Tri-County Parkway Location Study

PURPOSE AND NEED TECHNICAL REPORT

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Tri-County PARKWAY Location Study

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1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION AND PROBLEM STATEMENT

The Tri-County Parkway Location Study evaluates a new north/south transportation link in Northern Virginia that will connect the City of Manassas with I-66 and the Dulles corridor. The corridor begins in the north at the intersection of US 50 and Route 606 (Old Ox Road) and extends to the south at the interchange of VA 28/VA 234 Bypass. It is approximately 15 miles long and traverses portions of the Counties of Prince William, Fairfax, and Loudoun along with the Cities of Manassas and Manassas Park.

The Tri-County Parkway (TCP) was first identified during the development of the transportation element of the comprehensive plans for Prince William, Fairfax and Loudoun Counties. The TCP has been the subject of many local studies and plans and has been known by many names throughout the years. In Prince William County it has been referred to as the Route 28 Bypass and in Loudoun County the TCP has been known as the Loudoun County Parkway. Several conceptual alignments were considered through Fairfax County even before it was first proposed in their comprehensive plan. The TCP has been incorporated in the three counties' comprehensive plans for over ten years. The TCP was adopted by the Metropolitan Washington Council of Governments (MWCOG) and included in their Constrained Long-Range Plan (CLRP) and Transportation Improvement Program (TIP) in the early to mid 1990's. Figure 1.1-1 illustrates the TCP project from a regional perspective, while Figure 1.1-2 depicts the study area in which TCP alternatives will be evaluated.

The three counties that the TCP will traverse are among the top ten fastest growing counties in the Commonwealth of Virginia. According to the 2000 Census, Loudoun County's population grew by 97 percent from 1990 to 2000. Prince William County and Fairfax County's population grew by 30 percent and 19 percent respectively, during those same years. The City of Manassas and the City of Manassas Park are also located within the TCP study area. Both of these cities have experienced substantial population growth over the last 10 years. The City of Manassas had a population growth of 26 percent and the City of Manassas Park grew by 53 percent.

Much of the growth in Northern Virginia can be attributed to the emergence of high-tech industries near the Washington Dulles International Airport. By the year 2025, employment in the Dulles/Tysons corridor is expected to reach 280,000 jobs, 71 percent more than current conditions. The Dulles/Tysons corridor will become the second largest employer in the Metro region, second only to downtown Washington D.C. Prince William County, and the City of Manassas have also experienced significant high-tech industry growth. The Dulles area consists of the Dulles Greenway, VA 7, VA 28, and US Route 50.

A second rapid growth corridor is the I-66 corridor. Transportation improvements for the I-66 corridor from I-495 to the Gainesville area were evaluated in January, 1999, in a comprehensive study entitled "The I-66 Corridor Major Investment Study (I-66 MIS)." Information from that study revealed that population in the I-66 corridor located within Fairfax, Prince William, and Loudoun Counties is projected to increase from 269,000 persons in 1999 to 466,000 persons in 2020. This represents a 73 percent increase in population over the 22-year time frame. Employment is estimated to increase 83 percent in this same time period, from 162,000 jobs in 1999 to 296,000 jobs in year 2020.

The primary problem the TCP is intended to address is the lack of adequate north-south transportation facilities linking the I-66 corridor with the Dulles area and VA 267. East of US 15 and west of the I-495 (Capital Beltway) only three principal urban arterials link the spokes together, VA 28 (Sully Road), Route 7100 (Fairfax County Parkway) and VA 123. These north-south facilities are heavily congested and will deteriorate further by the year 2025. Level of service on VA 28 is currently deficient in the AM and PM peak periods. By 2025, most segments of VA Route 28 northbound in the AM and southbound in the PM are expected to operate at LOS F or G, a severely congested state. Traveling south in the PM between

the Fairfax County line and I-66, speeds are estimated to drop along VA 28 from an already slow 18 mph to 13 mph between 2000 and 2025. The posted speed limit in this area is 45 mph. By 2025 the peak periods for AM and PM traffic on VA 28 could extend for over three hours each. However, improvements to VA 28 have been proposed under the Virginia Public-Private Transportation Act (VPPTA) of 1995, to convert the 14-mile stretch of VA 28 between I-66 and Route 7 to a limited access freeway. This project will involve widening VA 28 to an eight-lane section, as well as replacing up to ten signalized intersections with grade-separated interchanges. If this project is completed as planned, the added capacity should increase speeds and reduce congestion along VA 28, in effect improving operating speeds in the AM and PM peak periods.

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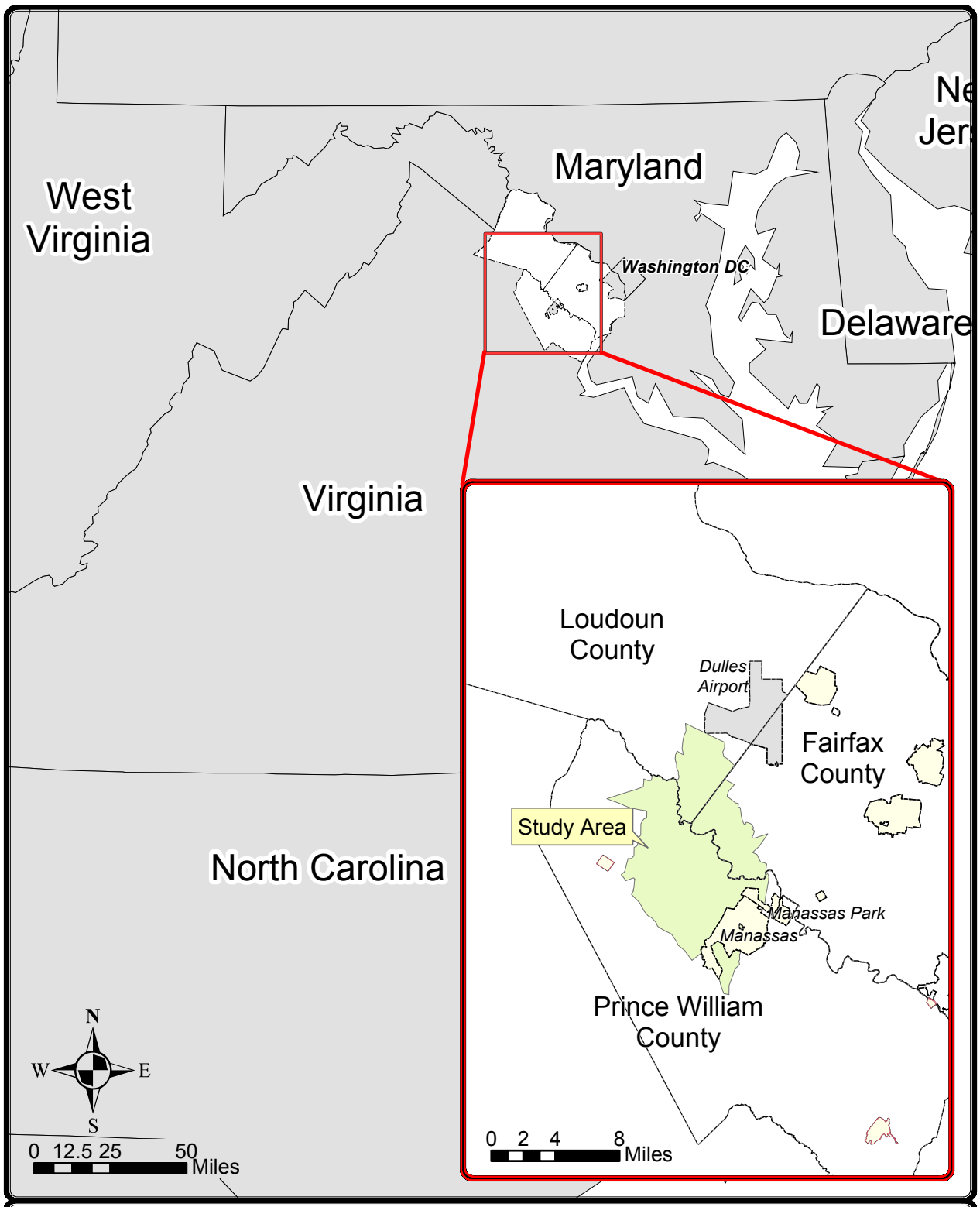

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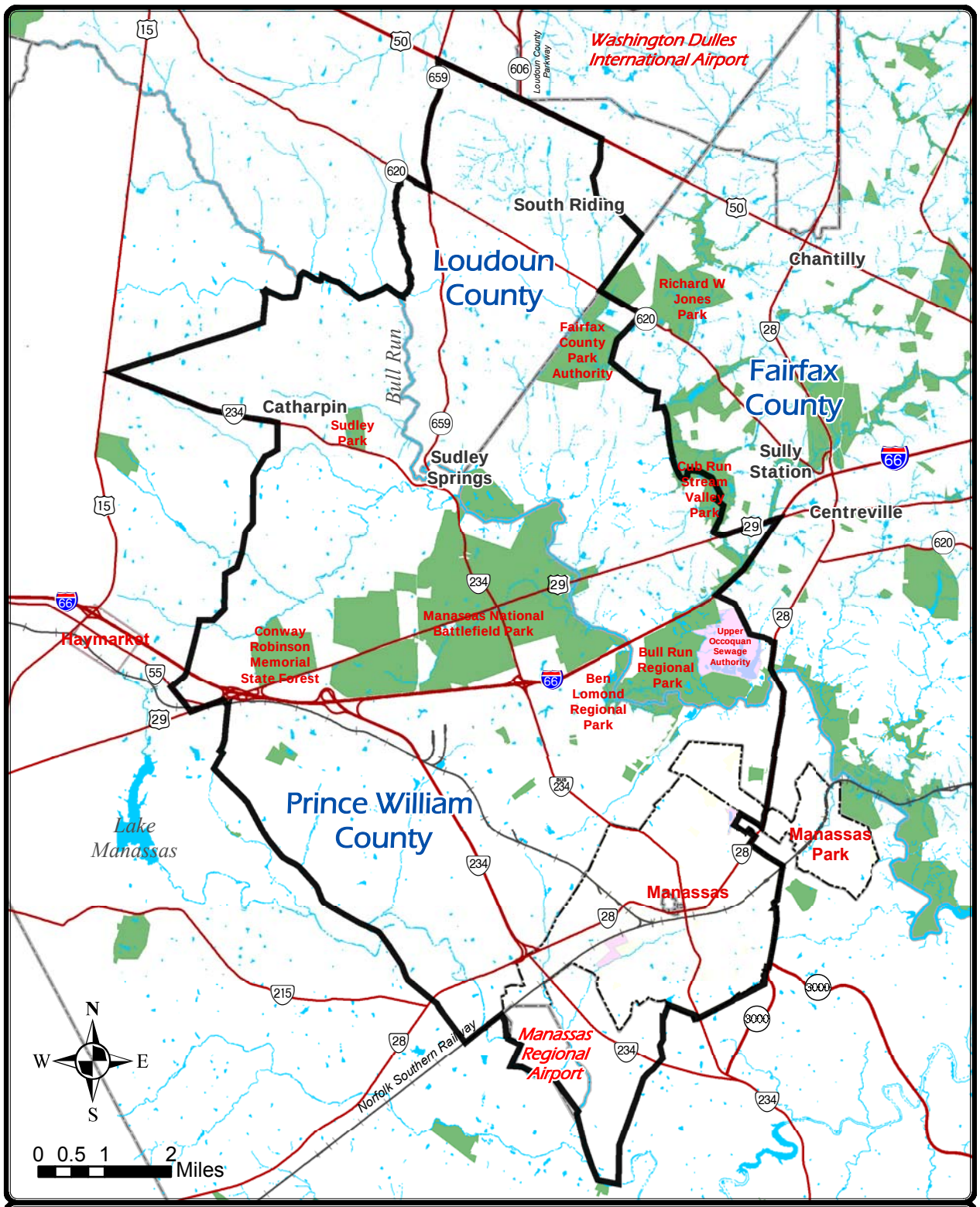
FIGURE 1.1-1
REGIONAL LOCATION MAP



Tri-County PARKWAY Location Study

FIGURE 1.1-2
STUDY AREA

1.2 PURPOSE AND NEED FOR THE TRI-COUNTY PARKWAY

The purpose and need for the TCP includes five key elements. Each of the elements is a critical and salient factor to be addressed by the transportation alternatives. There is no attempt to weight one element over the others. Each of them has equal value and importance in the overall transportation, environmental, economic, and quality of life objectives for the communities being served under the proposed action. The five elements are listed below and further elaborated in Sections 1.3 through 1.7 in this chapter:

1. Improve transportation mobility and capacity and by doing so, improve access and reduce congestion.

2. Enhance the linkage of communities and the transportation system that serves those communities. This linkage includes the modal interrelationships between the various transportation systems and agencies in the region such as the Virginia Department of Transportation (VDOT), the Virginia Department of Rail and Public Transportation (VDRPT), the Washington Metropolitan Area Transit Authority (WMATA), the Potomac and Rappahannock Transportation Commission (PRTC), the Northern Virginia Transportation Commission (NVTC), the Virginia Railway Express (VRE), and the Metropolitan Washington Airports Authority (MWAA).

3. Accommodate social demands, environmental goals and economic development needs.

4. Improve safety and by doing so, reduce the average crash, injury and accident rates on the roadway network.

5. Acknowledge and advance the best components of prior transportation planning efforts, including the local government comprehensive plans, the Northern Virginia 2020 Transportation Plan produced by the Northern Virginia Transportation Coordinating Council (TCC), and the regional CLRP and the TIP produced by the National Capital Region Transportation Planning Board (TPB) with the assistance of the MWCOG.

1.3 MOBILITY, CAPACITY, AND CONGESTION

1.3.1 Travel Patterns

The study area is located in a region poised to grow substantially over the next 25 years, both in terms of residents and number of jobs. Consequently, the demand for travel within the study area will increase materially. Figure 1.3-1, Traffic Analysis Zones (TAZ) in the study area, illustrates traffic zones aggregated into four principal areas; Manassas, Gainesville/Catharpin, Centreville and South Riding. Data from the MWCOG Version 2 traffic forecasting model shows a 77 percent increase in the number of daily work trips for destinations within the study area, from 33,096 in 2000 to 58,743 in 2025. The destinations of home to work trips from the four principal areas of Manassas, Gainesville/Catharpin, Centreville and South Riding are illustrated in Figures 1.3-2 through 1.3-5. Work trips destined for areas to the north of the study area, such as the Dulles/Sterling/Ashburn area and the Reston/Herndon/Dulles Corridor area where many technology-related jobs are located, are expected to nearly double from 16,318 in 2000 to 32,597 in 2025. TCP serves not only the project area, but it also serves trips from Prince William County to I-66.

Of particular note are the expected large increases in travel demand from the South Riding area and the Gainesville/Catharpin area. The South Riding area is a newly planned residential area currently consisting of 3,137 housing units, and is planned to grow to 5,000 units within the next five years. Work trips destined for the study area from the Gainesville/Catharpin area are expected to grow by 393 percent (from 1,666 to 8,220) and from the South Riding area by 865 percent (from 1,215 to 11,725) between 2000 and 2025. Work trips from Gainesville/Catharpin and South Riding destined for areas to the north (Dulles/Sterling/Ashburn and Reston/Herndon/Dulles Corridor) are expected to grow at similarly aggressive rates of 184 percent (909 to 2,588) and 782 percent (1,322 to 11,665), respectively. As will be described in section 1.3.6 Level of Service by Route Segment, the roadway network will be inadequate to handle the expected increase in traffic, even if all facilities in the CLRP except the Tri-County Parkway are built or upgraded over the next 25 years and no land use . The other two areas within the study window, Manassas and Centreville, were largely built-out in 2000 and show modest increases of 26-31 percent in the number of work trips destined for the study area for a 2025 forecast year.

