

# ARTERIAL

## PRESERVATION PROGRAM

US 58 Arterial Preservation Plan – Final Recommendations

*March 18, 2018; 5:00 PM – 7:00 PM*

*Southampton County Office Center; Courtland, VA*

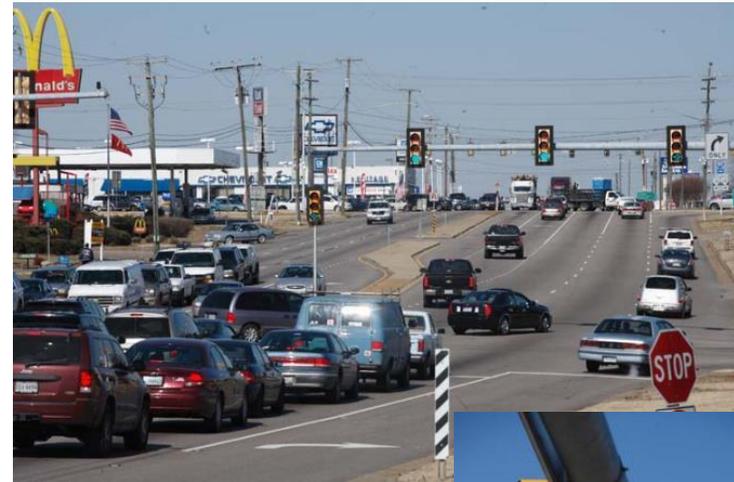


# Arterial Preservation Program

Background

# Summary of Program Goals

- To preserve and enhance the capacity and safety of Virginia's critical transportation highways:
  - Reduce congestion on arterial mainline
  - Minimize delays
  - Improve safety
  - Limit the number of conflict points



# Implementation Strategies

- Integrate program priorities with local economic development goals
- Improve access management
- Educate communities on the benefits of improved mobility
- Inspire coordinated transportation and land use planning efforts
- Eliminate unwarranted traffic signals
- Implement innovative intersection configurations

# Why This Matters

- Preparing for future traffic and economic development reduces the need for expensive, disruptive "retrofit" projects
- Route 58 is anticipated to see additional commercial and residential development
- Route 58 provides access to local destinations, the Port of Virginia, and tourist destinations



# Arterial Preservation Program

Access Management Overview

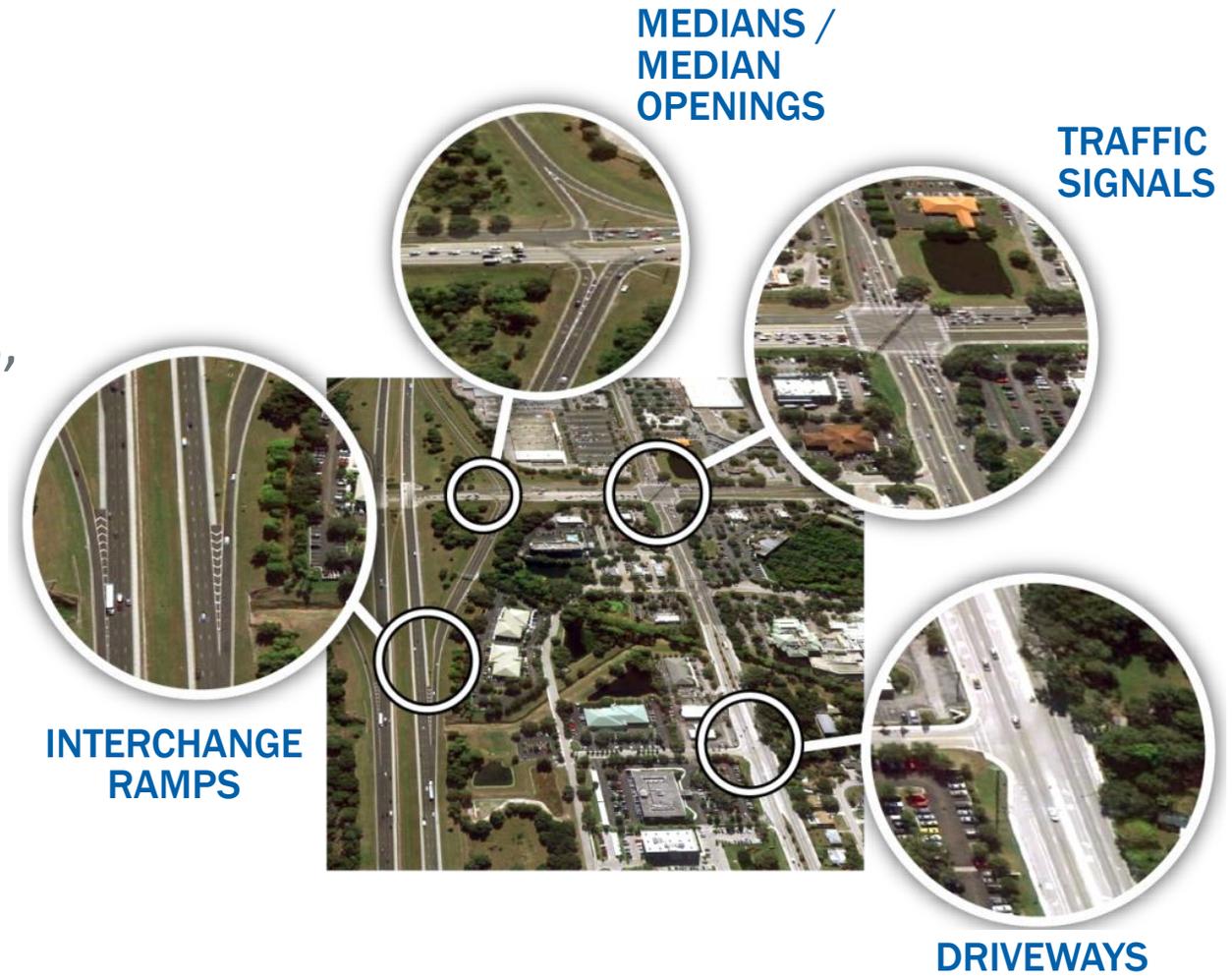
# Access Management

## What is Access Management?

Access management involves the location, spacing, and design of driveways, medians, median openings, traffic signals, and interchanges

