Lane Group Flow (vph)	87	457	104	0	1397	148	147	98	17	152	163	49
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	47.2	47.2	47.2		40.1	40.1	20.0	16.0	16.0	20.0	16.0	16.0
Effective Green, g (s)	47.2	47.2	47.2		40.1	40.1	20.0	16.0	16.0	20.0	16.0	16.0
Actuated g/C Ratio	0.60	0.60	0.60		0.51	0.51	0.25	0.20	0.20	0.25	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	163	2109	943		1309	801	333	715	320	349	715	320
v/s Ratio Prot	c0.02	0.13					c0.02	0.03		0.02	0.05	
v/s Ratio Perm	0.30		0.07		c0.54	0.09	c0.09		0.01	0.09		0.03
v/c Ratio	0.53	0.22	0.11		1.07	0.19	0.44	0.14	0.05	0.44	0.23	0.15
Uniform Delay, d1	12.5	7.4	6.9		19.6	10.7	24.2	25.9	25.5	24.3	26.4	26.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.1	0.1		44.9	0.1	0.9	0.4	0.3	0.9	0.7	1.0
Delay (s)	15.9	7.5	7.0		64.5	10.8	25.1	26.3	25.8	25.1	27.2	27.0
Level of Service	B	A	A		E	B	C	C	C	C	C	C
Approach Delay (s)		8.4			55.2			25.7			26.4	
Approach LOS		A			E			C			C	

Intersection Summary			
HCM Average Control Delay	37.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



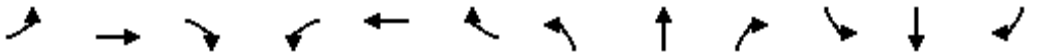
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	590	0	260	120	440	295	330	400	0	0	775	755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		1583	1770	3539	1583	1770	3539			3539	1583
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.29	1.00			1.00	1.00
Satd. Flow (perm)	3433		1583	1770	3539	1583	531	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	641	0	283	130	478	321	359	435	0	0	842	821
RTOR Reduction (vph)	0	0	124	0	0	278	0	0	0	0	0	223
Lane Group Flow (vph)	641	0	159	130	478	43	359	435	0	0	842	598
Turn Type	Prot		custom	Perm		Perm	Perm					Perm
Protected Phases	7				8			2			6	
Permitted Phases			4	8		8	2					6
Actuated Green, G (s)	18.0		38.0	16.0	16.0	16.0	74.0	74.0			74.0	74.0
Effective Green, g (s)	18.0		38.0	16.0	16.0	16.0	74.0	74.0			74.0	74.0
Actuated g/C Ratio	0.15		0.32	0.13	0.13	0.13	0.62	0.62			0.62	0.62
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	515		501	236	472	211	327	2182			2182	976
v/s Ratio Prot	c0.19				c0.14			0.12			0.24	
v/s Ratio Perm			0.10	0.07		0.03	c0.68					0.38
v/c Ratio	1.24		0.32	0.55	1.01	0.20	1.10	0.20			0.39	0.61
Uniform Delay, d1	51.0		31.1	48.6	52.0	46.3	23.0	10.1			11.6	14.2
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	125.7		0.4	2.8	44.6	0.5	78.6	0.2			0.5	2.9
Delay (s)	176.7		31.5	51.4	96.6	46.8	101.6	10.3			12.1	17.0
Level of Service	F		C	D	F	D	F	B			B	B
Approach Delay (s)		132.2			73.1			51.6			14.5	
Approach LOS		F			E			D			B	

Intersection Summary			
HCM Average Control Delay	59.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



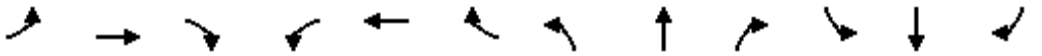
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	5	190	15	5	20	135	215	10	10	1070	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.47	1.00	1.00	0.87	1.00	1.00	0.05	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	866	3539	1583	1620	3539	1583	100	1863	1583	1142	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	489	5	207	16	5	22	147	234	11	11	1163	793
RTOR Reduction (vph)	0	0	142	0	0	21	0	0	4	0	0	287
Lane Group Flow (vph)	489	5	65	16	5	1	147	234	7	11	1163	506
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	24.6	19.1	19.1	6.1	4.6	4.6	78.7	74.7	74.7	72.3	71.5	71.5
Effective Green, g (s)	24.6	19.1	19.1	6.1	4.6	4.6	78.7	74.7	74.7	72.3	71.5	71.5
Actuated g/C Ratio	0.22	0.17	0.17	0.05	0.04	0.04	0.70	0.67	0.67	0.64	0.64	0.64
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	319	603	270	90	145	65	130	1241	1055	741	1188	1010
v/s Ratio Prot	c0.22	0.00		0.00	0.00		c0.04	0.13		0.00	0.62	
v/s Ratio Perm	c0.12		0.04	0.01		0.00	c0.76		0.00	0.01		0.32
v/c Ratio	1.53	0.01	0.24	0.18	0.03	0.01	1.13	0.19	0.01	0.01	0.98	0.50
Uniform Delay, d1	42.4	38.6	40.2	50.6	51.6	51.6	34.9	7.1	6.3	7.1	19.6	10.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	255.1	0.0	0.5	0.9	0.1	0.1	118.4	0.3	0.0	0.0	21.5	1.8
Delay (s)	297.5	38.6	40.7	51.5	51.7	51.7	153.3	7.5	6.3	7.1	41.1	12.6
Level of Service	F	D	D	D	D	D	F	A	A	A	D	B
Approach Delay (s)		219.8			51.6			62.1			29.4	
Approach LOS		F			D			E			C	

Intersection Summary			
HCM Average Control Delay	76.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	112.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	200	30	430	390	540	30	1640	150	290	1520	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	136	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	217	33	467	424	587	33	1783	163	315	1652	620
RTOR Reduction (vph)	0	0	27	0	0	61	0	0	90	0	0	209
Lane Group Flow (vph)	402	217	6	467	424	526	33	1783	73	315	1652	411
Turn Type	Prot		Perm	Prot		Perm	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2			6
Actuated Green, G (s)	11.0	21.4	21.4	20.6	31.0	31.0	57.0	54.6	54.6	9.0	61.2	61.2
Effective Green, g (s)	11.0	21.4	21.4	20.6	31.0	31.0	57.0	54.6	54.6	9.0	61.2	61.2
Actuated g/C Ratio	0.09	0.18	0.18	0.17	0.25	0.25	0.47	0.45	0.45	0.07	0.50	0.50
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	623	279	582	902	404	96	1589	711	254	1781	797
v/s Ratio Prot	c0.12	0.06		0.14	0.12		0.01	c0.50		c0.09	0.47	
v/s Ratio Perm			0.00			c0.33	0.15		0.05			0.26
v/c Ratio	1.29	0.35	0.02	0.80	0.47	1.30	0.34	1.12	0.10	1.24	0.93	0.52
Uniform Delay, d1	55.3	44.0	41.4	48.5	38.3	45.3	26.5	33.5	19.4	56.3	28.1	20.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	153.6	0.3	0.0	7.8	0.4	152.9	2.1	63.9	0.3	136.9	9.9	2.4
Delay (s)	208.9	44.3	41.5	56.4	38.7	198.2	28.6	97.4	19.6	193.2	38.1	22.6
Level of Service	F	D	D	E	D	F	C	F	B	F	D	C
Approach Delay (s)		145.6			107.6			89.8			53.3	
Approach LOS		F			F			F			D	

Intersection Summary			
HCM Average Control Delay	85.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

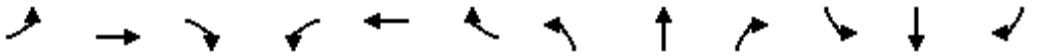


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	240	210	150	155	160	280	1775	100	250	2250	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		0.95	1.00	0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		3454	1583	3433	5044		1770	5085	1583
Flt Permitted	0.95	1.00	1.00		0.72	1.00	0.95	1.00		0.07	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		2549	1583	3433	5044		128	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	261	228	163	168	174	304	1929	109	272	2446	924
RTOR Reduction (vph)	0	0	125	0	0	127	0	5	0	0	0	272
Lane Group Flow (vph)	543	261	103	0	331	47	304	2033	0	272	2446	652
Turn Type	Prot		Perm	Perm		Perm	Prot			pm+pt		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8				6		6
Actuated Green, G (s)	19.0	39.0	39.0		16.0	16.0	11.0	54.0		73.0	58.0	58.0
Effective Green, g (s)	19.0	39.0	39.0		16.0	16.0	11.0	54.0		73.0	58.0	58.0
Actuated g/C Ratio	0.16	0.32	0.32		0.13	0.13	0.09	0.45		0.61	0.48	0.48
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	544	605	514		340	211	315	2270		283	2458	765
v/s Ratio Prot	c0.16	0.14					0.09	0.40		c0.12	c0.48	
v/s Ratio Perm			0.07		c0.13	0.03				0.46		0.41
v/c Ratio	1.00	0.43	0.20		1.09dl	0.22	0.97	0.90		0.96	1.00	0.85
Uniform Delay, d1	50.5	31.8	29.2		51.8	46.4	54.3	30.4		38.5	30.9	27.2
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	37.8	0.5	0.2		41.4	0.5	41.0	6.0		42.7	17.0	11.5
Delay (s)	88.3	32.3	29.4		93.2	47.0	95.3	36.4		81.2	47.9	38.8
Level of Service	F	C	C		F	D	F	D		F	D	D
Approach Delay (s)		61.1			77.3			44.1			48.1	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	50.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		

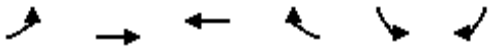
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



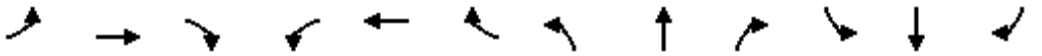
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1400	45	170	420	60	40	330	85	50	140	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		0.95			0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		3425			3401	
Flt Permitted	0.48	1.00	1.00	0.14	1.00	1.00		0.91			0.79	
Satd. Flow (perm)	893	5085	1583	270	5085	1583		3119			2732	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1522	49	185	457	65	43	359	92	54	152	49
RTOR Reduction (vph)	0	0	29	0	0	26	0	33	0	0	34	0
Lane Group Flow (vph)	65	1522	20	185	457	39	0	461	0	0	221	0
Turn Type	Perm		Perm	pm+pt		Perm	Perm			Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	23.6	23.6	23.6	35.1	35.1	35.1		16.0			16.0	
Effective Green, g (s)	23.6	23.6	23.6	35.1	35.1	35.1		16.0			16.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.59	0.59	0.59		0.27			0.27	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	357	2031	632	351	3020	940		844			740	
v/s Ratio Prot		c0.30		c0.07	0.09							
v/s Ratio Perm	0.07		0.01	0.25		0.02		c0.15			0.08	
v/c Ratio	0.18	0.75	0.03	0.53	0.15	0.04		0.55			0.30	
Uniform Delay, d1	11.5	15.2	10.8	8.5	5.4	5.0		18.4			17.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.2	1.6	0.0	1.4	0.0	0.0		2.5			1.0	
Delay (s)	11.7	16.8	10.8	9.9	5.4	5.0		21.0			18.1	
Level of Service	B	B	B	A	A	A		C			B	
Approach Delay (s)		16.4			6.5			21.0			18.1	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



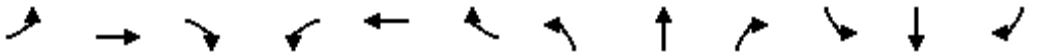
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	500	290	110	420	135	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt	1.00	1.00	0.91	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1611	1504	1770	1583
Flt Permitted	0.23	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	421	1863	1611	1504	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	315	120	457	147	65
RTOR Reduction (vph)	0	0	77	221	0	47
Lane Group Flow (vph)	543	315	221	58	147	18
Turn Type	pm+pt			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	39.6	39.6	13.7	13.7	18.4	18.4
Effective Green, g (s)	39.6	39.6	13.7	13.7	18.4	18.4
Actuated g/C Ratio	0.60	0.60	0.21	0.21	0.28	0.28
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	700	1118	334	312	493	441
v/s Ratio Prot	c0.26	0.17	0.14		c0.08	
v/s Ratio Perm	c0.21			0.04		0.01
v/c Ratio	0.78	0.28	0.66	0.19	0.30	0.04
Uniform Delay, d1	11.6	6.4	24.0	21.6	18.7	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4	0.1	4.9	0.3	1.5	0.2
Delay (s)	17.0	6.5	28.9	21.8	20.3	17.5
Level of Service	B	A	C	C	C	B
Approach Delay (s)		13.2	25.5		19.4	
Approach LOS		B	C		B	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



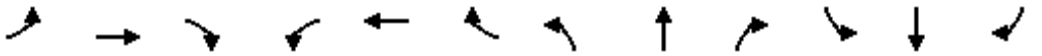
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	840	1720	45	50	410	400	50	615	390	540	185	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	913	1870	49	54	446	435	54	668	424	587	201	207
RTOR Reduction (vph)	0	0	30	0	0	218	0	0	52	0	0	122
Lane Group Flow (vph)	913	1870	19	54	446	217	54	668	372	587	201	85
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	32.9	48.0	48.0	3.2	18.3	18.3	4.0	32.8	32.8	21.0	49.8	49.8
Effective Green, g (s)	32.9	48.0	48.0	3.2	18.3	18.3	4.0	32.8	32.8	21.0	49.8	49.8
Actuated g/C Ratio	0.27	0.40	0.40	0.03	0.15	0.15	0.03	0.27	0.27	0.17	0.41	0.41
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	933	2017	628	91	769	239	113	959	429	596	1457	652
v/s Ratio Prot	c0.27	c0.37		0.02	0.09		0.02	0.19		c0.17	0.06	
v/s Ratio Perm			0.01			0.14			c0.23			0.05
v/c Ratio	0.98	0.93	0.03	0.59	0.58	0.91	0.48	0.70	0.87	0.98	0.14	0.13
Uniform Delay, d1	43.7	34.8	22.3	58.3	47.8	50.5	57.5	39.6	42.0	49.8	22.2	22.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	24.0	8.0	0.0	10.0	1.1	34.1	3.2	4.2	20.3	32.8	0.2	0.4
Delay (s)	67.7	42.8	22.3	68.2	48.8	84.6	60.6	43.8	62.3	82.6	22.4	22.6
Level of Service	E	D	C	E	D	F	E	D	E	F	C	C
Approach Delay (s)		50.5			66.6			51.4			57.9	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM Average Control Delay	54.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	121.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



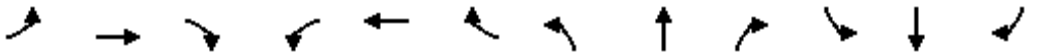
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	330	50	155	165	130	80	480	335	240	300	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1845	1583		1819	1583	1770	3321		1770	3539	1583
Flt Permitted		0.83	1.00		0.45	1.00	0.55	1.00		0.16	1.00	1.00
Satd. Flow (perm)		1537	1583		829	1583	1033	3321		295	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	359	54	168	179	141	87	522	364	261	326	92
RTOR Reduction (vph)	0	0	32	0	0	83	0	149	0	0	0	58
Lane Group Flow (vph)	0	446	22	0	347	58	87	737	0	261	326	34
Turn Type	Perm		Perm	Perm		Perm	pm+pt			pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		30.3	30.3		30.3	30.3	25.1	21.3		35.1	27.3	27.3
Effective Green, g (s)		30.3	30.3		30.3	30.3	25.1	21.3		35.1	27.3	27.3
Actuated g/C Ratio		0.41	0.41		0.41	0.41	0.34	0.29		0.48	0.37	0.37
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		634	653		342	653	391	964		338	1316	589
v/s Ratio Prot							0.01	0.22		c0.10	0.09	
v/s Ratio Perm		0.29	0.01		c0.42	0.04	0.06			c0.27		0.02
v/c Ratio		0.70	0.03		1.01	0.09	0.22	0.76		0.77	0.25	0.06
Uniform Delay, d1		17.8	12.8		21.6	13.1	16.7	23.8		14.7	15.9	14.8
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		3.5	0.0		52.4	0.1	0.3	5.7		10.5	0.4	0.2
Delay (s)		21.4	12.9		74.0	13.2	17.0	29.5		25.2	16.4	15.0
Level of Service		C	B		E	B	B	C		C	B	B
Approach Delay (s)		20.5			56.4			28.4			19.6	
Approach LOS		C			E			C			B	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



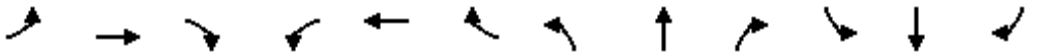
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	445	350	40	60	180	135	30	130	20	125	225	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.38	1.00	1.00	0.54	1.00	1.00	0.53	1.00	1.00	0.67	1.00	1.00
Satd. Flow (perm)	703	1863	1583	999	1863	1583	986	1863	1583	1243	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	484	380	43	65	196	147	33	141	22	136	245	293
RTOR Reduction (vph)	0	0	20	0	0	120	0	0	15	0	0	196
Lane Group Flow (vph)	484	380	23	65	196	27	33	141	7	136	245	97
Turn Type	pm+pt		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	34.6	34.6	34.6	11.7	11.7	11.7	21.2	21.2	21.2	21.2	21.2	21.2
Effective Green, g (s)	34.6	34.6	34.6	11.7	11.7	11.7	21.2	21.2	21.2	21.2	21.2	21.2
Actuated g/C Ratio	0.54	0.54	0.54	0.18	0.18	0.18	0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	697	1010	858	183	342	290	328	619	526	413	619	526
v/s Ratio Prot	c0.21	0.20			0.11			0.08			c0.13	
v/s Ratio Perm	c0.17		0.01	0.07		0.02	0.03		0.00	0.11		0.06
v/c Ratio	0.69	0.38	0.03	0.36	0.57	0.09	0.10	0.23	0.01	0.33	0.40	0.19
Uniform Delay, d1	9.7	8.4	6.8	22.8	23.8	21.6	14.7	15.4	14.3	16.0	16.4	15.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.2	0.0	1.2	2.3	0.1	0.6	0.9	0.0	2.1	1.9	0.8
Delay (s)	12.7	8.6	6.8	23.9	26.1	21.8	15.3	16.2	14.3	18.1	18.3	15.9
Level of Service	B	A	A	C	C	C	B	B	B	B	B	B
Approach Delay (s)		10.7			24.2			15.9			17.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



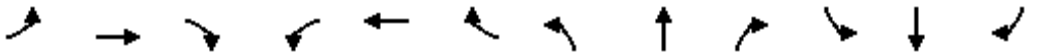
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	90	75	220	15	50	35	620	250	160	360	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1647		1770	3387		1770	3525	
Flt Permitted	0.71	1.00	1.00	0.45	1.00		0.52	1.00		0.17	1.00	
Satd. Flow (perm)	1325	1863	1583	846	1647		960	3387		307	3525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	98	82	239	16	54	38	674	272	174	391	11
RTOR Reduction (vph)	0	0	73	0	39	0	0	52	0	0	2	0
Lane Group Flow (vph)	60	98	9	239	31	0	38	894	0	174	400	0
Turn Type	Perm		Perm	pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	7.6	7.6	7.6	18.7	18.7		28.5	28.5		40.4	40.4	
Effective Green, g (s)	7.6	7.6	7.6	18.7	18.7		28.5	28.5		40.4	40.4	
Actuated g/C Ratio	0.11	0.11	0.11	0.28	0.28		0.42	0.42		0.60	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	150	211	179	334	459		408	1439		357	2122	
v/s Ratio Prot		0.05		c0.08	0.02			c0.26		c0.06	0.11	
v/s Ratio Perm	0.05		0.01	c0.12			0.04			0.24		
v/c Ratio	0.40	0.46	0.05	0.72	0.07		0.09	0.62		0.49	0.19	
Uniform Delay, d1	27.6	27.8	26.5	20.5	17.8		11.6	15.1		8.2	6.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	1.6	0.1	7.1	0.1		0.5	2.0		1.0	0.2	
Delay (s)	29.4	29.5	26.7	27.7	17.9		12.0	17.1		9.3	6.2	
Level of Service	C	C	C	C	B		B	B		A	A	
Approach Delay (s)		28.5			25.4			16.9			7.1	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	67.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



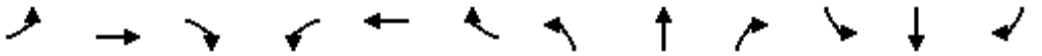
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	100	185	55	105	80	130	790	50	90	990	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.48	1.00	1.00	0.95	1.00	1.00	0.18	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	899	1863	1583	3433	3539	1583	341	3539	1583	614	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	109	201	60	114	87	141	859	54	98	1076	103
RTOR Reduction (vph)	0	0	172	0	0	79	0	0	16	0	0	43
Lane Group Flow (vph)	109	109	29	60	114	8	141	859	38	98	1076	60
Turn Type	pm+pt		Perm	Prot		Perm	pm+pt		Perm	Perm		Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	22.4	14.4	14.4	4.0	9.8	9.8	71.0	71.0	71.0	58.9	58.9	58.9
Effective Green, g (s)	22.4	14.4	14.4	4.0	9.8	9.8	71.0	71.0	71.0	58.9	58.9	58.9
Actuated g/C Ratio	0.22	0.14	0.14	0.04	0.10	0.10	0.70	0.70	0.70	0.58	0.58	0.58
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272	265	225	135	342	153	353	2478	1108	357	2056	920
v/s Ratio Prot	c0.03	c0.06		0.02	0.03		c0.03	0.24			c0.30	
v/s Ratio Perm	0.05		0.02			0.01	0.25		0.02	0.16		0.04
v/c Ratio	0.40	0.41	0.13	0.44	0.33	0.05	0.40	0.35	0.03	0.27	0.52	0.07
Uniform Delay, d1	32.9	39.6	38.0	47.6	42.8	41.6	7.6	6.0	4.7	10.6	12.8	9.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.0	0.3	2.3	0.6	0.2	0.7	0.4	0.1	1.9	1.0	0.1
Delay (s)	33.9	40.7	38.3	49.9	43.3	41.7	8.3	6.4	4.7	12.5	13.8	9.4
Level of Service	C	D	D	D	D	D	A	A	A	B	B	A
Approach Delay (s)		37.7			44.3			6.6			13.3	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



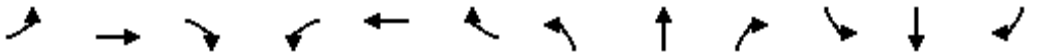
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	450	180	40	250	70	70	60	80	230	135	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.43	1.00	1.00	0.43	1.00	1.00	0.66	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	793	3539	1583	799	3539	1583	1227	3539	1583	1147	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	489	196	43	272	76	76	65	87	250	147	190
RTOR Reduction (vph)	0	0	148	0	0	61	0	0	56	0	0	108
Lane Group Flow (vph)	130	489	48	43	272	15	76	65	31	250	147	82
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	23.9	17.9	17.9	16.3	14.1	14.1	30.6	25.5	25.5	40.5	31.4	31.4
Effective Green, g (s)	23.9	17.9	17.9	16.3	14.1	14.1	30.6	25.5	25.5	40.5	31.4	31.4
Actuated g/C Ratio	0.33	0.25	0.25	0.22	0.19	0.19	0.42	0.35	0.35	0.56	0.43	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	342	873	390	209	687	307	555	1243	556	734	1531	685
v/s Ratio Prot	c0.03	c0.14		0.01	0.08		0.01	0.02		c0.05	0.04	
v/s Ratio Perm	0.09		0.03	0.04		0.01	0.05		0.02	c0.14		0.05
v/c Ratio	0.38	0.56	0.12	0.21	0.40	0.05	0.14	0.05	0.05	0.34	0.10	0.12
Uniform Delay, d1	17.8	23.9	21.3	22.4	25.5	23.8	12.7	15.6	15.6	8.4	12.2	12.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.8	0.1	0.5	0.4	0.1	0.1	0.1	0.2	0.3	0.1	0.4
Delay (s)	18.5	24.7	21.4	22.9	25.9	23.9	12.8	15.6	15.8	8.7	12.3	12.7
Level of Service	B	C	C	C	C	C	B	B	B	A	B	B
Approach Delay (s)		22.9			25.2			14.7			10.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	72.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