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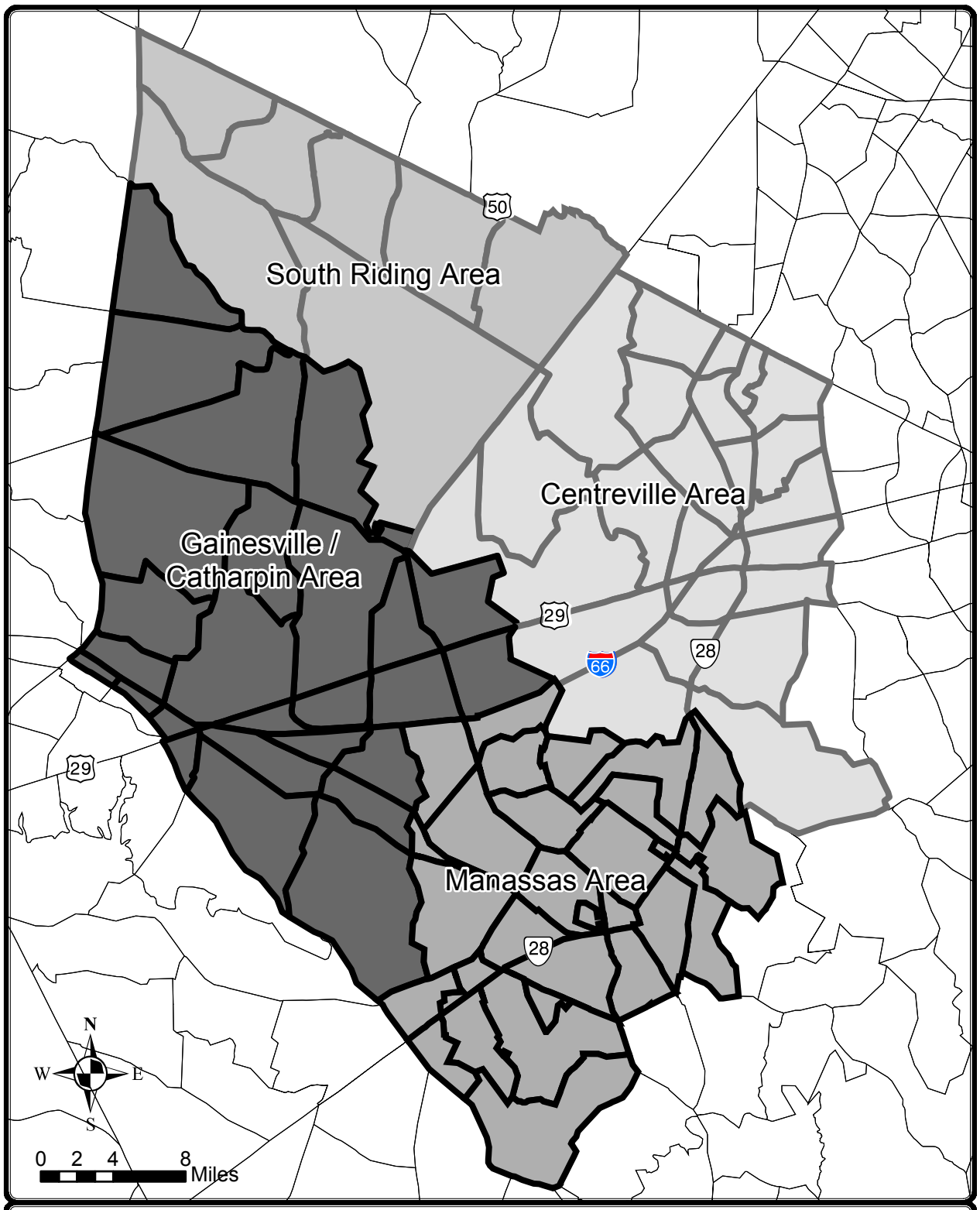

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FIGURE 1.3-1
TRAFFIC ANALYSIS ZONES WITHIN THE STUDY AREA

FIGURE 1.3-2
WORK TRIPS FROM MANASSAS AREA

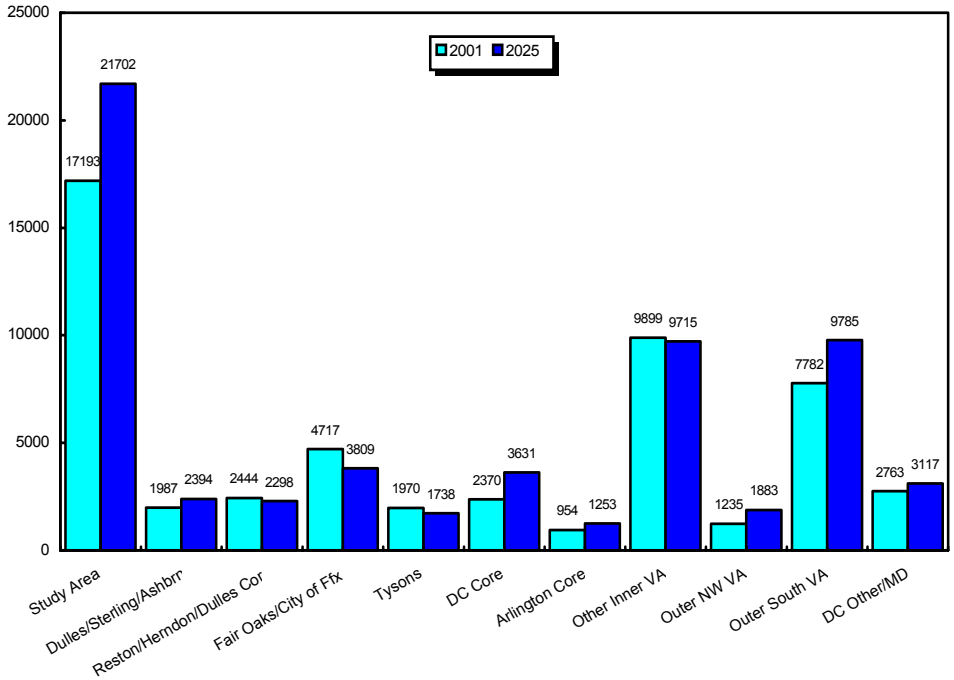


FIGURE 1.3-3
WORK TRIPS FROM GAINESVILLE/CATHARPIN AREA

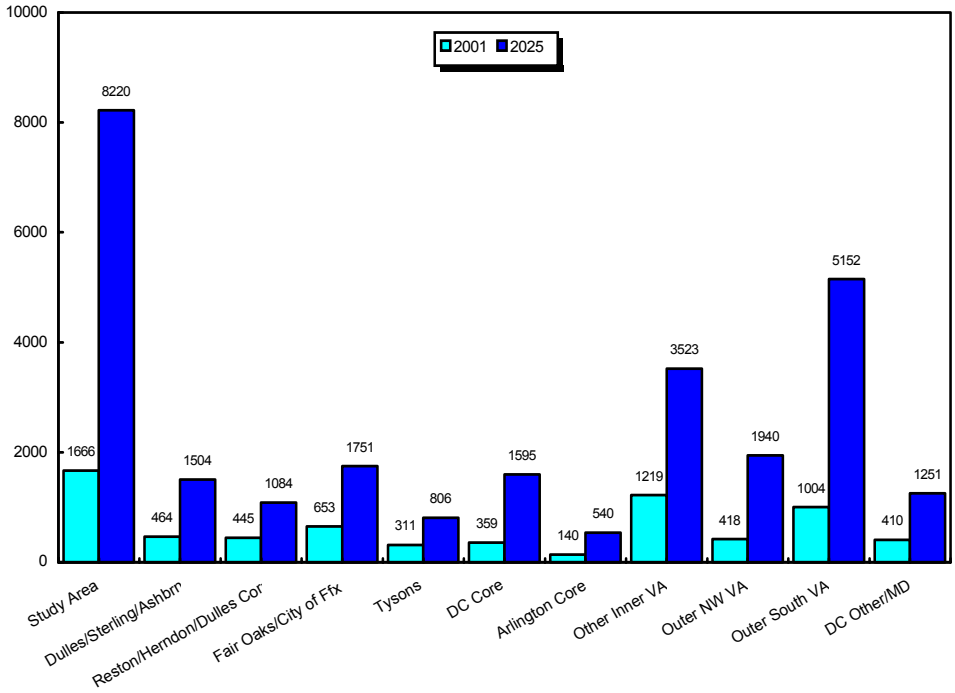


FIGURE 1.3-4
WORK TRIPS FROM CENTREVILLE AREA

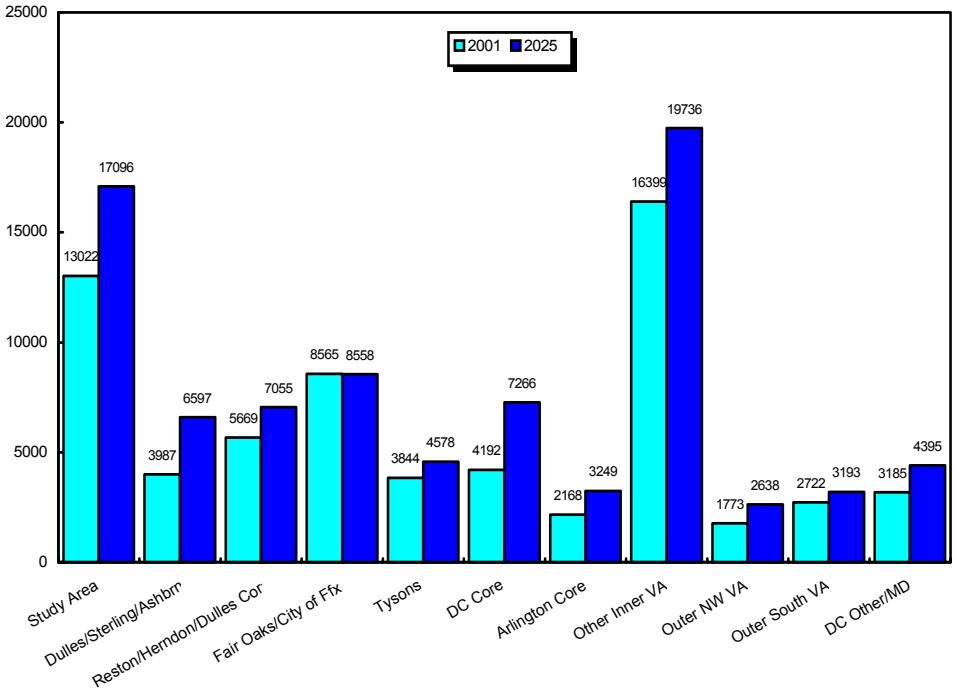
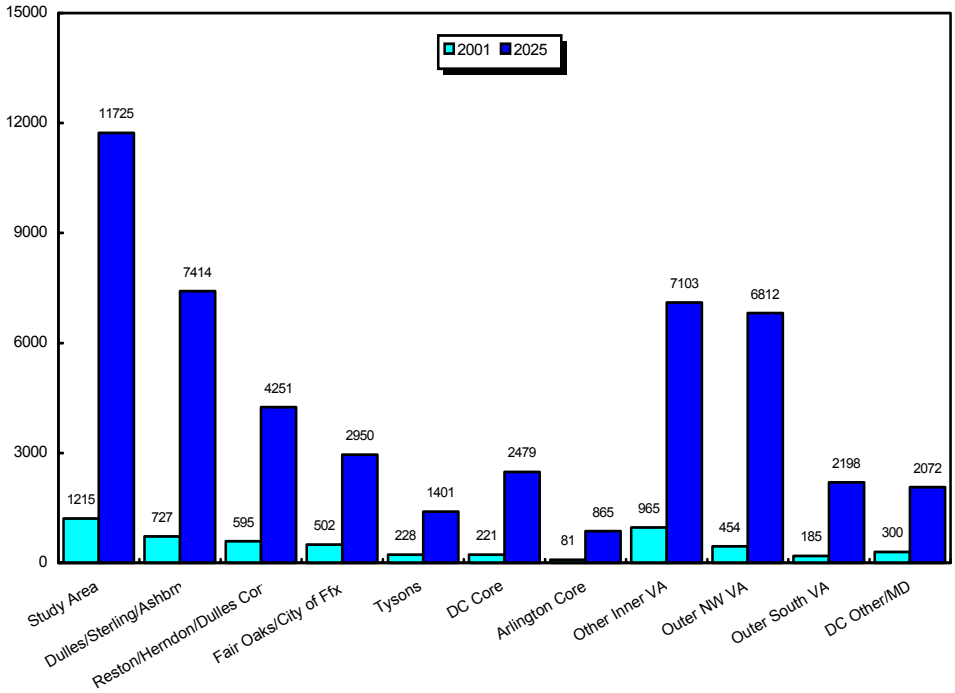


FIGURE 1.3-5
WORK TRIPS FROM SOUTH RIDING AREA



1.3.2 Observed Speed Profiles

Speed data was collected in late February and early March 2002 using Global Positioning System (GPS) devices. Each major route within the study area was traversed a number of times and an average speed was calculated for each 500-foot segment of roadway. These results were plotted on an area-wide map for both the AM and PM peak periods, shown in figures 1.3-6 and 1.3-7.

Notable areas of congestion include stop-and-go traffic flow at many points along VA 28 (northbound AM, southbound PM); long queues along US 29 (Lee Highway) at VA 234 (Sudley Road) within the Manassas National Battlefield Park (eastbound AM, westbound PM); traffic signal queuing in the City of Manassas along VA 234 and VA 28 during both peaks, and areas of stop-and-go traffic flow along VA 234 between Godwin Drive and Lee Highway.

Further analysis of this data compared observed speeds to posted speed limits along each length of roadway to give a more complete picture of where traffic flow is interrupted (See Figures 1.3-8 and 1.3-9). This shows a general trend of vehicles traveling well below the speed limit for long sections, and then exceeding the speed limit when not impeded by traffic signals or congestion.