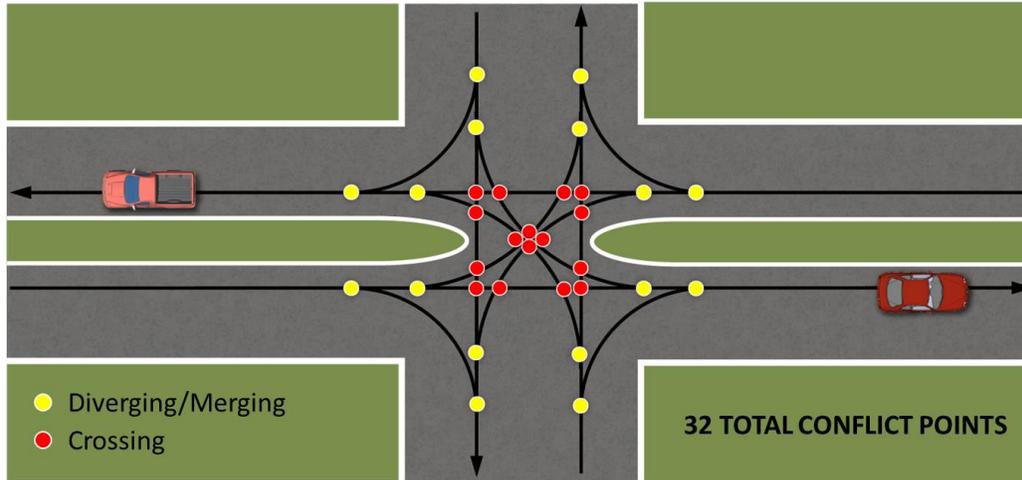
## Guiding Principles

- Limit the number of conflict points
- Separate conflict points
  - Reduce the number of median openings
  - Improve driveway design
  - Consolidate driveways to reduce frequency
- Look at conflict points from a network perspective