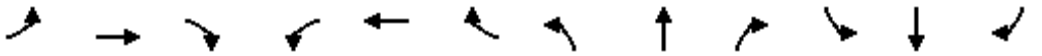
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	590	0	465	10	180	175	115	690	0	0	200	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		1583	1770	3539	1583	1770	3539			3539	1583
Flt Permitted	0.95		1.00	0.95	1.00	1.00	0.62	1.00			1.00	1.00
Satd. Flow (perm)	3433		1583	1770	3539	1583	1147	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	641	0	505	11	196	190	125	750	0	0	217	223
RTOR Reduction (vph)	0	0	293	0	0	79	0	0	0	0	0	112
Lane Group Flow (vph)	641	0	212	11	196	111	125	750	0	0	217	111
Turn Type	Prot		custom	Perm		Perm	Perm					Perm
Protected Phases	7				8			2			6	
Permitted Phases			4	8		8	2					6
Actuated Green, G (s)	22.9		39.3	12.4	12.4	12.4	46.5	46.5			46.5	46.5
Effective Green, g (s)	22.9		39.3	12.4	12.4	12.4	46.5	46.5			46.5	46.5
Actuated g/C Ratio	0.24		0.42	0.13	0.13	0.13	0.50	0.50			0.50	0.50
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	838		663	234	468	209	569	1754			1754	785
v/s Ratio Prot	c0.19				0.06			c0.21			0.06	
v/s Ratio Perm			0.13	0.01		c0.07	0.11					0.07
v/c Ratio	0.76		0.32	0.05	0.42	0.53	0.22	0.43			0.12	0.14
Uniform Delay, d1	32.9		18.3	35.5	37.4	38.0	13.4	15.1			12.7	12.8
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	4.2		0.3	0.1	0.6	2.6	0.9	0.8			0.1	0.4
Delay (s)	37.1		18.6	35.6	38.0	40.6	14.3	15.9			12.8	13.2
Level of Service	D		B	D	D	D	B	B			B	B
Approach Delay (s)		29.0			39.2			15.7			13.0	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



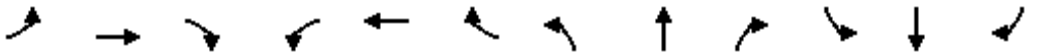
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	570	5	100	5	0	25	330	1590	30	55	230	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770		1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.45	1.00	1.00	0.83		1.00	0.54	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	847	3539	1583	1552		1583	1003	1863	1583	117	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	5	109	5	0	27	359	1728	33	60	250	174
RTOR Reduction (vph)	0	0	92	0	0	26	0	0	5	0	0	72
Lane Group Flow (vph)	620	5	17	5	0	1	359	1728	28	60	250	102
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	21.8	17.0	17.0	5.6		4.8	79.3	72.2	72.2	66.8	63.7	63.7
Effective Green, g (s)	21.8	17.0	17.0	5.6		4.8	79.3	72.2	72.2	66.8	63.7	63.7
Actuated g/C Ratio	0.20	0.16	0.16	0.05		0.04	0.73	0.66	0.66	0.61	0.58	0.58
Clearance Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	279	551	247	81		70	811	1233	1048	119	1088	924
v/s Ratio Prot	c0.26	0.00		0.00			c0.05	c0.93		0.01	0.13	
v/s Ratio Perm	c0.18		0.01	0.00		0.00	0.27		0.02	0.30		0.06
v/c Ratio	2.22	0.01	0.07	0.06		0.02	0.44	1.40	0.03	0.50	0.23	0.11
Uniform Delay, d1	42.4	38.9	39.3	49.2		49.9	5.5	18.4	6.4	25.4	10.9	10.1
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	561.5	0.0	0.1	0.3		0.1	0.4	185.6	0.0	3.3	0.5	0.2
Delay (s)	603.9	38.9	39.4	49.6		50.0	5.9	204.1	6.4	28.7	11.4	10.3
Level of Service	F	D	D	D		D	A	F	A	C	B	B
Approach Delay (s)		516.2			49.9			167.4			13.2	
Approach LOS		F			D			F			B	

Intersection Summary			
HCM Average Control Delay	220.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	109.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	135.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



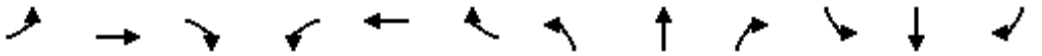
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	530	510	15	205	170	240	45	1580	410	360	1595	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	133	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	576	554	16	223	185	261	49	1717	446	391	1734	511
RTOR Reduction (vph)	0	0	13	0	0	137	0	0	137	0	0	219
Lane Group Flow (vph)	576	554	3	223	185	124	49	1717	309	391	1734	292
Turn Type	Prot		Perm	Prot		Perm	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2			6
Actuated Green, G (s)	18.0	22.7	22.7	9.0	13.7	13.7	59.1	55.9	55.9	15.0	67.7	67.7
Effective Green, g (s)	18.0	22.7	22.7	9.0	13.7	13.7	59.1	55.9	55.9	15.0	67.7	67.7
Actuated g/C Ratio	0.15	0.19	0.19	0.08	0.12	0.12	0.50	0.47	0.47	0.13	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	521	677	303	261	409	183	110	1668	746	434	2020	904
v/s Ratio Prot	c0.17	c0.16		0.06	0.05		0.01	c0.49		c0.11	0.49	
v/s Ratio Perm			0.00			0.08	0.21		0.20			0.18
v/c Ratio	1.11	0.82	0.01	0.85	0.45	0.68	0.45	1.03	0.41	0.90	0.86	0.32
Uniform Delay, d1	50.3	46.0	38.8	54.2	48.9	50.3	21.8	31.3	20.6	51.1	21.4	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	71.5	7.6	0.0	22.8	0.8	9.5	2.9	29.9	1.7	21.4	5.0	0.9
Delay (s)	121.8	53.6	38.9	77.0	49.7	59.9	24.7	61.3	22.3	72.5	26.4	14.3
Level of Service	F	D	D	E	D	E	C	E	C	E	C	B
Approach Delay (s)		87.7			62.8			52.6			30.9	
Approach LOS		F			E			D			C	

Intersection Summary			
HCM Average Control Delay	51.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	118.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



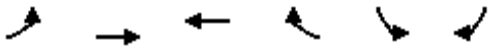
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	820	410	70	85	100	270	70	1795	35	160	1150	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		0.95	1.00	0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		3460	1583	3433	5071		1770	5085	1583
Flt Permitted	0.95	1.00	1.00		0.67	1.00	0.95	1.00		0.08	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		2372	1583	3433	5071		141	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	891	446	76	92	109	293	76	1951	38	174	1250	397
RTOR Reduction (vph)	0	0	44	0	0	69	0	2	0	0	0	222
Lane Group Flow (vph)	891	446	32	0	201	224	76	1987	0	174	1250	175
Turn Type	Prot		Perm	Perm		Perm	Prot			pm+pt		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8				6		6
Actuated Green, G (s)	28.0	50.4	50.4		18.4	18.4	4.8	48.8		61.8	53.0	53.0
Effective Green, g (s)	28.0	50.4	50.4		18.4	18.4	4.8	48.8		61.8	53.0	53.0
Actuated g/C Ratio	0.23	0.42	0.42		0.15	0.15	0.04	0.41		0.51	0.44	0.44
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	800	781	664		363	242	137	2059		194	2242	698
v/s Ratio Prot	c0.26	0.24					0.02	c0.39		c0.07	0.25	
v/s Ratio Perm			0.02		0.08	c0.14				0.39		0.11
v/c Ratio	1.11	0.57	0.05		0.55	0.92	0.55	0.97		0.90	0.56	0.25
Uniform Delay, d1	46.1	26.6	20.7		47.1	50.2	56.7	34.9		32.0	24.9	21.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	67.8	1.0	0.0		1.8	37.5	4.8	13.2		37.0	1.0	0.9
Delay (s)	113.9	27.7	20.7		48.9	87.7	61.4	48.0		69.0	25.9	22.0
Level of Service	F	C	C		D	F	E	D		E	C	C
Approach Delay (s)		81.7			71.9			48.5			29.2	
Approach LOS		F			E			D			C	

Intersection Summary			
HCM Average Control Delay	52.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



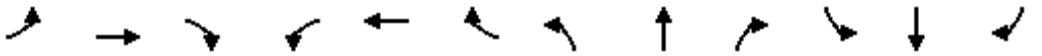
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	570	25	680	1610	75	65	140	30	20	240	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00		0.95			0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.98			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583		3423			3388	
Flt Permitted	0.16	1.00	1.00	0.31	1.00	1.00		0.73			0.93	
Satd. Flow (perm)	292	5085	1583	573	5085	1583		2524			3151	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	620	27	739	1750	82	71	152	33	22	261	103
RTOR Reduction (vph)	0	0	18	0	0	28	0	14	0	0	27	0
Lane Group Flow (vph)	71	620	9	739	1750	54	0	242	0	0	359	0
Turn Type	Perm		Perm	pm+pt		Perm	Perm			Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.5	25.5	25.5	49.7	49.7	49.7		17.2			17.2	
Effective Green, g (s)	25.5	25.5	25.5	49.7	49.7	49.7		17.2			17.2	
Actuated g/C Ratio	0.34	0.34	0.34	0.66	0.66	0.66		0.23			0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	99	1731	539	703	3374	1050		580			724	
v/s Ratio Prot		0.12		c0.28	0.34							
v/s Ratio Perm	0.24		0.01	c0.41		0.03		0.10			c0.11	
v/c Ratio	0.72	0.36	0.02	1.05	0.52	0.05		0.42			0.50	
Uniform Delay, d1	21.6	18.6	16.4	12.4	6.5	4.4		24.6			25.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	21.8	0.1	0.0	48.2	0.1	0.0		2.2			2.4	
Delay (s)	43.4	18.7	16.4	60.6	6.6	4.4		26.8			27.5	
Level of Service	D	B	B	E	A	A		C			C	
Approach Delay (s)		21.0			22.1			26.8			27.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	74.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



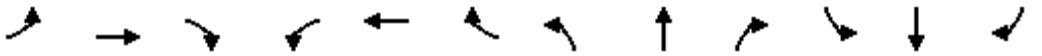
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	65	120	330	295	340	525
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.20	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	380	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	130	359	321	370	571
RTOR Reduction (vph)	0	0	0	253	0	168
Lane Group Flow (vph)	71	130	359	68	370	403
Turn Type	pm+pt			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	24.2	24.2	15.6	15.6	41.2	41.2
Effective Green, g (s)	24.2	24.2	15.6	15.6	41.2	41.2
Actuated g/C Ratio	0.33	0.33	0.21	0.21	0.56	0.56
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	614	396	336	994	889
v/s Ratio Prot	c0.02	0.07	c0.19		0.21	
v/s Ratio Perm	0.09			0.04		c0.25
v/c Ratio	0.33	0.21	0.91	0.20	0.37	0.45
Uniform Delay, d1	18.7	17.7	28.2	23.8	8.9	9.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.2	23.7	0.3	1.1	1.7
Delay (s)	19.6	17.9	51.9	24.1	10.0	11.1
Level of Service	B	B	D	C	A	B
Approach Delay (s)		18.5	38.8		10.7	
Approach LOS		B	D		B	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	875	70	450	925	710	130	490	90	310	730	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	951	76	489	1005	772	141	533	98	337	793	739
RTOR Reduction (vph)	0	0	57	0	0	215	0	0	67	0	0	101
Lane Group Flow (vph)	196	951	19	489	1005	557	141	533	31	337	793	638
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.0	30.5	30.5	19.5	43.0	43.0	6.0	37.8	37.8	16.2	48.0	48.0
Effective Green, g (s)	7.0	30.5	30.5	19.5	43.0	43.0	6.0	37.8	37.8	16.2	48.0	48.0
Actuated g/C Ratio	0.06	0.25	0.25	0.16	0.36	0.36	0.05	0.31	0.31	0.13	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	200	1292	402	558	1822	567	172	1115	499	463	1416	633
v/s Ratio Prot	0.06	0.19		c0.14	0.20		0.04	0.15		c0.10	0.22	
v/s Ratio Perm			0.01			c0.35			0.02			c0.40
v/c Ratio	0.98	0.74	0.05	0.88	0.55	0.98	0.82	0.48	0.06	0.73	0.56	1.01
Uniform Delay, d1	56.4	41.1	33.8	49.1	30.8	38.1	56.5	33.1	28.7	49.8	27.8	36.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	57.1	2.2	0.0	14.4	0.4	33.1	25.3	1.5	0.2	5.6	1.6	37.8
Delay (s)	113.6	43.3	33.8	63.5	31.2	71.2	81.7	34.6	29.0	55.4	29.4	73.8
Level of Service	F	D	C	E	C	E	F	C	C	E	C	E
Approach Delay (s)		54.0			51.8			42.5			51.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	51.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

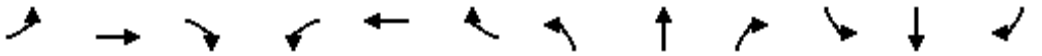


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	170	20	280	290	280	65	210	110	170	385	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt		1.00	0.85		1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1845	1583		1818	1583	1770	3356		1770	3539	1583
Flt Permitted		0.85	1.00		0.72	1.00	0.46	1.00		0.52	1.00	1.00
Satd. Flow (perm)		1587	1583		1336	1583	857	3356		966	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	185	22	304	315	304	71	228	120	185	418	87
RTOR Reduction (vph)	0	0	10	0	0	142	0	78	0	0	0	56
Lane Group Flow (vph)	0	228	12	0	619	162	71	270	0	185	418	31
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)		37.1	37.1		37.1	37.1	24.5	24.5		24.5	24.5	24.5
Effective Green, g (s)		37.1	37.1		37.1	37.1	24.5	24.5		24.5	24.5	24.5
Actuated g/C Ratio		0.53	0.53		0.53	0.53	0.35	0.35		0.35	0.35	0.35
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		846	844		712	844	302	1181		340	1246	557
v/s Ratio Prot								0.08			0.12	
v/s Ratio Perm		0.14	0.01		c0.46	0.10	0.08			c0.19		0.02
v/c Ratio		0.27	0.01		0.87	0.19	0.24	0.23		0.54	0.34	0.05
Uniform Delay, d1		8.9	7.6		14.1	8.5	15.9	15.9		18.1	16.6	14.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.2	0.0		11.0	0.1	1.8	0.5		6.1	0.7	0.2
Delay (s)		9.0	7.7		25.1	8.6	17.8	16.3		24.2	17.3	15.1
Level of Service		A	A		C	A	B	B		C	B	B
Approach Delay (s)		8.9			19.7			16.6			18.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

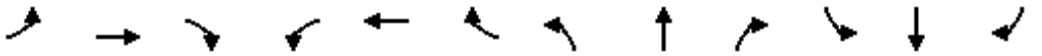
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	165	0	20	360	210	20	70	10	225	50	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863		1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.23	1.00		0.64	1.00	1.00	0.72	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	424	1863		1200	1863	1583	1345	1863	1583	1318	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	179	0	22	391	228	22	76	11	245	54	386
RTOR Reduction (vph)	0	0	0	0	0	163	0	0	7	0	0	233
Lane Group Flow (vph)	217	179	0	22	391	65	22	76	4	245	54	153
Turn Type	pm+pt		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	31.6	31.6		18.8	18.8	18.8	26.1	26.1	26.1	26.1	26.1	26.1
Effective Green, g (s)	31.6	31.6		18.8	18.8	18.8	26.1	26.1	26.1	26.1	26.1	26.1
Actuated g/C Ratio	0.48	0.48		0.29	0.29	0.29	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	384	896		343	533	453	534	740	629	524	740	629
v/s Ratio Prot	c0.08	0.10			c0.21			0.04			0.03	
v/s Ratio Perm	0.20			0.02		0.04	0.02		0.00	c0.19		0.10
v/c Ratio	0.57	0.20		0.06	0.73	0.14	0.04	0.10	0.01	0.47	0.07	0.24
Uniform Delay, d1	11.7	9.8		17.1	21.2	17.5	12.1	12.4	12.0	14.7	12.3	13.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.1		0.1	5.2	0.1	0.1	0.3	0.0	3.0	0.2	0.9
Delay (s)	13.6	9.9		17.1	26.4	17.6	12.3	12.7	12.0	17.6	12.5	14.1
Level of Service	B	A		B	C	B	B	B	B	B	B	B
Approach Delay (s)		12.0			22.9			12.6			15.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



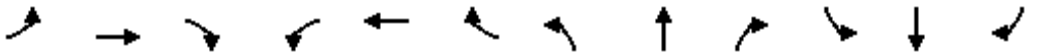
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	60	270	125	105	85	430	210	170	670	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1735		1770	3365		1770	3483	
Flt Permitted	0.71	1.00	1.00	0.43	1.00		0.34	1.00		0.25	1.00	
Satd. Flow (perm)	1331	1863	1583	807	1735		641	3365		466	3483	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	22	65	293	136	114	92	467	228	185	728	87
RTOR Reduction (vph)	0	0	59	0	47	0	0	72	0	0	10	0
Lane Group Flow (vph)	22	22	6	293	203	0	92	623	0	185	805	0
Turn Type	Perm		Perm	pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	5.6	5.6	5.6	20.3	20.3		24.7	24.7		36.3	36.3	
Effective Green, g (s)	5.6	5.6	5.6	20.3	20.3		24.7	24.7		36.3	36.3	
Actuated g/C Ratio	0.09	0.09	0.09	0.31	0.31		0.38	0.38		0.56	0.56	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	161	137	413	545		245	1287		415	1957	
v/s Ratio Prot		0.01		c0.12	0.12			0.19		0.05	c0.23	
v/s Ratio Perm	0.02		0.00	c0.11			0.14			c0.20		
v/c Ratio	0.19	0.14	0.04	0.71	0.37		0.38	0.48		0.45	0.41	
Uniform Delay, d1	27.4	27.3	27.0	18.4	17.2		14.4	15.1		8.0	8.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.4	0.1	5.5	0.4		4.4	1.3		0.8	0.6	
Delay (s)	28.2	27.7	27.2	23.9	17.6		18.7	16.4		8.8	8.7	
Level of Service	C	C	C	C	B		B	B		A	A	
Approach Delay (s)		27.5			21.0			16.7			8.7	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	64.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



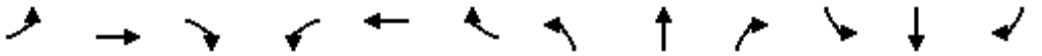
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	170	160	60	160	135	210	1050	60	155	910	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.57	1.00	1.00	0.95	1.00	1.00	0.22	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	1054	1863	1583	3433	3539	1583	411	3539	1583	461	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	185	174	65	174	147	228	1141	65	168	989	130
RTOR Reduction (vph)	0	0	149	0	0	121	0	0	18	0	0	50
Lane Group Flow (vph)	120	185	25	65	174	26	228	1141	47	168	989	80
Turn Type	pm+pt		Perm	Prot		Perm	pm+pt		Perm	Perm		Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	19.5	15.5	15.5	3.2	14.7	14.7	78.1	78.1	78.1	67.1	67.1	67.1
Effective Green, g (s)	19.5	15.5	15.5	3.2	14.7	14.7	78.1	78.1	78.1	67.1	67.1	67.1
Actuated g/C Ratio	0.18	0.14	0.14	0.03	0.14	0.14	0.72	0.72	0.72	0.62	0.62	0.62
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	215	265	226	101	478	214	382	2540	1136	284	2183	976
v/s Ratio Prot	c0.02	c0.10		0.02	0.05		c0.04	0.32			0.28	
v/s Ratio Perm	0.08		0.02			0.02	c0.39		0.03	0.36		0.05
v/c Ratio	0.56	0.70	0.11	0.64	0.36	0.12	0.60	0.45	0.04	0.59	0.45	0.08
Uniform Delay, d1	40.2	44.4	40.6	52.2	42.8	41.4	7.3	6.4	4.5	12.6	11.1	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	7.8	0.2	13.2	0.5	0.3	2.5	0.6	0.1	8.8	0.7	0.2
Delay (s)	43.3	52.2	40.9	65.4	43.3	41.6	9.8	7.0	4.5	21.3	11.8	8.6
Level of Service	D	D	D	E	D	D	A	A	A	C	B	A
Approach Delay (s)		45.9			46.4			7.3			12.7	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	108.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	400	175	280	950	260	140	95	70	140	150	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583		3499	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.09	1.00	1.00		0.74	1.00	0.65	1.00	1.00	0.69	1.00	1.00
Satd. Flow (perm)	171	3539	1583		2614	1583	1208	3539	1583	1280	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	435	190	304	1033	283	152	103	76	152	163	141
RTOR Reduction (vph)	0	0	77	0	0	140	0	0	61	0	0	92
Lane Group Flow (vph)	87	435	113	0	1337	143	152	103	15	152	163	49
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	46.8	46.8	46.8		39.7	39.7	20.0	16.0	16.0	20.0	16.0	16.0
Effective Green, g (s)	46.8	46.8	46.8		39.7	39.7	20.0	16.0	16.0	20.0	16.0	16.0
Actuated g/C Ratio	0.59	0.59	0.59		0.50	0.50	0.25	0.20	0.20	0.25	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	164	2102	940		1317	798	335	719	321	350	719	321
v/s Ratio Prot	c0.02	0.12					c0.02	0.03		0.02	0.05	
v/s Ratio Perm	0.29		0.07		c0.51	0.09	c0.09		0.01	0.09		0.03
v/c Ratio	0.53	0.21	0.12		1.02	0.18	0.45	0.14	0.05	0.43	0.23	0.15
Uniform Delay, d1	11.9	7.4	7.0		19.5	10.7	24.1	25.8	25.3	24.1	26.2	25.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.0	0.1		28.6	0.1	1.0	0.4	0.3	0.9	0.7	1.0
Delay (s)	15.2	7.5	7.1		48.2	10.8	25.1	26.2	25.6	24.9	27.0	26.8
Level of Service	B	A	A		D	B	C	C	C	C	C	C
Approach Delay (s)		8.3			41.7			25.5			26.2	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

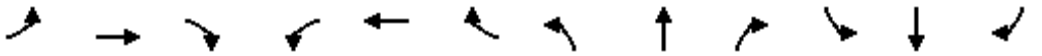


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	535	290	260	130	500	265	310	280	0	0	670	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95			0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433	0	1583	1770	3539	1583	1770	3539			3539	1583
Flt Permitted	0.95	1.00	1.00	0.57	1.00	1.00	0.33	1.00			1.00	1.00
Satd. Flow (perm)	3433	0	1583	1060	3539	1583	619	3539			3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	582	315	283	141	543	288	337	304	0	0	728	707
RTOR Reduction (vph)	0	0	160	0	0	250	0	0	0	0	0	222
Lane Group Flow (vph)	582	315	123	141	543	38	337	304	0	0	728	485
Turn Type	Prot		Perm	Perm		Perm	Perm					Perm
Protected Phases	7	4			8			2			6	
Permitted Phases			4	8		8	2					6
Actuated Green, G (s)	18.0	38.0	38.0	16.0	16.0	16.0	74.0	74.0			74.0	74.0
Effective Green, g (s)	18.0	38.0	38.0	16.0	16.0	16.0	74.0	74.0			74.0	74.0
Actuated g/C Ratio	0.15	0.32	0.32	0.13	0.13	0.13	0.62	0.62			0.62	0.62
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	515	0	501	141	472	211	382	2182			2182	976
v/s Ratio Prot	c0.17				c0.15			0.09			0.21	
v/s Ratio Perm			0.08	0.13		0.02	c0.54					0.31
v/c Ratio	1.13	no cap	0.25	1.00	1.15	0.18	0.88	0.14			0.33	0.50
Uniform Delay, d1	51.0	Error	30.4	52.0	52.0	46.2	19.3	9.6			11.1	12.7
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	80.6	Error	0.3	75.8	89.7	0.4	24.2	0.1			0.4	1.8
Delay (s)	131.6	Error	30.6	127.8	141.7	46.6	43.6	9.8			11.5	14.5
Level of Service	F	F	C	F	F	D	D	A			B	B
Approach Delay (s)		Error			111.5			27.5			13.0	
Approach LOS		F			F			C			B	