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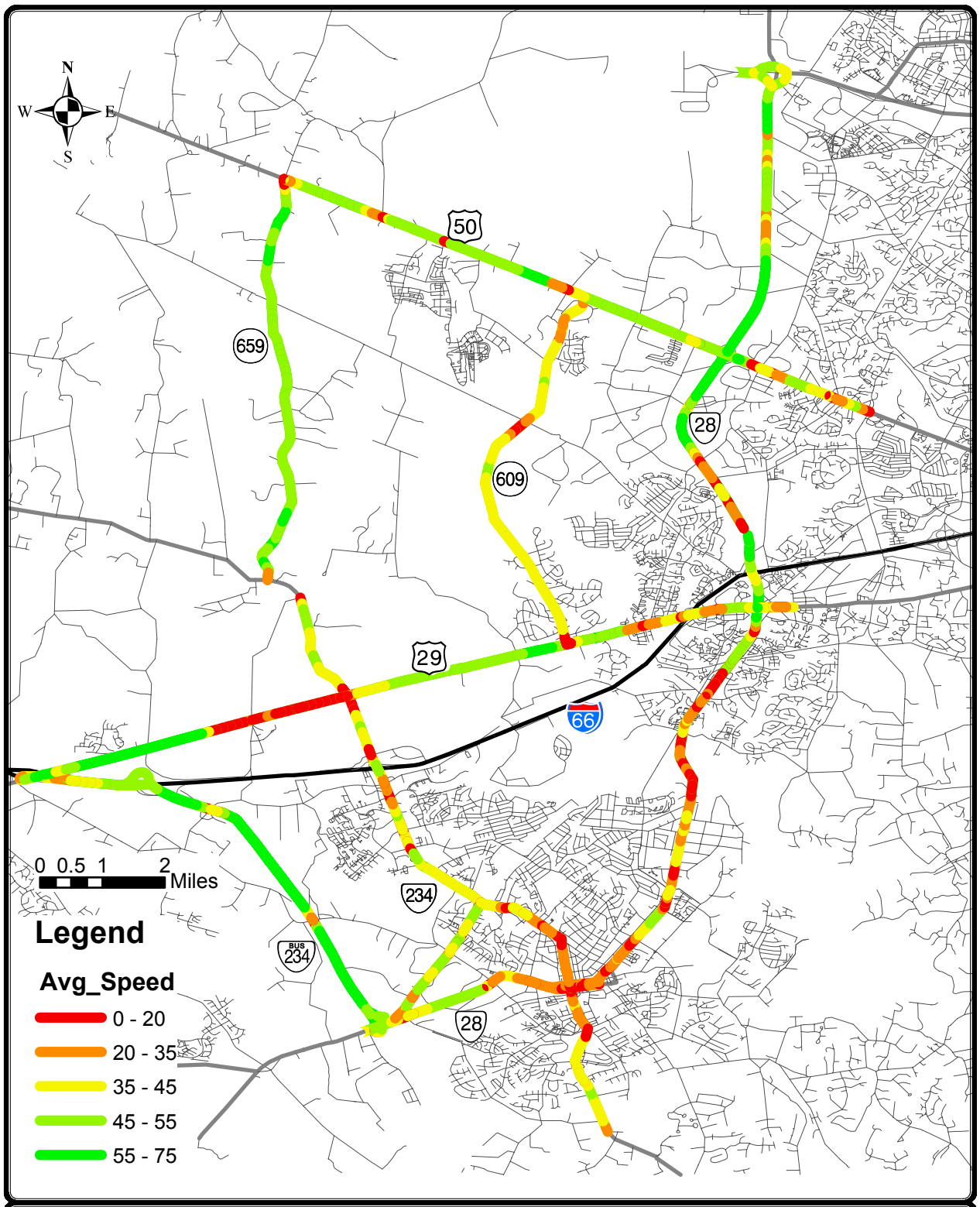

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FIGURE 1.3-6
AM PEAK PERIOD (6:30-9:00)
AVERAGE SPEEDS

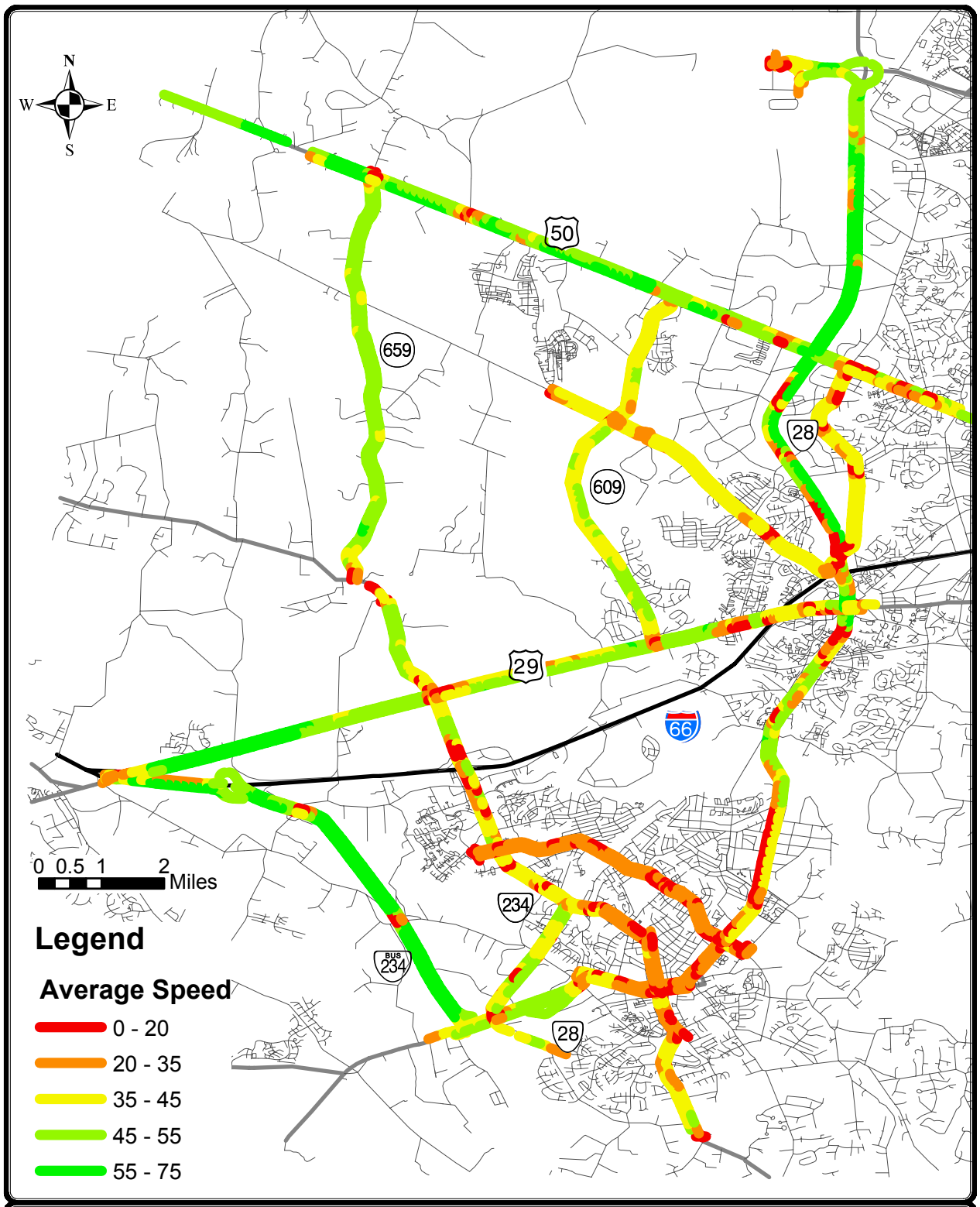

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FIGURE 1.3-7
PM PEAK PERIOD (4:00-6:30)
AVERAGE SPEEDS

FIGURE 1.3-8
VA 28 NORTHBOUND AM PEAK PERIOD

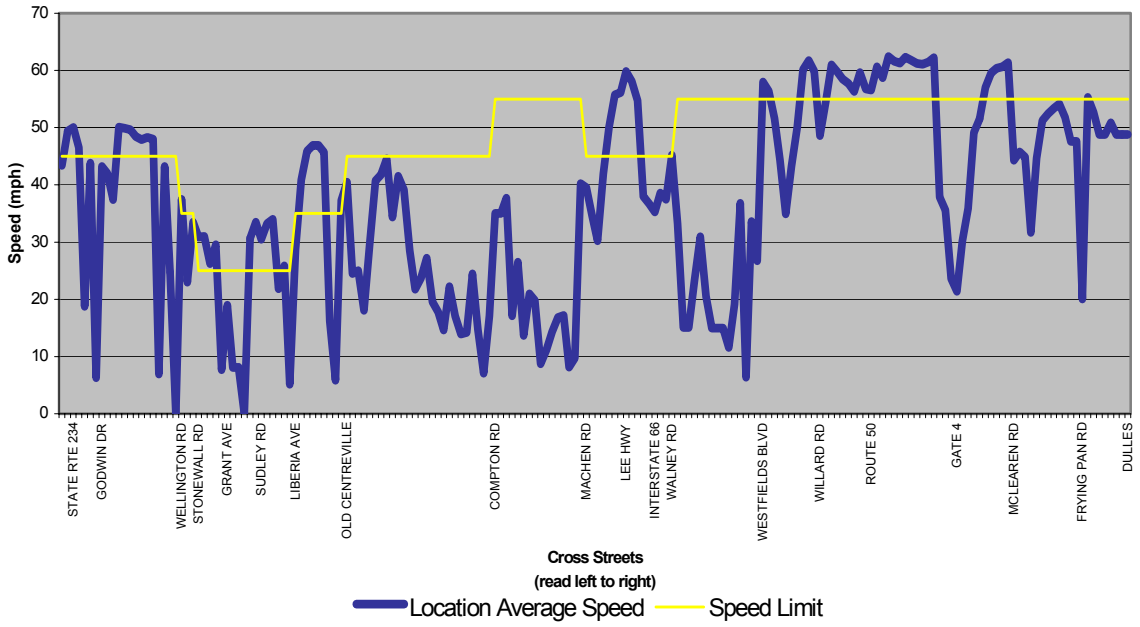
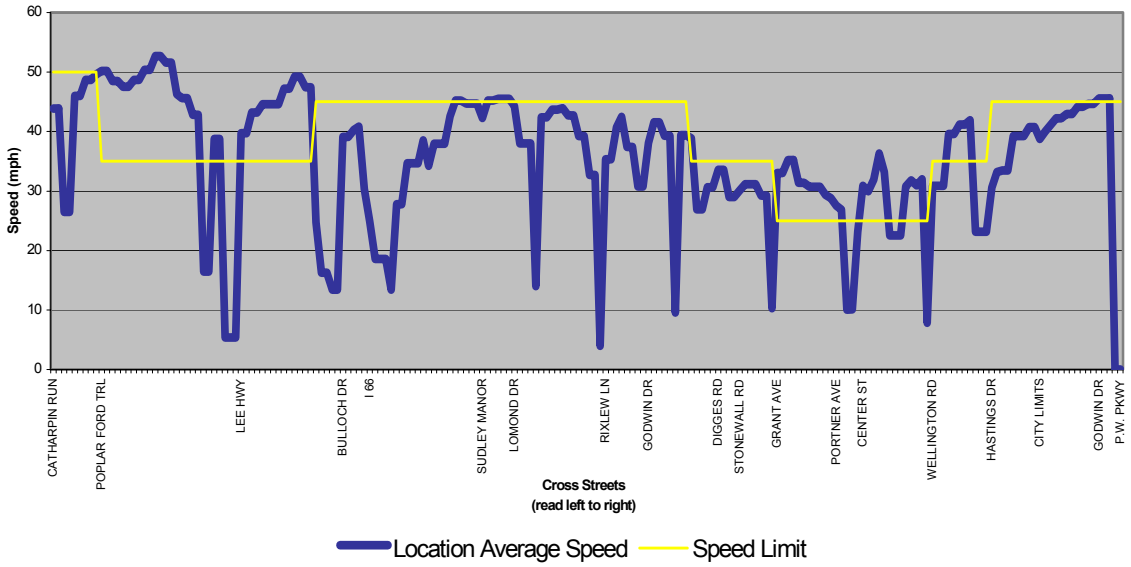


FIGURE 1.3-9
VA 234 SOUTHBOUND PM PEAK PERIOD



1.3.3 Vehicle Miles Traveled and Level of Service by Subarea

Estimates of vehicle miles traveled (VMT) are obtained from results of the MWCOG Version 2 model, representing the 2001 Constrained Long Range Plan (CLRP), less the Tri-County Parkway segment from Godwin Drive to I-66. All modeled results in this and following sections will be updated to reflect the 2002 CLRP as soon as it is available. Overall, VMT within the study area is expected to increase by 78 percent between 2000 and 2025. In keeping with the travel demand growth patterns discussed in section 1.3.1, VMT in the South Riding and Gainesville/Catharpin areas is slated to grow at a very robust rate, 241 percent and 127 percent, respectively. It is important to note that the current VA 234 Bypass and VA 28 north of I-66 will be upgraded to freeway status by 2025, so for these facilities VMT categorized as Arterial/Collector in 2000 shifts to the Freeway/Expressway category in 2025.

The results also show that many of the additional VMT by 2025 will be traveled under increasingly deteriorating levels of service (LOS) than currently experienced. While total freeway VMT is expected to increase by 65 percent, the proportion of this operating at LOS D (congested, but below roadway capacity) will increase by 151 percent. And while freeway VMT operating at LOS E (at capacity) actually falls to 51 percent of its 2000 level by 2025, VMT operating at LOS F (over capacity) increases by 284 percent, a substantial increase during both peak periods. For arterial streets and collector roadways total VMT increases by 82 percent, but VMT operating at LOS D, E, and F increases by 37 percent, 116 percent, and 240 percent, respectively. Clearly, vehicle miles traveled while experiencing deteriorating levels of service are expected to increase much faster than VMT as a whole within the study area.

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TABLE 1.3-1
SUMMARY OF VMT BY PORTIONS OF STUDY AREA

		Year 2000					Year 2025				
		Manassas Area	Gainesville/ Catharpin	Centreville Area	So Riding Area	Total	Manassas Area	Gainesville/ Catharpin	Centreville Area	So Riding Area	Total
Total VMT		1,309,299	1,027,653	2,101,715	265,436	4,704,103	2,154,739	2,332,629	2,986,519	904,918	8,378,805
Percent Increase (2000-2025)							65%	127%	42%	241%	78%
AM VMT by Area											
Fwy/Expwy	LOS ABC	38,734	101,027	86,196	0	225,957	138,204	119,732	80,285	0	338,221
Fwy/Expwy	LOS D	9,388	1,480	39,823	0	50,691	12,255	89,421	37,478	0	139,154
Fwy/Expwy	LOS E	24,756	42,275	80,087	0	147,118	792	26,064	38,614	0	65,470
Fwy/Expwy	LOS F	1,059	0	42,492	0	43,551	35,096	28,950	141,019	0	205,065
	Total	73,937	144,782	248,598	0	467,317	186,347	264,167	297,396	0	747,910
Art/Coll	LOS ABC	137,987	57,522	100,584	37,411	333,504	187,310	154,272	96,561	56,901	495,044
Art/Coll	LOS D	12,804	5,627	34,000	12,219	64,650	18,674	5,453	41,434	37,728	103,289
Art/Coll	LOS E	7,725	7,548	2,505	9,063	26,841	9,103	6,415	41,500	34,953	91,971
Art/Coll	LOS F	22,833	0	30,980	2,128	55,941	8,400	20,957	102,437	55,690	187,484
	Total	181,349	70,697	168,069	60,821	480,936	223,487	187,097	281,932	185,272	877,788
	AM Total	255,286	215,479	416,667	60,821	948,253	409,834	451,264	579,328	185,272	1,625,698
PM VMT by Area											
Fwy/Expwy	LOS ABC	63,286	111,781	101,956	0	277,023	220,326	169,890	81,047	0	471,263
Fwy/Expwy	LOS D	9,640	13,983	34,474	0	58,097	3,162	65,732	64,674	0	133,568
Fwy/Expwy	LOS E	19,129	40,300	85,027	0	144,456	0	68,783	15,076	0	83,859
Fwy/Expwy	LOS F	0	5,860	70,214	0	76,074	35,139	30,588	188,628	0	254,355
	Total	92,055	171,924	291,671	0	555,650	258,627	334,993	349,425	0	943,045
Art/Coll	LOS ABC	152,348	58,918	92,905	51,745	355,916	229,367	183,674	64,874	38,111	516,026
Art/Coll	LOS D	47,069	30,545	54,704	11,667	143,985	62,868	25,609	52,338	42,350	183,165
Art/Coll	LOS E	20,221	10,580	25,825	5,863	62,489	7,645	15,580	43,461	34,611	101,297
Art/Coll	LOS F	45,824	744	76,660	17,957	141,185	25,930	50,993	261,655	144,085	482,663
	Total	265,462	100,787	250,094	87,232	703,575	325,810	275,856	422,328	259,157	1,283,151
	PM Total	357,517	272,711	541,765	87,232	1,259,225	584,437	610,849	771,753	259,157	2,226,196

1.3.4 Traffic Volumes and Volume to Capacity Ratios by Screenline

Screenlines are imaginary lines that divide the roadway network in the MWCOG Version 2 model. This is done to get a sense of general traffic flows from one area to another (ie. not on an individual roadway). Ten screenlines were selected for analysis: Bull Run (county boundary between Prince William, Fairfax, and Loudoun), Norfolk Southern Railroad (passing through the City of Manassas and Prince William County), north of I-66, south of I-66, north of US 50, south of US 50, north of US 29, south of US 29, west of VA 28 in Fairfax County, and west of VA 28 in Prince William County (see Figure 1.3-10).