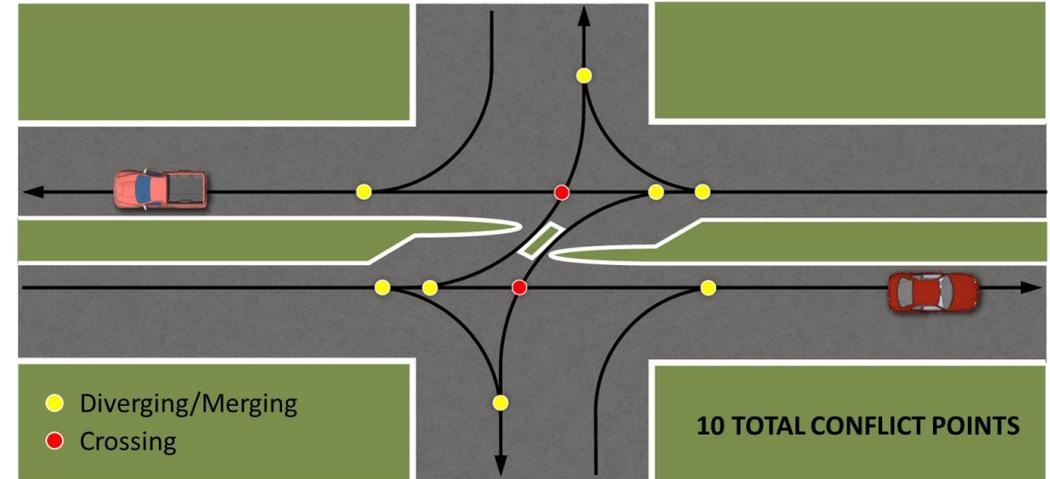


# Conflict Points

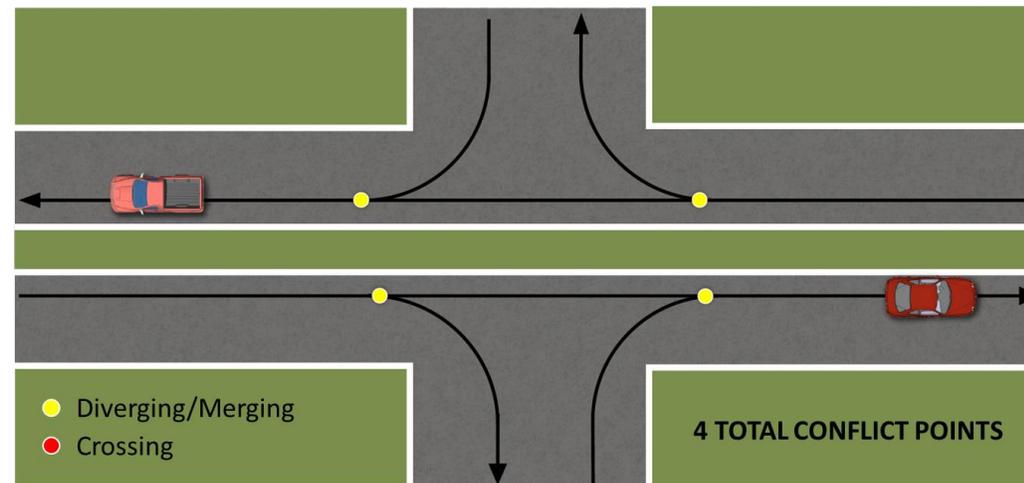
FULL UNSIGNALIZED MEDIAN OPENING



DIRECTIONAL MEDIAN OPENING

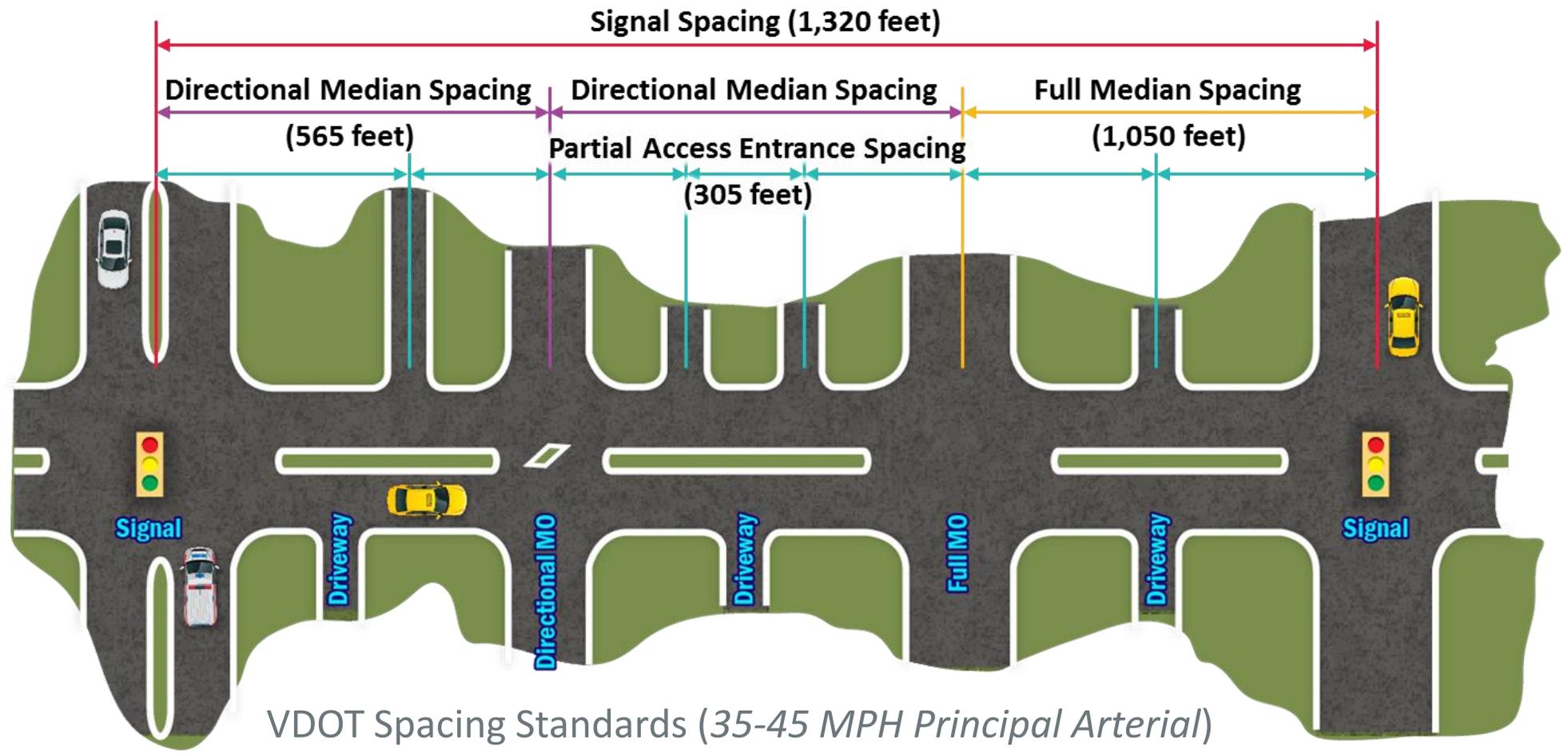


RIGHT-IN/RIGHT-OUT DRIVEWAY



# Access Management Guidelines

45

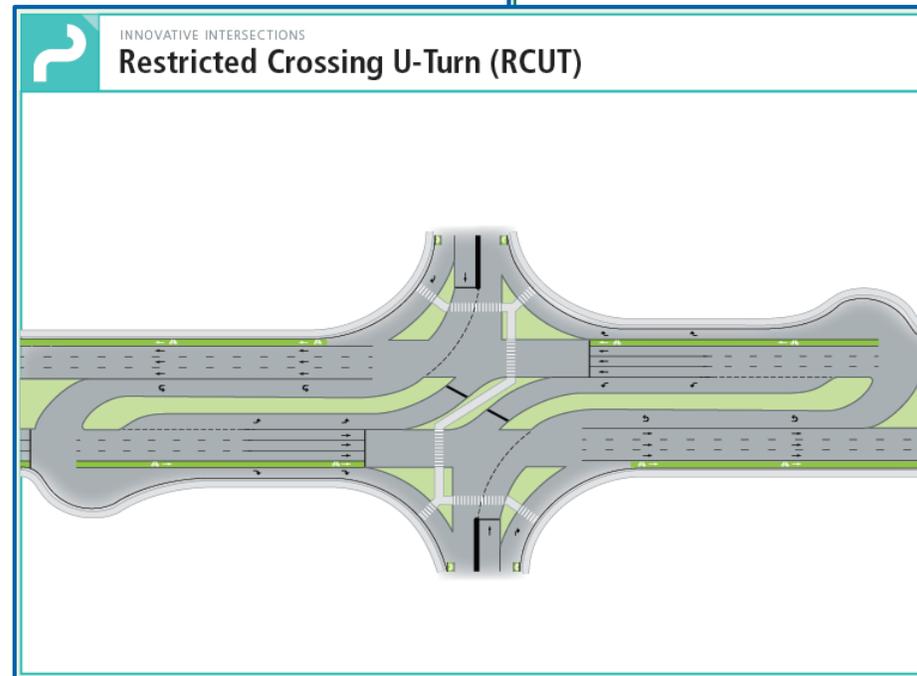
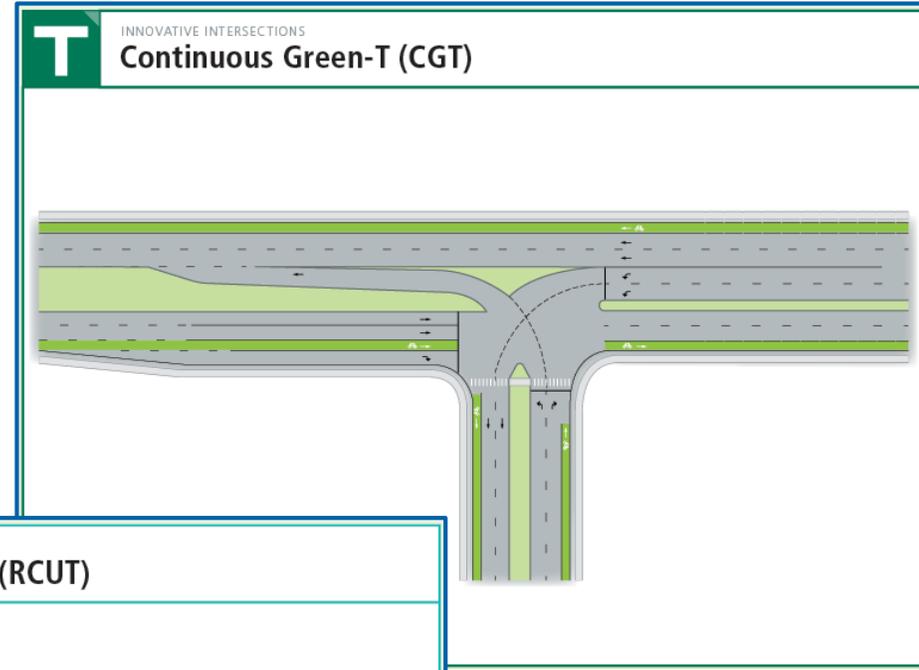