Intersection Summary			
HCM Average Control Delay	Error	HCM Level of Service	F
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

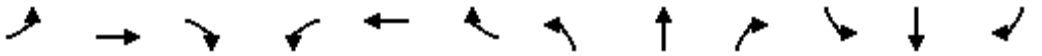
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	10	215	20	5	15	160	220	5	10	1090	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.61	1.00	1.00	1.00	1.00	1.00	0.05	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	1129	3539	1583	1863	3539	1583	100	1863	1583	1136	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	11	234	22	5	16	174	239	5	11	1185	793
RTOR Reduction (vph)	0	0	140	0	0	16	0	0	2	0	0	278
Lane Group Flow (vph)	478	11	94	22	5	0	174	239	3	11	1185	515
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	22.6	17.1	17.1	4.1	2.6	2.6	78.7	74.7	74.7	72.1	71.4	71.4
Effective Green, g (s)	22.6	17.1	17.1	4.1	2.6	2.6	78.7	74.7	74.7	72.1	71.4	71.4
Actuated g/C Ratio	0.21	0.16	0.16	0.04	0.02	0.02	0.72	0.68	0.68	0.66	0.65	0.65
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	325	550	246	68	84	37	132	1265	1075	749	1209	1028
v/s Ratio Prot	c0.21	0.00		0.00	0.00		c0.05	0.13		0.00	0.64	
v/s Ratio Perm	c0.09		0.06	0.01		0.00	c0.90		0.00	0.01		0.33
v/c Ratio	1.47	0.02	0.38	0.32	0.06	0.01	1.32	0.19	0.00	0.01	0.98	0.50
Uniform Delay, d1	43.0	39.4	41.7	51.6	52.5	52.4	34.9	6.5	5.7	6.6	18.6	10.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	227.9	0.0	1.0	2.8	0.3	0.1	186.5	0.3	0.0	0.0	21.5	1.7
Delay (s)	270.9	39.4	42.7	54.4	52.8	52.6	221.4	6.8	5.7	6.6	40.2	11.8
Level of Service	F	D	D	D	D	D	F	A	A	A	D	B
Approach Delay (s)		193.5			53.5			96.1			28.7	
Approach LOS		F			D			F			C	

Intersection Summary			
HCM Average Control Delay	75.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	360	210	40	380	400	470	30	1650	150	240	1480	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	136	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	228	43	413	435	511	33	1793	163	261	1609	620
RTOR Reduction (vph)	0	0	35	0	0	61	0	0	90	0	0	207
Lane Group Flow (vph)	391	228	8	413	435	450	33	1793	73	261	1609	413
Turn Type	Prot		Perm	Prot		Perm	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2			6
Actuated Green, G (s)	11.0	22.7	22.7	19.3	31.0	31.0	57.0	54.6	54.6	9.0	61.2	61.2
Effective Green, g (s)	11.0	22.7	22.7	19.3	31.0	31.0	57.0	54.6	54.6	9.0	61.2	61.2
Actuated g/C Ratio	0.09	0.19	0.19	0.16	0.25	0.25	0.47	0.45	0.45	0.07	0.50	0.50
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	661	296	545	902	404	96	1589	711	254	1781	797
v/s Ratio Prot	c0.11	0.06		0.12	0.12		0.01	c0.51		c0.08	0.45	
v/s Ratio Perm			0.01			c0.28	0.15		0.05			0.26
v/c Ratio	1.26	0.34	0.03	0.76	0.48	1.11	0.34	1.13	0.10	1.03	0.90	0.52
Uniform Delay, d1	55.3	43.0	40.4	48.9	38.5	45.3	25.5	33.5	19.4	56.3	27.5	20.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	139.3	0.3	0.0	6.0	0.4	79.3	2.1	66.4	0.3	63.8	8.0	2.4
Delay (s)	194.6	43.3	40.5	54.9	38.9	124.6	27.7	99.9	19.6	120.1	35.5	22.7
Level of Service	F	D	D	D	D	F	C	F	B	F	D	C
Approach Delay (s)		132.5			76.0			92.2			41.2	
Approach LOS		F			E			F			D	

Intersection Summary			
HCM Average Control Delay	73.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	121.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	510	230	205	150	150	170	270	1790	100	260	2270	855
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00		0.95	1.00	0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583		3453	1583	3433	5045		1770	5085	1583
Flt Permitted	0.95	1.00	1.00		0.72	1.00	0.95	1.00		0.07	1.00	1.00
Satd. Flow (perm)	3433	1863	1583		2556	1583	3433	5045		128	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	554	250	223	163	163	185	293	1946	109	283	2467	929
RTOR Reduction (vph)	0	0	125	0	0	127	0	5	0	0	0	274
Lane Group Flow (vph)	554	250	98	0	326	58	293	2050	0	283	2467	655
Turn Type	Prot		Perm	Perm		Perm	Prot			pm+pt		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8				6		6
Actuated Green, G (s)	19.0	39.0	39.0		16.0	16.0	11.0	54.0		73.0	58.0	58.0
Effective Green, g (s)	19.0	39.0	39.0		16.0	16.0	11.0	54.0		73.0	58.0	58.0
Actuated g/C Ratio	0.16	0.32	0.32		0.13	0.13	0.09	0.45		0.61	0.48	0.48
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	544	605	514		341	211	315	2270		283	2458	765
v/s Ratio Prot	c0.16	0.13					0.09	0.41		c0.12	c0.49	
v/s Ratio Perm			0.06		c0.13	0.04				0.48		0.41
v/c Ratio	1.02	0.41	0.19		1.09dl	0.27	0.93	0.90		1.00	1.00	0.86
Uniform Delay, d1	50.5	31.6	29.1		51.7	46.8	54.1	30.6		39.4	31.0	27.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	43.3	0.5	0.2		36.9	0.7	33.0	6.4		53.5	19.0	11.8
Delay (s)	93.8	32.0	29.3		88.5	47.5	87.1	37.0		92.9	50.0	39.1
Level of Service	F	C	C		F	D	F	D		F	D	D
Approach Delay (s)		64.8			73.7			43.3			50.6	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	51.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Freeway and Ramp Operations

2020 No-Build, Build, and Build (No US 29 Access)

Due to the large size of the calculation spreadsheet, it was split into separate sheets (with repeating header columns and rows) for printing purposes. The following tables illustrate the page order of the separated sheets for the freeway and ramp calculation sheets, respectively, that are presented in this appendix.

The results of the HCM analysis for both freeway and ramp sections are presented at the end of this appendix in a concise 2-page format.

FREEWAY ANALYSIS CALCULATION:

By ramp segment:

Freeway Data	**2020 No-Build AM and PM**	**2020 Build AM and PM**	**2020 Build2 AM and PM**
Page 1	Page 2	Page 3	Page 4

RAMP ANALYSIS CALCULATION:

By ramp segment:

	2020 No-Build AM	**2020 No-Build PM**	**2020 Build AM**	**2020 Build PM**	**2020 Build2 AM**	**2020 Build2 PM**
Freeway/Ramp/ Ramp Junction Data Page 1	Page 2	Page 3	Page 4	Page 5	Page 6	Page 7
Steps 1-2 Page 8	Page 9	Page 10	Page 11	Page 12	Page 13	Page14
Steps 3-5 Page 15	Page 16	Page 17	Page 18	Page 19	Page 20	Page 21

		Lookup values - constant for all scenarios				
		Assumed values				
		scenario specific lookup values	scenario specific lookup values			
	Variable	Units	Description	Typical values	Equation	Formula
Traffic	V	veh/h	demand volume under prevailing conditions			
	PHF	-		0.85 - 0.98		
	P_T	-	proportion of trucks and buses in traffic stream	0 - 0.25		
	P_R	-	proportion of RVs in traffic stream	0 - 0.25		
	f_P	-	adjustment factor for unfamiliar driver populations	0.85 - 1.00		
Freeway	FFS	mi/h		55 - 75		
	Measured FFS					
	N	-	Number of mainline freeway lanes (per direction)	2 +		
	Lane width	ft		10 - 12 +		
	Right-side	ft		0 - 6 +		
	Total ramp	ramps/mi	The number of ramps (on and off, one direction) located between 3 mi upstream and 3 mi downstream of the midpoint of the basic freeway segment under study, divided by 6 mi. (pg 11-12)	0 - 6		
	Terrain	-		level, rolling, mountainous, or specific length and percent grade		
Demand	Demand during analysis hour					
	Daily demand					
	K-factor					
	D-factor					
	f_{LW}	mi/h	adjustment for lane width	-	Exhibit 11-8	
	f_{LC}	mi/h	adjustment for right-side lateral clearance	-	Exhibit 11-9	
	f_{TRD}	ramps/mi	adjustment for total ramp density	-	-	$= 3.22*TRD^{0.84}$
	FFS	mi/h	FFS of basic freeway segment	-	Eqn 11-1	$= 75.4 - f_{LW} - f_{LC} - 3.22TRD^{0.84}$
	FFS curve		FFS curve to use for calculations			
	E_T	-	passenger-car equivalent (PCE) of one truck or bus in traffic stream	-	Exhibit 11-10	
	E_R	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	f_{HV}	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	$= 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))$
	v_{15}	pc	peak 15-minute volume			
	vp	pc/h/ln	demand flow rate under equivalent base conditions		Eqn 11-2	$= V / (PHF \times N \times f_{HV} \times f_P)$
	[breakpoin	pc/h/ln	Volume at which speed-flow curve stops being constant (i.e. where it starts to decay)		Exhibit 11-3	
	[decay]	-	coefficient of speed degredation term in speed equations		Exhibit 11-3	
	[capacity[	pc/h/ln	base capacity of the basic freeway segment		Exhibit 11-2	
	S	mi/h	mean speed of traffic stream under base conditions	-	Exhibit 11-3	
	v/c	-	volume to capacity ratio			
	D	pc/mi/ln	density		Eqn 11-4	$= v_p / S$
	LOS	-	Level-of-service	-	Exhibit 11-5	

		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5
		2020 No Build											2020 No Build									
		AM											PM									
	Variable																					
Traffic	V	3,920	1,460	5,990	2,330	6,070	2,270	7,340	3,080	7,140	2,880		1,720	4,050	2,840	5,780	3,010	5,820	3,530	7,090	3,290	7,210
	PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_T	0.093	0.177	0.059	0.149	0.059	0.149	0.045	0.138	0.045	0.138		0.112	0.045	0.064	0.052	0.064	0.052	0.045	0.056	0.045	0.056
	P_R	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_p	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1
Freeway	FFS																					
	Measured	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	N	4	4	5	5	4	4	4	4	4	4		4	4	5	5	4	4	4	4	4	4
	Lane width	12	12	12	12	12	12	12	12	12	12		12	12	12	12	12	12	12	12	12	12
	Right-side	6	6	6	6	6	6	6	6	6	6		6	6	6	6	6	6	6	6	6	6
	Total ramp	0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17		0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17
	Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level		Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Demand	Demand du																					
	Daily dema																					
	K-factor																					
	D-factor																					
	f_{LW}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{LC}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{TRD}	2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7		2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7
	FFS	72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7		72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7
	FFS curve	75	70	75	70	70	70	70	70	75	70		75	70	75	70	70	70	70	70	75	70
	E_T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	E_R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	f_{HV}	0.956	0.919	0.971	0.930	0.971	0.930	0.978	0.936	0.978	0.936		0.947	0.978	0.969	0.974	0.969	0.974	0.978	0.973	0.978	0.973
	v_{15}	1,065	397	1,628	633	1,649	617	1,995	837	1,940	783		467	1,101	772	1,571	818	1,582	959	1,927	894	1,959
	vp	1,115	432	1,340	544	1,698	663	2,039	895	1,984	836		494	1,125	637	1,289	844	1,623	981	1,980	914	2,014
	[breakpoin	1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200		1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200
	[decay]	0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160		0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160
	[capacity[	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400		2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
	S	74.9	70.0	73.7	70.0	67.1	70.0	61.8	70.0	64.3	70.0		75.0	70.0	75.0	69.9	70.0	67.9	70.0	62.9	75.0	62.3
	v/c	0.12	0.04	0.11	0.05	0.18	0.07	0.21	0.09	0.21	0.09		0.05	0.12	0.05	0.11	0.09	0.17	0.1	0.21	0.1	0.21
	D	14.9	6.2	18.2	7.8	25.3	9.5	33.0	12.8	30.9	11.9		6.6	16.1	8.5	18.4	12.1	23.9	14.0	31.5	12.2	32.3
	LOS	B	A	C	A	C	A	D	B	D	B		A	B	A	C	B	C	B	D	B	D

		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5
		2020 Build											2020 Build									
		AM											PM									
	Variable																					
Traffic	V	3,860	1,460	5,790	2,270	6,040	2,270	7,300	3,070	7,130	2,880		1,680	3,980	2,740	5,590	2,980	5,790	3,500	7,050	3,280	7,180
	PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_T	0.093	0.177	0.059	0.149	0.059	0.149	0.045	0.138	0.045	0.138		0.112	0.045	0.064	0.052	0.064	0.052	0.045	0.056	0.045	0.056
	P_R	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_p	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1
Freeway	FFS																					
	Measured	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	N	4	4	5	5	4	4	4	4	4	4		4	4	5	5	4	4	4	4	4	4
	Lane width	12	12	12	12	12	12	12	12	12	12		12	12	12	12	12	12	12	12	12	12
	Right-side	6	6	6	6	6	6	6	6	6	6		6	6	6	6	6	6	6	6	6	6
	Total ramp	0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17		0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17
	Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level		Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Demand	Demand du																					
	Daily dema																					
	K-factor																					
	D-factor																					
	f_{LW}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{LC}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{TRD}	2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7		2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7
	FFS	72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7		72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7
	FFS curve	75	70	75	70	70	70	70	70	75	70		75	70	75	70	70	70	70	70	75	70
	E_T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	E_R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	f_{HV}	0.956	0.919	0.971	0.930	0.971	0.930	0.978	0.936	0.978	0.936		0.947	0.978	0.969	0.974	0.969	0.974	0.978	0.973	0.978	0.973
	v_{15}	1,049	397	1,573	617	1,641	617	1,984	834	1,938	783		457	1,082	745	1,519	810	1,573	951	1,916	891	1,951
	vp	1,098	432	1,296	530	1,690	663	2,028	892	1,981	836		482	1,106	615	1,247	835	1,615	972	1,969	911	2,006
	[breakpoin	1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200		1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200
	[decay]	0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160		0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160
	[capacity[	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400		2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
	S	74.9	70.0	74.0	70.0	67.2	70.0	62.0	70.0	64.4	70.0		75.0	70.0	75.0	70.0	70.0	68.0	70.0	63.1	75.0	62.5
	v/c	0.11	0.04	0.11	0.04	0.18	0.07	0.21	0.09	0.21	0.09		0.05	0.12	0.05	0.1	0.09	0.17	0.1	0.21	0.09	0.21
	D	14.7	6.2	17.5	7.6	25.1	9.5	32.7	12.7	30.8	11.9		6.4	15.8	8.2	17.8	11.9	23.7	13.9	31.2	12.2	32.1
	LOS	B	A	B	A	C	A	D	B	D	B		A	B	A	B	B	C	B	D	B	D

		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5		I66EB_1	I66WB_1	I66EB_2	I66WB_2	I66EB_3	I66WB_3	I66EB_4	I66WB_4	I66EB_5	I66WB_5
		2020 Build 2											2020 Build 2									
		AM											PM									
	Variable																					
Traffic	V	3,890	1,470	5,940	2,330	5,990	2,250	7,240	3,040	7,090	2,870		1,710	4,010	2,820	5,730	2,960	5,750	3,470	6,990	3,260	7,160
	PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_T	0.093	0.177	0.059	0.149	0.059	0.149	0.045	0.138	0.045	0.138		0.112	0.045	0.064	0.052	0.064	0.052	0.045	0.056	0.045	0.056
	P_R	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_p	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1
Freeway	FFS																					
	Measured	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	N	4	4	5	5	4	4	4	4	4	4		4	4	5	5	4	4	4	4	4	4
	Lane width	12	12	12	12	12	12	12	12	12	12		12	12	12	12	12	12	12	12	12	12
	Right-side	6	6	6	6	6	6	6	6	6	6		6	6	6	6	6	6	6	6	6	6
	Total ramp	0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17		0.83	1.17	0.67	1.00	1.17	1.50	1.00	1.33	0.83	1.17
	Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level		Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Demand	Demand du																					
	Daily dema																					
	K-factor																					
	D-factor																					
	f_{LW}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{LC}	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	f_{TRD}	2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7		2.8	3.7	2.3	3.2	3.7	4.5	3.2	4.1	2.8	3.7
	FFS	72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7		72.6	71.7	73.1	72.2	71.7	70.9	72.2	71.3	72.6	71.7
	FFS curve	75	70	75	70	70	70	70	70	75	70		75	70	75	70	70	70	70	70	75	70
	E_T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	E_R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	f_{HV}	0.956	0.919	0.971	0.930	0.971	0.930	0.978	0.936	0.978	0.936		0.947	0.978	0.969	0.974	0.969	0.974	0.978	0.973	0.978	0.973
	v_{15}	1,057	399	1,614	633	1,628	611	1,967	826	1,927	780		465	1,090	766	1,557	804	1,563	943	1,899	886	1,946
	vp	1,106	435	1,329	544	1,676	657	2,011	883	1,970	834		491	1,114	633	1,278	830	1,603	964	1,952	906	2,000
	[breakpoin	1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200		1,000	1,200	1,000	1,200	1,200	1,200	1,200	1,200	1,000	1,200
	[decay]	0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160		0.00001107	0.00001160	0.00001107	0.00001160	0.00001160	0.00001160	0.00001160	0.00001160	0.00001107	0.00001160
	[capacity[	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400		2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
	S	74.9	70.0	73.8	70.0	67.4	70.0	62.4	70.0	64.6	70.0		75.0	70.0	75.0	69.9	70.0	68.1	70.0	63.4	75.0	62.6
	v/c	0.12	0.05	0.11	0.05	0.17	0.07	0.21	0.09	0.21	0.09		0.05	0.12	0.05	0.11	0.09	0.17	0.1	0.2	0.09	0.21
	D	14.8	6.2	18.0	7.8	24.9	9.4	32.3	12.6	30.5	11.9		6.5	15.9	8.4	18.3	11.9	23.5	13.8	30.8	12.1	32.0
	LOS	B	A	C	A	C	A	D	B	D	B		A	B	A	C	B	C	B	D	B	D

		Values that were assumed/kept constant for all locations				
	Variable	Units	Description	Typical values	Equation	
Freeway D	S_{FF}	mi/h	Freeway free-flow speed	55 - 75		
	N	lanes	Number of mainline freeway lanes	2 - 5		
	N_{down}	lanes	Number of mainline freeway lanes dow	2 - 5		
			Type of facility ramp connecting with ramp			
	$Terrain_{FWY}$	-	Terrain of the freeway	level, rolling, mountainous, or specific length and percent grade		
Ramp-Freeway Junction Data						
	Ramp type			on-ramp, off-ramp, major merge, major diverge		
	Side		Side of freeway that ramp is on	right-hand, left-hand		
	N_{RAMP}		Number of lanes on ramp roadway			
	N_{JNCT}		Number of ramp lanes at ramp-freeway junction			
	L_{A1}, L_{D1}		Length of acceleration or deceleration	0 - 99,999		
	L_{A2}, L_{D2}		Length of second acceleration or decel	0 - 99,999		
	L_A, L_D	ft	Length of acceleration or deceleration	0 - 99,999		
	S_{FR}	mi/h	free-flow speed of the ramp roadway	20 - 50		55
	$Terrain_{RAMP}$	-	Terrain of the ramp	level, rolling, mountainous, or specific length and percent grade		
		mi/h	FFS of the ramp at the junction point			
	v_F	pc/h	flow rate on freeway immediately upstream of the ramp influence area under study			
	PHF_F	-	... peak hour factor			
	P_{T-F}	-	... proportion of trucks and buses in tra	0 - 0.25		
	P_{R-F}	-	... proportion of RVs in traffic stream	0 - 0.25		
	f_{P-F}	-	... adjustment factor for unfamiliar driv	0.85 - 1.00		
	v_R	pc/h	flow rate on the on-ramp or off-ramp			
	PHF_R	-	... peak hour factor			
	P_{T-R}		... proportion of trucks and buses in tra	0 - 0.25		
	P_{R-R}		... proportion of RVs in traffic stream	0 - 0.25		
	f_{P-R}		... adjustment factor for unfamiliar driv	0.85 - 1.00		
Adjacent Ramp Data						
	$Type_{UP}$		Type of ramp upstream of subject ramp	none, on, off		on-ramp
	Single-lane, right-side		Is the adjacent ramp a single-lane ramp located on the right side of the freeway?			
	$Dist_{UP}$	ft	Distance to upstream ramp			
	v_{UP}		Volume of upstream ramp			
	PHF_{UP}		... peak hour factor			
	P_{T-UP}		... proportion of trucks and buses in tra	0 - 0.25		
	P_{R-UP}		... proportion of RVs in traffic stream	0 - 0.25		
	f_{P-UP}		... adjustment factor for unfamiliar driv	0.85 - 1.00		
	$Terrain_{UP}$	-	Terrain of the upstream adjacent ramp	level, rolling, mountainous, or specific length and percent grade		
	$Type_{DOWN}$		Type of ramp downstream of subject ramp			
	Single-lane, right-side		Is the adjacent ramp a single-lane ramp located on the right side of the freeway?			
	$Dist_{DOWN}$	ft	Distance to downstream ramp			
	v_{DOWN}		Volume of downstream ramp			
	PHF_{DOWN}		... peak hour factor			
	P_{T-DOWN}		... proportion of trucks and buses in traffic stream			
	P_{R-DOWN}		... proportion of RVs in traffic stream			
	f_{P-DOWN}		... adjustment factor for unfamiliar driver populations			
	$Terrain_{DOW}$	-	Terrain of the downstream adjacent ra	level, rolling, mountainous, or specific length and percent grade		
	v_{FO}	pc/h	flow rate on the freeway immediately downstream of the merge or diverge area			
	PHF_{FO}	-	... peak hour factor			
	P_{T-FO}		... proportion of trucks and buses in tra	0 - 0.25		
	P_{R-FO}		... proportion of RVs in traffic stream	0 - 0.25		
	f_{P-FO}		... adjustment factor for unfamiliar driv	0.85 - 1.00		