Roadway capacity is typically measured using a volume-to-capacity or 'V/C' ratio. Volume-to-capacity (V/C) ratio is the comparison between the number of vehicles a roadway is carrying versus the maximum number of vehicles that the roadway is designed to carry. A V/C ratio of 1.0 indicates the roadway has reached its capacity and is thus carrying the maximum number of cars that it was designed to carry. Once this ratio exceeds 1.0, significant declines in the function of the roadway are anticipated. Few of the ten screenline flows approach capacity in the 2000 model year. It is important to note that though an entire screenline may be under capacity, individual roadway segments within the screenline may be at or over capacity. Traffic flows south of I-66 traveling south in the PM and north of US 50 traveling north in the AM both approach capacity at a V/C ratio of 0.93. North of US 50 traveling south in the PM is the only screenline that exceeds capacity in 2000 with a V/C ratio of 1.17.

Year 2025 screenline flows indicate severe congestion across several screenlines in both directions. When entire screenline flows are over capacity, capacity on secondary and minor roadways crossing the screenline is also completely used up. Table 1.3-2 shows some screenline flows that increase greatly in volume but whose corresponding V/C ratio increases by a small amount. Several major projects in the CLRP (including constructing the 234 Bypass extension from I-66 to Belmont Ridge Road; widenings on I-66, US 15, US 29, and US 50; and various improvements to secondary roadways) will increase screenline capacity by 2025. However, traffic volumes will also increase substantially; and, in many cases demand will continue to outstrip capacity. On the screenline south of I-66 in the PM, both northbound and southbound roadways will approach capacity in 2025. AM flows approach capacity crossing Bull Run traveling from Prince William to Loudoun and Fairfax, while PM flows approach capacity in the opposite direction. Some screenline flows are expected to be well above their stated capacity: north of I-66 traveling in both directions in the PM, north of US 50 traveling in both directions in the PM, and west of VA 28 in both directions in the PM. In the worst case, traveling south along the screenline north of US 50 during the PM peak, the V/C is over 1.5. Without additional roadway capacity beyond what is slated to be built in the CLRP, vehicles traveling on roads crossing this screenline during the PM peak are expected to encounter significant congestion, and the peak may well extend beyond the three hours in which it is defined.

A summation of all north/south flows shows an overall picture of deteriorating traffic conditions between 2000 and 2025. For this calculation, all screenlines were included except west of VA 28 in Fairfax since it crosses only east/west roadways. Also, east/west volumes and capacities on I-66 and US 29 were subtracted from any screenline including these roadways in order to isolate the north/south direction. In the AM north/south flows have a V/C ratio of 0.43 in 2000, which increases to 0.58 in 2025. PM flows show a similar pattern of increasing congestion, from a V/C ratio of 0.62 in 2000 to 0.80 in 2025. This illustrates the need for more north/south roadway capacity in future years even in addition to the capacity added by roadways to be built by 2025 per the CLRP, minus the Tri-County Parkway between Godwin Drive and I-66.

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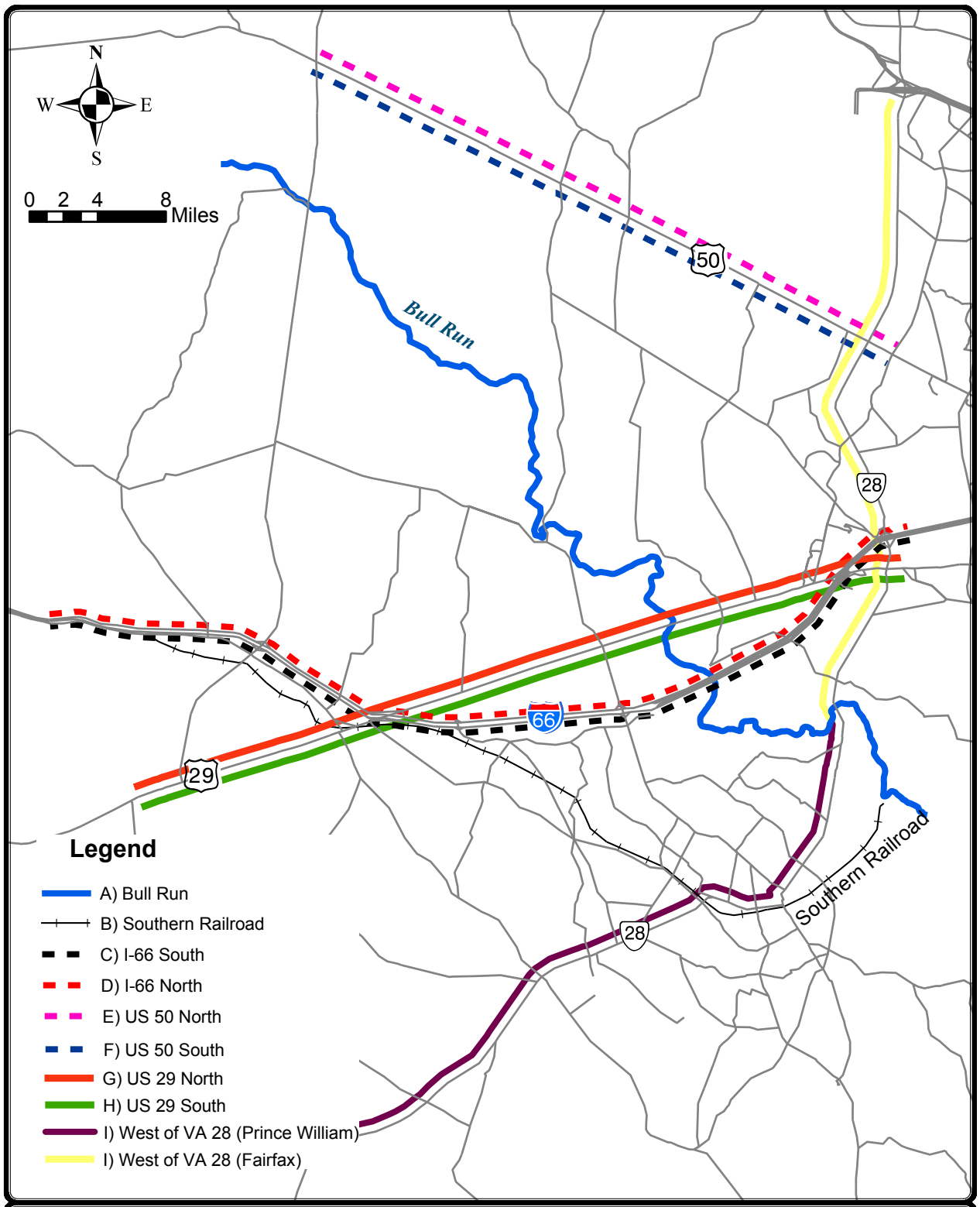

Tri-County PARKWAY Location Study

FIGURE 1.3-10
MAP OF SCREENLINE LOCATIONS

TABLE 1.3-2
SCREENLINE SUMMARY

Location	Year 2000 Tot Vol	Vol AM	V/C AM	Vol PM	V/C PM	Year 2025 Tot Vol	Vol AM	V/C AM	Vol PM	V/C PM
A) Bull Run										
South/East	105,473	15,400	0.32	32,057	0.67	168,387	23,579	0.45	47,272	0.91
North/West	108,009	30,663	0.71	22,666	0.53	173,555	44,961	0.95	36,267	0.76
Total	213,482	46,063	0.51	54,723	0.60	341,942	68,540	0.69	83,539	0.84
B) Southern Railroad										
S/E	114,223	19,724	0.34	32,751	0.57	191,437	35,285	0.44	48,981	0.61
N/W	114,351	24,083	0.42	28,377	0.49	190,695	34,419	0.43	51,766	0.64
Total	228,574	43,807	0.38	61,128	0.53	382,132	69,704	0.43	100,747	0.63
C) South of I-66										
S/E	137,415	25,107	0.62	37,386	0.93	224,020	44,492	0.79	54,113	0.96
N/W	137,988	30,598	0.76	32,403	0.80	221,245	41,895	0.71	56,662	0.96
Total	275,403	55,705	0.69	69,789	0.87	445,265	86,387	0.75	110,775	0.96
D) North of I-66										
S/E	98,094	18,879	0.60	28,001	0.88	174,364	33,779	0.79	47,519	1.11
N/W	97,812	18,840	0.59	28,047	0.89	171,298	30,350	0.71	48,642	1.14
Total	195,906	37,719	0.60	56,048	0.88	345,662	64,129	0.75	96,161	1.12
E) North of US 50										
S/E	54,682	7,359	0.48	17,876	1.17	107,096	14,031	0.62	33,876	1.51
N/W	55,538	14,134	0.93	12,305	0.81	109,931	28,830	1.28	23,815	1.06
Total	110,220	21,493	0.70	30,181	0.99	217,027	42,861	0.95	57,691	1.28
F) South of US 50										
S/E	54,769	7,469	0.29	18,548	0.71	99,422	15,851	0.47	31,865	0.95
N/W	55,151	14,098	0.54	12,743	0.49	100,195	23,770	0.71	25,556	0.76
Total	109,920	21,567	0.41	31,291	0.60	199,617	39,621	0.59	57,421	0.85
G) North of US 29										
S/E	158,454	35,244	0.54	36,490	0.56	277,302	58,225	0.62	64,393	0.68
N/W	161,554	26,546	0.35	44,856	0.60	287,987	45,347	0.45	76,236	0.76
Total	320,008	61,790	0.44	81,346	0.58	565,289	103,572	0.53	140,629	0.73
H) South of US 29										
S/E	210,112	42,744	0.58	49,907	0.68	323,571	66,070	0.66	72,834	0.73
N/W	103,117	21,562	0.57	27,083	0.72	168,177	29,489	0.42	46,681	0.67
Total	313,229	64,306	0.58	76,990	0.69	491,748	95,559	0.56	119,515	0.70
I) West of VA 28 (Prince William)										
S/E	61,246	8,668	0.19	20,011	0.44	107,684	19,751	0.32	31,331	0.52
N/W	66,468	14,382	0.32	17,166	0.39	113,157	20,818	0.35	33,328	0.56
Total	127,714	23,050	0.26	37,177	0.41	220,841	40,569	0.34	64,659	0.54
J) West of VA 28 (Fairfax)										
S/E	158,365	36,793	0.74	36,607	0.73	221,194	49,935	1.04	49,903	1.04
N/W	156,628	24,730	0.44	44,383	0.79	219,528	33,833	0.62	60,718	1.12
Total	314,993	61,523	0.58	80,990	0.76	440,722	83,768	0.82	110,621	1.08

*Shaded areas indicate LOS D or worse.

1.3.5 Vehicle Miles Traveled and Peak Speeds by Route Segment

Vehicle miles traveled and estimated peak speeds were also computed using the MWCOG Version 2 model for the year 2000 and the forecast year of 2025. A detailed list of these results can be found in the Transportation and Traffic Technical Report. Some roadways actually show an improvement in peak speeds with an increase in VMT in the forecast year. As stated previously, this is because the model has included future roadway improvements listed in the CLRP for which funding has already been identified. There are many roadways in 2025, however, that are not slated for improvement and whose condition is expected to worsen considerably over time.

Even with planned improvements, VA 28 is expected to experience slower travel speeds by 2025. As currently understood from the 2001 CLRP, the improvements include widening VA 28 from the north corporate limits of Manassas Park to US 29 (completed in 2001). The 2002 CLRP includes widening and freeway interchanges along VA 28 between I-66 and VA 7, these results do not yet include the affect of this improvement. Traveling south in the PM between I-66 and the Fairfax/Prince William County line, speeds are estimated to drop from an already slow 18 mph to 13 mph between 2000 and 2025. Between US 50 and Dulles Airport northbound in the AM, estimated travel speeds fall from an average 26 mph to 17 mph.

Still greater traffic impacts are expected on other major study area roadways. US 50 is expected to be severely impacted in 2025. Speeds along the section between Gum Spring Road and Pleasant Valley Road are less than a third of what they were estimated in the 2000 model, dropping from 46 mph to around 13 mph. Speeds are also expected to drop substantially in the Pleasant Valley Road to VA 28 section. Likewise, Braddock Road between Gum Spring Road and the Fairfax/Loudoun County line is expected to see travel speeds drop from around 45 mph in 2000 to 20 mph in 2025. Speeds are expected to fall from 35 mph along Walney Road between VA 28 and Westfields Blvd in 2000 to around 20 mph in 2025.

1.3.6 Level of Service by Route Segment

Estimates of current and future level of service (LOS) were created using output from the MWCOG Version 2 model. Though the current generation of travel demand models cannot account for delay due to traffic signals and intersections, LOS can be estimated on each link through a procedure similar to freeway capacity analysis. Tables 1.3-3 and 1.3-4 show the volume/capacity ratio cutoff ranges for determining level of service on both freeway-type and arterial/collector links. These ranges are different because the design of freeways inherently allows them to carry greater traffic volumes at higher speeds.

TABLE 1.3-3
LEVEL OF SERVICE CRITERIA FOR FREEWAY-TYPE LINKS

Levels of Service	Max V/C
LOS G	>1.15
LOS F	1.15
LOS E	1.00
LOS D	0.90
LOS A,B,C	0.74

TABLE 1.3-4
LEVEL OF SERVICE CRITERIA FOR ARTERIAL AND COLLECTOR LINKS

Levels of Service	Max V/C
LOS G	>1.15
LOS F	1.15
LOS E	1.00
LOS D	0.85
LOS A,B,C	0.64

Results clearly indicate that overall congestion in 2025 will be far worse than in 2000. Most segments of VA 28 northbound in the AM and southbound in the PM are expected to operate at LOS F or G in 2025, a severely congested state. Problems are evident along US 50, Gum Spring Road, Braddock Road, and Pleasant Valley Road. Long queues are anticipated along US 29 in Gainesville and at the Sudley Road signal where LOS G is shown. As stated, the MWCOG Version 2 model cannot anticipate LOS due to delay at traffic signals, which is the reason most of the City of Manassas links are operating at LOS C or better. If these volumes and an assumed signalization were simulated in a program such as CORSIM, it would likely show a worse result. Furthermore, the MWCOG travel demand model does not account for trips generated by special events at places such as the Manassas National Battlefield Park, Nissan Pavilion, Bull Run Regional Park, or other major recreational trip destinations. These trips will contribute further to study area congestion during peak periods, off-peak periods, and on weekends.