# Arterial Preservation Program

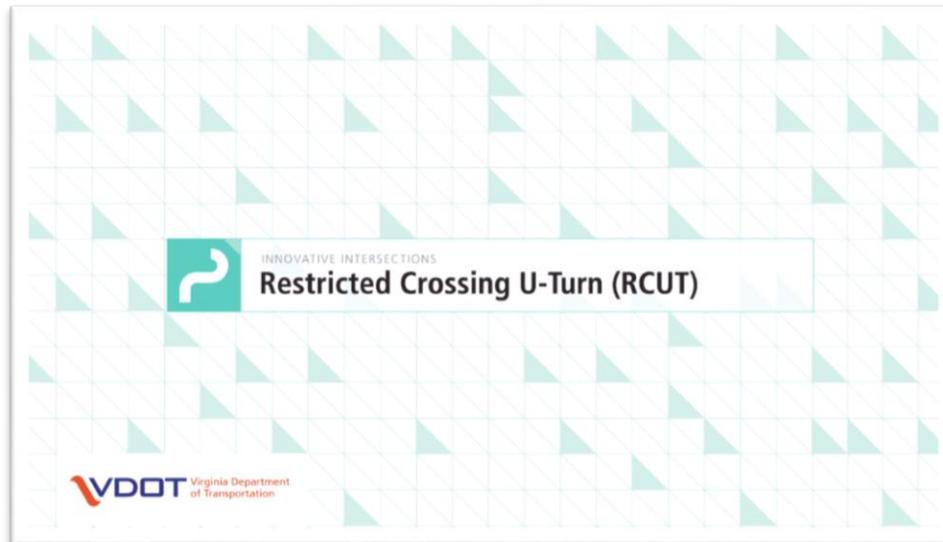
Innovative Intersections Overview

# Innovative Intersections

- Intersection designs which:
  - Improve safety
  - Reduce delay
  - Increase efficiency
- Can reduce delays and crashes as much as 50%
- Also known as:
  - Alternative
  - Non-traditional
  - Unconventional
  - Reduced Conflict



# Innovative Intersection Videos



# Arterial Preservation Plan

US 58 Corridor

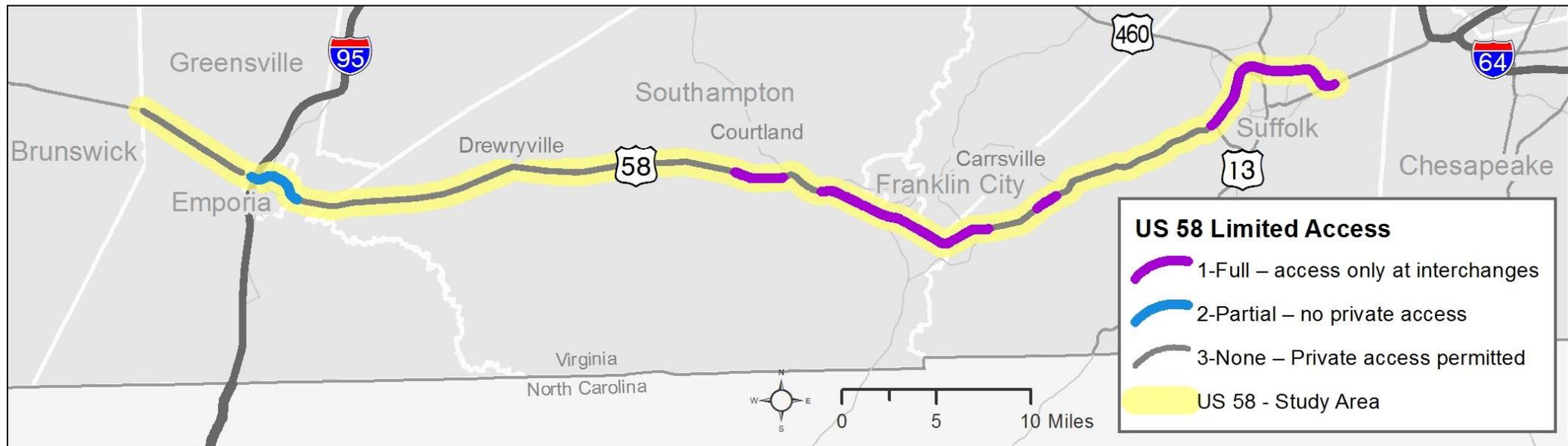
# Study Corridor

US 58 from Suffolk Bypass to Brunswick – Greenville County Line  
(~71 miles)