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 No Build																						
		AM																						
	Variable																							
Freeway D	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	0	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	0	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	0	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{JNCT}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	1,500	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	1,500	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	NA	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	50	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	3,920	3,570	2,330	1,230	2,040	#N/A	5,990	2,270	2,270	1,320	4,330	#N/A	6,070	5,410	1,830	2,900	3,080	#N/A	2,880	2,610	2,900	7,340	6,340
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-F}	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-F}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-F}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	350	2,420	290	230	810	#N/A	1,660	950	0	1,010	1,740	#N/A	660	1,930	440	1,070	180	#N/A	270	290	180	1,000	800
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-R}	9.3%	5.9%	14.9%	17.7%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	4.5%	14.9%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-R}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-R}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	No	0	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	9,999	9,999	1,230	3,600	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	V_{UP}	1,860	350	1,010	810	290	#N/A	2,420	440	0	950	1,660	#N/A	1,740	660	1,070	180	100	#N/A	780	270	290	150	1,000
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-UP}	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	0.0%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	20.0%	#N/A	13.8%	13.8%	13.8%	20.0%	4.5%
	P_{R-UP}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-UP}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	0	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	3,600	1,230	9,999	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	V_{DOWN}	2,420	1,660	810	800	230	#N/A	1,740	1,010	0	290	660	#N/A	1,930	150	950	440	1,070	#N/A	290	180	100	800	1,470
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-DOWN}	5.9%	5.9%	14.9%	17.7%	17.7%	#N/A	5.9%	14.9%	0.0%	14.9%	5.9%	#N/A	4.5%	20.0%	14.9%	14.9%	13.8%	#N/A	13.8%	13.8%	20.0%	4.5%	4.5%
	P_{R-DOWN}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-DOWN}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	V_{FO}	3,570	5,990	2,040	1,460	1,230	#N/A	4,330	1,320	2,270	2,330	6,070	#N/A	5,410	7,340	2,270	1,830	2,900	#N/A	2,610	2,900	3,080	6,340	7,140
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-FO}	9.3%	7.9%	14.9%	15.4%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.5%	14.0%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-FO}	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-FO}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 No Build																						
		PM																						
	Variable																							
Freeway D	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	0	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	0	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	0	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{JNCT}	2	2	1	1	2	#N/A	1	1	0	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	1,500	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	1,500	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	NA	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	50	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	1,720	1,520	5,780	3,540	4,850	#N/A	2,840	5,820	5,820	4,190	1,920	#N/A	3,010	2,380	5,050	6,840	7,090	#N/A	7,210	6,400	6,820	3,530	2,860
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-F}	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-F}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-F}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	200	1,320	930	510	1,310	#N/A	920	1,630	0	1,590	1,090	#N/A	630	1,150	770	1,790	250	#N/A	810	420	270	670	430
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-R}	11.2%	6.4%	5.2%	4.5%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	4.5%	5.2%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-R}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-R}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lan	Yes	No	Yes	No	Yes	#N/A	No	No	0	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	9,999	9,999	1,230	3,600	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,100	200	1,590	1,310	930	#N/A	1,320	770	0	1,630	920	#N/A	1,090	630	1,790	250	150	#N/A	1,580	810	420	100	670
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-UP}	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	0.0%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	20.0%	#N/A	5.6%	5.6%	5.6%	20.0%	4.5%
	P_{R-UP}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-UP}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	0	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lan	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	0	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	3,600	1,230	9,999	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	1,320	920	1,310	1,790	510	#N/A	1,090	1,590	0	930	630	#N/A	1,150	100	1,630	770	1,790	#N/A	420	270	150	430	680
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-DOWN}	6.4%	6.4%	5.2%	4.5%	4.5%	#N/A	6.4%	5.2%	0.0%	5.2%	6.4%	#N/A	4.5%	20.0%	5.2%	5.2%	5.6%	#N/A	5.6%	5.6%	20.0%	4.5%	4.5%
	P_{R-DOWN}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-DOWN}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	1,520	2,840	4,850	4,050	3,540	#N/A	1,920	4,190	5,820	5,780	3,010	#N/A	2,380	3,530	5,820	5,050	6,840	#N/A	6,400	6,820	7,090	2,860	3,290
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-FO}	11.2%	8.9%	5.2%	5.1%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	5.7%	5.5%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-FO}	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-FO}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build																						
		AM																						
	Variable																							
Freeway D	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	4	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	4	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	off-ramp	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{JNCT}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	800	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	0	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	800	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{FR}	50	50	35	45	45	#N/A	45	35	35	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	3,860	3,490	2,270	1,220	2,020	#N/A	5,790	2,030	2,270	1,560	5,030	#N/A	6,040	5,380	1,820	2,890	3,070	#N/A	2,880	2,610	2,900	7,300	6,320
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-F}	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-F}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-F}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	370	2,300	250	240	800	#N/A	1,210	470	240	710	1,010	#N/A	660	1,920	450	1,070	180	#N/A	270	290	170	980	810
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-R}	9.3%	5.9%	14.9%	17.7%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	4.5%	14.9%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-R}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-R}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	yes	no	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	1,000	9,999	1,230	1,200	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,790	370	710	800	250	#N/A	2,300	240	450	470	70	#N/A	1,010	660	1,070	180	100	#N/A	770	270	290	150	980
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-UP}	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	20.0%	#N/A	13.8%	13.8%	13.8%	20.0%	4.5%
	P_{R-UP}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-UP}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	off-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	1,200	1,230	1,000	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	2,300	1,210	800	770	240	#N/A	520	710	470	250	660	#N/A	1,920	150	470	450	1,070	#N/A	290	170	100	810	1,450
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-DOWN}	5.9%	5.9%	14.9%	17.7%	17.7%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	4.5%	20.0%	14.9%	14.9%	13.8%	#N/A	13.8%	13.8%	20.0%	4.5%	4.5%
	P_{R-DOWN}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-DOWN}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOW}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	3,490	5,790	2,020	1,460	1,220	#N/A	4,580	1,560	2,030	2,270	6,040	#N/A	5,380	7,300	2,270	1,820	2,890	#N/A	2,610	2,900	3,070	6,320	7,130
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-FO}	9.3%	7.9%	14.9%	15.4%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.5%	14.0%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-FO}	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-FO}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build																						
		PM																						
	Variable																							
Freeway D	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	4	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	4	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	off-ramp	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hanc	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{JNCT}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	800	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	0	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	800	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{TR}	50	50	35	45	45	#N/A	45	35	35	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	1,680	1,490	5,590	3,490	4,790	#N/A	2,740	5,320	5,790	4,390	2,410	#N/A	2,980	2,340	5,030	6,820	7,050	#N/A	7,180	6,390	6,800	3,500	2,840
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	#N/A	0.92	0.92	0.92	0.92	0.92	#N/A	0.92	0.92	0.92	0.92	0.92
	P_{T-F}	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-F}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-F}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	190	1,250	800	490	1,300	#N/A	590	930	470	1,200	570	#N/A	640	1,160	760	1,790	230	#N/A	790	410	250	660	440
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	#N/A	0.92	0.92	0.92	0.92	0.92
	P_{T-R}	11.2%	6.4%	5.2%	4.5%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	4.5%	5.2%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-R}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-R}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	yes	no	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	1,000	9,999	1,230	1,200	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,060	190	1,200	1,300	800	#N/A	1,250	470	760	930	40	#N/A	570	640	1,790	230	150	#N/A	1,570	790	410	100	660
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-UP}	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	20.0%	#N/A	5.6%	5.6%	5.6%	20.0%	4.5%
	P_{R-UP}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-UP}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	off-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	1,200	1,230	1,000	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	1,250	590	1,300	1,720	490	#N/A	300	1,200	930	800	640	#N/A	1,160	100	930	760	1,790	#N/A	410	250	150	440	670
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-DOWN}	6.4%	6.4%	5.2%	4.5%	4.5%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	4.5%	20.0%	5.2%	5.2%	5.6%	#N/A	5.6%	5.6%	20.0%	4.5%	4.5%
	P_{R-DOWN}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-DOWN}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	1,490	2,740	4,790	3,980	3,490	#N/A	2,150	4,390	5,320	5,590	2,980	#N/A	2,340	3,500	5,790	5,030	6,820	#N/A	6,390	6,800	7,050	2,840	3,280
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-FO}	11.2%	9.0%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	5.7%	5.5%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-FO}	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-FO}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build 2																						
		AM																						
	Variable																							
Freeway D	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	4	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	4	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	off-ramp	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{JNCT}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	800	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	0	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	800	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{FR}	50	50	35	45	45	#N/A	45	35	35	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	3,890	3,540	2,330	1,240	2,070	#N/A	5,940	2,150	2,250	1,470	4,430	#N/A	5,990	5,360	1,820	2,870	3,040	#N/A	2,870	2,610	2,890	7,240	6,320
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-F}	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-F}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-F}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	350	2,400	260	230	830	#N/A	1,310	680	100	920	1,430	#N/A	630	1,880	430	1,050	170	#N/A	260	280	150	920	760
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-R}	9.3%	5.9%	14.9%	17.7%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	4.5%	14.9%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-R}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-R}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	yes	no	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	1,000	9,999	1,230	1,200	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,820	350	920	830	260	#N/A	2,400	100	430	680	400	#N/A	1,430	630	1,050	170	100	#N/A	770	260	280	150	920
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-UP}	9.3%	9.3%	14.9%	14.9%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.9%	13.8%	13.8%	20.0%	#N/A	13.8%	13.8%	13.8%	20.0%	4.5%
	P_{R-UP}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-UP}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	off-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	1,200	1,230	1,000	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	2,400	1,310	830	780	230	#N/A	200	920	680	260	630	#N/A	1,880	150	680	430	1,050	#N/A	280	150	100	760	1,440
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-DOWN}	5.9%	5.9%	14.9%	17.7%	17.7%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	4.5%	20.0%	14.9%	14.9%	13.8%	#N/A	13.8%	13.8%	20.0%	4.5%	4.5%
	P_{R-DOWN}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-DOWN}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOW}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	3,540	5,940	2,070	1,470	1,240	#N/A	4,630	1,470	2,150	2,390	5,860	#N/A	5,360	7,240	2,250	1,820	2,870	#N/A	2,610	2,890	3,040	6,320	7,080
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-FO}	9.3%	7.9%	14.9%	15.4%	14.9%	#N/A	5.9%	14.9%	14.9%	14.9%	5.9%	#N/A	5.9%	5.5%	14.0%	13.8%	13.8%	#N/A	13.8%	13.8%	13.8%	4.5%	4.5%
	P_{R-FO}	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-FO}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build 2																						
		PM																						
	Variable																							
Freeway D	S_{FF}	70	70	70	70	70	#N/A	70	70	70	70	70	#N/A	70	70	65	65	65	#N/A	60	60	60	65	65
	N	4	4	4	4	5	#N/A	5	4	4	4	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	N_{down}	4	4	5	4	4	#N/A	4	4	4	5	4	#N/A	4	4	4	4	4	#N/A	4	4	4	4	4
	$Terrain_{FWY}$	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level	Freeway Level
Ramp-Freeway Junctio																								
	Ramp type	off-ramp	on-ramp	off-ramp	on-ramp	off-ramp	#N/A	off-ramp	off-ramp	off-ramp	on-ramp	on-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	off-ramp	#N/A	off-ramp	on-ramp	on-ramp	off-ramp	on-ramp
	Side	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand	right-hand
	N_{RAMP}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	2	2	2	2	1	#N/A	1	1	1	1	1
	N_{JNCT}	2	2	1	1	2	#N/A	1	1	1	1	1	#N/A	1	2	2	2	1	#N/A	1	1	1	1	1
	L_{A1}, L_{D1}	900	1,500	730	1,450	950	#N/A	1,350	800	800	1,500	1,000	#N/A	680	750	900	830	800	#N/A	1,500	950	990	780	1,200
	L_{A2}, L_{D2}	0	1,150	0	0	950	#N/A	0	0	0	0	0	#N/A	0	1,500	1,500	0	0	#N/A	0	0	0	0	0
	L_A, L_D	1,800	4,150	730	1,450	2,850	#N/A	1,350	800	800	1,500	1,000	#N/A	1,360	3,000	3,300	1,660	800	#N/A	1,500	950	990	780	1,200
	S_{FR}	50	50	35	45	45	#N/A	45	35	35	35	45	#N/A	45	45	35	30	45	#N/A	30	30	45	45	45
	$Terrain_{RAMP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_F	1,710	1,520	5,730	3,540	4,870	#N/A	2,820	5,650	5,750	4,310	2,070	#N/A	2,960	2,350	5,010	6,770	6,990	#N/A	7,160	6,380	6,770	3,470	2,850
	PHF_F	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-F}	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-F}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-F}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	v_R	190	1,300	860	470	1,330	#N/A	650	1,340	100	1,650	830	#N/A	610	1,120	740	1,760	220	#N/A	780	390	220	620	410
	PHF_R	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-R}	11.2%	6.4%	5.2%	4.5%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	4.5%	5.2%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-R}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-R}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjacent Ramp Data																								
	$Type_{UP}$	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	on-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	off-ramp	on-ramp	on-ramp	off-ramp
	Single-lane	Yes	No	Yes	No	Yes	#N/A	No	yes	no	Yes	Yes	#N/A	Yes	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{UP}$	9,640	6,500	2,800	3,060	950	#N/A	2,950	1,000	9,999	1,230	1,200	#N/A	9,999	1,750	900	1,480	6,350	#N/A	3,650	780	1,450	9,999	1,900
	v_{UP}	1,070	190	1,650	1,330	860	#N/A	1,300	100	740	1,340	200	#N/A	830	610	1,760	220	150	#N/A	1,560	780	390	100	620
	PHF_{UP}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-UP}	11.2%	11.2%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	6.4%	5.6%	5.6%	20.0%	#N/A	5.6%	5.6%	5.6%	20.0%	4.5%
	P_{R-UP}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-UP}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{UP}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	$Type_{DOWN}$	on-ramp	off-ramp	off-ramp	off-ramp	on-ramp	#N/A	on-ramp	on-ramp	off-ramp	off-ramp	off-ramp	#N/A	on-ramp	off-ramp	off-ramp	on-ramp	off-ramp	#N/A	on-ramp	on-ramp	off-ramp	on-ramp	off-ramp
	Single-lane	No	Yes	No	Yes	Yes	#N/A	Yes	Yes	Yes	Yes	Yes	#N/A	No	Yes	Yes	No	No	#N/A	Yes	Yes	Yes	Yes	Yes
	$Dist_{DOWN}$	6,500	2,950	950	9,999	3,060	#N/A	1,200	1,230	1,000	2,800	9,999	#N/A	1,750	6,250	9,999	900	1,480	#N/A	780	1,450	9,999	1,900	4,550
	v_{DOWN}	1,300	650	1,330	1,750	470	#N/A	100	1,650	1,340	860	610	#N/A	1,120	100	1,340	740	1,760	#N/A	390	220	150	410	660
	PHF_{DOWN}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-DOWN}	6.4%	6.4%	5.2%	4.5%	4.5%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	4.5%	20.0%	5.2%	5.2%	5.6%	#N/A	5.6%	5.6%	20.0%	4.5%	4.5%
	P_{R-DOWN}	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-DOWN}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	$Terrain_{DOWN}$	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
	v_{FO}	1,520	2,820	4,870	4,010	3,540	#N/A	2,170	4,310	5,650	5,960	2,900	#N/A	2,350	3,470	5,750	5,010	6,770	#N/A	6,380	6,770	6,990	2,850	3,260
	PHF_{FO}	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	P_{T-FO}	11.2%	9.0%	5.2%	5.2%	5.2%	#N/A	6.4%	5.2%	5.2%	5.2%	6.4%	#N/A	6.4%	5.8%	5.5%	5.6%	5.6%	#N/A	5.6%	5.6%	5.6%	4.5%	4.5%
	P_{R-FO}	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%	#N/A	0.0%	0.0%	0.0%	0.0%	0.0%
	f_{P-FO}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

		Values that were assumed/kept constant for all locations				
	Variable	Units	Description	Typical values	Equation	
Step 1: Specify Inputs and Convert Demand Volumes to Demand Flow Rates						
	$E_{T\text{-}FF}$	-	passenger-car equivalent (PCE) of one t	-	Exhibit 11-10	
	$E_{R\text{-}FF}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	$E_{T\text{-}R}$	-	passenger-car equivalent (PCE) of one t	-	Exhibit 11-10	
	$E_{R\text{-}R}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	$E_{T\text{-}UP}$	-	passenger-car equivalent (PCE) of one t	-	Exhibit 11-10	
	$E_{R\text{-}UP}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	$E_{T\text{-}DOWN}$	-	passenger-car equivalent (PCE) of one t	-	Exhibit 11-10	
	$E_{R\text{-}DOWN}$	-	PCE of one RV in traffic stream	-	Exhibit 11-10	
	v_i	pc/h	demand flow rate for movement i		Eqn 13-1	= V_i / (PHF x f_{HV} x f_p)
	$f_{HV\text{-}F}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	= 1 / (1 + P_T(E_T - 1) + P_R(E_R - 1))
	$v_{F(Ramp)}$	pc/h/ln			Eqn 13-1	= V_i / (PHF x f_{HV} x f_p)
			Factor for estimate v_s		Exhibit 13-17	
	v_s	pc/h	estimated appraochign freeway flow in Lane 5		Exhibit 13-17	
	v_{Aeff}	pc/h	efefctive approaching freeway flow in four lanes		Equation 13-25	= v_F - v_s
	v_F	pc/h/ln			Eqn 13-1	= V_i / (PHF x f_{HV} x f_p)
	$f_{HV\text{-}FO}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_{FO}				Eqn 13-1	
	$f_{HV\text{-}R}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_R				Eqn 13-1	
	$f_{HV\text{-}UP}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_{UP}				Eqn 13-1	
	$f_{HV\text{-}DOWN}$	-	adjustment factor for presence of heavy vehicles in traffic stream		Eqn 11-3	
	v_{DOWN}				Eqn 13-1	
Step 2: Estimate the Approaching Flow Rate in Lanes 1 and 2 aof the Freeway Immediately Upstream of the Ramp Influence Area						
Estimating Flow in Lanes 1 and 2 for On-Ramps (Merge Areas)						
	P_{FM}	-	proportion of freeway vehicles remaining in Lanes 1 and 2 immediately upstream of the on-ramp influence area			
	$P_{FM\text{-}2}$		P_{FM} for two lane freeways			
	$P_{FM\text{-}3a}$		P_{FM} for three lane freeways		Eqn 13-3	= 0.5775 + 0.000028*L_A
	$P_{FM\text{-}3b}$		P_{FM} for three lane freeways		Eqn 13-4	= 0.7289 - 0.0000135(v_F + v_R) - 0.0
	$P_{FM\text{-}3c}$		P_{FM} for three lane freeways		Eqn 13-5	= 0.5487 + 0.2628(v_D/L_{DOWN})
	$P_{FM\text{-}4a}$		P_{FM} for four lane freeways; For v_R/S_{FR} ≤ 72			= 0.2178 - 0.000125v_R + 0.01115((
	$P_{FM\text{-}4b}$		P_{FM} for four lane freeways; For v_R/S_{FR} > 72			= 0.2178 - 0.000125v_R
	L_{EQ1}	ft			Eqn 13-6	= 0.214(v_F + v_R) + 0.444L_A + 52.325
	L_{EQ2}	ft			Eqn 13-7	= v_D / (0.1096 + 0.000107L_A)
	$Equation_{3Lane}$		Choose which equation to use for P_{FM} when considering adjacent upstream off-ramps			
	$Equation_{3Lane}$		Choose which equation to use for P_{FM} when considering adjacent downstream off-ramps			
			Choose value of PFM to use based on all adjacent ramp configurations and number of freeway lanes. Default values used for special case of two-lane on-ra			
	$v_{12\text{-}MERGE}$	pc/h	flow rate in Lanes 1 and 2		Equation 13-2	= v_F x P_{FM}
Estimating Flow in Lanes 1 and 2 for Off-Ramps (Diverge Areas)						
	P_{FD}	-	proportion of diverging traffic remaining in Lanes 1 and 2 immediately upstream of the deceleration lane			
	$P_{FD\text{-}2}$		P_{FD} for two lane freeways			
	$P_{FD\text{-}3a}$		P_{FD} for three lane freeways		Eqn 13-9	= 0.760 - 0.000025*v_F - 0.000046v
	$P_{FD\text{-}3b}$		P_{FD} for three lane freeways		Eqn 13-10	= 0.717 - 0.000039v_F + 0.604(v_D /
	$P_{FD\text{-}3c}$		P_{FD} for three lane freeways		Eqn 13-11	= 0.616 - 0.000021v_F + 0.124(v_D/L
	$P_{FD\text{-}4}$		P_{FD} for four lane freeways			= 0.436
	L_{EQ1}	ft			Eqn 13-12	= v_D / (0.071 + 0.000023v_F - 0.000
	L_{EQ2}	ft			Eqn 13-13	= v_D / (1.15 - 0.000032v_F - 0.0003
	$Equation_{3Lane}$		Choose which equation to use for P_{FD} when considering adjacent upstream on-ramps			
	$Equation_{3Lane}$		Choose which equation to use for P_{FD} when considering adjacent downstream off-ramps			
			Choose value of PFD to use based on all adjacent ramp configurations and number of freeway lanes. Default values used for special case of two-lane off-ra			
	$v_{12\text{-}DIVERGE}$	pc/h	flow rate in Lanes 1 and 2		Equation 13-8	= v_R + (v_F - v_R)P_{FM}
Checking the Reasonableness of the Lane Distribution Prediction						
	$v_{12\text{-}temp}$					
Application to Six-Lane Freeways						
	v_3	pc/h/ln	flow rate in Lane 3 of the freeway		Equation 13-14	= v_F - v_{12}
	$v_{12a\text{-}1}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence		Equation 13-15	= v_F - 2,700
	$v_{12a\text{-}2}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence		Equation 13-16	= v_F / 1.75
	$v_{12\text{-}3lane}$		Adjusted volume in lanes 1 and 2			
Applications to Eight-Lane Freeways						
	v_{av34}	pc/h/ln	average flow rate in lanes 3 and 4		Equation 13-17	= (v_F - v_{12}) / 2
	$v_{12a\text{-}1}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence		Equation 13-18	= v_F - 5,400
	$v_{12a\text{-}2}$		adjust flow rate in Lanes 1 and 2 immediately upstream of the ramp influence		Equation 13-19	= v_F / 2.50
	$v_{12\text{-}4lane}$		Adjusted volume in lanes 1 and 2			
	$v_{12(temp)}$		Final volume in lanes 1 and 2 (or two right-most lanes if left-handed ramp)			
			Adjustment factor for left-hand ramps			
	v_{12}		Final volume in lanes 1 and 2 (or two right-most lanes if left-handed ramp)			