1.4 SYSTEM AND COMMUNITY LINKAGE

In the Federal Highway Administration's (FHWA) 1987 Technical Guidance for Preparing and Processing Environmental and Section 4(f) Documents (Technical Advisory T6640.8a) system linkage is defined with two questions. "Is the proposed project a connecting link? How does it fit in the transportation system?" The TCP study area is anchored by the City of Manassas to the south and the Washington Dulles International Airport to the north. Both of these areas are characterized by rapidly growing populations and employment centers. Both Manassas and Dulles are served by dominant, multimodal, east-west freeway corridors – I-66 in the south and the Washington Dulles Access and Toll Road and Dulles Greenway in the north. North-south transportation linkages connecting Manassas, I-66, Washington Dulles International Airport and the Washington Dulles Access and Toll road and Dulles Greenway are limited and lacking capacity. Without improvements to existing north-south linkages and the provision of new north-south linkages, the consequences for area residents are deteriorating congestion, air quality, and quality of life and a lost opportunity for economic development and multi-modal mobility.

1.4.1 City of Manassas

The City of Manassas has experienced rapid population growth during the past three decades with significant residential construction representing the bulk of the development. Population increased from 15,438 in 1980 to 35,135 in 2000. The number of households has increased from 5,048 to 11,757 in the same period.

Table 1.4-1 represents the residential labor force and occupied jobs (at-place labor force) by employment sector for the City of Manassas. The resident labor force is the number of residents within the corporate limits who are employed. The resident labor force lives in the City, and may or may not actually work in the City. The at-place labor force represents the actual number of jobs within the corporate limits. Employees who are part of the at-place labor force may or may not live in the City. Historically, the

employment base for much of Manassas was located in the more urbanized areas of Arlington County, Fairfax County and the employment centers of Washington D.C. This is not the case any more as abundant employment opportunities have emerged not only at-place, in Manassas, but also in adjacent Prince William and Loudoun Counties.

TABLE 1.4-1
COMPARISON OF MANASSAS EMPLOYMENT SECTORS

Sector	Resident Labor Force	At-Place Labor Force
Professional Services	30%	31%
Retail Trade	16%	24%
Construction	12%	6%
Government	11%	9%
Other [1]	31%	30%

Source: City of Manassas, Director of Community Development, April 2002.
http://www.manassascity.org/at_a_glance/quick_facts.html
[1]The Other Sectors include: Design and Manufacturing, Technology, Health Care, Photo and Imaging, Communications, and Electronics.

Both the City of Manassas and adjacent Prince William County have a full array of public and private employers. By the second quarter of 2000, Manassas was home to 21,143 jobs, with approximately 91 percent in the private sector and 9 percent in the public sector. Of the resident labor force in Manassas, the percentage of private and public jobs is 79 percent and 21 percent respectively. Manassas and adjacent Prince William County are home to major employers such as IBM/Toshiba/Dominion Semiconductor, Lockheed Martin, Aurora Flight Sciences, Prince William Hospital, and Electromotive. Eli Lilly, a major pharmaceutical company, recently announced plans to construct a manufacturing plant in the technology park, "Innovation @ Prince William".

1.4.2 I-66

I-66 is one of the two main east-west freeway facilities that serve the Northern Virginia region and the Washington D.C. Metropolitan area. I-66 runs from the District of Columbia roughly 75 miles to Interstate 81 west of Front Royal, Virginia. The urbanized sections of I-66 include the elements of a traditional interstate highway, as well as High Occupancy Vehicle lanes and the Metro rail system.

The I-66 corridor from I-495 to the Gainesville area was evaluated in a comprehensive study entitled “I-66 Corridor Major Investment Study (I-66 MIS)” in January 1999. The MIS evaluated a full range of transportation alternatives in the study corridor, which included major portions of Loudoun, Fairfax, and Prince William Counties. The I-66 MIS projected a 73 percent increase in population for the study area in these three counties based upon an estimated increase in population from 269,000 persons in 1999 to 66,000 persons in year 2020. Employment in this same period was estimated to increase 83 percent from 162,000 jobs in 1999 to 296,000 in the year 2020. Additionally, traffic growth along the I-66 corridor mirrors the population and employment growth in the TCP study area. Between US 15 to the west and I-495 to the east, traffic along I-66 has increased between 56 and 121 percent from 1985 to 1996.

I-66 has and will continue to experience growth. An emerging component to note is the extent of growth north of the I-66 corridor. Traffic volumes along north-south routes such as US 15, VA 234, and VA 28

have increased north of I-66 between 76 percent and 306 percent over the past decade. By year 2020, according to the I-66 MIS, work trips in the tri-county area encompassed by the I-66 study window will increase 79 percent. Of those work trips, those destined for other areas of Northern Virginia will increase 102 percent.

Currently there are limited north-south arterials with sufficient capacity to effectively link the I-66 corridor with the Dulles Technology corridor. VA 28 and the Fairfax County Parkway are the only multi-lane, north-south facilities linking the job and activity centers of I-66 with the Dulles Technology Corridor. As development increases farther down the I-66 corridor, and as employment growth increases in the Dulles Technology corridor, the lack of north-south links in the Tri-County area will greatly increase congestion on existing north-south routes. The I-66 corridor will not help the north south demand, as it is, in many respects, the origin and destination of many north/south trips.

1.4.3 Dulles Technology Corridor

During the past decade, the Dulles corridor from approximately Route 772 in Loudoun County to the Tyson's Corner/I-495 area has experienced one of the highest growth rates in employment and population in the Commonwealth. Much of the development in this corridor has been in the technology arena, hence the name Dulles Technology Corridor. Major activity centers along this corridor include eastern Loudoun County, Dulles Airport, Herndon, Reston, and Tyson's Corner. The transportation components of the corridor consist of the Washington Dulles Access and Toll Road and the Dulles Greenway. The Dulles Airport Access Road (DAAR) consists of two lanes in each direction built to freeway standards. This provides direct toll-free access to and from I-66 to the Washington Dulles International Airport. On the outside of the DAAR is the Dulles Toll Road (DTR) providing four-lanes in each direction and built to freeway standards. One lane operates as a concurrent flow HOV facility during the peak period in the peak direction. The Dulles Corridor Rapid Transit DEIS is proposing a Bus Rapid Transit (BRT) system in the corridor as well as extension of the Metrorail system from the West Falls Church station to Loudoun County within the existing median of the DAAR, and the Dulles Greenway.

The VDRPT and the WMATA published a Final Alternatives for the Dulles Corridor Rapid Transit DEIS in May 2001. This report indicates that the Dulles corridor will increase in population and employment more rapidly than the averages for the rest of the Metropolitan Washington Region. According to MWCOG, the corridor will experience a 71 percent increase in jobs compared to a regional increase of 39 percent for the years 2000 to 2025. Population in the corridor is expected to increase 56 percent compared to a 33 percent regional population growth over the same period.

The Washington Dulles International Airport, an 11,000-acre facility in Fairfax and Loudoun Counties anchors the Dulles Corridor in the west. According to the Washington Dulles Airport website and the Washington Dulles Airport Parking Authority manager, the airport is home to 32 passenger airlines, four cargo handlers, 15,400 employees, 19,931 parking spaces, and provides 72 nonstop flights to U.S. cities and 26 direct service flights to foreign cities daily. In 2001 the airport served 18 million passengers of which 3.7 million were on international flights. The airport generated $4.1 billion in revenue for the local economy.

The Fairfax County Parkway and VA 28 are the only principal arterials serving the Dulles Corridor and the airport in a north-south direction. As stated in the above mobility, capacity, and congestion (section 1.3.4), data from the MWCOG Version 2 traffic forecasting model shows work trips from the TCP study area destined for areas to the north of the study area, such as the Dulles/Sterling/Ashburn area and the Reston/Herndon/Dulles Corridor area, are expected to nearly double from 16,318 in 2000 to 32,597 in 2025. Most segments of VA 28 northbound in the AM and southbound in the PM are expected to greatly exceed capacity, reaching LOS F and G. Congestion problems are also evident along two other north-south secondary routes, Gum Spring Road and Pleasant Valley Road. The existing north-south routes will be inadequate to handle this expected surge in traffic, even if facilities with identified funding sources

are built over the next 25 years. Additional north-south capacity linking the Dulles corridor with commuters in the TCP study area is needed to relieve conditions along VA 28, the Fairfax County Parkway, and the other secondary north-south routes in the study area.

Both I-66 and the Dulles corridor are programmed for substantive transit improvements. To develop and sustain ridership in a suburban landscape, transit lines need a fully functioning roadway network. Additional north-south highway capacity in the form of vehicular and bus systems to support Metrorail stations are needed to link the rail spurs and promote rail ridership. Several recommendations from the former I-66 MIS and the current I-66 Draft Environmental Impact Statement (DEIS) include the provision of additional bus service in the study area as well as the development of transit centers and park and ride facilities.

1.4.4 Future Dulles South Landside Access

The existing Saarinen terminal at the Washington Dulles International Airport has long been considered inadequate to serve all the long-term needs of one of the nation's fastest growing airports. A new south terminal complex has been planned by MWAA to provide additional landside capacity. Current plans for the configuration of the airport have been to continue the pattern of midfield airside terminals perpendicular to a north-south axis between the two major runways. Plans call for two additional airside buildings in addition to the existing two facilities, with the new landside then south of the final airside. This configuration would place the new airside approximately 1.2 miles south of the Saarinen terminal. The two terminals and the four airsides will be connected by extensions of the people mover system currently under construction.

Although detailed plans for the new facility have not been prepared, the intention is to provide a full-featured terminal with all landside access facilities including short-term and long-term parking, rental car facilities, taxis and other public transportation options, and possibly a terminal-area hotel. The MWAA intends for the Dulles Access Road to remain the primary "gateway" to both terminal facilities. The existing DAAR will essentially be extended southward as a limited access facility, located on airport property and between VA 28 and the north-south runway. The facility is currently planned to cross under the lower portion of the runway, but security issues will require that it be re-planned to loop around the south end of the runway and continue north a short distance to the terminal complex.

The only other air passenger access will be at the location of the Barnsfield Road interchange at VA 28, currently under construction to serve as access to the new Smithsonian National Air and Space Museum (NASM). The access road, air passenger access from VA 28, and access to NASM will be braided so as to avoid mixing air passenger and NASM traffic. No other air passenger access is planned for US 50 or any other facility south or west of the airport. This assumption has been made with a desire to simplify air passenger information through signage and other information system, since Dulles is projected to continue to serve a large number of unfamiliar passengers. The assumption is also based on MWAA analysis that the bulk of their passenger traffic will continue to come from the east and relatively little from the southwest. The use of VA 28 and Barnsfield Road is also based on the assumption that VA 28 will be upgraded to full-freeway status before the terminal complex is constructed and that a better guarantee of uninterrupted flow for passengers can be made for VA 28 than for US 50.

Detailed planning and timing for the south landside and access facilities has been affected somewhat by the events following September 11, 2001. Currently, a detailed schedule has not been prepared, but a working assumption is that the south landside will be required by 2015 or earlier, probably after construction of the third airside but before completion of the fourth. Likewise, detailed assumptions of airline assignments to the new facility have not been made, but it is likely that the full operations of one or more airlines will be located in this facility, again to simplify passenger information and routing. Currently, overall airport capacity is assumed to be about 65 million annual passengers (MAP), with the Saarinen terminal capable of serving between 35 and 45 MAP. This would imply that the new terminal would serve

between roughly one-third and nearly one-half of the forecast passenger demand. Table 1.4.4 shows the total demand in MAP from 1998 and projects future MAP to 2025. The demand in MAP will be the factor that triggers the need for the south landside access.

TABLE 1.4.4
TOTAL DEMAND IN MAP FROM 1998 AND PROJECTED TO 2025[1]

Year	Million Annual Passengers
1998	15.6
2005	28.9
2010	37.9
2015	45.9
2020	55.5
2025	65.7

[1]Source: Washington Dulles International Airport, "Draft Aviation Activity Forecasts", June 2000, prepared by HNTB Corporation for the Metropolitan Washington Airports Authority.

The implications of the proposed terminal location and access plans on the TCP are significant. Since VA 28, either at Barnsfield Road or the DAAR will remain the only access facility from the south, traffic will need to access VA 28 at some point. If VA 28 is improved to full freeway from I-66 north to VA 7, as assumed by the airport and most long-range regional plans, then it would appear that the section of TCP from Manassas to I-66 will serve as a major access route for passengers originating in the western portions of the Manassas area and points to the south. It is assumed that the minimum path for passengers would be to travel a short distance on I-66 to VA 28, then north to the airport, serving the original function of TCP and the "VA 28 bypass". During periods of heavy congestion or incidents, some travelers might continue on TCP to US 50, then back east to VA 28, or even continue all the way north on TCP or Route 606 to the Dulles Greenway and enter the airport from the north. The northern portion of TCP would thus serve as a valuable alternate route to the airport, even if not the minimum path under normal conditions.

A second important airport-related market consists of employees. Employment can be expected to increase with air passenger traffic, but other related employment in aircraft servicing, freight forwarding, and other air-industries would likely depend on market conditions and the strategic plans of the companies that currently use or would later decide to use the facilities at the Dulles Airport. Currently, employees working in the terminal complex park remotely in a large lot north of the Greenway and smaller lots near the existing Gate 4, soon to be replaced by the Barnsfield Road interchange. The south landside will include an additional remote parking area near the end of the runway, also accessible from Barnsfield Road. Most probably, an additional controlled access gate will be provided from US 50, probably from the existing gate at the end of Stonecroft Blvd. Additional access points further west on US 50 or along Route 606 may be provided for remote employment, such as a possible aircraft maintenance facility near the west end of the crosswind runway. These latter locations will be subject to post 9/11 security concerns and would not serve a large number of employees in any event.

Access for most employees would be subject to the same conditions described for air passengers. An exception would be employees traveling to the airport from the southwest who may wish to enter at the Stonecroft access point from US 50 and avoid the complex weaving at the Barnsfield Gate. Depending upon final design of the facility, MWAA may find it desirable to promote this movement to improve access for passengers and NASM visitors. Currently, the MWCOG travel demand model system makes no

special provisions for the residence location of airport employees. The model assumes that approximately 63 percent of the work trips coming to the Dulles Airport area are located to the east, 18 percent to the northwest, and 19 percent to the southwest.

1.4.5 National Highway System

The National Highway System (NHS) is approximately 160,000 miles of roadway important to the nation's economy, defense, and mobility. The NHS includes the following subsystems of roadways (note that a specific highway route may be on more than one subsystem):

- Interstate: The Eisenhower Interstate System of highways retains its separate identity within the NHS (i.e. I-95, I-495, I-66).
- Other Principal Arterials: These are highways in rural and urban areas that provide access between an arterial and a major port, airport, public transportation facility, or other inter-modal transportation facility (i.e. Route 621, VA 28).
- Strategic Highway Network (STRAHNET): This is a network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes (i.e. Quantico Station).
- Intermodal Connectors: These highways provide access between major inter-modal facilities and the other four subsystems making up the National Highway System (i.e. Dulles International Airport, VRE/ Manassas Broad Run Airport).

The NHS includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. The NHS was developed by the United States Department of Transportation (USDOT) in cooperation with the states, local officials, and metropolitan planning organizations (MPO's).