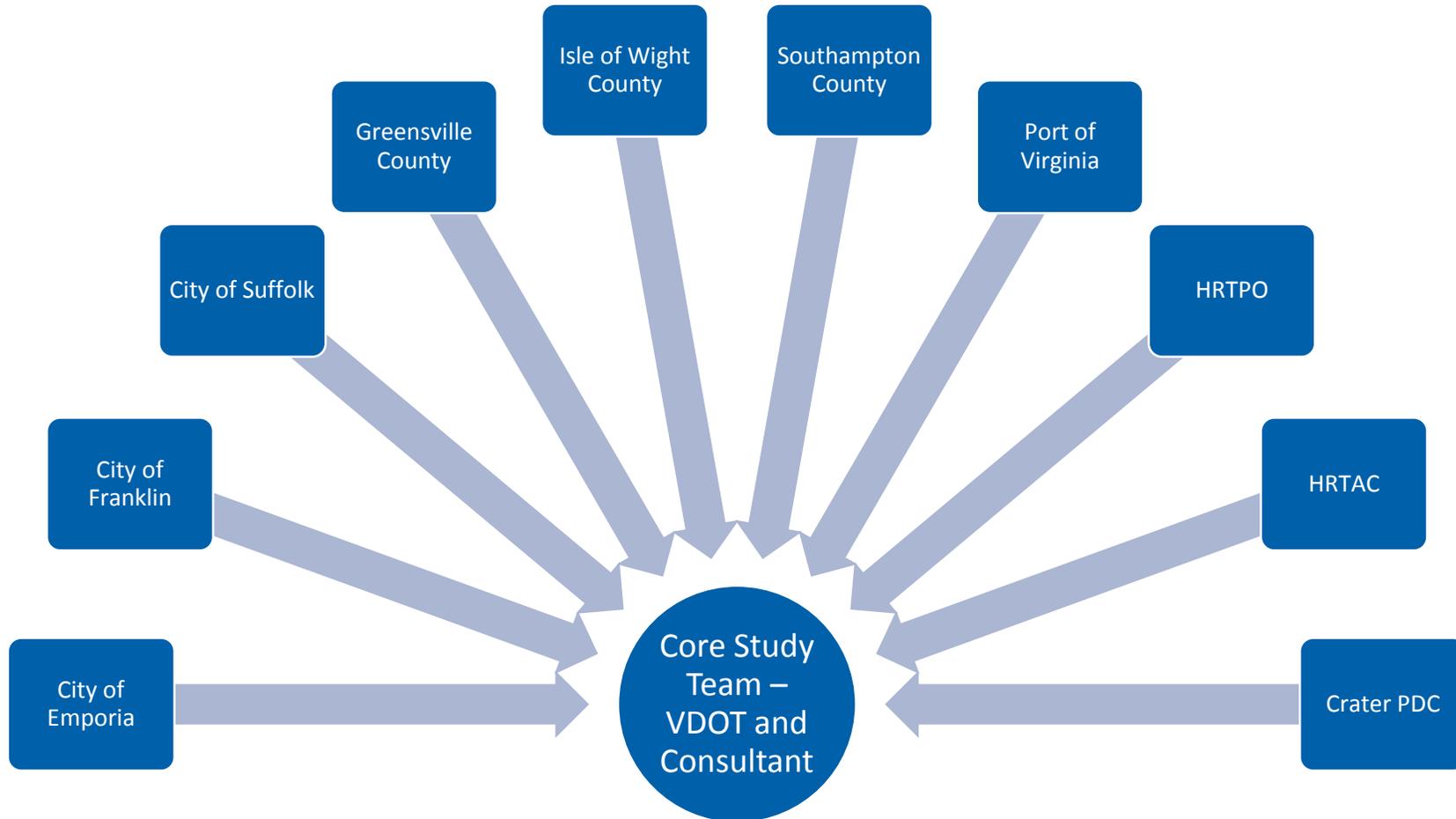


# Study Corridor

- Limited-access bypass segments were considered to be improved and therefore received limited analysis as part of this study



# Project Stakeholders / Working Group



# Key issues identified in study corridor

- Safety concerns
  - Lack of adequate shoulders
  - Poor sight distance at intersections in certain locations
  - Poor geometric curves for high-speeds in certain locations (East of Holland BYP)
  - Higher levels of crashes in dense commercial and developed areas
  - Below standard turn lanes
- Operational challenges
  - High number of crossovers and access points
  - Delay in more developed areas
- Maintaining local access
- Future traffic growth

# Example recommendations

- There are 110 crossovers and 50 intersections along the corridor
- Recommendations were prepared for each of the above and are available tonight for your review
- After the presentation, you can talk with staff and look up a specific location in the printed copies on the tables

# How to Read the Figures

US 58 Arterial Preservation Plan

GREENSVILLE  
COUNTY LINE

FRANKLIN CITY  
LINE

# US 58 Arterial Preservation Plan Figure 17 Intersections & Median Crossovers Southampton County

I## - Intersection #  
C## - Crossover #

**Crossover #47:**  
**Recommendation:** No Recommendation

**Crossover #48:**  
**Recommendation:** Construct westbound right-turn lane on US 58  
**Cost:** \$0.3M to \$0.4M

**Intersection #24:** Drewry Rd with US 58  
**Recommendation:** See Figure 18  
**Cost:** \$1.7M to \$2.3M

**Crossover #49:**  
**Recommendation:** Remove crossover  
**Cost:** \$0.3M to \$0.4M

Green circle - No Recommendation  
Red circle - Recommended Removal  
Yellow circle - Minor Improvement  
Blue circle - Major Improvement



GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

# US 58 Arterial Preservation Plan Figure 17 Intersections & Median Crossovers Southampton County

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C## - Crossover #

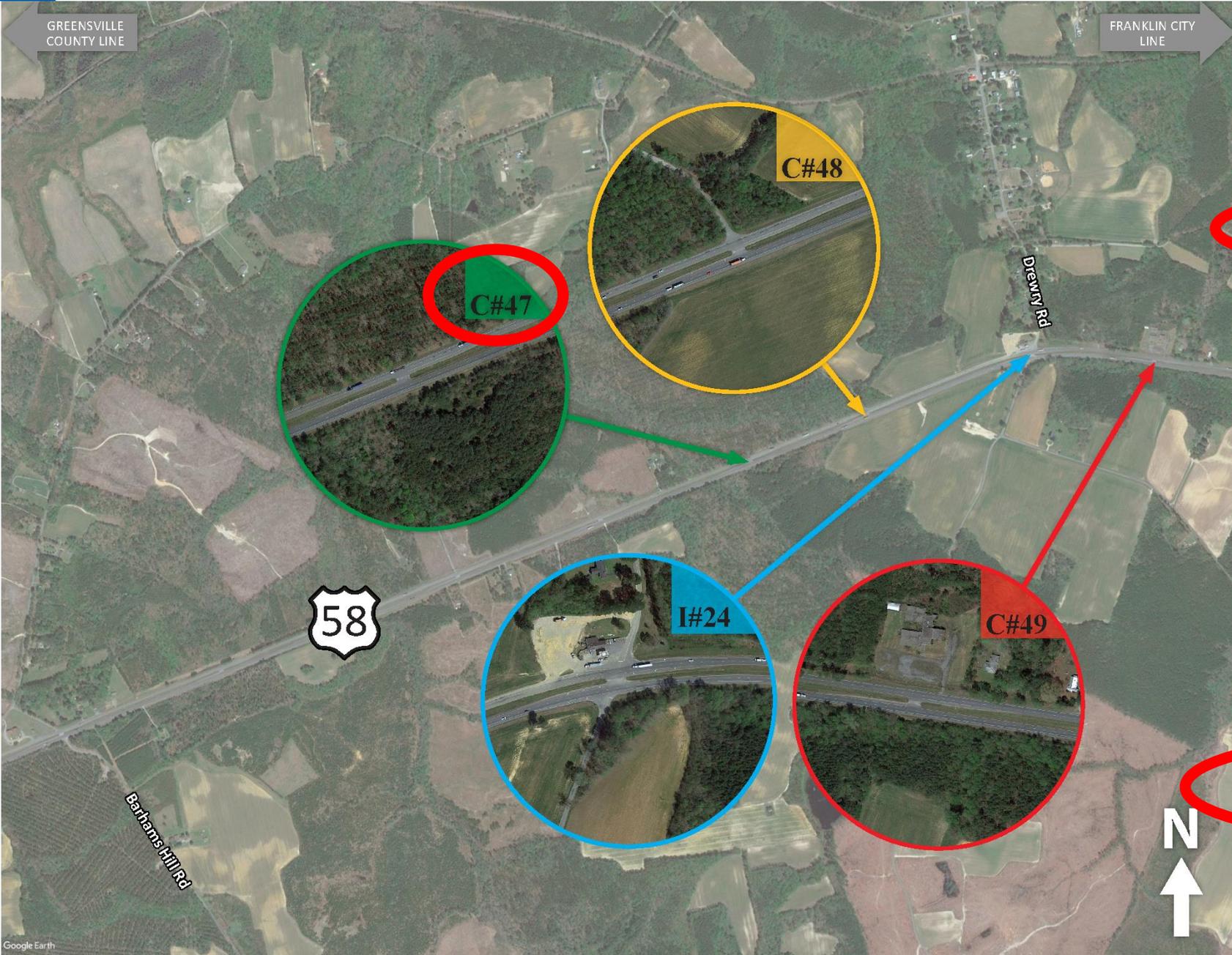
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GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

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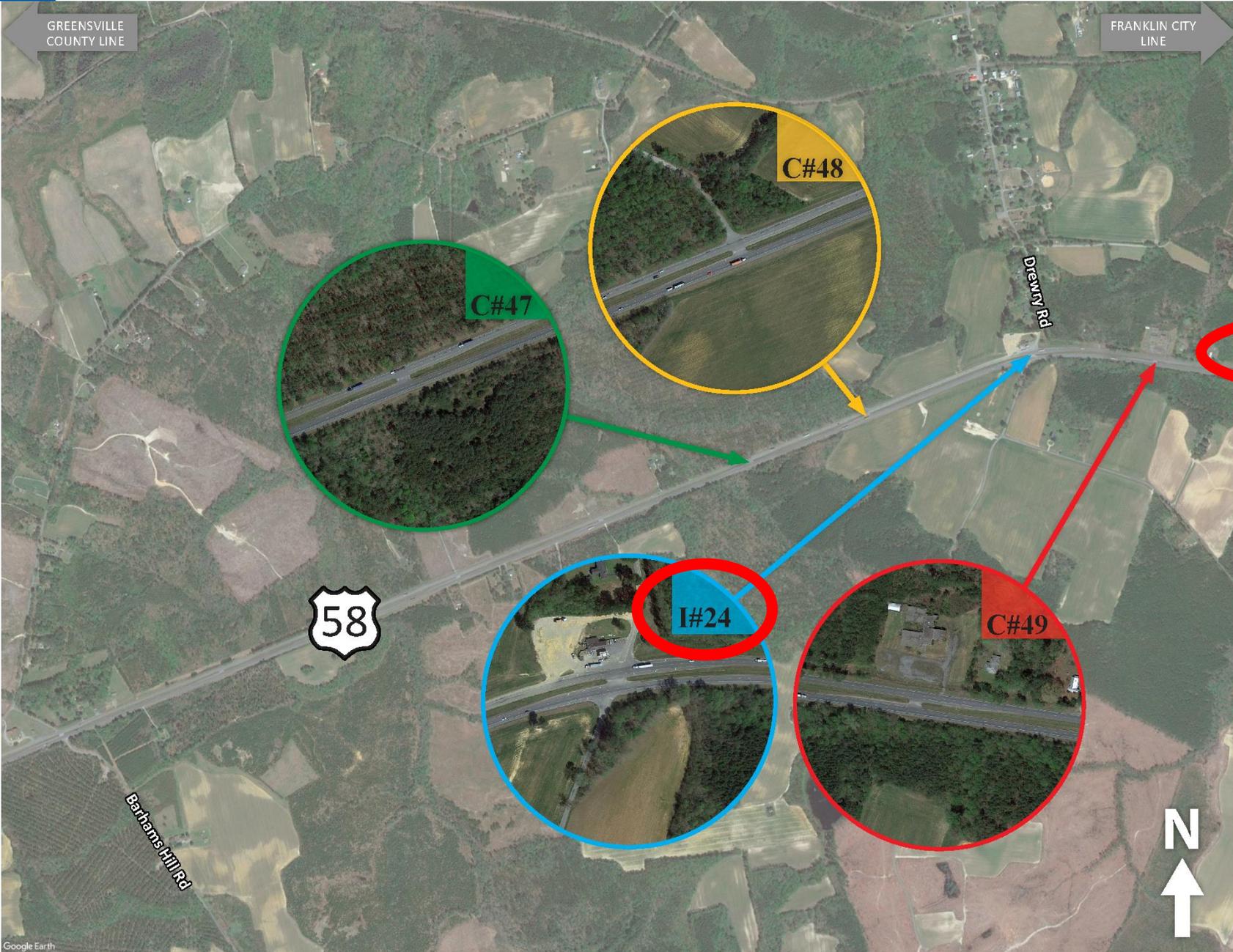
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**Crossover #49:**  
**Recommendation:** Remove crossover  
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● No Recommendation  
● Recommended Removal  
● Minor Improvement  
● Major Improvement





### US 58 Arterial Preservation Plan Figure 18 Intersection #24: US 58 and Drewry Rd Southampton County

**Recommendation:** Reconfigure intersection of US 58 and Drewry Rd to Restricted Crossing U-Turn (RCUT). Construct u-turn areas with loons east and west of intersection at Drewry Rd and US 58. Reconstruct all existing turn lanes to VDOT design standards.