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 No Build																						
		AM																						
	Variable																							
Step 1: Specify Inputs																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	$v_{F(temp)}$	4,458	4,060	2,722	1,437	2,383	#N/A	6,702	2,652	2,652	1,542	4,845	#N/A	6,792	6,053	2,126	3,369	3,578	#N/A	3,346	3,032	3,369	8,156	7,045
		0.100	0.220	0.000	0.220	0.000	#N/A	0.150	0.000	NA	0.220	0.220	#N/A	0.150	0.240	0.220	0.000	0.000	#N/A	0.000	0.220	0.220	0.200	0.270
	v_x	-	-	-	-	0	#N/A	1,005	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_{xAeff}	-	-	-	-	2,383	#N/A	5,697	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_F	4,458	4,060	2,722	1,437	2,383	#N/A	5,697	2,652	2,652	1,542	4,845	#N/A	6,792	6,053	2,126	3,369	3,578	#N/A	3,346	3,032	3,369	8,156	7,045
	$f_{HV\text{-}FO}$	0.956	0.962	0.930	0.929	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.973	0.935	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_{FO}	4,060	6,768	2,383	1,709	1,437	#N/A	4,845	1,542	2,652	2,722	6,792	#N/A	6,053	8,198	2,640	2,126	3,369	#N/A	3,032	3,369	3,578	7,045	7,934
	$f_{HV\text{-}R}$	0.956	0.971	0.930	0.919	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.978	0.930	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_R	398	2,708	339	272	946	#N/A	1,857	1,110	0	1,180	1,947	#N/A	738	2,145	514	1,243	209	#N/A	314	337	209	1,111	889
	$f_{HV\text{-}UP}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	1.000	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.909	#N/A	0.936	0.936	0.936	0.909	0.978
	v_{UP}	2,115	398	1,180	946	339	#N/A	2,708	514	0	1,110	1,857	#N/A	1,947	738	1,243	209	120	#N/A	906	314	337	179	1,111
	$f_{HV\text{-}DOWN}$	0.971	0.971	0.930	0.919	0.919	#N/A	0.971	0.930	1.000	0.930	0.971	#N/A	0.978	0.909	0.930	0.930	0.936	#N/A	0.936	0.936	0.909	0.978	0.978
	v_{DOWN}	2,708	1,857	946	947	272	#N/A	1,947	1,180	0	339	738	#N/A	2,145	179	1,110	514	1,243	#N/A	337	209	120	889	1,633
Step 2: Estimate the A																								
Estimating Flow in Lar																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5955	#N/A	-	-	-	0.6543	0.7157	#N/A	-	0.5802	-	0.6610	-	#N/A	-	0.6337	-	-	0.5932
	$P_{FM\text{-}3c}$	-	0.7142	-	0.5736	-	#N/A	-	-	-	0.5805	0.5681	#N/A	-	0.5562	0.5779	-	-	#N/A	-	-	0.5518	-	0.6430
	$P_{FM\text{-}4a}$	0.5694	0.8048	0.4080	0.5431	0.8057	#N/A	0.3201	0.3339	#VALUE!	0.5482	0.2222	#N/A	0.4625	0.6931	1.2048	0.6794	0.3899	#N/A	0.7361	0.5288	0.4370	0.2722	0.4040
	$P_{FM\text{-}4b}$	0.1680	-0.1207	0.1755	0.1838	0.0995	#N/A	-0.0144	0.0791	0.2178	0.0703	-0.0256	#N/A	0.1255	-0.0503	0.1536	0.0624	0.1917	#N/A	0.1786	0.1757	0.1917	0.0789	0.1067
	L_{4D1}	2,051.5	3,504.0	407.3	960.9	1,929.3	#N/A	2,167.4	588.4	#VALUE!	676.7	1,848.9	#N/A	2,166.7	3,037.8	1,458.4	890.6	1,117.1	#N/A	615.7	309.4	1,156.7	2,281.0	2,182.1
	L_{4D2}	8,960.3	3,354.9	5,040.9	3,575.4	656.5	#N/A	7,663.6	6,044.4	#VALUE!	1,254.2	3,409.5	#N/A	8,406.5	416.5	2,398.5	1,789.6	6,368.2	#N/A	1,247.3	989.9	554.7	4,604.7	6,863.4
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-4	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-4
		0.6279	0.6937	0.5979	0.6181	0.5955	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.5802	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.5932
	$Equation_{3L}$	13-3	13-5	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.7142	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6430
		0.2090	0.2090	0.1755	0.5431	0.2090	#N/A	-0.0144	0.0791	NA	0.5482	-0.0256	#N/A	0.2090	0.2090	0.2090	0.2090	0.1917	#N/A	0.1786	0.1757	0.1917	0.0789	0.1067
	$v_{12\text{-}MERGE}$	NA	848.6	NA	780.3	NA	#N/A	NA	NA	NA	845.3	-123.9	#N/A	NA	1,265.2	444.3	NA	NA	#N/A	NA	532.7	645.7	NA	751.6
Estimating Flow in Lar																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.6302	0.5339	0.6764	0.7116	0.6569	#N/A	0.5321	0.6427	0.6937	0.6672	0.5493	#N/A	0.5562	0.5100	0.6832	0.6186	0.6609	#N/A	0.6619	0.6687	0.6662	0.5050	0.5430
	$P_{FD\text{-}3b}$	0.6757	-	0.8654	-	-	#N/A	-	-	-	-	-	#N/A	0.5697	-	-	-	0.5888	#N/A	0.7365	-	0.7259	0.4097	-
	$P_{FD\text{-}3c}$	-	0.6088	-	0.5976	-	#N/A	-	-	-	0.5986	0.5234	#N/A	-	0.4924	0.5851	-	-	#N/A	-	-	0.5467	-	0.5126
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{4D1}	14,763.3	-9,613.2	10,939.2	11,350.4	6,285.4	#N/A	44,486.8	10,787.3	0.0	66,070.7	53,889.6	#N/A	11,379.7	15,634.8	15,378.0	3,871.4	870.2	#N/A	7,301.0	2,724.4	2,540.9	1,029.9	6,715.3
	L_{4D2}	3,147.0	88,894.1	1,008.9	943.2	375.6	#N/A	6,896.5	1,799.6	0.0	509.2	2,670.4	#N/A	3,248.7	1,087.5	1,243.7	880.9	1,297.1	#N/A	363.4	225.2	123.9	1,856.1	2,738.4
	$Equation_{3L}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.6757	0.5339	0.8654	0.7116	0.6569	#N/A	0.5321	0.6427	0.6937	0.6672	0.5493	#N/A	0.5697	0.5100	0.6832	0.6186	0.6609	#N/A	0.7365	0.6687	0.7259	0.5050	0.5430
	$Equation_{3L}$	13-9	13-11	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.6302	0.6088	0.6764	0.7116	0.6569	#N/A	0.5321	0.6427	0.6937	0.6672	0.5493	#N/A	0.5562	0.5100	0.6832	0.6186	0.6609	#N/A	0.6619	0.6687	0.6662	0.5050	0.5430
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	NA	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	1,453.7	NA	1,377.8	NA	1,319.8	#N/A	3,531.5	1,782.1	NA	NA	NA	#N/A	2,312.4	NA	NA	1,795.8	1,678.0	#N/A	1,635.7	NA	NA	4,182.9	NA
Checking the Reasona																								
	$v_{12\text{-}temp}$	1,453.7	848.6	1,377.8	780.3	1,319.8	#N/A	3,531.5	1,782.1	Isheet not compatible with this a	845.3	-123.9	#N/A	2,312.4	1,265.2	444.3	1,795.8	1,678.0	#N/A	1,635.7	532.7	645.7	4,182.9	751.6
Application to Six-Lan																								
	v_3	3,004.6	3,211.6	1,344.1	656.6	1,063.3	#N/A	2,165.5	869.7	#VALUE!	696.7	4,968.8	#N/A	4,479.5	4,788.2	1,681.7	1,573.2	1,900.1	#N/A	1,710.1	2,499.4	2,723.3	3,973.5	6,293.6
	$v_{12a\text{-}1}$	1,758.3	1,360.2	-	-	-	#N/A	-	-	#VALUE!	-	2,144.9	#N/A	4,091.9	3,353.4	-	-	-	#N/A	-	-	669.1	5,456.4	4,345.2
	$v_{12a\text{-}2}$	2,547.6	2,320.1	1,555.3	821.1	1,361.8	#N/A	-	-	#VALUE!	881.1	2,768.5	#N/A	3,881.1	3,459.1	1,214.9	1,925.2	2,044.7	#N/A	1,911.9	1,732.7	1,925.2	4,660.8	4,025.8
	$v_{12\text{-}3lane}$	2,547.6	2,320.1	1,555.3	821.1	1,361.8	#N/A	3,531.5	1,782.1	#VALUE!	881.1	2,768.5	#N/A	4,091.9	3,459.1	1,214.9	1,925.2	2,044.7	#N/A	1,911.9	1,732.7	1,925.2	5,456.4	4,345.2
Applications to Eight-																								
	v_{av34}	1,502.3	1,605.8	672.0	328.3	531.6	#N/A	1,082.8	434.8	#VALUE!	348.4	2,484.4	#N/A	2,239.8	2,394.1	840.8	786.6	950.1	#N/A	855.1	1,249.7	1,361.7	1,986.7	3,146.8
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	#VALUE!	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	1,645.2
	$v_{12a\text{-}2}$	1,783.3	1,624.1	-	-	-	#N/A	-	-	#VALUE!	-	1,938.0	#N/A	2,716.8	2,421.4	850.4	-	-	#N/A	-	1,212.9	1,347.6	-	2,818.1
	$v_{12\text{-}4lane}$	1,783.3	1,624.1	1,377.8	780.3	1,319.8	#N/A	3,531.5	1,782.1	#VALUE!	845.3	1,938.0	#N/A	2,716.8	2,421.4	850.4	1,795.8	1,678.0	#N/A	1,635.7	1,212.9	1,347.6	4,182.9	2,818.1
	$v_{12(temp)}$	1,783.3	1,624.1	1,377.8	780.3	1,319.8	#N/A	3,531.5	1,782.1	NA	845.3	1,938.0	#N/A	2,716.8	2,421.4	850.4	1,795.8	1,678.0	#N/A	1,635.7	1,212.9	1,347.6	4,182.9	2,818.1
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	1,783.3	1,624.1	1,377.8	780.3	1,319.8	#N/A	3,531.5	1,782.1	NA	845.3	1,938.0	#N/A	2,716.8	2,421.4	850.4	1,795.8	1,678.0	#N/A	1,635.7	1,212.9	1,347.6	4,182.9	2,818.1

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 No Build																						
		PM																						
	Variable																							
Step 1: Specify Inputs																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	$v_{F(temp)}$	1,974	1,745	6,447	3,949	5,410	#N/A	3,185	6,492	6,492	4,674	2,153	#N/A	3,376	2,669	5,642	7,642	7,921	#N/A	8,056	7,151	7,620	3,923	3,179
		0.000	0.220	0.150	0.220	0.100	#N/A	0.000	0.150	NA	0.220	0.220	#N/A	0.000	0.220	0.240	0.200	0.200	#N/A	0.200	0.270	0.285	0.000	0.220
	v_x	-	-	-	-	541	#N/A	0	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_{Aeff}	-	-	-	-	4,869	#N/A	3,185	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_F	1,974	1,745	6,447	3,949	4,869	#N/A	3,185	6,492	6,492	4,674	2,153	#N/A	3,376	2,669	5,642	7,642	7,921	#N/A	8,056	7,151	7,620	3,923	3,179
	$f_{HV\text{-}FO}$	0.947	0.957	0.974	0.975	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.972	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_{FO}	1,745	3,225	5,410	4,515	3,949	#N/A	2,153	4,674	6,492	6,447	3,376	#N/A	2,669	3,947	6,501	5,642	7,642	#N/A	7,151	7,620	7,921	3,179	3,656
	$f_{HV\text{-}R}$	0.947	0.969	0.974	0.978	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.978	0.974	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_R	230	1,480	1,037	567	1,461	#N/A	1,032	1,818	0	1,774	1,222	#N/A	707	1,278	859	2,000	279	#N/A	905	469	302	745	478
	$f_{HV\text{-}UP}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	1.000	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.909	#N/A	0.973	0.973	0.973	0.909	0.978
	v_{UP}	1,263	230	1,774	1,461	1,037	#N/A	1,480	859	0	1,818	1,032	#N/A	1,222	707	2,000	279	179	#N/A	1,765	905	469	120	745
	$f_{HV\text{-}DOWN}$	0.969	0.969	0.974	0.978	0.978	#N/A	0.969	0.974	1.000	0.974	0.969	#N/A	0.978	0.909	0.974	0.974	0.973	#N/A	0.973	0.973	0.909	0.978	0.978
	v_{DOWN}	1,480	1,032	1,461	1,989	567	#N/A	1,222	1,774	0	1,037	707	#N/A	1,278	120	1,818	859	2,000	#N/A	469	302	179	478	756
Step 2: Estimate the A																								
Estimating Flow in Lar																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5550	#N/A	-	-	-	0.6040	0.7618	#N/A	-	0.6375	-	0.5931	-	#N/A	-	0.5763	-	-	0.6509
	$P_{FM\text{-}3c}$	-	0.6406	-	0.6010	-	#N/A	-	-	-	0.6461	0.5673	#N/A	-	0.5537	0.5965	-	-	#N/A	-	-	0.5534	-	0.5923
	$P_{FM\text{-}4a}$	0.5905	0.9582	0.3207	0.5062	0.7413	#N/A	0.4233	0.2454	#VALUE!	0.4740	0.3128	#N/A	0.4665	0.8014	1.1617	0.5848	0.3811	#N/A	0.6622	0.5122	0.4254	0.3180	0.4554
	$P_{FM\text{-}4b}$	0.1891	0.0328	0.0881	0.1470	0.0351	#N/A	0.0888	-0.0095	0.2178	-0.0039	0.0650	#N/A	0.1295	0.0580	0.1104	-0.0322	0.1829	#N/A	0.1047	0.1591	0.1801	0.1247	0.1581
	L_{t421}	1,483.8	2,745.8	1,354.1	1,561.5	2,571.5	#N/A	1,453.2	1,561.8	#VALUE!	1,473.9	1,117.8	#N/A	1,428.8	2,128.1	2,284.6	1,967.0	2,061.6	#N/A	1,750.2	1,219.0	2,086.2	1,296.6	1,266.7
	L_{t422}	4,898.6	1,863.5	7,784.7	7,513.1	1,367.1	#N/A	4,811.7	9,086.1	#VALUE!	3,840.8	3,261.9	#N/A	5,009.7	277.7	3,929.6	2,990.4	10,245.5	#N/A	1,737.3	1,428.0	832.1	2,475.3	3,175.4
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.5550	#N/A	0.6153	0.5999	#VALUE!	0.6040	0.6055	#N/A	0.6156	0.6375	0.6699	0.5931	0.5999	#N/A	0.6195	0.5763	0.6052	0.5993	0.6111
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-5	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	#VALUE!	0.6461	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
		0.2090	0.2090	0.0881	0.1470	0.2090	#N/A	0.4233	-0.0095	NA	-0.0039	0.3128	#N/A	0.2090	0.2090	0.2090	0.2090	0.1829	#N/A	0.1047	0.1591	0.1801	0.1247	0.4554
	$v_{12\text{-}MERGE}$	NA	364.6	NA	580.3	NA	#N/A	NA	NA	NA	-18.2	673.5	#N/A	NA	557.8	1,179.2	NA	NA	#N/A	NA	1,138.0	1,372.3	NA	1,447.5
Estimating Flow in Lar																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.7001	0.6483	0.5511	0.6352	0.5711	#N/A	0.6329	0.5141	0.5977	0.5616	0.6499	#N/A	0.6431	0.6345	0.5794	0.4769	0.5491	#N/A	0.5170	0.5596	0.5556	0.6277	0.6586
	$P_{FD\text{-}3b}$	0.7191	-	0.8481	-	-	#N/A	-	-	-	-	-	#N/A	0.6592	-	-	-	0.4251	#N/A	0.6950	-	0.6153	0.5712	-
	$P_{FD\text{-}3c}$	-	0.6227	-	0.5577	-	#N/A	-	-	-	0.5638	0.5795	#N/A	-	0.5623	0.5201	-	-	#N/A	-	-	0.4582	-	0.5698
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{t421}	12,758.8	-166,669.4	12,628.0	12,305.3	14,421.9	#N/A	22,483.5	10,457.7	0.0	41,602.6	37,353.4	#N/A	12,875.1	20,040.3	14,760.2	2,947.2	773.2	#N/A	9,415.0	4,529.5	2,101.2	1,142.6	6,908.3
	L_{t422}	1,477.2	1,883.0	2,605.3	2,442.0	1,245.6	#N/A	1,831.7	6,536.6	0.0	2,998.4	1,121.4	#N/A	1,635.9	201.6	2,786.5	5,128.5	2,520.6	#N/A	840.5	403.3	225.6	637.4	866.7
	$Equation_{3L}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.7191	0.6483	0.8481	0.6352	0.5711	#N/A	0.6329	0.5141	0.5977	0.5616	0.6499	#N/A	0.6592	0.6345	0.5794	0.4769	0.5491	#N/A	0.6950	0.5596	0.6153	0.6277	0.6586
	$Equation_{3L}$	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-11	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.7001	0.6483	0.5511	0.6352	0.5711	#N/A	0.6329	0.5141	0.5977	0.5638	0.6499	#N/A	0.6431	0.6345	0.5794	0.4769	0.5491	#N/A	0.5170	0.5596	0.5556	0.6277	0.6586
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	NA	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	683.2	NA	3,396.2	NA	2,347.3	#N/A	1,970.6	3,856.0	NA	NA	NA	#N/A	1,400.5	NA	NA	3,466.9	3,611.3	#N/A	4,022.6	NA	NA	2,130.5	NA
Checking the Reasona																								
	$v_{12\text{-}temp}$	683.2	364.6	3,396.2	580.3	2,347.3	#N/A	1,970.6	3,856.0	Spreadsheet not compatible with this analysis	-18.2	673.5	#N/A	1,400.5	557.8	1,179.2	3,466.9	3,611.3	#N/A	4,022.6	1,138.0	1,372.3	2,130.5	1,447.5
Application to Six-Lan																								
	v_3	1,291.1	1,380.1	3,051.3	3,368.5	2,521.7	#N/A	1,214.4	2,636.0	#VALUE!	4,692.0	1,479.7	#N/A	1,975.1	2,111.3	4,463.0	4,175.3	4,310.2	#N/A	4,032.9	6,012.6	6,247.6	1,792.7	1,731.0
	$v_{12a\text{-}1}$	-	-	3,747.4	1,248.8	-	#N/A	-	-	#VALUE!	1,973.8	-	#N/A	-	-	2,942.2	4,942.2	5,221.5	#N/A	5,355.6	4,450.6	4,919.8	-	-
	$v_{12a\text{-}2}$	1,128.2	997.0	3,684.2	2,256.4	2,782.3	#N/A	-	-	#VALUE!	2,670.8	1,230.4	#N/A	1,928.9	1,525.2	3,224.1	4,367.0	4,526.6	#N/A	4,603.2	4,086.0	4,354.2	2,241.8	1,816.3
	$v_{12\text{-}3lane}$	1,128.2	997.0	3,747.4	2,256.4	2,782.3	#N/A	1,970.6	3,856.0	#VALUE!	2,670.8	1,230.4	#N/A	1,928.9	1,525.2	3,224.1	4,942.2	5,221.5	#N/A	5,355.6	4,450.6	4,919.8	2,241.8	1,816.3
Applications to Eight-																								
	v_{av34}	645.5	690.0	1,525.6	1,684.2	1,260.9	#N/A	607.2	1,318.0	#VALUE!	2,346.0	739.9	#N/A	987.6	1,055.6	2,231.5	2,087.6	2,155.1	#N/A	2,016.5	3,006.3	3,123.8	896.3	865.5
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	#VALUE!	-	-	#N/A	-	-	-	-	-	#N/A	-	1,750.6	2,219.8	-	-
	$v_{12a\text{-}2}$	789.7	697.9	-	1,579.5	-	#N/A	-	-	#VALUE!	1,869.5	861.3	#N/A	-	1,067.6	2,256.9	-	-	#N/A	-	2,860.2	3,047.9	-	-
	$v_{12\text{-}4lane}$	789.7	697.9	3,396.2	1,579.5	2,347.3	#N/A	1,970.6	3,856.0	#VALUE!	1,869.5	861.3	#N/A	1,400.5	1,067.6	2,256.9	3,466.9	3,611.3	#N/A	4,022.6	2,860.2	3,047.9	2,130.5	1,447.5
	$v_{12(temp)}$	789.7	697.9	3,396.2	1,579.5	2,347.3	#N/A	1,970.6	3,856.0	NA	1,869.5	861.3	#N/A	1,400.5	1,067.6	2,256.9	3,466.9	3,611.3	#N/A	4,022.6	2,860.2	3,047.9	2,130.5	1,447.5
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	789.7	697.9	3,396.2	1,579.5	2,347.3	#N/A	1,970.6	3,856.0	NA	1,869.5	861.3	#N/A	1,400.5	1,067.6	2,256.9	3,466.9	3,611.3	#N/A	4,022.6	2,860.2	3,047.9	2,130.5	1,447.5