The NHS in the TCP study area includes Interstate 66, US 29, US 50 (east of VA 28), VA 28 (north of VA 234), and VA 234 Bypass. The FHWA NHS website indicates that the new VA 234 Bypass from VA 234 to I-66 is a proposed route for the NHS. Official adoption of VA 234 Bypass into the NHS may still be pending. There is also a portion of VA 28 south of the VA 234 Bypass and a portion of Route 611 off VA 28 in Prince William County that is an inter-modal connector. The TCP would serve as a principal arterial that would provide access between Dulles Airport, and other parts of the NHS. The TCP would help serve the purposes of the NHS.

1.5 SOCIAL DEMANDS AND ECONOMIC DEVELOPMENT NEEDS

1.5.1 Job/Housing Balance

Job/housing balance is an important factor in a burgeoning transportation network. Job/housing balance is the coordination of housing and job opportunities in close proximity, and takes into account the availability of transportation facilities, as well as land use mix, housing prices, job categories, worker skills and the historical role of a city as a “center of activity”. The primary objective is to reduce auto trips, auto trip lengths, and auto congestion by providing the opportunity for workers to live close to job sites or to provide access to local transportation facilities, which would promote this concept. The objective is to achieve a job to housing ratio that approaches unity. An even balance between jobs and housing units can begin to improve regional mobility as well as convey a stronger sense of community. An evaluation

of the local Comprehensive Plans helps gain some perspective on how each county within the study area deals with the issues of job-housing balance.

The jurisdictions represented by the TCP study area generally have a positive approach to a more favorable job/housing balance, with an array of housing options that are desirable and affordable across a wide range of prices. The increase in local jobs in the TCP study area will have a significant upside to the community: fewer commuters traveling into the Washington D.C. area, high paying positions, and spin-off support companies creating additional levels of employment opportunities. In addition, increased jobs will have a positive impact on the local economy, a positive social impact through short commute/drive time to work, and increased family time and opportunities for community involvement.

TABLE 1.5-1
JOBS AND HOUSING FOR
JURISDICTIONS IMPACTED BY THE TRI-COUNTY PARKWAY

County	Jobs	Housing Units	Job/Housing Ratio
Loudoun County	87,000	60,000	1.45
Fairfax County	371,716	358,960	1.03
Prince William County	78,084	98,052	0.80
Manassas Park	4,365	3,838	1.14
Manassas City	15,400	11,757	1.31
Total Jurisdictions represented by study corridor	556,565	532,607	1.15

Source: Local Comprehensive Plans and the U.S. Department of Commerce, Bureau of Census, Census 2000

Table 1.5-1 illustrates the job/housing balance for the jurisdictions represented by the TCP study area. Based on the jurisdictional information, Fairfax and Manassas Park are the closest to achieving job/housing balance. Prince William County is the only jurisdiction within the study area that has more housing units than jobs, which is typical for a rural area. In contrast, Loudoun County has a significantly higher number of jobs than housing units. Loudoun County, with a Job/Housing Ratio of 1.45, has the largest job/housing imbalance in the study corridor.

Between 1990 and 2000 the number of housing units in Loudoun County has significantly increased by 50.3 percent. This ranks Loudoun County as one of the fastest growing counties in the region. Loudoun County promotes mixed-use communities in order to provide a variety of housing choices for the growing number of residents. The availability of affordable priced housing has an impact on the ability to attract a diverse employment base. Loudoun County's employment base is projected to have a dramatic increase in the number of workers by 2020. This employment growth will create a demand for more housing throughout the County. However, Loudoun County has in its *Revised General Plan, July 2001,* a measure to slow residential growth in the future by a 45 percent reduction in the number of housing units to be built.

The Fairfax Comprehensive Plan indicates that the County promotes mixed-use development, as a way to address the housing and employment needs of the County. Within the Bull Run Planning District the Fairfax County Comprehensive Plan recommends three Suburban Centers: Dulles (VA 28), Centreville, and Fairfax Center. Suburban Centers are defined in the Comprehensive Plan as mixed-use development, which offers retail, office, and residential uses all in a cohesive setting. Tyson's Corner is an example of how mixed uses can function in one area.

The Prince William County Comprehensive Plan provides the following policy statement:

"*Encourage a range of housing opportunities throughout the county that meet the needs of the county's residents including the growing workforce and population.*"

Prince William's plan also addresses the need for job/housing balance from an economic perspective by explaining that "the foundation for enhancement and diversification in Prince William County relies on revenue based growth and its' job to household ratio." Prince William County uses an aggressive approach to attracting professional employees. Professional employees require an array of housing options. The County's promotion of a balanced job/housing ratio assures residents that there are ranges of different housing options that can meet their needs. The County also promotes mixed-use development. The County believes that being able to live and work in the same area will cause shorter trips to be generated resulting in less traffic on local streets.

Manassas City and Manassas Park both have a positive job/housing balance with just a slightly greater number of jobs than housing units. Currently, neither Manassas City nor Manassas Park has data referenced in their Comprehensive Plans to support or reject their goals towards achieving an equal job/housing balance.

TABLE 1.5-2
YEAR 2000 JOBS AND HOUSING FOR
THE TRI-COUNTY PARKWAY STUDY AREA

County	Jobs	Housing Units	Job/Housing Ratio
Loudoun County	2,121	2,160	0.98
Fairfax County	1,079	4,516	0.24
Prince William County[1]	47,015	29,034	1.62
Total Project Area	50,215	35,710	1.41

Source: 2000 Metropolitan Washington Council of Governments
[1]The TAZ data from Prince William County includes Manassas City and Manassas Park data.

Table 1.5-2 illustrates the job/housing balance for the project study area only and not the jurisdictional totals. Loudoun County with a 0.98 ratio is the closest to a balanced job/housing ratio. Prince William County had a significantly higher number of jobs than available housing, indicating a disproportion in the job/housing balance. In contrast, Fairfax County has more housing units than jobs also indicating a job/housing imbalance.

Transportation improvements like the proposed TCP project would enhance the transportation system overall, and promote the job/housing balance that the community needs. The traffic analysis zone data for the total project area reflects that overall there is a positive job/housing balance. However, it is evident that within the project area, most residents live to the south in Prince William County and the City of Manassas and typically work closer to Washington D.C. There exists a lack of connectivity to areas north of the project area, which adds to the transportation problems that currently exist in the Washington Metropolitan Region. The proposed project would address the needs of the current system and would function as a vital link by connecting all of the jurisdictions represented by the TCP study. This would

serve to reduce transit trip time, auto trip lengths, and congestion. In addition, the TCP would enhance regional mobility and encourage a stronger sense of community.

1.5.2 Parks and Recreation Access

Recreational trips can contribute to congestion during peak and off peak periods. These trips have been included as part of the overall travel demand evaluation. The study area for the TCP has a vast array of parks and recreation facilities. There are many jurisdictions or agencies that oversee the operation of these sites including the National Park Service, State of Virginia Department of Forestry, Fairfax County Park Authority, Loudoun County Department of Parks, Recreation and Community Services, the Prince William County Park Authority, and the Northern Virginia Regional Park Authority.

Table 1.5-3 lists some of the major parks within the TCP study area as well as their number of annual visitors and acreage. The proposed TCP would provide an additional north-south route that could enable park visitors to access the parks and recreation sites more efficiently. The parks and recreation sites can currently be accessed from major east-west routes like I-66 and US 29. There are two major north-south routes, VA 234 and VA 28 that can be used to access the parks and recreation sites. Table 1.5-3 also lists some of the amenities provided by each of the parks and recreation centers. Many of them are sports related and can generate large amounts of traffic during peak and non-peak hours.

Generally, a public park will vary in its trip generation. Trip generation is contingent on the size, location and type of activities available at each park. In addition, trip generation by type of park (i.e. neighborhood, city, regional, state and national parks) will vary substantially. The Institute of Transportation Engineers Trip Generation Manual (Sixth Edition) provides a general estimate of trip generation for various types of parks. For example, a standard city park is estimated to generate 1.59 weekday trips per acre. A state park generates 0.65 weekday trips per acre. In most circumstances, the weekend is the peak trip generation period for a park. This generation may vary depending on the activities available at the park. For example, a park may generate significantly more PM peak hour trips during a specific sports season. Most activities, such as baseball, softball, soccer and football practices/games would occur after work and school. This contributes additional trips on the adjacent streets during the PM peak hour. Another type of generation involves the "special event." These are generally large-scale events that occur occasionally and attract more traffic than a typical event. Special event generators occur at multiple locations. Some of these include the anniversaries of the two Manassas Battles which occur on the 21st of July and the 28th, 29th and 30th of August, golfing tournaments at the Richard W. Jones Park and the Robert Trent Jones golf course, the Heritage Festival at the Ben Lomond Regional Park during the month of May, concert events at the Nissan Pavilion facility, summertime usage of the Splashdown Water Park, Bull Run Regional Park Special Events Center and recreational uses of their pool, soccer and shooting center tournaments and other annual events that occur particularly from the month of April to October.

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TABLE 1.5-3
MAJOR PARK AND RECREATION CENTERS

Name of Park or Recreation Site	Number of Annual Visitors	Acreage/Square Feet	Amenities
Ben Lomond Regional Park and Community Center	*Park:* 538,507[1] *Center:* 70,451	*Park*: 205 *Center:* 9,984 sq. ft.	*Park*: Water park, baseball, softball, football, basketball, lighted tennis courts, nature trail, playground and picnic tables. *Center*: dance, physical fitness and art programs.
Bull Run Regional Park	700,000	900	Special Events Center, Outdoor swimming pool, camping, miniature golf, disc golf, equestrian facilities, nature and hiking trails, soccer, shooting center, playground and picnic facilities.
Conway Robinson Memorial State Forest	Not available, site not monitored	400	Equestrian facilities and mountain biking.
Cub Run Stream Valley Park	Not available, site not monitored	817	Historic, biking and hiking trails and playground.
Sully Historic Site	23,000-26,000	Not available	Picnic grounds, gardens and museum store
James S. Long Regional Park	45,092	170	Soccer, baseball, tennis, basketball, equestrian ring, playground and picnic facilities.
Manassas National Battlefield Park	830,000	5,074	Self-guided walking and driving tours, museum and Civil War historic sites.
Richard W. Jones Park[2]	42,000	245	18 hole golf course, hiking and biking trails, playground and picnic facilities.
Newly Acquired Fairfax County Park Authority Property	Not available	838	Not available. Still in master planning phase.
Nissan Pavilion at Stone Ridge	Not available	Not available	Not available

[1]This number includes the Splashdown Water Park visitors.
[2]Robert Trent Jones Golf Club is technically outside of the project area, but is large traffic generator in close proximity to the project area

There are numerous neighborhood parks throughout the proposed TCP study area that add to the community character in the region. Many of these parks are proffered through residential developments or are donated or acquired by the park authorities in the respective region. Many of the major parks promote team sport activities such as soccer, football, and baseball. Practice for these various activities usually occurs daily during the PM peak hours. These activities contribute to traffic congestion, especially on the limited north-south routes that provide access to these recreation areas. As the area continues to grow and traffic increases it will become more difficult to reach these park and recreation destinations.

1.5.3 Community Facilities

The ability of a community to access the necessary range of facilities and services is an important indicator of social sustainability, along with level of social and economic well being (e.g. basic quality of life) and overall sense of community. Without appropriate transportation facilities, significant gaps in the range of facilities and services available to the community will be apparent. Community facilities fall under a broad range of categories that serve a variety of needs. Below is a list and number of facilities provided for the study area community.

TABLE 1.5-4
TYPES AND NUMBER OF COMMUNITY FACILITIES IN THE STUDY AREA

Churches (55)	Major Parks (8)	Post Offices (4)
Schools (23)	Hospitals (1)	Transit Facilities (2)
Colleges (4)	Police Stations (4)	Airports (2)
Libraries (1)	Fire Stations (5)	Sewage Treatment Plants (1)

Access to these facilities is important to the safety, functionality, and livability of a community. Emergency response times in the urbanized areas often will deteriorate due to increased congestion. This is a particular concern for north-south emergency responses where alternative routes are limited. For other services, travel time does not fall under the concerns of safety but does serve an important role in cost savings and accessibility. With scarce resources, it becomes a financial burden for jurisdictions to provide additional services for isolated areas of development. Communities are looking more toward the shared use of community facilities across jurisdictional lines where feasible. Bringing the people closer to the services by improving transportation will increase accessibility to the existing facilities and reduce the demand for new redundant services that will be scattered throughout the area.

1.5.4 Tourism

The TCP study area is located 25 miles from the Nation's Capital. The correlation between the region's tourism sector and the area's airports as gateways for travelers can be seen in the 18 million passengers that the Washington Dulles International Airport (Dulles) served last year. Dulles is a major factor in the growth of the Tri-County region. With population and employment growth as robust as it has been over the last ten years, there has been an immense strain placed on the existing transportation systems that lead to and from Dulles. Access, congestion, and traffic movement to the major tourist attractions will be an important concern throughout the development of this document. Some of the major tourist attractions in the area are described in the following paragraphs.

Old Town Manassas (Old Town) is located in the southern portion of the proposed TCP study area. As a National Main Street member, Old Town takes a comprehensive approach to regenerating the economic vitality of downtown commercial districts, built around a community's unique heritage and attributes. There are many unique restaurants, shops, and historic qualities that contribute to the tourism industry in

Old Town. According to Historic Manassas Incorporated, an accredited visitor center with the State of Virginia, the Historic Manassas visitor center attracted 40,575 visitors in 2001. That is up eight percent from the previous year. They also noted that only ten percent of the visitors to Old Town visit the center.

Just north of Manassas is the Manassas National Battlefield Park. This park has over 800,000 visitors a year. The park offers self-guided walking and driving tours of the historic Civil War battle site. The park contains several historic features, which highlight and interpret the significance of the site for both the First and Second Battle of Manassas during the Civil War. These features include: the Stone Bridge, the H. Matthews Stone House, and the Henry Hill Visitor Center and Museum.

Loudoun County, situated in the northern part of the proposed TCP study area, is home to many beautiful estates, historic sites, and wineries. Because of the proliferation of horse-related activities in the county, many of Loudoun's visitors come to enjoy such equestrian events as point-to-point racing, nationally recognized horse shows, foxhunts and the steeplechase.

The National Air and Space Museum (NASM) Udvar-Hazy Center will be a future tourist attraction in the north end of the project study area. The Smithsonian Institution is building a new museum for the display and preservation of its collection of historic aviation and space artifacts. It will be located at the Dulles Airport and will be named the Udvar Hazy Center after its primary contributor Stephen F. Udvar-Hazy. The facility will open in December, 2003.

1.5.5 Goods Movement

Goods movement is an important factor to consider when evaluating improvements to a transportation system. Goods movement has an impact on traffic generation, capacity, and vehicle mix. The safe and efficient movement of goods is also important for the support of the economic development needs of the area. It is also important to consider that the maintenance and improvement of the freight transportation network is vital for the preservation of the standard of living enjoyed by those who live and work in the community.

Table 1.5-5 compares the percent truck volumes for selected routes in the study area. The impact on traffic of heavy vehicles within the study area is not widespread. The largest percentage recorded (20%) is along VA 659 south of US 50, which carries many trucks traveling to and from a rock quarry. Traffic on Interstate 66 is comprised of 16% trucks within the study area. Other facilities carrying above 10% trucks include US 15 between US 29 and US 50 (10% to 16%), VA 234 between US 29 and VA 659 (13%), and VA 234 Bypass between VA 621 and VA 674(13%). All other roadways for which there is classification data showed between 4% and 9% trucks.