**ROW Impacts:** Minimal land acquisition and disturbance. Some minor utility relocation may require minimal land acquisition.

**Improvement Type:** Safety, Travel Time Preservation

**Key Operations & Safety:**

Traffic Operations	Minimal Improvements
Safety	Reduced conflict points where vehicles cross paths. Reduced risk of head-on collisions.

**Cost:** \$1.7M to \$2.3M

→ Standard Movements  
→ Rerouted Movements

# Southampton Concepts

US 58 Arterial Preservation Plan

GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

# US 58 Arterial Preservation Plan

## Figure 18

### Intersection #24: US 58 and Drewry Rd Southampton County

**Recommendation:** Reconfigure intersection of US 58 and Drewry Rd to Restricted Crossing U-Turn (RCUT). Construct u-turn areas with loons east and west of intersection at Drewry Rd and US 58. Extend existing right turn lanes on US 58 to u-turn areas. Construct acceleration lane for southbound Drewry Rd to westbound US 58. Reconstruct all existing turn lanes to VDOT design standards.

**ROW Impacts:** Minimal land acquisition and disturbance. Loons and turn lane work may require minimal land acquisition.

**Improvement Type:** Safety, Travel Time Preservation

#### Traffic Operations & Safety:

Traffic Operations: Minimal Improvements

Safety: Reduced conflict points where vehicles cross paths. Reduced risk of head-on collisions.

**Cost:** \$1.7M to \$2.3M

Standard Movements (indicated by red arrows)  
Rerouted Movements (indicated by blue arrows)



GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

# US 58 Arterial Preservation Plan Figure 26 Crossover #73 Option #1: Continuous Green-T Southampton County

Install physical barrier to prevent vehicles exiting ramp from turning left at CGT



Southampton High School

Meherrin Rd

**Recommendation:** Reconfigure crossover at Southampton Highschool and US 58 to Continuous Green-T (CGT). Extend all existing turn lanes on US 58 to VDOT design standards.

**ROW Impacts:** Little to no land acquisition as the majority of work will occur in the existing ROW.

**Improvement Type:** Safety, Travel Time Preservation

**Traffic Operations & Safety:**

Traffic Operations CGT improves delay for westbound US 58 turning movements from Southampton High School

Safety CGT reduces conflict points for vehicles traveling westbound US 58

**Cost:** \$0.9M to \$1.2M

Standard Movements  
Rerouted Movements Entering High School



GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

**US 58 Arterial Preservation Plan**  
**Figure 27**  
**Crossover #73**  
**Option #2: New Access Road**  
**Southampton County**



Southampton High School

Meherrin Rd

**Recommendation:** Remove crossover and left-turn on US 58 westbound across from Southampton High School. Construct new road around school in the southwest corner.

**ROW Impacts:** Significant land acquisition and disturbance will be required to construct new road.

**Improvement Type:** Safety, Travel Time Preservation

**Traffic Operations & Safety:**

- Traffic Operations** Increased capacity for vehicles exiting the school going westbound US 58 and onto Meherrin Rd.
- Safety** Eliminates weave section between Meherrin Ramp onto US 58 westbound. Reduced risk of crashes since new road intersects with lower speed and volume Meherrin Road. Reduced cut-through traffic through bus loading area.

**Cost:** \$3.1M to \$4.0M

- Standard Movements
- Rerouted Movements Entering High School
- Rerouted Movements Exiting High School



GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

# US 58 Arterial Preservation Plan

## Figure 29

### Crossovers #76 to #79: Option 1

#### Southampton County

**Recommendation:** Widen eastbound US 58 lanes to construct continuous right-turn lane through to the intersection of Story Station Rd and US 58. Removal and realignment of traffic markings on eastbound US 58 will be necessary to accommodate right-turn lane. Reconfigure the three crossovers to directional medians.

**ROW Impacts:** Minimal land acquisition as most of the widening is within ROW

**Improvement Type:** Safety, Travel Time Preservation

#### Traffic Operations & Safety:

Traffic Operations

Less stops and slow-downs caused by vehicles turning right on eastbound US 58

Safety

Providing a right-turn lane decreases the risk and frequency of rear-end crashes. Directional medians reduce the number of permitted movements, thus decreasing number of conflicts that may occur.

**Cost:** \$3.7M to \$4.9M

Standard Movements



GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

SEE  
FIGURE 31

SEE  
FIGURE 32  
(Independent  
Project)

58

To Old Bridge Rd

Story Station Rd

US 58 Arterial Preservation Plan  
Figure 30  
Courtland Area Summary - Option 2



GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

# US 58 Arterial Preservation Plan Figure 31 Crossovers #76 to #79: Option 2 Southampton County

**Recommendation:** Realign US 58 to reduce commercial access points on US 58 eastbound. Construct westbound two-lane roadway north of existing US 58 alignment. Realign US 58 eastbound lanes onto existing US 58 westbound lanes. Utilize existing US 58 eastbound lanes for frontage road and construct extension to Old Bridge Rd. Construct Continuous Green-T (CGT) intersection with frontage road.

**ROW Impacts:** Significant land acquisition and disturbance will be required to realign US 58 and frontage road extension to Old Bridge Rd.

**Improvement Type:** Safety, Travel Time Preservation

### Traffic Operations & Safety:

**Traffic Operations** CGT improves delay for westbound US 58 turning movements from frontage road

**Safety** Realignment eliminates multiple commercial access points reducing conflicts from turning vehicles. Realignment also permits for safer travel of higher speeds. CGT reduces conflict points for vehicles traveling westbound US 58

**Cost:** \$8.7M to \$11.4M



To Old Bridge Rd



Standard Movements

GREENSVILLE COUNTY LINE

FRANKLIN CITY LINE

**US 58 Arterial Preservation Plan**  
**Figure 32**  
**Intersection #35: US 58 and Story Station Rd**  
**Southampton County**

**Recommendation:** Reconfigure main intersection of US 58 and Story Station Rd to signalized Restricted Crossing U-Turn (RCUT). Construct u-turn areas east and west of existing intersection.