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build																						
		AM																						
	Variable																							
Step 1: Specify Inputs																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	$v_{F(temp)}$	4,390	3,969	2,652	1,425	2,360	#N/A	6,479	2,371	2,652	1,822	5,628	#N/A	6,758	6,020	2,114	3,357	3,567	#N/A	3,346	3,032	3,369	8,112	7,023
		0.100	0.220	0.000	0.220	0.000	#N/A	0.150	0.000	0.000	0.220	0.240	#N/A	0.150	0.240	0.220	0.000	0.000	#N/A	0.000	0.220	0.220	0.200	0.270
	v_x	-	-	-	-	0	#N/A	972	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_{Aeff}	-	-	-	-	2,360	#N/A	5,507	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_F	4,390	3,969	2,652	1,425	2,360	#N/A	5,507	2,371	2,652	1,822	5,628	#N/A	6,758	6,020	2,114	3,357	3,567	#N/A	3,346	3,032	3,369	8,112	7,023
	$f_{HV\text{-}FO}$	0.956	0.962	0.930	0.929	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.973	0.935	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_{FO}	3,969	6,543	2,360	1,709	1,425	#N/A	5,125	1,822	2,371	2,652	6,758	#N/A	6,020	8,153	2,640	2,114	3,357	#N/A	3,032	3,369	3,567	7,023	7,923
	$f_{HV\text{-}R}$	0.956	0.971	0.930	0.919	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.978	0.930	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_R	421	2,574	292	284	935	#N/A	1,354	549	280	829	1,130	#N/A	738	2,134	526	1,243	209	#N/A	314	337	197	1,089	900
	$f_{HV\text{-}UP}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.909	#N/A	0.936	0.936	0.936	0.909	0.978
	v_{UP}	2,036	421	829	935	292	#N/A	2,574	280	526	549	78	#N/A	1,130	738	1,243	209	120	#N/A	895	314	337	179	1,089
	$f_{HV\text{-}DOWN}$	0.971	0.971	0.930	0.919	0.919	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.978	0.909	0.930	0.930	0.936	#N/A	0.936	0.936	0.909	0.978	0.978
	v_{DOWN}	2,574	1,354	935	911	284	#N/A	582	829	549	292	738	#N/A	2,134	179	549	526	1,243	#N/A	337	197	120	900	1,611
Step 2: Estimate the A																								
Estimating Flow in Lar																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.5999	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5960	#N/A	-	0.6371	-	0.6552	0.5649	#N/A	-	0.5808	-	0.6612	-	#N/A	-	0.6337	-	-	0.5933
	$P_{FM\text{-}3c}$	-	0.6693	-	0.5726	-	#N/A	-	-	0.6930	0.5761	0.5681	#N/A	-	0.5562	0.5631	-	-	#N/A	-	-	0.5518	-	0.6418
	$P_{FM\text{-}4a}$	0.5666	0.8216	0.4139	0.5416	0.8071	#N/A	0.3831	0.4040	0.4376	0.5920	0.3243	#N/A	0.4625	0.6944	1.2034	0.6794	0.3899	#N/A	0.7361	0.5288	0.4384	0.2749	0.4026
	$P_{FM\text{-}4b}$	0.1652	-0.1039	0.1813	0.1823	0.1010	#N/A	0.0486	0.1492	0.1828	0.1141	0.0765	#N/A	0.1255	-0.0489	0.1521	0.0624	0.1917	#N/A	0.1786	0.1757	0.1931	0.0817	0.1053
	L_{421}	2,041.7	3,455.8	382.3	961.0	1,921.8	#N/A	2,019.0	408.4	410.9	661.7	1,841.7	#N/A	2,159.6	3,028.2	1,458.4	888.1	1,114.6	#N/A	615.7	309.4	1,154.2	2,266.7	2,179.7
	L_{422}	8,516.0	2,445.4	4,978.6	3,441.3	685.0	#N/A	2,290.3	4,249.0	2,812.7	1,081.2	3,409.5	#N/A	8,362.9	416.5	1,186.6	1,830.2	6,368.2	#N/A	1,247.3	934.9	554.7	4,662.2	6,770.1
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-4	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-4
		0.6279	0.6937	0.5979	0.6181	0.5960	#N/A	0.6153	0.5999	0.5999	0.6195	0.5649	#N/A	0.6156	0.5808	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.5933
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-5	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.6930	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6418
		0.2090	0.2090	0.1813	0.5416	0.2090	#N/A	0.0486	0.4040	0.1828	0.5920	0.0765	#N/A	0.2090	0.2090	0.2090	0.2090	0.1917	#N/A	0.1786	0.1757	0.1931	0.0817	0.1053
	$v_{12\text{-}MERGE}$	NA	829.6	NA	771.8	NA	#N/A	NA	NA	NA	1,078.8	430.8	#N/A	NA	1,258.1	441.9	NA	NA	#N/A	NA	532.7	650.6	NA	739.4
Estimating Flow in Lar																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.6309	0.5424	0.6803	0.7113	0.6580	#N/A	0.5601	0.6755	0.6808	0.6763	0.5673	#N/A	0.5571	0.5114	0.6830	0.6189	0.6612	#N/A	0.6619	0.6687	0.6667	0.5071	0.5430
	$P_{FD\text{-}3b}$	0.6733	-	0.7925	-	-	#N/A	-	-	-	-	-	#N/A	0.5217	-	-	-	0.5893	#N/A	0.7345	-	0.7259	0.4115	-
	$P_{FD\text{-}3c}$	-	0.5896	-	0.5974	-	#N/A	-	-	0.6284	0.5907	0.5070	#N/A	-	0.4931	0.5784	-	-	#N/A	-	-	0.5467	-	0.5124
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{421}	14,542.5	-12,638.4	7,554.1	11,369.5	5,383.5	#N/A	27,158.4	3,345.0	4,749.4	11,007.4	683.7	#N/A	6,635.4	15,610.9	15,600.9	3,890.6	871.9	#N/A	7,207.4	2,724.4	2,524.0	1,026.0	6,635.4
	L_{422}	3,012.6	18,457.5	976.1	911.4	389.2	#N/A	1,227.0	951.7	570.9	371.7	1,335.7	#N/A	3,226.6	1,054.5	618.0	900.3	1,296.6	#N/A	363.4	212.7	123.4	1,842.3	2,716.6
	$Equation_{3L}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.6733	0.5424	0.7925	0.7113	0.6580	#N/A	0.5601	0.6755	0.6808	0.6763	0.5673	#N/A	0.5571	0.5114	0.6830	0.6189	0.6612	#N/A	0.7345	0.6687	0.7259	0.5071	0.5430
	$Equation_{3L}$	13-9	13-11	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.6309	0.5896	0.6803	0.7113	0.6580	#N/A	0.5601	0.6755	0.6808	0.6763	0.5673	#N/A	0.5571	0.5114	0.6830	0.6189	0.6612	#N/A	0.6619	0.6687	0.6667	0.5071	0.5430
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERSE}$	1,452.8	NA	1,320.9	NA	1,305.1	#N/A	3,164.6	1,343.6	1,314.3	NA	NA	#N/A	2,303.6	NA	NA	1,792.8	1,673.0	#N/A	1,635.7	NA	NA	4,151.0	NA
Checking the Reasona																								
	$v_{12\text{-}temp}$	1,452.8	829.6	1,320.9	771.8	1,305.1	#N/A	3,164.6	1,343.6	1,314.3	1,078.8	430.8	#N/A	2,303.6	1,258.1	441.9	1,792.8	1,673.0	#N/A	1,635.7	532.7	650.6	4,151.0	739.4
Application to Six-Lan																								
	v_3	2,937.2	3,139.7	1,330.9	653.3	1,054.6	#N/A	2,342.2	1,027.8	1,337.5	743.6	5,197.4	#N/A	4,454.7	4,761.7	1,672.5	1,564.6	1,893.6	#N/A	1,710.1	2,499.4	2,718.4	3,960.9	6,283.5
	$v_{12a\text{-}1}$	1,690.0	1,269.2	-	-	-	#N/A	-	-	-	-	2,928.2	#N/A	4,058.3	3,319.8	-	-	-	#N/A	-	-	669.1	5,411.9	4,322.9
	$v_{12a\text{-}2}$	2,508.6	2,268.1	1,515.3	814.4	1,348.4	#N/A	-	1,355.1	1,515.3	-	3,216.1	#N/A	3,861.9	3,439.9	1,208.2	1,918.5	2,038.0	#N/A	1,911.9	1,732.7	1,925.2	4,635.4	4,013.1
	$v_{12\text{-}3lane}$	2,508.6	2,268.1	1,515.3	814.4	1,348.4	#N/A	3,164.6	1,355.1	1,515.3	1,078.8	3,216.1	#N/A	4,058.3	3,439.9	1,208.2	1,918.5	2,038.0	#N/A	1,911.9	1,732.7	1,925.2	5,411.9	4,322.9
Applications to Eight-																								
	v_{av34}	1,468.6	1,569.8	665.4	326.7	527.3	#N/A	1,171.1	513.9	668.7	371.8	2,598.7	#N/A	2,227.3	2,380.8	836.2	782.3	946.8	#N/A	855.1	1,249.7	1,359.2	1,980.5	3,141.7
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	1,622.9
	$v_{12a\text{-}2}$	1,756.0	1,587.7	-	-	-	#N/A	-	-	-	-	2,251.3	#N/A	2,703.3	2,407.9	845.7	-	-	#N/A	-	1,212.9	1,347.6	-	2,809.2
	$v_{12\text{-}4lane}$	1,756.0	1,587.7	1,320.9	771.8	1,305.1	#N/A	3,164.6	1,343.6	1,314.3	1,078.8	2,251.3	#N/A	2,703.3	2,407.9	845.7	1,792.8	1,673.0	#N/A	1,635.7	1,212.9	1,347.6	4,151.0	2,809.2
	$v_{12(temp)}$	1,756.0	1,587.7	1,320.9	771.8	1,305.1	#N/A	3,164.6	1,343.6	1,314.3	1,078.8	2,251.3	#N/A	2,703.3	2,407.9	845.7	1,792.8	1,673.0	#N/A	1,635.7	1,212.9	1,347.6	4,151.0	2,809.2
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	1,756.0	1,587.7	1,320.9	771.8	1,305.1	#N/A	3,164.6	1,343.6	1,314.3	1,078.8	2,251.3	#N/A	2,703.3	2,407.9	845.7	1,792.8	1,673.0	#N/A	1,635.7	1,212.9	1,347.6	4,151.0	2,809.2

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build																						
		PM																						
	Variable																							
Step 1: Specify Inputs																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	$v_{F(temp)}$	1,928	1,710	6,235	3,893	5,343	#N/A	3,073	5,934	6,459	4,897	2,703	#N/A	3,342	2,624	5,620	7,620	7,877	#N/A	8,022	7,139	7,597	3,890	3,156
		0.000	0.220	0.150	0.220	0.100	#N/A	0.000	0.150	0.150	0.220	0.220	#N/A	0.000	0.220	0.240	0.200	0.200	#N/A	0.200	0.270	0.285	0.000	0.220
	v_x	-	-	-	-	534	#N/A	0	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_{xAeff}	-	-	-	-	4,809	#N/A	3,073	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_F	1,928	1,710	6,235	3,893	4,809	#N/A	3,073	5,934	6,459	4,897	2,703	#N/A	3,342	2,624	5,620	7,620	7,877	#N/A	8,022	7,139	7,597	3,890	3,156
	$f_{HV\text{-}FO}$	0.947	0.957	0.974	0.975	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.972	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_{FO}	1,710	3,112	5,343	4,437	3,893	#N/A	2,411	4,897	5,934	6,235	3,342	#N/A	2,624	3,913	6,468	5,620	7,620	#N/A	7,139	7,597	7,877	3,156	3,645
	$f_{HV\text{-}R}$	0.947	0.969	0.974	0.978	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.978	0.974	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_R	218	1,402	892	544	1,450	#N/A	662	1,037	524	1,339	639	#N/A	718	1,289	848	2,000	257	#N/A	883	458	279	734	489
	$f_{HV\text{-}UP}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.909	#N/A	0.973	0.973	0.973	0.909	0.978
	v_{UP}	1,217	218	1,339	1,450	892	#N/A	1,402	524	848	1,037	45	#N/A	639	718	2,000	257	179	#N/A	1,754	883	458	120	734
	$f_{HV\text{-}DOWN}$	0.969	0.969	0.974	0.978	0.978	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.978	0.909	0.974	0.974	0.973	#N/A	0.973	0.973	0.909	0.978	0.978
	v_{DOWN}	1,402	662	1,450	1,911	544	#N/A	336	1,339	1,037	892	718	#N/A	1,289	120	1,037	848	2,000	#N/A	458	279	179	489	745
Step 2: Estimate the A																								
Estimating Flow in Lar																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.5999	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5559	#N/A	-	0.5824	-	0.6069	0.6111	#N/A	-	0.6380	-	0.5934	-	#N/A	-	0.5766	-	-	0.6511
	$P_{FM\text{-}3c}$	-	0.6076	-	0.5989	-	#N/A	-	-	0.8213	0.6325	0.5676	#N/A	-	0.5537	0.5760	-	-	#N/A	-	-	0.5534	-	0.5917
	$P_{FM\text{-}4a}$	0.5919	0.9680	0.3388	0.5090	0.7427	#N/A	0.4696	0.3430	0.4071	0.5283	0.3857	#N/A	0.4651	0.8000	1.1631	0.5848	0.3839	#N/A	0.6650	0.5136	0.4282	0.3194	0.4540
	$P_{FM\text{-}4b}$	0.1905	0.0426	0.1063	0.1497	0.0365	#N/A	0.1351	0.0881	0.1523	0.0505	0.1379	#N/A	0.1281	0.0567	0.1118	-0.0322	0.1857	#N/A	0.1075	0.1605	0.1829	0.1261	0.1567
	L_{421}	1,471.5	2,721.6	1,277.7	1,544.8	2,556.2	#N/A	1,350.0	1,275.3	1,277.7	1,428.6	1,110.6	#N/A	1,424.0	2,120.9	2,277.5	1,962.3	2,047.2	#N/A	1,738.2	1,214.3	2,076.6	1,287.1	1,264.3
	L_{422}	4,638.8	1,195.1	7,725.3	7,219.3	1,313.5	#N/A	1,324.3	6,857.4	5,314.5	3,303.9	3,313.7	#N/A	5,053.3	277.7	2,242.0	2,951.6	10,245.5	#N/A	1,696.0	1,322.2	832.1	2,532.9	3,128.7
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.5559	#N/A	0.6153	0.5824	0.5999	0.6069	0.6055	#N/A	0.6156	0.6380	0.6699	0.5934	0.5999	#N/A	0.6195	0.5766	0.6052	0.5993	0.6111
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-5	13-5	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.8213	0.6325	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
		0.2090	0.2090	0.1063	0.1497	0.2090	#N/A	0.4696	0.0881	0.1523	0.0505	0.3857	#N/A	0.2090	0.2090	0.2090	0.2090	0.1857	#N/A	0.1075	0.1605	0.1829	0.1261	0.4540
	$v_{12\text{-}MERGE}$	NA	357.5	NA	582.9	NA	#N/A	NA	NA	NA	247.2	1,042.4	#N/A	NA	548.5	1,174.6	NA	NA	#N/A	NA	1,146.2	1,389.5	NA	1,433.0
Estimating Flow in Lar																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.7018	0.6528	0.5631	0.6376	0.5731	#N/A	0.6527	0.5639	0.5744	0.5760	0.6630	#N/A	0.6434	0.6351	0.5805	0.4775	0.5513	#N/A	0.5188	0.5604	0.5572	0.6290	0.6586
	$P_{FD\text{-}3b}$	0.7180	-	0.7626	-	-	#N/A	-	-	-	-	-	#N/A	0.6253	-	-	-	0.4269	#N/A	0.6944	-	0.6115	0.5725	-
	$P_{FD\text{-}3c}$	-	0.6079	-	0.5579	-	#N/A	-	-	0.6090	0.5527	0.5681	#N/A	-	0.5633	0.5108	-	-	#N/A	-	-	0.4587	-	0.5700
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{421}	12,317.7	57,440.3	9,131.0	12,169.8	12,499.4	#N/A	15,339.4	4,075.3	4,717.6	12,666.8	530.4	#N/A	6,850.2	21,502.9	14,723.9	2,726.2	770.9	#N/A	9,309.4	4,404.6	2,040.3	1,141.8	6,891.9
	L_{422}	1,391.0	1,144.8	2,334.5	2,318.1	1,181.1	#N/A	416.6	2,318.6	1,383.4	1,787.0	867.2	#N/A	1,656.6	202.5	1,578.2	5,040.4	2,490.2	#N/A	807.1	371.2	223.1	647.8	857.3
	$Equation_{3L}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.7180	0.6528	0.7626	0.6376	0.5731	#N/A	0.6527	0.5639	0.5744	0.5760	0.6630	#N/A	0.6434	0.6351	0.5805	0.4775	0.5513	#N/A	0.6944	0.5604	0.6115	0.6290	0.6586
	$Equation_{3L}$	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-11	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.7018	0.6528	0.5631	0.6376	0.5731	#N/A	0.6527	0.5639	0.6090	0.5760	0.6630	#N/A	0.6434	0.6351	0.5805	0.4775	0.5513	#N/A	0.5188	0.5604	0.5572	0.6290	0.6586
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	662.8	NA	3,222.0	NA	2,323.4	#N/A	1,712.9	3,172.4	3,111.6	NA	NA	#N/A	1,400.0	NA	NA	3,461.1	3,579.2	#N/A	3,995.4	NA	NA	2,109.7	NA
Checking the Reasona																								
	$v_{12\text{-}temp}$	662.8	357.5	3,222.0	582.9	2,323.4	#N/A	1,712.9	3,172.4	3,111.6	247.2	1,042.4	#N/A	1,400.0	548.5	1,174.6	3,461.1	3,579.2	#N/A	3,995.4	1,146.2	1,389.5	2,109.7	1,433.0
Application to Six-Lan																								
	v_3	1,265.6	1,352.8	3,013.5	3,310.1	2,485.4	#N/A	1,359.9	2,761.9	3,346.9	4,649.7	1,660.4	#N/A	1,941.9	2,075.8	4,445.3	4,158.7	4,297.6	#N/A	4,026.6	5,993.2	6,208.0	1,780.2	1,723.3
	$v_{12x\text{-}1}$	-	-	3,535.5	1,193.0	-	#N/A	-	3,234.3	3,758.6	2,196.9	-	#N/A	-	-	2,919.9	4,919.8	5,176.8	#N/A	5,322.0	4,439.4	4,897.5	-	-
	$v_{12x\text{-}2}$	1,101.9	977.3	3,563.1	2,224.6	2,747.9	#N/A	1,755.9	3,391.0	3,690.6	2,798.2	1,544.4	#N/A	1,909.7	1,499.6	3,211.4	4,354.2	4,501.0	#N/A	4,584.0	4,079.7	4,341.4	2,222.7	1,803.6
	$v_{12\text{-}3lane}$	1,101.9	977.3	3,563.1	2,224.6	2,747.9	#N/A	1,755.9	3,391.0	3,758.6	2,798.2	1,544.4	#N/A	1,909.7	1,499.6	3,211.4	4,919.8	5,176.8	#N/A	5,322.0	4,439.4	4,897.5	2,222.7	1,803.6
Applications to Eight-																								
	v_{av34}	632.8	676.4	1,506.8	1,655.0	1,242.7	#N/A	679.9	1,380.9	1,673.5	2,324.9	830.2	#N/A	971.0	1,037.9	2,222.7	2,079.4	2,148.8	#N/A	2,013.3	2,996.6	3,104.0	890.1	861.7
	$v_{12x\text{-}1}$	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	1,739.4	2,197.5	-	-
	$v_{12x\text{-}2}$	771.4	684.1	-	1,557.2	-	#N/A	-	-	-	1,958.8	1,081.1	#N/A	-	1,049.7	2,248.0	-	-	#N/A	-	2,855.8	3,039.0	-	-
	$v_{12\text{-}4lane}$	771.4	684.1	3,222.0	1,557.2	2,323.4	#N/A	1,712.9	3,172.4	3,111.6	1,958.8	1,081.1	#N/A	1,400.0	1,049.7	2,248.0	3,461.1	3,579.2	#N/A	3,995.4	2,855.8	3,039.0	2,109.7	1,433.0
	$v_{12(temp)}$	771.4	684.1	3,222.0	1,557.2	2,323.4	#N/A	1,712.9	3,172.4	3,111.6	1,958.8	1,081.1	#N/A	1,400.0	1,049.7	2,248.0	3,461.1	3,579.2	#N/A	3,995.4	2,855.8	3,039.0	2,109.7	1,433.0
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	771.4	684.1	3,222.0	1,557.2	2,323.4	#N/A	1,712.9	3,172.4	3,111.6	1,958.8	1,081.1	#N/A	1,400.0	1,049.7	2,248.0	3,461.1	3,579.2	#N/A	3,995.4	2,855.8	3,039.0	2,109.7	1,433.0

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build 2																						
		AM																						
	Variable																							
Step 1: Specify Inputs																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	$v_{F(temp)}$	4,424	4,026	2,722	1,449	2,418	#N/A	6,646	2,512	2,628	1,717	4,957	#N/A	6,702	5,997	2,114	3,334	3,532	#N/A	3,334	3,032	3,357	8,045	7,023
		0.100	0.220	0.000	0.220	0.000	#N/A	0.150	0.000	0.000	0.220	0.220	#N/A	0.150	0.240	0.220	0.000	0.000	#N/A	0.000	0.220	0.220	0.200	0.270
	v_x	-	-	-	-	0	#N/A	997	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_{xAeff}	-	-	-	-	2,418	#N/A	5,649	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_F	4,424	4,026	2,722	1,449	2,418	#N/A	5,649	2,512	2,628	1,717	4,957	#N/A	6,702	5,997	2,114	3,334	3,532	#N/A	3,334	3,032	3,357	8,045	7,023
	$f_{HV\text{-}FO}$	0.956	0.962	0.930	0.929	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.973	0.935	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_{FO}	4,026	6,712	2,418	1,721	1,449	#N/A	5,181	1,717	2,512	2,792	6,557	#N/A	5,997	8,087	2,617	2,114	3,334	#N/A	3,032	3,357	3,532	7,023	7,867
	$f_{HV\text{-}R}$	0.956	0.971	0.930	0.919	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.978	0.930	0.936	0.936	#N/A	0.936	0.936	0.936	0.978	0.978
	v_R	398	2,685	304	272	970	#N/A	1,466	794	117	1,075	1,600	#N/A	705	2,089	502	1,220	197	#N/A	302	325	174	1,022	845
	$f_{HV\text{-}UP}$	0.956	0.956	0.930	0.930	0.930	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.971	0.971	0.936	0.936	0.909	#N/A	0.936	0.936	0.936	0.909	0.978
	v_{UP}	2,070	398	1,075	970	304	#N/A	2,685	117	502	794	448	#N/A	1,600	705	1,220	197	120	#N/A	895	302	325	179	1,022
	$f_{HV\text{-}DOWN}$	0.971	0.971	0.930	0.919	0.919	#N/A	0.971	0.930	0.930	0.930	0.971	#N/A	0.978	0.909	0.930	0.930	0.936	#N/A	0.936	0.936	0.909	0.978	0.978
	v_{DOWN}	2,685	1,466	970	923	272	#N/A	224	1,075	794	304	705	#N/A	2,089	179	794	502	1,220	#N/A	325	174	120	845	1,600
Step 2: Estimate the A																								
Estimating Flow in La																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.5999	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5947	#N/A	-	0.6319	-	0.6533	0.5677	#N/A	-	0.5817	-	0.6618	-	#N/A	-	-	0.6338	-	0.5941
	$P_{FM\text{-}3c}$	-	0.6793	-	0.5730	-	#N/A	-	-	0.7575	0.5772	0.5672	#N/A	-	0.5562	0.5696	-	-	#N/A	-	-	0.5518	-	0.6411
	$P_{FM\text{-}4a}$	0.5694	0.8076	0.4124	0.5431	0.8028	#N/A	0.3691	0.3734	0.4581	0.5613	0.2656	#N/A	0.4667	0.7000	1.2063	0.6823	0.3913	#N/A	0.7375	0.5302	0.4413	0.2833	0.4096
	$P_{FM\text{-}4b}$	0.1680	-0.1179	0.1798	0.1838	0.0966	#N/A	0.0346	0.1185	0.2032	0.0835	0.0178	#N/A	0.1297	-0.0433	0.1550	0.0653	0.1931	#N/A	0.1800	0.1771	0.1960	0.0900	0.1122
	L_{HD1}	2,044.2	3,491.9	399.8	963.4	1,941.8	#N/A	2,073.5	490.9	370.9	691.7	1,798.6	#N/A	2,140.4	3,013.9	1,453.4	878.2	1,104.6	#N/A	610.8	306.9	1,146.7	2,238.2	2,167.8
	L_{HD2}	8,886.2	2,647.5	5,165.3	3,486.0	656.5	#N/A	880.9	5,505.7	4,069.5	1,124.5	3,254.5	#N/A	8,188.7	416.5	1,716.8	1,748.9	6,249.1	#N/A	1,204.3	824.9	554.7	4,374.4	6,723.4
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-4	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-4
		0.6279	0.6937	0.5979	0.6181	0.5947	#N/A	0.6153	0.5999	0.5999	0.6195	0.5677	#N/A	0.6156	0.5817	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.5941
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-5	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-5
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.7575	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6411
		0.2090	0.2090	0.1798	0.5431	0.2090	#N/A	0.0346	0.3734	0.2032	0.5613	0.0178	#N/A	0.2090	0.2090	0.2090	0.2090	0.1931	#N/A	0.1800	0.1771	0.1960	0.0900	0.1122
	$v_{12\text{-}MERGE}$	NA	841.5	NA	786.6	NA	#N/A	NA	NA	NA	963.9	88.2	#N/A	NA	1,253.5	441.9	NA	NA	#N/A	NA	537.1	658.1	NA	788.2
Estimating Flow in La																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.6311	0.5358	0.6780	0.7113	0.6549	#N/A	0.5513	0.6607	0.6889	0.6676	0.5625	#N/A	0.5600	0.5140	0.6840	0.6205	0.6626	#N/A	0.6628	0.6692	0.6680	0.5118	0.5456
	$P_{FD\text{-}3b}$	0.6741	-	0.8427	-	-	#N/A	-	-	-	-	-	#N/A	0.5523	-	-	-	0.5906	#N/A	0.7350	-	0.7216	0.4141	-
	$P_{FD\text{-}3c}$	-	0.5931	-	0.5970	-	#N/A	-	-	0.6593	0.5934	0.5206	#N/A	-	0.4936	0.5814	-	-	#N/A	-	-	0.5470	-	0.5121
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{HD1}	14,525.4	-9,830.6	9,724.3	11,593.3	5,738.4	#N/A	29,992.2	1,708.0	4,098.0	27,565.5	7,059.2	#N/A	9,325.5	14,050.8	14,975.6	3,592.2	871.3	#N/A	7,171.8	2,603.5	2,409.9	1,005.6	6,072.9
	L_{HD2}	3,117.0	48,465.3	1,019.7	920.0	380.7	#N/A	522.4	1,384.0	776.7	434.8	1,758.1	#N/A	3,093.1	958.0	885.6	846.8	1,265.2	#N/A	349.1	186.8	122.2	1,638.9	2,607.7
	$Equation_{3L}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.6741	0.5358	0.8427	0.7113	0.6549	#N/A	0.5513	0.6607	0.6889	0.6676	0.5625	#N/A	0.5600	0.5140	0.6840	0.6205	0.6626	#N/A	0.7350	0.6692	0.7216	0.5118	0.5456
	$Equation_{3L}$	13-9	13-11	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.6311	0.5931	0.6780	0.7113	0.6549	#N/A	0.5513	0.6607	0.6889	0.6676	0.5625	#N/A	0.5600	0.5140	0.6840	0.6205	0.6626	#N/A	0.6628	0.6692	0.6680	0.5118	0.5456
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERGE}$	1,444.8	NA	1,358.0	NA	1,346.2	#N/A	3,289.9	1,543.1	1,211.9	NA	NA	#N/A	2,264.3	NA	NA	1,769.6	1,651.2	#N/A	1,624.1	NA	NA	4,084.3	NA
Checking the Reasona																								
	$v_{12\text{-}temp}$	1,444.8	841.5	1,358.0	786.6	1,346.2	#N/A	3,289.9	1,543.1	1,211.9	963.9	88.2	#N/A	2,264.3	1,253.5	441.9	1,769.6	1,651.2	#N/A	1,624.1	537.1	658.1	4,084.3	788.2
Application to Six-Lan																								
	v_3	2,979.3	3,184.6	1,363.8	661.9	1,071.9	#N/A	2,359.6	968.5	1,416.5	753.3	4,868.6	#N/A	4,438.1	4,744.0	1,672.5	1,564.6	1,880.5	#N/A	1,710.1	2,495.0	2,699.3	3,960.9	6,234.7
	$v_{12a\text{-}1}$	1,724.2	1,326.1	-	-	-	#N/A	-	-	-	-	2,256.8	#N/A	4,002.4	3,297.4	-	-	-	#N/A	-	-	-	5,345.3	4,322.9
	$v_{12a\text{-}2}$	2,528.1	2,300.6	1,555.3	827.7	1,381.8	#N/A	-	-	1,501.9	981.3	2,832.5	#N/A	3,829.9	3,427.1	1,208.2	1,905.3	2,018.1	#N/A	1,905.3	1,732.7	1,918.5	4,597.3	4,013.1
	$v_{12\text{-}3lane}$	2,528.1	2,300.6	1,555.3	827.7	1,381.8	#N/A	3,289.9	1,543.1	1,501.9	981.3	2,832.5	#N/A	4,002.4	3,427.1	1,208.2	1,905.3	2,018.1	#N/A	1,905.3	1,732.7	1,918.5	5,345.3	4,322.9
Applications to Eight-																								
	v_{w34}	1,489.7	1,592.3	681.9	330.9	536.0	#N/A	1,179.8	484.3	708.3	376.7	2,434.3	#N/A	2,219.1	2,372.0	836.2	782.3	940.2	#N/A	855.1	1,247.5	1,349.7	1,980.5	3,117.4
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	1,622.9
	$v_{12a\text{-}2}$	1,769.7	1,610.4	-	-	-	#N/A	-	-	-	-	1,982.7	#N/A	2,680.9	2,399.0	845.7	-	-	#N/A	-	1,212.9	1,343.0	-	2,809.2
	$v_{12\text{-}4lane}$	1,769.7	1,610.4	1,358.0	786.6	1,346.2	#N/A	3,289.9	1,543.1	1,211.9	963.9	1,982.7	#N/A	2,680.9	2,399.0	845.7	1,769.6	1,651.2	#N/A	1,624.1	1,212.9	1,343.0	4,084.3	2,809.2
	$v_{12(temp)}$	1,769.7	1,610.4	1,358.0	786.6	1,346.2	#N/A	3,289.9	1,543.1	1,211.9	963.9	1,982.7	#N/A	2,680.9	2,399.0	845.7	1,769.6	1,651.2	#N/A	1,624.1	1,212.9	1,343.0	4,084.3	2,809.2
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	1,769.7	1,610.4	1,358.0	786.6	1,346.2	#N/A	3,289.9	1,543.1	1,211.9	963.9	1,982.7	#N/A	2,680.9	2,399.0	845.7	1,769.6	1,651.2	#N/A	1,624.1	1,212.9	1,343.0	4,084.3	2,809.2