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TABLE 1.5-5
PERCENT ESTIMATED TRUCKS ON SELECTED ROUTES IN THE STUDY AREA

Route and Location	Percent Trucks
VA 28 from Godwin Drive to VA 674[1]	5%
VA 28 from VA 674 to VA 234 Business[1]	4%
VA 28 from Prescott Avenue to Liberia Avenue[1]	4%
VA 28 from Liberia Avenue to Manassas Drive[1]	5%
VA 28 from Manassas Drive to US 50[5]	6%
VA 234 from Prince William Parkway to VA 674[2]	6%
VA 234 Business from Grant Avenue to Godwin Drive[2]	5%
VA 234 from I-66 to US 29[2]	9%
VA 234 from US 29 to VA 659[2]	13%
VA 234 Bypass from VA 621 to VA 674[2]	13%
VA 609 south of US 50[3]	5%
VA 620 at VA 662[3]	5%
VA 659 south of US 50[3]	20%
US 15 from US 29 to VA 55[2]	16%
US 15 from VA 234 to VA 705[2]	12%
US 15 from VA 705 to US 50[4]	10%
US 50 at VA 606[4]	3%
Godwin Drive from VA 28 to VA 234 Business[1]	4%
I-66 within the study area[5]	16%

Sources: [1] Tri-County Parkway Traffic Count Program (City of Manassas), 2002;
[2] Interstate 66 Traffic Count Program, 2000 and 2001;
[3] VDOT mechanical counts, April 2002;
[4] Other VDOT study area traffic counts, 1999;
[5] Commonwealth of Virginia Department of Transportation Average Daily Traffic Volumes on Interstate, Arterial and Primary Routes, 2000.

The category of industries contributes to the types of trucks that serve the study area. Government, services, and retail dominate the employment sectors in the study area. These businesses tend to require smaller two and three-axle trucks rather than heavier tractor-trailer trucks that serve manufacturing, textiles, and commodity distribution centers. The higher volume and percentages of tractor-trailers are mostly concentrated on I-66.

In addition to the roadway system, there is also a need to support and coordinate with other transportation systems that serve the movement of goods. The Dulles Airport not only provides air transportation services to passengers but it also transports large volumes of cargo. According to a September 7, 1999 press release from the MWAA, the Washington Dulles International Airport handles 89 percent of the air cargo transported from the two major Washington Airports. Based on 1998 statistics, these two airports (Ronald Reagan Washington National being the other) served nearly 32 million passengers and moved 439,250 tons of airfreight that year. The press release also states “the value of air freight handled at Dulles each year is estimated at $12.4 billion. Air cargo activity generated more than 2,200 jobs in the local economy in 1998.” Rail freight is present in the study area as well. Norfolk Southern has a railway that runs east to west, which crosses the southern end of the study area. Any north-south improvements to the transportation system would include coordination with crossings of the Norfolk Southern Railway. These improvements may provide for better rail services for both passengers and freight.

As the study area continues to develop, it will become more difficult for the current transportation system to handle the movement of goods necessary to serve the homes and businesses. As the transportation system becomes more congested, roadway deficiencies will increase. This will have an impact on costs of business activities, which may discourage new economic development, and increase accident frequency.

1.6 SAFETY ISSUES

1.6.1 Safety Analysis

One of VDOT's top priorities is safety. VDOT has an obligation to ensure that Virginia has a comprehensive transportation system, which enhances the safety of its citizens. It is VDOT's mission to "plan, build, operate and maintain a surface transportation system that represents the highest standards of safety and quality."

Safety is an issue of concern along many roadways within the study area. While many segments exhibit crash rates well below the Tri-County area wide average rates, others exceed these rates by several times. Roadway segments that exceed the Tri-County average crash rates will exceed the statewide rates by an even greater factor. Crash rates are determined by dividing the number of crashes in a segment by an estimate of the vehicle miles traveled (VMT) within that segment. Rates typically are given per 100 million vehicle miles of travel. Since these rates fluctuate from year to year based on a variety of factors, for this analysis a single rate was determined for a four-year study period (1997-2000). Within the City of Manassas data is only available for 1997 and 1998, so crash rates for roadway sections within the city reflect these two years only. In order for a crash to be included in the database maintained by VDOT, it must either cause an injury or be responsible for at least $1000 in property damage.

A total of six roadway segments of those studied exhibited crash rates more than twice the average. One segment stood out above all others: for each mile traveled on VA 234 (Sudley Road) from the northern Manassas/Prince William County line to just before the I-66 interchange, a driver is 6.4 times more likely to experience a crash than on an average primary system roadway within the Tri-County region or 7.9 times more likely than on a similar average facility within the Commonwealth. Many of the locations with above average rates are along north-south facilities within the study area. Two adjacent sections of VA 234, to the north from the I-66 interchange through the US 29 intersection, and to the south, from the southern Manassas/ Prince William County line to Godwin Drive, also exhibited crash rates of 2.6 and 2.5 times the area wide average for primaries(or 3.2 and 3.1 times statewide). Other roadway segments with crash rates at least twice the average were VA 28 within the City of Manassas (2.7 times areawide, 3.3 times statewide), Liberia Avenue from the Mathis Avenue intersection to the western Manassas/Prince William County line (2.9 times areawide, 3.1 times statewide), and US 29 from the I-66 interchange in Centreville to the VA 28 intersection (2.9 times areawide, 3.6 times statewide).

Among the safest roadway segments in the region are Interstate 66 from the Fauquier/ Prince William County line to before the VA 234 interchange, US 50 from east of the VA 659 (Gum Spring Road) intersection through the VA 609 (Pleasant Valley Road) intersection, and VA 28 in Fairfax County from north of the I-66 interchange to the Loudoun County line. A driver traveling one mile along each of these segments is less than half as likely to experience a crash than a driver traveling on an average similar type of facility in the Tri-County region.

The rates of injury crashes tended to follow the same patterns as those of property damage crashes. Death rates tend to be skewed since they are such isolated incidents; a single crash involving a death over a four-year period on a sparsely traveled roadway can force the death rate per VMT to a very high value. About half the roadway segments studied experienced at least one death in the four-year study period, and half did not. A total of 26 deaths occurred on the roadways studied within the four-year time frame. The total number of deaths in each year on the roadway segments studied is experiencing a downward trend, from 11 in 1997 to 3 in 2000. There were no death crashes within the City of Manassas in 1997 and 1998, so the impact of any death crashes in the more recent years on this trend is not known.

TABLE 1.6-1
SUMMARY OF ACCIDENT RATES BY SELECTED ROUTE SEGMENTS

Facility	Description	Crash Rate	Injury Rate	Death Rate
(per 100 million VMT)				
State Average	Primary Roads	157	100	1.7
Tri-County Average	Primary Roads	195.04	114.11	0.83
VA 234	NCL Manassas to before I-66 interchange	1247.64	547.99	2.86
VA 234	SCL Manassas to Godwin Drive	500.56	215.97	0.0
VA 234	I-66 interchange through US 29 intersection	489.44	220.38	2.56
US 29	I-66 interchange (Centreville) to VA 28 Sully Road	561.45	230.92	0.0
VA 28	within the City of Manassas	519.12	191.16	0.0
VA 28	Fairfax Co line through I-66 interchange	224.84	90.57	1.07
US 50	US 15 to VA 659 Gum Spring Road intersection	90.77	34.20	0.66
State Average	Secondary Roads	250	142	1.9
Tri-County Average	Secondary Roads	266.74	143.83	1.10
Gum Spring Road (659)	VA 234 Sudley Road to US 50	172.05	70.85	5.06
Bull Run Post Office Rd. (659) & Elk Lick Road (621)	VA 658 Compton Road to US 50	447.27	263.78	0.0
Liberia Ave/ Lomond Dr	Mathis Ave. intersection to WCL Manassas	765.40	236.91	0.0
Pleasant Valley Road (609)	VA 620 Braddock Road to US 50	459.43	209.57	8.06
Wellington Road	VA 234 bypass intersection to VA 28	397.61	143.14	0.0
State Averages	Interstate	72	38	0.6
Tri-County Average	Interstate	82.00	45.00	0.27
Interstate 66	US 29 (Centreville) and VA 28 interchanges	132.37	43.75	1.12
Interstate 66	Fauquier/Prince William co line through Haymarket	28.15	10.12	0.88
Interstate 66	VA 234 interchange to Prince William/Fairfax co line	64.92	24.20	0.20

1.6.2 Existing Roadway Deficiencies

The most traveled north-south travel corridor in the study area is VA 28. This roadway changes throughout its length from a four-lane "Main Street" type facility in the center of Manassas, to a more typical four- to six-lane roadway with fronting businesses and stores set back from the edge of the road, to a high-speed freeway-type facility in the study area's northern reaches between I-66 and US 50. As seen from the speed profiles in section 1.3.2, drivers tend to greatly exceed the speed limit in freeway-type sections only to slow down when encountering traffic signals or congestion from other vehicles. A driver's inability to negotiate these vast speed changes may lead to crashes. There are sections of VA 28 and VA 234 with sharp curves limiting the driver's ability to see ahead. Several locations within the study area, such as the intersection of Gum Spring Road and US 50, lack traffic signals though there are substantial volumes of turning traffic. Serious accidents occur rather regularly at this location.

1.7 STUDY CORRIDOR PLANNING EFFORTS

There are many on-going transportation planning efforts in the Northern Virginia Region and within the TCP study area. The focus of these efforts ranges from the project-level, such as the"I-66 Multimodal Transportation and Environmental Study", to more regional planning initiatives such as the Northern Virginia 2020 Transportation Plan. All of these efforts are initiated to develop a system of improvements that will meet the transportation needs of the Northern Virginia Region. The following section provides a description of these planning efforts, their purpose, and their relationship to each other and to the TCP.

1.7.1 Planning Studies

Transportation planning in the Northern Virginia and Metropolitan Washington Regions is an on-going process that is coordinated at all levels of government. The National Capital Region Transportation Planning Board (TPB), the Northern Virginia Transportation Coordinating Council (TCC), and the Northern Virginia Transportation Planning Authority in cooperation with VDOT, VDRPT, regional transit service providers, local jurisdictions, and Federal agencies, are the three entities that drive the transportation planning process for the region. The TPB includes representatives of local governments, state transportation agencies; the Maryland and Virginia General Assemblies; the Washington Metropolitan Area Transit Authority; and non-voting members form the Metropolitan Washington Airports Authority and Federal Agencies. The TPB is the federally designated Metropolitan Planning Organization (MPO) for the region. The TCC consists of the counties, cities, and towns in Northern Virginia and exists as a means to bring together local officials and state legislators to address major transportation issues for the region. The TCC submits an annual legislative agenda to the Northern Virginia members of the General Assembly, and recommends for funding an annual program of transportation projects for the region. The Northern Virginia Regional Transportation Authority was created in the 2000 Virginia General Assembly by a Joint Subcommittee. The following sections describe the major planning studies and programs affecting transportation for Northern Virginia and how they are being coordinated.

1.7.1.1 Northern Virginia 2020 Transportation Plan

Developed by the Northern Virginia TCC, and adopted in December of 2000, the Northern Virginia 2020 Transportation Plan (NVTP) is the long-range (20-year) transportation-planning guide for the Northern Virginia region. Its purpose is to identify short-term and long-term transportation needs for the region, and to recommend a package of multi-modal transportation improvements that will best satisfy those needs. As defined in the NVTP, the Northern Virginia Region includes the Counties of Arlington, Fairfax, Loudoun, and Prince William; the Cities of Alexandria, Fairfax, Falls Church, Manassas, Manassas Park;

and the Towns of Dumfries, Herndon, Leesburg, and Vienna. Modes evaluated include highways, rail transit, other transit, non-motorized travel, and travel demand management.

The NVTP has also been developed as a programming tool to aid in the development of the regional CLRP and also in the development of the Virginia Transportation Six-Year Program. Additionally, local governments have been involved in the development of the NVTP, and can use it as a tool when updating their comprehensive plans to guide growth and development in areas that may be affected by transportation improvements.

The projects recommended in the NVTP have been modeled on a system-wide basis, and the resulting package is the one that best satisfies needs for regional capacity improvements and community linkages, while maintaining support from the local governments who have had input in the plan's development.

The portions of the TCP from VA 234 Business to I-66 and from Route 620 (Braddock Road) to US 50 (Lee Jackson Highway) have been recommended in the NVTP as short-term improvements (2000-2010). In addition, the portion of the TCP from I-66 to Route 620 (Braddock Road) has been recommended as a mid-term improvement (2010-2020). Currently, only the two short-term projects are in the CLRP for the region. The NVTP identifies the TCP as no greater than four lanes south of Route 620 (Braddock Road) and either four or six lanes from Route 620 (Braddock Road) to US 50. The NVTP also recommends improvements to the Loudoun County Parkway in the mid-term from US 50 to the Dulles Greenway. This would allow the TCP to tie in with the Loudoun County Parkway by the year 2020, creating a continuous link from the City of Manassas to the Dulles Greenway.

1.7.1.2 Financially Constrained Long-Range Plan (CLRP)

The CLRP for the Washington region, developed by the National Capital Region TPB and the Transportation Planning Division of MWCOG, is the long-term Federally-mandated plan for highway and transit projects in the District of Columbia; Prince George's, Montgomery, and Frederick Counties in Maryland; and all areas of Northern Virginia covered in the NVTP. The most current plan was last amended on November 15, 2000. The CLRP is updated every three years. The CLRP can be amended each year to account for changes that may have occurred in project priorities as a result of the Transportation Improvement Program (TIP) update. The time horizon for the current plan is 2025, and, as required by Federal law, funding sources "that are reasonably expected to be available" have been identified for all projects included in the plan. All projects in the CLRP meet Federal planning and air quality conformity requirements.

As mentioned in the NVTP section, the portions of the TCP south of I-66 and between Route 620 (Braddock Road) and US 50 are currently included in the CLRP.

1.7.1.3 2003-2008 Transportation Improvement Program

The Transportation Improvement Program (TIP) for the Metropolitan Washington Region, also developed by the TPB based on input from VDOT, MDOT, DCDOT, and WMATA, lists all highway, transit and non-motorized transportation improvements for which funds have been programmed for the current six-year period (2003-2008). The TIP provides a description of each project and outlines the cost, phasing, and funding sources. The TIP is reviewed and updated on an annual basis by the TPB as conditions, priorities, or funding source changes in the region. The Metropolitan Washington Region TIP is incorporated into the State TIP, which lists anticipated Federal dollars authorized statewide for the same time period. Projects are taken from the CLRP and included in the TIP as they approach the timeframe for implementation. It is important to note that local elected officials, agency staff members, and citizens provide comments on the TIP prior to adoption. Typically, the CLRP is amended each year to reflect any changes that may have occurred during the development of the TIP.

The TCP is listed in the 2003-2008 TIP for study from VA 234 Business to Route 620 (Braddock Road).

1.7.1.4 Virginia Transportation Six-Year Program

The VDOT 2002/2008 Six-Year Transportation Program is the statewide six-year program for transportation projects that was approved on June 20, 2002. In this document, only projects are included for which funding sources have been identified and allocated. The 2002/2008 Six Year Program divides projects into Feasibility Studies and Capital Improvement Projects. In the 2002/2008 Six-Year Program, the TCP from VA 234 to Route 620 (Braddock Road) is included as a feasibility study and funds have been allocated for planning and engineering only.