**ROW Impacts:** Little to no land acquisition as the majority of work is within the existing ROW.

**Improvement Type:** Congestion, Safety, Travel Time Preservation

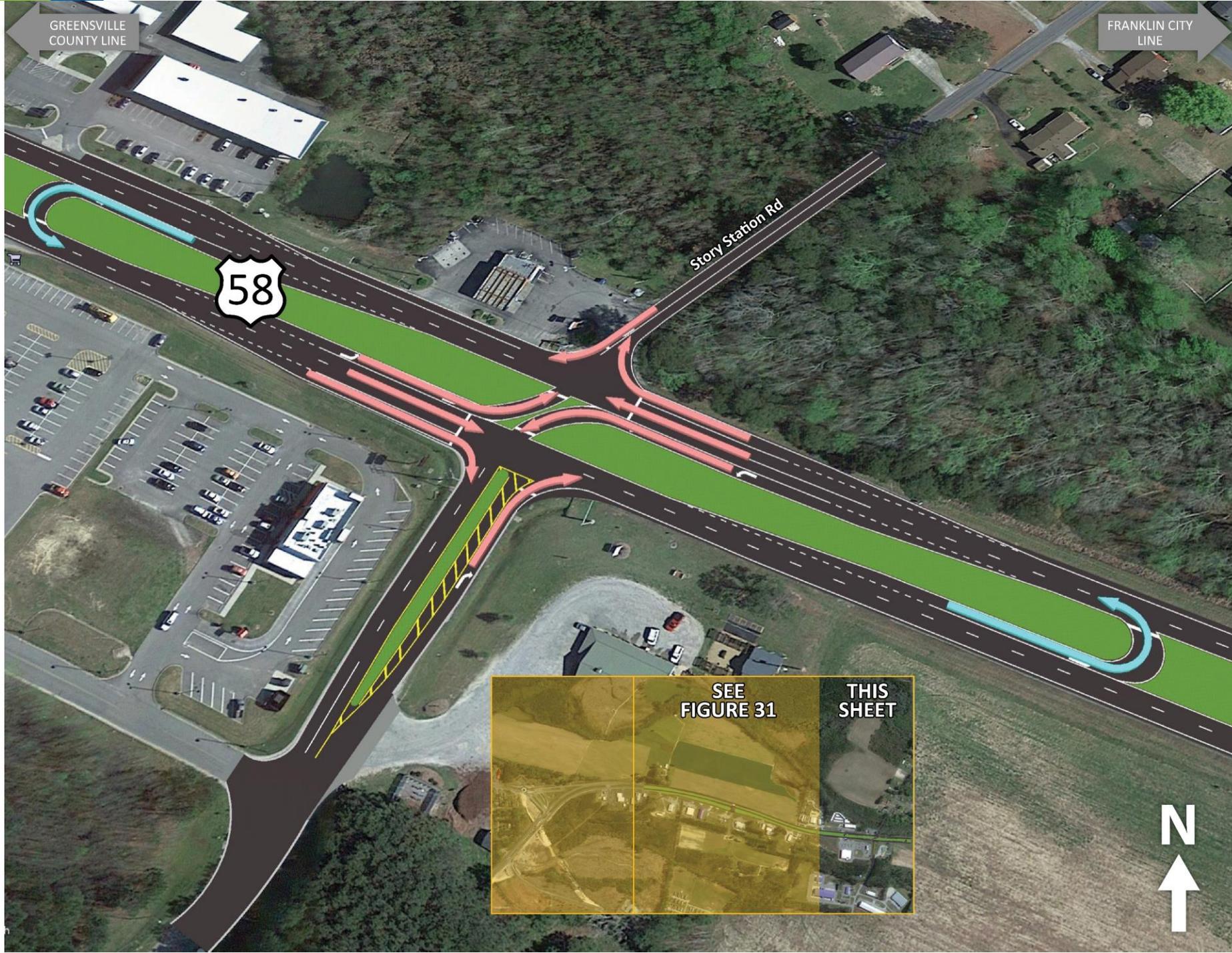
**Traffic Operations:**

Total Intersection Delay (s)	AM	PM
Existing Conditions	18.2 - B	19.6 - B
2040 No Build Conditions (Conventional Intersection)	19.4 - B	23.5 - C
2040 Build Conditions	14.0 - B	12.0 - B

**Cost:** \$1.2M to \$1.8M



Standard Movements  
 Rerouted Movements





**US 58 Arterial Preservation Plan**  
**Figure 34**  
**Intersection #38: US 58 and Camp Pkwy**  
**Southampton County**

**Recommendation:** Reconfigure intersection of US 58 and Camp Pkwy to signalized Continuous Green-T (CGT)

**ROW Impacts:** Little to no land acquisition as the majority of work within the existing ROW.

**Improvement Type:** Congestion, Safety, Travel Time Preservation

**Traffic Operations:**

Total Intersection Delay (s)	AM	PM
Existing Conditions	18.2 - B	19.6 - B
2040 No Build Conditions (Conventional Intersection)	12.9 - B	22.3 - C
2040 Build Conditions	12.0 - B	9.4 - A

**Cost:** \$0.8M to \$1.2M

Standard Movements



# Next Steps

- Review meeting input and finalize study report
  - Report will be available on study website once complete
- Work with City & County officials to implement solutions
  - Identify priorities & seek funding
  - Concepts do not advance without local support
  - No date has been established for construction
  - Recommendations will be implemented as opportunity and funding permits

# How to find more information

- Arterial Preservation Program Website

[http://www.virginiadot.org/programs/vdot\\_arterial\\_preservation\\_program.asp](http://www.virginiadot.org/programs/vdot_arterial_preservation_program.asp)

- Innovative Intersections Website

<http://www.virginiadot.org/innovativeintersections/>

- US 58 Project Web Page

[http://www.virginiadot.org/projects/hamptonroads/us\\_58\\_arterial\\_management\\_plan.asp](http://www.virginiadot.org/projects/hamptonroads/us_58_arterial_management_plan.asp)

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