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build 2																						
		PM																						
	Variable																							
Step 1: Specify Inputs																								
	$E_{T\text{-}FF}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}FF}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}R}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}R}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}UP}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}UP}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	$E_{T\text{-}DOWN}$	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	$E_{R\text{-}DOWN}$	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	v_i																							
	$f_{HV\text{-}F}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	$v_{F(temp)}$	1,963	1,745	6,392	3,949	5,432	#N/A	3,163	6,302	6,414	4,808	2,321	#N/A	3,320	2,635	5,598	7,564	7,810	#N/A	8,000	7,128	7,564	3,856	3,167
		0.000	0.220	0.150	0.220	0.100	#N/A	0.000	0.150	0.150	0.220	0.220	#N/A	0.000	0.220	0.240	0.200	0.200	#N/A	0.200	0.270	0.285	0.000	0.220
	v_x	-	-	-	-	543	#N/A	0	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_{Aeff}	-	-	-	-	4,889	#N/A	3,163	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-
	v_F	1,963	1,745	6,392	3,949	4,889	#N/A	3,163	6,302	6,414	4,808	2,321	#N/A	3,320	2,635	5,598	7,564	7,810	#N/A	8,000	7,128	7,564	3,856	3,167
	$f_{HV\text{-}FO}$	0.947	0.957	0.974	0.975	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.972	0.973	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_{FO}	1,745	3,203	5,432	4,471	3,949	#N/A	2,434	4,808	6,302	6,648	3,252	#N/A	2,635	3,880	6,423	5,598	7,564	#N/A	7,128	7,564	7,810	3,167	3,623
	$f_{HV\text{-}R}$	0.947	0.969	0.974	0.978	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.978	0.974	0.973	0.973	#N/A	0.973	0.973	0.973	0.978	0.978
	v_R	218	1,458	959	522	1,484	#N/A	729	1,495	112	1,841	931	#N/A	684	1,245	825	1,966	246	#N/A	871	436	246	689	456
	$f_{HV\text{-}UP}$	0.947	0.947	0.974	0.974	0.974	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.969	0.969	0.973	0.973	0.909	#N/A	0.973	0.973	0.973	0.909	0.978
	v_{UP}	1,228	218	1,841	1,484	959	#N/A	1,458	112	825	1,495	224	#N/A	931	684	1,966	246	179	#N/A	1,743	871	436	120	689
	$f_{HV\text{-}DOWN}$	0.969	0.969	0.974	0.978	0.978	#N/A	0.969	0.974	0.974	0.974	0.969	#N/A	0.978	0.909	0.974	0.974	0.973	#N/A	0.973	0.973	0.909	0.978	0.978
	v_{DOWN}	1,458	729	1,484	1,945	522	#N/A	112	1,841	1,495	959	684	#N/A	1,245	120	1,495	825	1,966	#N/A	436	246	179	456	734
Step 2: Estimate the A																								
Estimating Flow in La																								
	P_{FM}																							
	$P_{FM\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FM\text{-}3a}$	0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.5999	0.6195	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
	$P_{FM\text{-}3b}$	-	-	-	-	0.5544	#N/A	-	0.5713	-	0.6013	0.6123	#N/A	-	0.6384	-	0.5946	-	#N/A	-	0.5770	-	-	0.6514
	$P_{FM\text{-}3c}$	-	0.6136	-	0.5998	-	#N/A	-	-	0.9415	0.6387	0.5667	#N/A	-	0.5537	0.5880	-	-	#N/A	-	-	0.5534	-	0.5911
	$P_{FM\text{-}4a}$	0.5919	0.9610	0.3304	0.5118	0.7385	#N/A	0.4612	0.2858	0.4587	0.4656	0.3492	#N/A	0.4693	0.8055	1.1659	0.5890	0.3853	#N/A	0.6664	0.5164	0.4324	0.3249	0.4582
	$P_{FM\text{-}4b}$	0.1905	0.0356	0.0979	0.1525	0.0324	#N/A	0.1267	0.0310	0.2039	-0.0123	0.1014	#N/A	0.1323	0.0622	0.1146	-0.0280	0.1871	#N/A	0.1089	0.1633	0.1871	0.1317	0.1608
	L_{421}	1,478.9	2,741.0	1,325.4	1,552.0	2,580.6	#N/A	1,383.6	1,452.0	1,179.9	1,516.9	1,091.4	#N/A	1,412.0	2,113.8	2,267.9	1,943.1	2,030.5	#N/A	1,731.0	1,207.1	2,062.2	1,270.5	1,259.5
	L_{422}	4,824.3	1,316.6	7,903.6	7,345.2	1,259.9	#N/A	441.4	9,428.9	7,657.4	3,551.7	3,158.3	#N/A	4,879.0	277.7	3,230.5	2,873.9	10,073.8	#N/A	1,613.2	1,163.6	832.1	2,360.2	3,082.0
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-4	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-4	13-3	#N/A	13-3	13-4	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.5544	#N/A	0.6153	0.5713	0.5999	0.6013	0.6055	#N/A	0.6156	0.6384	0.6699	0.5946	0.5999	#N/A	0.6195	0.5770	0.6052	0.5993	0.6111
	$Equation_{3L}$	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-5	13-5	13-3	#N/A	13-3	13-3	13-3	13-3	13-3	#N/A	13-3	13-3	13-3	13-3	13-3
		0.6279	0.6937	0.5979	0.6181	0.6573	#N/A	0.6153	0.5999	0.9415	0.6387	0.6055	#N/A	0.6156	0.6615	0.6699	0.6240	0.5999	#N/A	0.6195	0.6041	0.6052	0.5993	0.6111
		0.2090	0.2090	0.0979	0.1525	0.2090	#N/A	0.4612	0.0310	0.2039	-0.0123	0.3492	#N/A	0.2090	0.2090	0.2090	0.2090	0.1871	#N/A	0.1089	0.1633	0.1871	0.1317	0.4582
	$v_{12\text{-}MERGE}$	NA	364.6	NA	602.2	NA	#N/A	NA	NA	NA	-59.0	810.7	#N/A	NA	550.8	1,169.9	NA	NA	#N/A	NA	1,164.3	1,415.0	NA	1,451.2
Estimating Flow in La																								
	P_{FD}																							
	$P_{FD\text{-}2}$	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	$P_{FD\text{-}3a}$	0.7009	0.6493	0.5561	0.6373	0.5695	#N/A	0.6474	0.5337	0.5945	0.5551	0.6591	#N/A	0.6455	0.6369	0.5821	0.4804	0.5534	#N/A	0.5199	0.5618	0.5596	0.6319	0.6599
	$P_{FD\text{-}3b}$	0.7174	-	0.8648	-	-	#N/A	-	-	-	-	-	#N/A	0.6438	-	-	-	0.4295	#N/A	0.6934	-	0.6035	0.5738	-
	$P_{FD\text{-}3c}$	-	0.6100	-	0.5572	-	#N/A	-	-	0.6667	0.5575	0.5757	#N/A	-	0.5630	0.5170	-	-	#N/A	-	-	0.4594	-	0.5695
	$P_{FD\text{-}4}$	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360	0.4360
	L_{431}	12,335.0	666,444.6	12,684.5	12,147.6	13,569.1	#N/A	16,503.8	1,089.8	3,929.9	35,847.8	4,180.6	#N/A	9,761.3	18,481.4	14,352.3	2,573.2	773.2	#N/A	9,233.6	4,317.8	1,925.6	1,114.0	6,308.8
	L_{432}	1,448.2	1,310.6	2,508.2	2,340.3	1,170.7	#N/A	143.8	4,638.8	1,654.2	3,026.2	934.3	#N/A	1,572.9	197.2	2,243.4	4,526.7	2,429.5	#N/A	761.2	323.0	219.5	590.0	833.1
	$Equation_{3L}$	13-10	13-9	13-10	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-10	13-9	13-10	13-9	13-9
		0.7174	0.6493	0.8648	0.6373	0.5695	#N/A	0.6474	0.5337	0.5945	0.5551	0.6591	#N/A	0.6455	0.6369	0.5821	0.4804	0.5534	#N/A	0.6934	0.5618	0.6035	0.6319	0.6599
	$Equation_{3L}$	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-11	13-11	13-9	#N/A	13-9	13-9	13-9	13-9	13-9	#N/A	13-9	13-9	13-9	13-9	13-9
		0.7009	0.6493	0.5561	0.6373	0.5695	#N/A	0.6474	0.5337	0.6667	0.5575	0.6591	#N/A	0.6455	0.6369	0.5821	0.4804	0.5534	#N/A	0.5199	0.5618	0.5596	0.6319	0.6599
		0.2600	0.2600	0.4360	0.4360	0.2600	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360	#N/A	0.2600	0.2600	0.2600	0.2600	0.4360	#N/A	0.4360	0.4360	0.4360	0.4360	0.4360
	$v_{12\text{-}DIVERSE}$	671.7	NA	3,327.8	NA	2,369.0	#N/A	1,790.0	3,590.9	2,859.4	NA	NA	#N/A	1,369.3	NA	NA	3,421.8	3,543.7	#N/A	3,979.4	NA	NA	2,070.0	NA
Checking the Reasona																								
	$v_{12\text{-}temp}$	671.7	364.6	3,327.8	602.2	2,369.0	#N/A	1,790.0	3,590.9	2,859.4	-59.0	810.7	#N/A	1,369.3	550.8	1,169.9	3,421.8	3,543.7	#N/A	3,979.4	1,164.3	1,415.0	2,070.0	1,451.2
Application to Six-Lan																								
	v_3	1,291.1	1,380.1	3,063.8	3,346.5	2,520.1	#N/A	1,372.5	2,711.5	3,554.6	4,866.6	1,510.7	#N/A	1,950.2	2,084.6	4,427.7	4,142.2	4,266.1	#N/A	4,020.3	5,964.0	6,148.9	1,786.4	1,716.2
	$v_{12a\text{-}1}$	-	-	3,691.6	1,248.8	-	#N/A	-	3,602.4	3,714.0	2,107.7	-	#N/A	-	-	2,897.6	4,864.0	5,109.8	#N/A	5,299.7	4,428.2	4,864.0	-	-
	$v_{12a\text{-}2}$	1,121.6	997.0	3,652.4	2,256.4	2,793.8	#N/A	1,807.2	3,601.4	3,665.1	2,747.2	1,326.5	#N/A	1,896.9	1,506.0	3,198.6	4,322.3	4,462.7	#N/A	4,571.3	4,073.3	4,322.3	2,203.7	1,810.0
	$v_{12\text{-}3lane}$	1,121.6	997.0	3,691.6	2,256.4	2,793.8	#N/A	1,807.2	3,602.4	3,714.0	2,747.2	1,326.5	#N/A	1,896.9	1,506.0	3,198.6	4,864.0	5,109.8	#N/A	5,299.7	4,428.2	4,864.0	2,203.7	1,810.0
Applications to Eight-																								
	v_{av34}	645.5	690.0	1,531.9	1,673.3	1,260.0	#N/A	686.3	1,355.8	1,777.3	2,433.3	755.4	#N/A	975.1	1,042.3	2,213.8	2,071.1	2,133.0	#N/A	2,010.2	2,982.0	3,074.5	893.2	858.1
	$v_{12a\text{-}1}$	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	-	-	-	-	#N/A	-	1,728.2	2,164.0	-	-
	$v_{12a\text{-}2}$	785.1	697.9	-	1,579.5	-	#N/A	-	-	-	1,923.1	928.6	#N/A	-	1,054.2	2,239.0	-	-	#N/A	-	2,851.3	3,025.6	-	-
	$v_{12\text{-}4lane}$	785.1	697.9	3,327.8	1,579.5	2,369.0	#N/A	1,790.0	3,590.9	2,859.4	1,923.1	928.6	#N/A	1,369.3	1,054.2	2,239.0	3,421.8	3,543.7	#N/A	3,979.4	2,851.3	3,025.6	2,070.0	1,451.2
	$v_{12(temp)}$	785.1	697.9	3,327.8	1,579.5	2,369.0	#N/A	1,790.0	3,590.9	2,859.4	1,923.1	928.6	#N/A	1,369.3	1,054.2	2,239.0	3,421.8	3,543.7	#N/A	3,979.4	2,851.3	3,025.6	2,070.0	1,451.2
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v_{12}	785.1	697.9	3,327.8	1,579.5	2,369.0	#N/A	1,790.0	3,590.9	2,859.4	1,923.1	928.6	#N/A	1,369.3	1,054.2	2,239.0	3,421.8	3,543.7	#N/A	3,979.4	2,851.3	3,025.6	2,070.0	1,451.2

		Values that were assumed/kept constant for all locations				
	Variable	Units	Description	Typical values	Equation	
Step 3: Estimate the Capacity of the Ramp-Freeway Junction and Compare with Demand Flow Rates						
	$v_{R12\text{-off-ramp}}$	pc/h				
	$v_{R12\text{-on-ramp}}$	pc/h			Equation 13-20	= v_{12} + v_R
	v_{R12}	pc/h	total flow rate entering the ramp influence area			
Ramp-Freeway Junction Capacity Checkpoint						
			Mainline lane capacity		Exhibit 13-8, 13-9	
			Mainline capacity			
			Ramp-freeway/highway junction capacity check			
Ramp Roadway Capacity Checkpoint						
			Ramp roadway capacity per lane		Exhibit 13-10	
			Ramp capacity			
			Ramp roadway capacity check			
Maximum Desirable Flow Entering the Ramp Influence Area						
			Max. desirable flow rate (v_{R12}) entering merge influence area		Exhibit 13-8, 13-9	
			Merge influence area capacity check			
			Max. desirable flow rate (v_{12}) entering diverge influence area		Exhibit 13-8, 13-9	
			Diverge influence area capacity check			
Step 4: Estimate Density in the Ramp Influence Area and Determine the Prevailing LOS						
Density in the On-Ramp (Merge) Influence Areas						
	D_R	pc/mi/ln	Density in the on-ramp influence area		Equation 13-21	= 5.475 + 0.00734v_R + 0.0078v_{12} -
Density in the Off-Ramp (Diverge) Influence Areas						
	D_R	pc/mi/ln	Density in the off-ramp influence area		Equation 13-22	= 4.252 + 0.00864v_{12} - 0.0097L_D
Determining LOS						
	LOS				Exhibit 13-2	
Step 5: Estimate Speeds in the Vicinity of Ramp-Freeway Junctions						
EBExit_43_NBSB						
EBEntr_43_NBSB						
WBExit_43_NB						
WBEntr_43_NBSB						
WBExit_43_SB						
EBExit_44_SB						
WBExit_44_SB						
WBExit_44_NB						
WBEntr_44_NBSB						
EBEntr_44_NB						
EBExit_47_NBSB						
EBEntr_47_NBSB						
WBEntr_47_NBSB						
WBExit_47_SB						
WBExit_47_NB						
WBExit_52_NBSB						
WBEntr_52_NB						
WBEntr_52_SB						
EBExit_52_NBSB						
EBEntr_52_NBSB						

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 No Build																						
		AM																						
	Variable																							
Step 3: Estimate the C																								
	$v_{512\text{-off-ramp}}$	1,783.3	1,624.1	1,377.8	780.3	1,319.8	#N/A	3,531.5	1,782.1	NA	845.3	1,938.0	#N/A	2,716.8	2,421.4	850.4	1,795.8	1,678.0	#N/A	1,635.7	1,212.9	1,347.6	4,182.9	2,818.1
	$v_{512\text{-on-ramp}}$	2,181.4	4,331.9	1,716.6	1,052.4	2,266.0	#N/A	5,388.9	2,891.8	#VALUE!	2,025.1	3,884.9	#N/A	3,455.2	4,566.0	1,364.4	3,038.9	1,887.1	#N/A	1,949.4	1,549.8	1,556.7	5,294.1	3,707.0
	v_{512}	1,783.3	4,331.9	1,377.8	1,052.4	1,319.8	#N/A	3,531.5	1,782.1	NA	2,025.1	3,884.9	#N/A	2,716.8	4,566.0	1,364.4	1,795.8	1,678.0	#N/A	1,635.7	1,549.8	1,556.7	4,182.9	3,707.0
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	#VALUE!	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capac																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,100	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	0	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable F																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	-	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Dens																								
Density in the On-Ran																								
	D_R	-	12.0	-	4.5	-	#N/A	-	-	-	11.3	28.6	#N/A	-	21.3	0.0	-	-	#N/A	-	11.5	11.3	-	26.5
Density in the Off-Ran																								
	D_R	3.4	-	9.5	-	0.0	#N/A	22.5	12.4	-	-	-	#N/A	15.4	-	-	4.8	11.5	#N/A	4.8	-	-	33.2	-
Determining LOS																								
	LOS	A	B	A	A	A	#N/A	C	B	NA	B	D	#N/A	B	C	A	A	B	#N/A	A	B	B	D	C
Step 5: Estimate Spee																								
EBExit_43_NBSB		3.4	A																					
EBEntr_43_NBSB		12.0	B																					
WBExit_43_NB		9.5	A																					
WBEntr_43_NBSB		4.5	A																					
WBExit_43_SB		0.0	A																					
EBExit_44_SB		22.5	C																					
WBExit_44_SB		12.4	B																					
WBExit_44_NB		0.0	NA																					
WBEntr_44_NBSB		11.3	B																					
EBEntr_44_NB		28.6	D																					
EBExit_47_NBSB		15.4	B																					
EBEntr_47_NBSB		21.3	C																					
WBEntr_47_NBSB		0.0	A																					
WBExit_47_SB		4.8	A																					
WBExit_47_NB		11.5	B																					
WBExit_52_NBSB		4.8	A																					
WBEntr_52_NB		11.5	B																					
WBEntr_52_SB		11.3	B																					
EBExit_52_NBSB		33.2	D																					
EBEntr_52_NBSB		26.5	C																					

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 No Build																						
		PM																						
	Variable																							
Step 3: Estimate the C																								
	$v_{632\text{-off-ramp}}$	789.7	697.9	3,396.2	1,579.5	2,347.3	#N/A	1,970.6	3,856.0	NA	1,869.5	861.3	#N/A	1,400.5	1,067.6	2,256.9	3,466.9	3,611.3	#N/A	4,022.6	2,860.2	3,047.9	2,130.5	1,447.5
	$v_{632\text{-on-ramp}}$	1,019.3	2,178.2	4,433.5	2,146.2	3,808.6	#N/A	3,002.3	5,674.2	#VALUE!	3,643.1	2,083.7	#N/A	2,107.0	2,345.7	3,115.8	5,466.8	3,890.6	#N/A	4,927.6	3,329.5	3,349.6	2,875.1	1,925.4
	v_{632}	789.7	2,178.2	3,396.2	2,146.2	2,347.3	#N/A	1,970.6	3,856.0	NA	3,643.1	2,083.7	#N/A	1,400.5	2,345.7	3,115.8	3,466.9	3,611.3	#N/A	4,022.6	3,329.5	3,349.6	2,130.5	1,925.4
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	#VALUE!	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capac																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,100	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	0	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	NA	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable F																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	-	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Dens																								
Density in the On-Ran																								
	D_R	-	0.0	-	12.9	-	#N/A	-	-	-	23.7	14.9	#N/A	-	4.4	8.7	-	-	#N/A	-	25.3	25.3	-	12.7
Density in the Off-Ran																								
	D_R	0.0	-	26.9	-	0.0	#N/A	9.0	30.2	-	-	-	#N/A	4.1	-	-	19.1	28.1	#N/A	25.3	-	-	15.6	-
Determining LOS																								
	LOS	A	A	C	B	A	#N/A	A	D	NA	C	B	#N/A	A	A	A	B	D	#N/A	C	C	C	B	B
Step 5: Estimate Spee																								

EBExit_43_NBSB	0.0 A
EBEntr_43_NBSB	0.0 A
WBExit_43_NB	26.9 C
WBEntr_43_NBSB	12.9 B
WBExit_43_SB	0.0 A
EBExit_44_SB	9.0 A
WBExit_44_SB	30.2 D
WBExit_44_NB	0.0 NA
WBEntr_44_NBSB	23.7 C
EBEntr_44_NB	14.9 B
EBExit_47_NBSB	4.1 A
EBEntr_47_NBSB	4.4 A
WBEntr_47_NBSB	8.7 A
WBExit_47_SB	19.1 B
WBExit_47_NB	28.1 D
WBExit_52_NBSB	25.3 C
WBEntr_52_NB	25.3 C
WBEntr_52_SB	25.3 C
EBExit_52_NBSB	15.6 B
EBEntr_52_NBSB	12.7 B