1.7.1.5 Loudoun County Countywide Transportation Plan

The Loudoun Revised Countywide Transportation Plan is intended to serve as the transportation plan element of the County's Comprehensive plan. The Loudoun County Countywide Transportation Plan addresses transportation needs for the County for the next 20 years. This current plan revision was adopted on July 23, 2001. The recommendations in this plan support the land use, environmental and economic development policies that are outlined in Loudoun County's Revised General Plan. The following elements listed in the Countywide Transportation Plan are specifically relevant to the Purpose and Need for the TCP Study:

- Transit corridors have been identified as US 50, VA 28, and VA 7
- The County will facilitate the implementation of rapid-rail transit in the Dulles Greenway Corridor and study the feasibility of light rail or other form of transit in the VA 28 corridor
- The Loudoun County Countywide Transportation Plan recognizes the County's involvement in the development of the NVTP and the VTDP, and states that it "is logical for the project priorities in these Programs to be consistent with this Plan."
- The Loudoun County Countywide Transportation Plan reaffirms the County's support for the Loudoun County/Tri-County Parkway by citing these recommendations as the "County's second most important north-south road after VA 28."
- The County calls for the TCP to be a controlled access four- to six-lane divided arterial.
- The County cites the following items as the main purposes for the project:
  - Provide an additional link between Fairfax and Prince William Counties
  - Provide a second north/south connection between VA 7 to I-66 to alleviate congestion on VA 28
  - Improve access to Dulles Airport from the south

1.7.1.6 Fairfax County Comprehensive Plan

In the 2000 Edition of the Fairfax County Comprehensive Plan, the TCP is identified as the VA 28 Bypass extension. The Comprehensive Plan states the need for a new north-south controlled-access road connecting Prince William, Fairfax, and Loudoun Counties. This route is described as an extension of the "VA 28 Bypass in a northerly direction, crossing US 29 in the vicinity of the quarry and thence proceeding north to Bull Run Post Office Road." It is cited that this new road will divert traffic off other north-south

roads such as Pleasant Valley Road, and may also provide an additional route around the Manassas National Battlefield. Additionally, it is cited that this new road would only be feasible if the VA 28 Bypass was first extended to I-66. The VA 28 Bypass south of I-66 is designated as a six-lane facility. The Comprehensive plan calls for the VA 28 Bypass to be a four-lane divided arterial north of I-66. It also calls for access to be limited as much as possible to I-66 (grade separated interchange) and US 29.

1.7.1.7 Prince William County Comprehensive Plan

The 1998 Prince William County Comprehensive Plan Transportation Element outlines several strategies for the County to improve future transportation capacity and community linkages. One of the main goals would be to connect major transportation facilities and population and employment centers. Some of these include the City of Manassas, I-95, I-66, and the Dulles Technology Corridor.

The Comprehensive Plan identifies the TCP as a recommendation in the thoroughfare plan that would help achieve the above strategy. The TCP is recommended as a six-lane divided facility with a median and adjacent bicycle/pedestrian trail from VA 234 in Manassas to the Fairfax County Line. It would form and extension of Godwin Drive and would extend to I-66 in Fairfax County. Interchanges are recommended at VA 234 and Lomond Drive. The TCP would provide needed capacity to I-66 and VA 28.

1.7.1.8 Manassas City Comprehensive Plan

The previous Manassas City Comprehensive Plan was drafted in 1989. An update to the Comprehensive Plan is currently underway and is expected to be complete by fall of 2002. A draft version of the Comprehensive Plan recommendations by sub-area is currently available for public review but there is no mention of the TCP.

1.7.1.9 Manassas Park Comprehensive Plan

The City of Manassas Park Comprehensive Plan is currently being drafted and is expected to be complete by fall of 2002.

1.7.2 Major Transportation Studies

There are four major transportation projects within or near the TCP study area that have the potential to affect the recommendations of the TCP study. A map of the study areas for each of these projects is included in Figure 1.7-1. The following paragraphs describe the purpose of each of these studies and its relationship to the TCP study.

1.7.2.1 Western Transportation Corridor Study

Efforts to study a Washington D.C. Bypass began in the late 1980's out of need to reduce congestion on I-95, the Capital Beltway, and other roadways in the region. These efforts included a First Tier DEIS and a Major Investment Study (MIS). In these two studies, alternatives were studied to the east and to the west of Washington D.C. These initial studies resulted in the elimination of the eastern alternatives, due to environmental and right-of-way concerns. The "Washington Bypass Study" has now evolved into the "Western Transportation Corridor Study", which has a modified study area and a new series of alternatives from the original study. These items were modified as new information has been presented to the study and as additional considerations have surfaced such as new planned or committed transportation improvements in the region.

The current "Western Transportation Corridor Study" is being pursued as a Draft Environmental Impact Statement with a modified study area of roughly 800 square miles that extends from I-95 in Prince William and Stafford Counties to the Potomac River at the Maryland State line in Loudoun County. The primary purpose of the study is to improve north-south mobility. The need for the study would be to alleviate traffic from I-95, the Capital Beltway, and other freeways and arterials in the region, to provide a less congested route for north-south through-traffic and goods movement, to service the expanding facilities at Washington-Dulles Airport, and to meet growing travel demands of Loudoun, Prince William, and Stafford Counties, where population and employment are increasing and more commuters are traveling north-south. The study area for the Western Transportation Corridor overlaps the TCP study area to a degree, but the two roadways vary in scope and are expected to serve different transportation needs.

1.7.2.2 I-66 Multimodal Transportation and Environmental Study

The "I-66 Multimodal Transportation and Environmental Study" was initiated in late 2001 as a joint effort between VDOT and the Virginia Department of Rail and Public Transit (VDRPT). The purpose of the study is to evaluate multimodal improvements that will enhance mobility and safety in the I-66 corridor. Alternatives examined will include a combination of capacity improvements to I-66, expansion of Metrorail service along the corridor, enhancement of the Virginia Railway Express, and improvements to express bus service. The study area includes the I-66 corridor from just west of the I-66/I-495 interchange in Fairfax County, to the I-66/US 15 interchange near Haymarket in Prince William County.

Since the TCP will cross I-66, coordination will be necessary between the two study efforts to determine if an interchange will be provided where the TCP crosses I-66, and also how the improvements proposed from the I-66 study will potentially affect traffic on the TCP. Coordination will also be sought during the data collection effort since there is some overlap in the project study areas.

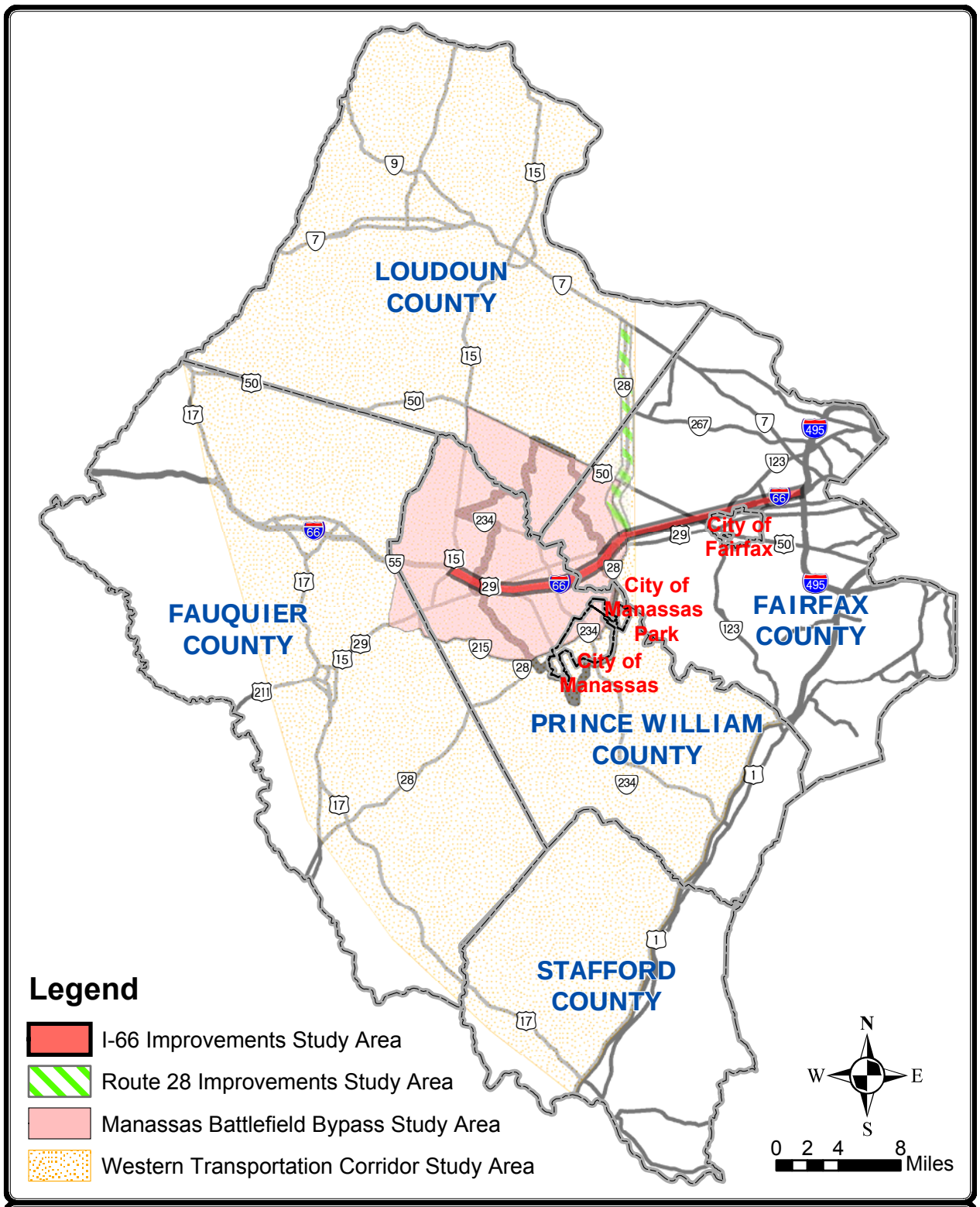
1.7.2.3 Manassas National Battlefield Park Bypass Study

The "Manassas National Battlefield Park Bypass Study" was initiated by Congressional mandate as part of the Manassas National Battlefield Park Amendments of 1988. In this legislation, Congress authorized funds to study and construct transportation improvements that would allow for the removal of existing US 29 and VA 234 within the boundaries of the Park. The Environmental Impact Study is currently underway with an expected completion date in late 2003.

The study area includes portions of Prince William, Loudoun, Fairfax, and Fauquier Counties, the Cities of Manassas and Manassas Park, and the Town of Haymarket. A large portion of the Battlefield Bypass study area overlaps the TCP study area. Coordination is being sought among the team members of each of these studies to share data, to identify environmental resources, and to discuss project alternatives.

1.7.2.4 VA 28 Corridor Improvement Project

The Virginia Department of Transportation is negotiating a comprehensive agreement under the Public-Private Transportation Act of 1995, to convert the 14-mile stretch of VA 28 between I-66 and Route 7 to a limited access freeway. This project will involve widening VA 28 to an eight-lane section, as well as replacing ten signalized intersections with grade-separated interchanges. The proposed work has been included by the TPB in the proposed 2002 Transportation Improvement Program (TIP), but is not in the currently approved TIP/CLRP, with the exception of 3 interchanges currently under design by VDOT. The project is currently moving forward with a goal to complete construction by 2006.
Fairfax and Loudoun Counties have also been requested to undertake studies to identify routes and station locations for a future elevated, advanced light rail feeder system in the VA 28 corridor as per implementation of the Northern Virginia 2020 Transportation Plan.



Tri-County PARKWAY Location Study

FIGURE 1.7-1
OTHER PROJECTS

1.7.3 Other Studies

Coordinated efforts will take place between the TCP project team and the preparers of several other studies in the region to ensure that the recommendations of these other studies, and other issues such as traffic, are considered and coordinated during the development of the TCP study. Many of these studies are currently being developed or updated, thus providing the TCP project team the opportunity to plan concurrently with these efforts. The following is a list and brief description of these studies:

- "Northern Virginia Regional Bikeway and Trail Network Study" – The goal of this project, initiated by VDOT in the summer of 2001, is to develop a regional plan for a bicycle and trail network in Northern Virginia based on existing jurisdictional plans, including Fairfax County, Loudoun County, Prince William County, Arlington County, and the Cities of Alexandria, Falls Church and Fairfax. This regional network will include both on-road bicycle facilities such as paved shoulders and bike lanes, as well as off-road multi-use trails. Other corridors will be analyzed in the region, in addition to those recommended by the local jurisdictions, in order to create a seamless regional trail network. The study is scheduled for completion in August of 2002.

- "Northern Virginia Park and Ride Feasibility Study" – This is a VDOT based study initiated in December 2000 to determine the demand for park and ride spaces in the HOV corridors and recommend feasible sites for construction of future commuter lots. The main tasks include an inventory of existing park and ride lots, an inventory of lots that have been planned by other transportation agencies in the region, and an estimation of remaining demand. Potential future sites will be identified and an implementation plan for developing these sites will be included. The estimated completion date for this study is not yet known.

- "2000 Metropolitan Washington Greenway and Circulation System Report" - In 1999 the TPB, under a grant awarded by the Federal Highway Administration, established a Green Space Advisory Committee and a Circulation Systems Advisory Committee to identify proposed greenway and circulation improvements in the Metropolitan Washington Region. The two advisory committees, in conjunction with TPB staff, developed two reports that were recently released in February 2001 - *Priorities 2000: Metropolitan Washington Greenways* and *Priorities 2000: Metropolitan Washington Circulation Systems*.

  - *Priorities 2000: Metropolitan Washington Greenways* identifies regional greenway priorities in the region and outlines an implementation strategy for implementing these greenways. A total of 28 greenways were identified as local priorities in the report and eight greenways were identified as regional priorities. None of the proposed greenways were within the TCP study area.

  - *Priorities 2000: Metropolitan Washington Circulation Systems* - Circulation systems are designed to move people within activity centers and can include a combination of transit, pedestrian, and bicycle systems. These help get people from major transportation nodes such as a rail station, to other locations within an activity center. The report identified nine regional circulation system priority projects. None of these projects were located within the study area or at either end of the Study (Manassas City or Dulles Airport).

- "National Park Service Manassas National Battlefield Park Master Plan" – A General Management Plan (GMP) was completed in the 1980's that outlined future planning and management strategies for the Park. A new GMP is currently in production but will not be completed until the Manassas National Battlefield Park Bypass Study is complete.

- "Northern Virginia Regional Park Authority General Management Plan for Bull Run Regional Park" - The Northern Virginia Regional Park Authority is preparing to develop a General Management Plan (GMP) for over 900 acres of the 1563 acre Regional Park to help guide future planning and resource management of the park. A key element in the planning process is public involvement. Public meetings for this plan will be announced. The Regional Park Authority encourages citizens to comment on all draft planning documents. The GMP for Bull Run Regional Park will include the following:
  - Identification of park mission, purpose and significance statements
  - An inventory and description of the existing natural resources
  - A history, inventory and description of the existing cultural resources
  - A description of current Park programming
  - An inventory and description of the existing public recreation facilities
  - Identification of various park resource management zones and a description of the activities appropriate for each zone.
  - Opportunities for future plans and projects