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build																						
		AM																						
	Variable																							
Step 3: Estimate the C																								
	$v_{ll2\text{-off-ramp}}$	1,756.0	1,587.7	1,320.9	771.8	1,305.1	#N/A	3,164.6	1,343.6	1,314.3	1,078.8	2,251.3	#N/A	2,703.3	2,407.9	845.7	1,792.8	1,673.0	#N/A	1,635.7	1,212.9	1,347.6	4,151.0	2,809.2
	$v_{ll2\text{-on-ramp}}$	2,176.8	4,161.2	1,612.9	1,055.8	2,239.6	#N/A	4,518.5	1,892.6	1,594.7	1,908.2	3,381.4	#N/A	3,441.8	4,541.5	1,371.4	3,035.9	1,882.1	#N/A	1,949.4	1,549.8	1,545.1	5,240.0	3,709.3
	v_{ll2}	1,756.0	4,161.2	1,320.9	1,055.8	1,305.1	#N/A	3,164.6	1,343.6	1,314.3	1,908.2	3,381.4	#N/A	2,703.3	4,541.5	1,371.4	1,792.8	1,673.0	#N/A	1,635.7	1,549.8	1,545.1	4,151.0	3,709.3
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	9,600	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capac																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable F																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	OK	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Dens																								
Density in the On-Ran																								
	D_R	-	10.7	-	4.5	-	#N/A	-	-	-	10.6	25.1	#N/A	-	21.1	0.0	-	-	#N/A	-	11.5	11.2	-	26.5
Density in the Off-Ran																								
	D_R	3.2	-	9.0	-	0.0	#N/A	19.3	8.6	8.4	-	-	#N/A	15.3	-	-	4.7	11.4	#N/A	4.8	-	-	32.9	-
Determining LOS																								
	LOS	A	B	A	A	A	#N/A	B	A	A	B	C	#N/A	B	C	A	A	B	#N/A	A	B	B	D	C
Step 5: Estimate Spee																								

EBExit_43_NBSB	3.2 A
EBEntr_43_NBSB	10.7 B
WBExit_43_NB	9.0 A
WBEntr_43_NBSB	4.5 A
WBExit_43_SB	0.0 A
EBExit_44_SB	19.3 B
WBExit_44_SB	8.6 A
WBExit_44_NB	8.4 A
WBEntr_44_NBSB	10.6 B
EBEntr_44_NB	25.1 C
EBExit_47_NBSB	15.3 B
EBEntr_47_NBSB	21.1 C
WBEntr_47_NBSB	0.0 A
WBExit_47_SB	4.7 A
WBExit_47_NB	11.4 B
WBExit_52_NBSB	4.8 A
WBEntr_52_NB	11.5 B
WBEntr_52_SB	11.2 B
EBExit_52_NBSB	32.9 D
EBEntr_52_NBSB	26.5 C

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build																						
		PM																						
	Variable																							
Step 3: Estimate the C																								
	$v_{512\text{-off-ramp}}$	771.4	684.1	3,222.0	1,557.2	2,323.4	#N/A	1,712.9	3,172.4	3,111.6	1,958.8	1,081.1	#N/A	1,400.0	1,049.7	2,248.0	3,461.1	3,579.2	#N/A	3,995.4	2,855.8	3,039.0	2,109.7	1,433.0
	$v_{512\text{-on-ramp}}$	989.4	2,086.0	4,114.3	2,101.7	3,773.5	#N/A	2,374.6	4,209.8	3,635.9	3,297.3	1,720.3	#N/A	2,117.8	2,338.9	3,095.7	5,461.0	3,836.2	#N/A	4,878.1	3,313.8	3,318.3	2,843.2	1,922.0
	v_{512}	771.4	2,086.0	3,222.0	2,101.7	2,323.4	#N/A	1,712.9	3,172.4	3,111.6	3,297.3	1,720.3	#N/A	1,400.0	2,338.9	3,095.7	3,461.1	3,579.2	#N/A	3,995.4	3,313.8	3,318.3	2,109.7	1,922.0
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	9,600	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capac																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable F																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	OK	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Dens																								
Density in the On-Ran																								
	D_R	-	0.0	-	12.5	-	#N/A	-	-	-	21.2	12.3	#N/A	-	4.3	8.5	-	-	#N/A	-	25.2	25.0	-	12.7
Density in the Off-Ran																								
	D_R	0.0	-	25.4	-	0.0	#N/A	6.8	24.3	23.8	-	-	#N/A	4.1	-	-	19.1	27.8	#N/A	25.1	-	-	15.4	-
Determining LOS																								
	LOS	A	A	C	B	A	#N/A	A	C	C	C	B	#N/A	A	A	A	B	C	#N/A	C	C	C	B	B
Step 5: Estimate Spee																								
EBExit_43_NBSB		0.0	A																					
EBEntr_43_NBSB		0.0	A																					
WBExit_43_NB		25.4	C																					
WBEntr_43_NBSB		12.5	B																					
WBExit_43_SB		0.0	A																					
EBExit_44_SB		6.8	A																					
WBExit_44_SB		24.3	C																					
WBExit_44_NB		23.8	C																					
WBEntr_44_NBSB		21.2	C																					
EBEntr_44_NB		12.3	B																					
EBExit_47_NBSB		4.1	A																					
EBEntr_47_NBSB		4.3	A																					
WBEntr_47_NBSB		8.5	A																					
WBExit_47_SB		19.1	B																					
WBExit_47_NB		27.8	C																					
WBExit_52_NBSB		25.1	C																					
WBEntr_52_NB		25.2	C																					
WBEntr_52_SB		25.0	C																					
EBExit_52_NBSB		15.4	B																					
EBEntr_52_NBSB		12.7	B																					

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build 2																						
		AM																						
	Variable																							
Step 3: Estimate the C																								
	$v_{ff,12\text{-off-ramp}}$	1,769.7	1,610.4	1,358.0	786.6	1,346.2	#N/A	3,289.9	1,543.1	1,211.9	963.9	1,982.7	#N/A	2,680.9	2,399.0	845.7	1,769.6	1,651.2	#N/A	1,624.1	1,212.9	1,343.0	4,084.3	2,809.2
	$v_{ff,12\text{-on-ramp}}$	2,167.7	4,295.9	1,661.8	1,058.8	2,315.8	#N/A	4,755.7	2,337.4	1,328.7	2,038.6	3,582.8	#N/A	3,385.9	4,488.1	1,348.1	2,989.4	1,848.7	#N/A	1,926.1	1,538.1	1,517.2	5,106.7	3,653.7
	$v_{ff,12}$	1,769.7	4,295.9	1,358.0	1,058.8	1,346.2	#N/A	3,289.9	1,543.1	1,211.9	2,038.6	3,582.8	#N/A	2,680.9	4,488.1	1,348.1	1,769.6	1,651.2	#N/A	1,624.1	1,538.1	1,517.2	4,084.3	3,653.7
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	9,600	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capac																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable F																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	OK	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Dens																								
Density in the On-Ran																								
	D_R	-	11.7	-	4.5	-	#N/A	-	-	-	11.5	26.4	#N/A	-	20.7	0.0	-	-	#N/A	-	11.4	11.0	-	26.1
Density in the Off-Ran																								
	D_R	3.3	-	9.4	-	0.0	#N/A	20.4	10.3	7.5	-	-	#N/A	15.1	-	-	4.5	11.3	#N/A	4.7	-	-	32.4	-
Determining LOS																								
	LOS	A	B	A	A	A	#N/A	C	B	A	B	C	#N/A	B	C	A	A	B	#N/A	A	B	B	D	C
Step 5: Estimate Spee																								

EBExit_43_NBSB	3.3	A
EBEntr_43_NBSB	11.7	B
WBExit_43_NB	9.4	A
WBEntr_43_NBSB	4.5	A
WBExit_43_SB	0.0	A
EBExit_44_SB	20.4	C
WBExit_44_SB	10.3	B
WBExit_44_NB	7.5	A
WBEntr_44_NBSB	11.5	B
EBEntr_44_NB	26.4	C
EBExit_47_NBSB	15.1	B
EBEntr_47_NBSB	20.7	C
WBEntr_47_NBSB	0.0	A
WBExit_47_SB	4.5	A
WBExit_47_NB	11.3	B
WBExit_52_NBSB	4.7	A
WBEntr_52_NB	11.4	B
WBEntr_52_SB	11.0	B
EBExit_52_NBSB	32.4	D
EBEntr_52_NBSB	26.1	C

		EBExit_43_NBSB	EBEntr_43_NBSB	WBExit_43_NB	WBEntr_43_NBSB	WBExit_43_SB		EBExit_44_SB	WBExit_44_SB	WBExit_44_NB	WBEntr_44_NBSB	EBEntr_44_NB		EBExit_47_NBSB	EBEntr_47_NBSB	WBEntr_47_NBSB	WBExit_47_SB	WBExit_47_NB		WBExit_52_NBSB	WBEntr_52_NB	WBEntr_52_SB	EBExit_52_NBSB	EBEntr_52_NBSB
		2020 Build 2																						
		PM																						
	Variable																							
Step 3: Estimate the C																								
	$v_{R12\text{-}off\text{-}ramp}$	785.1	697.9	3,327.8	1,579.5	2,369.0	#N/A	1,790.0	3,590.9	2,859.4	1,923.1	928.6	#N/A	1,369.3	1,054.2	2,239.0	3,421.8	3,543.7	#N/A	3,979.4	2,851.3	3,025.6	2,070.0	1,451.2
	$v_{R12\text{-}on\text{-}ramp}$	1,003.2	2,155.8	4,287.1	2,101.8	3,852.6	#N/A	2,519.0	5,085.6	2,970.9	3,763.6	1,859.4	#N/A	2,053.4	2,298.9	3,064.5	5,388.2	3,789.5	#N/A	4,850.9	3,287.0	3,271.4	2,759.1	1,906.9
	v_{R12}	785.1	2,155.8	3,327.8	2,101.8	2,369.0	#N/A	1,790.0	3,590.9	2,859.4	3,763.6	1,859.4	#N/A	1,369.3	2,298.9	3,064.5	3,421.8	3,543.7	#N/A	3,979.4	3,287.0	3,271.4	2,070.0	1,906.9
Ramp-Freeway Junctio																								
		2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,400	2,400	2,400	#N/A	2,400	2,400	2,350	2,350	2,350	#N/A	2,300	2,300	2,300	2,350	2,350
		9,600	9,600	9,600	9,600	12,000	#N/A	12,000	9,600	9,600	12,000	9,600	#N/A	9,600	9,600	9,400	9,400	9,400	#N/A	9,200	9,200	9,200	9,400	9,400
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Ramp Roadway Capac																								
		2,100	2,100	2,000	2,100	2,100	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	2,100	2,100	2,000	1,900	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		4,200	4,200	2,000	2,100	4,200	#N/A	2,100	2,000	2,000	2,000	2,100	#N/A	4,200	4,200	4,000	3,800	2,100	#N/A	1,900	1,900	2,100	2,100	2,100
		OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK	#N/A	OK	OK	OK	OK	OK
Maximum Desirable F																								
		4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600	#N/A	4,600	4,600	4,600	4,600	4,600
		-	OK	-	OK	-	#N/A	-	-	-	OK	OK	#N/A	-	OK	OK	-	-	#N/A	-	OK	OK	-	OK
		4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400	#N/A	4,400	4,400	4,400	4,400	4,400
		OK	-	OK	-	OK	#N/A	OK	OK	OK	-	-	#N/A	OK	-	-	OK	OK	#N/A	OK	-	-	OK	-
Step 4: Estimate Dens																								
Density in the On-Ran																								
	D_R	-	0.0	-	12.5	-	#N/A	-	-	-	24.6	13.3	#N/A	-	4.0	8.3	-	-	#N/A	-	25.0	24.7	-	12.6
Density in the Off-Ran																								
	D_R	0.0	-	26.3	-	0.0	#N/A	7.5	27.9	21.6	-	-	#N/A	3.8	-	-	18.7	27.5	#N/A	25.0	-	-	15.0	-
Determining LOS																								
	LOS	A	A	C	B	A	#N/A	A	C	C	C	B	#N/A	A	A	A	B	C	#N/A	C	C	C	B	B
Step 5: Estimate Spee																								
EBExit_43_NBSB																								
EBEntr_43_NBSB																								
WBExit_43_NB																								
WBEntr_43_NBSB																								
WBExit_43_SB																								
EBExit_44_SB																								
WBExit_44_SB																								
WBExit_44_NB																								
WBEntr_44_NBSB																								
EBEntr_44_NB																								
EBExit_47_NBSB																								
EBEntr_47_NBSB																								
WBEntr_47_NBSB																								
WBExit_47_SB																								
WBExit_47_NB																								
WBExit_52_NBSB																								
WBEntr_52_NB																								
WBEntr_52_SB																								
EBExit_52_NBSB																								
EBEntr_52_NBSB																								

Freeway segments

	Location					
	Code	Facility	Direction	Limits	From	To
I-66	I66EB_1	I-66	EB	Between US 15 and US 29 [Gainesville]	US 15	US 29 [Gainesville]
	I66WB_1	I-66	WB	Between US 15 and US 29 [Gainesville]	US 29 [Gainesville]	US 15
	I66EB_2	I-66	EB	Between US 29 [Gainesville] and VA 234 Byp./TCP	US 29 [Gainesville]	VA 234 Byp./TCP
	I66WB_2	I-66	WB	Between US 29 [Gainesville] and VA 234 Byp./TCP	VA 234 Byp./TCP	US 29 [Gainesville]
	I66EB_3	I-66	EB	Between VA 234 Byp./TCP and VA 234 Bus.	VA 234 Byp./TCP	VA 234 Bus.
	I66WB_3	I-66	WB	Between VA 234 Byp./TCP and VA 234 Bus.	VA 234 Bus.	VA 234 Byp./TCP
	I66EB_4	I-66	EB	Between VA 234 Bus. and US 29 [Centreville]	VA 234 Bus.	US 29 [Centreville]
	I66WB_4	I-66	WB	Between VA 234 Bus. and US 29 [Centreville]	US 29 [Centreville]	VA 234 Bus.
	I66EB_5	I-66	EB	Between US 29 [Centreville] and VA 28	US 29 [Centreville]	VA 28
	I66WB_5	I-66	WB	Between US 29 [Centreville] and VA 28	VA 28	US 29 [Centreville]

Ramps

I-66 at US 29 [Gainesville], Exit 43	EBExit_43_NBSB	I-66 Interchange at US 29 [Gainesville]	EB Exit	EB I-66 to US 29	EB I-66	US 29
	EBEntr_43_NBSB	I-66 Interchange at US 29 [Gainesville]	EB Entrance	US 29 to EB I-66	US 29	EB I-66
	WBExit_43_NB	I-66 Interchange at US 29 [Gainesville]	WB Exit	WB I-66 to NB US 29, Heathcote	WB I-66	NB US 29, Heathcote
	WBEntr_43_NBSB	I-66 Interchange at US 29 [Gainesville]	WB Entrance	US 29 to WB I-66	US 29	WB I-66
	WBExit_43_SB	I-66 Interchange at US 29 [Gainesville]	WB Exit	WB I-66 to SB US 29	WB I-66	SB US 29

I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_SB	I-66 interchange at VA 234 Bypass	EB Exit	EB I-66 to SB VA 234 Byp.	EB I-66	SB VA 234 Byp.
	EBExit_44_NB	I-66 interchange at VA 234 Bypass	EB Exit	EB I-66 to NB TCP	EB I-66	NB TCP
	WBExit_44_SB	I-66 interchange at VA 234 Bypass	WB Exit	WB I-66 to SB VA 234 Byp.	WB I-66	SB VA 234 Byp.
	WBExit_44_NB	I-66 interchange at VA 234 Bypass	WB Exit	WB I-66 to NB TCP	WB I-66	NB TCP
	WBEntr_44_NBSB	I-66 interchange at VA 234 Bypass	WB Entrance	VA 234 Byp./TCP to WB I-66	VA 234 Byp./TCP	WB I-66
	EBEntr_44_NB	I-66 interchange at VA 234 Bypass	EB Entrance	NB VA 234 Byp. to EB I-66	NB VA 234 Byp.	EB I-66
	EBEntr_44_SB	I-66 interchange at VA 234 Bypass	EB Entrance	SB TCP to EB I-66	SB TCP	EB I-66

I-66 at VA 234 Business (Sudley Rd), Exit 47	EBExit_47_NBSB	I-66 interchange at VA 234 Business	EB Exit	EB I-66 to VA 234 Bus.	EB I-66	VA 234 Bus.
	EBEntr_47_NBSB	I-66 interchange at VA 234 Business	EB Entrance	VA 234 Bus. to EB I-66	VA 234 Bus.	EB I-66
	WBEntr_47_NBSB	I-66 interchange at VA 234 Business	WB Entrance	VA 234 Bus. to WB I-66	VA 234 Bus.	WB I-66
	WBExit_47_SB	I-66 interchange at VA 234 Business	WB Exit	WB I-66 to SB VA 234 Bus.	WB I-66	SB VA 234 Bus.
	WBExit_47_NB	I-66 interchange at VA 234 Business	WB Exit	WB I-66 to NB VA 234 Bus.	WB I-66	NB VA 234 Bus.

I-66 at US 29 [Centreville], Exit 52	WBExit_52_NBSB	I-66 interchange at US 29 [Centreville]	WB Exit	WB I-66 to US 29 [Centreville]	WB I-66	US 29 [Centreville]
	WBEntr_52_NB	I-66 interchange at US 29 [Centreville]	WB Entrance	"NB" US 29 [Centreville] (WB travel) to WB I-66	"NB" US 29 [Centreville] (WB travel)	WB I-66
	WBEntr_52_SB	I-66 interchange at US 29 [Centreville]	WB Entrance	"SB" US 29 [Centreville] (EB travel) to WB I-66	"SB" US 29 [Centreville] (EB travel)	WB I-66
	EBExit_52_NBSB	I-66 interchange at US 29 [Centreville]	EB Exit	EB I-66 to US 29 [Centreville]	EB I-66	US 29 [Centreville]
	EBEntr_52_NBSB	I-66 interchange at US 29 [Centreville]	EB Entrance	US 29 [Centreville] to EB I-66	US 29 [Centreville]	EB I-66

Weaves

I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_NB	I-66 interchange at VA 234 Bypass	EB weave	SB TCP on-ramp to NB TCP off-ramp	SB TCP on-ramp	NB TCP off-ramp

		Analysis Type	Existing				2020 No Build				2020 Build				2020 Build 2			
			AM		PM		AM		PM		AM		PM		AM		PM	
	Code		Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Freeway segments																		
I-66	I66EB_1	Segment	26.6	D	10.6	A	14.9	B	6.6	A	14.7	B	6.4	A	14.8	B	6.5	A
	I66WB_1	Segment	10.1	A	27.7	D	6.2	A	16.1	B	6.2	A	15.8	B	6.2	A	15.9	B
	I66EB_2	Segment	16.1	B	7.6	A	18.2	C	8.5	A	17.5	B	8.2	A	18.0	C	8.4	A
	I66WB_2	Segment	7.0	A	16.4	B	7.8	A	18.4	C	7.6	A	17.8	B	7.8	A	18.3	C
	I66EB_3	Segment	22.1	C	10.8	A	25.3	C	12.1	B	25.1	C	11.9	B	24.9	C	11.9	B
	I66WB_3	Segment	8.5	A	21.0	C	9.5	A	23.9	C	9.5	A	23.7	C	9.4	A	23.5	C
	I66EB_4	Segment	28.0	D	12.5	B	33.0	D	14.0	B	32.7	D	13.9	B	32.3	D	13.8	B
	I66WB_4	Segment	11.5	B	26.9	D	12.8	B	31.5	D	12.7	B	31.2	D	12.6	B	30.8	D
	I66EB_5	Segment	26.7	D	11.1	B	30.9	D	12.2	B	30.8	D	12.2	B	30.5	D	12.1	B
	I66WB_5	Segment	11.0	A	28.1	D	11.9	B	32.3	D	11.9	B	32.1	D	11.9	B	32.0	D
Ramps																		
I-66 at US 29 [Gainesville], Exit 43	EBExit_43_NBSB	Ramp	19.1	B	1.8	A	3.4	A	0.0	A	3.2	A	0.0	A	3.3	A	0.0	A
	EBEntr_43_NBSB	Ramp	10.0	A	0.0	A	12.0	B	0.0	A	10.7	B	0.0	A	11.7	B	0.0	A
	WBExit_43_NB	Ramp	8.5	A	24.4	C	9.5	A	26.9	C	9.0	A	25.4	C	9.4	A	26.3	C
	WBEntr_43_NBSB	Ramp	7.2	A	24.6	C	4.5	A	12.9	B	4.5	A	12.5	B	4.5	A	12.5	B
	WBExit_43_SB	Ramp	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_SB	Ramp	17.8	B	6.1	A	22.5	C	9.0	A	19.3	B	6.8	A	20.4	C	7.5	A
	EBExit_44_NB	Weave	NA	NA	NA	NA	NA	NA	NA	NA	NA (weave)				NA (weave)			
	WBExit_44_SB	Ramp	9.5	A	25.3	C	12.4	B	30.2	D	8.6	A	24.3	C	10.3	B	27.9	C
	WBExit_44_NB	Ramp	NA	NA	NA	NA	0.0	NA	0.0	NA	8.4	A	23.8	C	7.5	A	21.6	C
	WBEntr_44_NBSB	Ramp	9.6	A	19.4	B	11.3	B	23.7	C	10.6	B	21.2	C	11.5	B	24.6	C
	EBEntr_44_NB	Ramp	24.4	C	12.2	B	28.6	D	14.9	B	25.1	C	12.3	B	26.4	C	13.3	B
	EBEntr_44_SB	Weave	NA	NA	NA	NA	NA	NA	NA	NA	NA (weave)				NA (weave)			
I-66 at VA 234 Business (Sudley Rd), Exit 47	EBExit_47_NBSB	Ramp	13.0	B	2.8	A	15.4	B	4.1	A	15.3	B	4.1	A	15.1	B	3.8	A
	EBEntr_47_NBSB	Ramp	17.8	B	2.6	A	21.3	C	4.4	A	21.1	C	4.3	A	20.7	C	4.0	A
	WBEntr_47_NBSB	Ramp	0.0	A	6.1	A	0.0	A	8.7	A	0.0	A	8.5	A	0.0	A	8.3	A
	WBExit_47_SB	Ramp	3.2	A	16.1	B	4.8	A	19.1	B	4.7	A	19.1	B	4.5	A	18.7	B
	WBExit_47_NB	Ramp	10.0	B	24.9	C	11.5	B	28.1	D	11.4	B	27.8	C	11.3	B	27.5	C
I-66 at US 29 [Centreville], Exit 52	WBExit_52_NBSB	Ramp	3.8	A	22.6	C	4.8	A	25.3	C	4.8	A	25.1	C	4.7	A	25.0	C
	WBEntr_52_NB	Ramp	10.1	B	22.3	C	11.5	B	25.3	C	11.5	B	25.2	C	11.4	B	25.0	C
	WBEntr_52_SB	Ramp	11.0	B	22.7	C	11.3	B	25.3	C	11.2	B	25.0	C	11.0	B	24.7	C
	EBExit_52_NBSB	Ramp	29.4	D	13.6	B	33.2	D	15.6	B	32.9	D	15.4	B	32.4	D	15.0	B
	EBEntr_52_NBSB	Ramp	24.2	C	11.6	B	26.5	C	12.7	B	26.5	C	12.7	B	26.1	C	12.6	B
Weaves																		
I-66 at VA 234 Bypass (PW Pkwy, TCP), Exit 44	EBExit_44_NB	Weave	NA	NA	NA	NA	NA	NA	NA	NA	17.4	B	7.6	A	19.0	B	8.2	A