

# ROUTE 28 & DULLES TOLL ROAD/ DULLES GREENWAY STUDY

*Welcome to the Virtual Public Meeting*

July - August 2020



# PROJECT WEBSITE

# www.Route28DTRGreenwayStudy.org

The screenshot shows the website for the Route 28 and Dulles Toll Road/Dulles Greenway Study. The header includes the VDOT logo and navigation links for About, Jobs, Contact, Maps, 511, and SMART SCALE Dashboard. A search bar is located in the top right. The main navigation bar includes links for Travel Center, Newsroom, Info Center, Business Center, Programs, and Projects & Studies. The main content area is divided into several sections:

- Traffic Information:** Promotes 511 real-time traffic information.
- SMART SCALE Dashboard:** Focuses on funding the right transportation projects.
- Virginia Roads:** Provides one-stop source for VDOT maps, data, and project info.
- Connect With Us!** Encourages visiting social media pages and includes a tweet about a new law taking effect on July 1.
- Megaprojects:** The main project section, titled "Route 28 and Dulles Toll Road/Dulles Greenway Study". It describes safety and operational improvements and provides details about the study, including its schedule, project numbers, and resources.
- Area Maps:** Includes a map of the study limits and a link to "Study Limits".
- Project at a Glance:** A summary box containing key project details:
  - Begin Date:** February 2019
  - Est Completion Date:** Mid 2020
  - Phase:** Study
  - Cost:** \$850,000
  - Lengths and Limits:** Frying Pan Rd to Sterling Blvd (3 mi)
  - Locality:** Fairfax and Loudoun
  - District:** Northern Virginia
  - Contact:** Abraham Lerner, P.E., Megaprojects



## PRESENTATION OUTLINE

- **Project Overview**
- **Existing Conditions**
- **Future Analysis**
- **Evaluation Criteria**
- **Project Development Process**
- **Improvement Alternatives**
- **Recommended Preferred Alternative**
- **Next Steps**



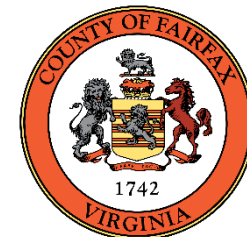
## PROJECT OVERVIEW

- **Land development and traffic continues to grow in areas in and around the Route 28 corridor in both Fairfax and Loudoun counties**
- **The goal of this study is to:**
  - Identify mitigation strategies to improve operations and safety at the interchange of Route 28 and Route 267 (Dulles Toll Road/Dulles Greenway)
  - Analyze changes in roadway conditions, evolving land development patterns, and projected traffic growth
  - Develop Implementation Plan to program future project efforts within the study area



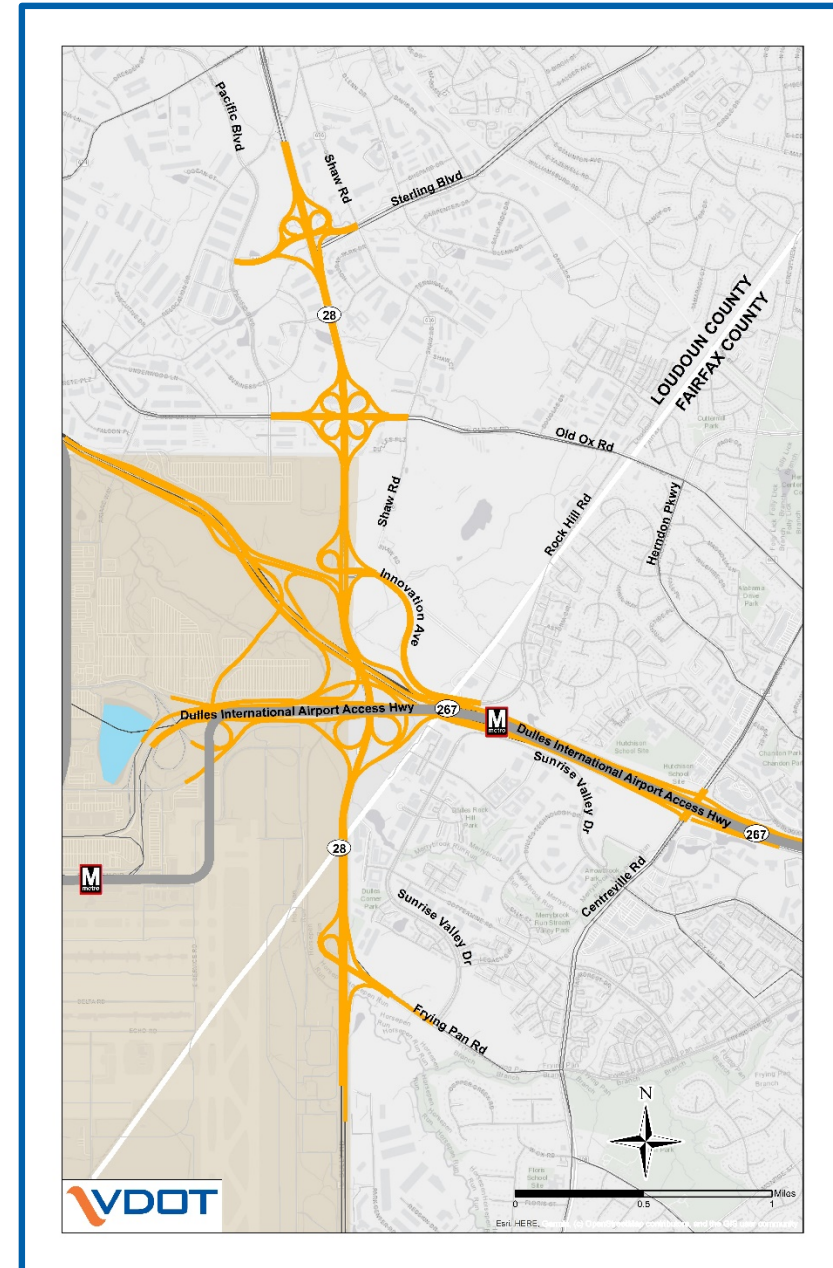
## PARTNERS

- **Virginia Department of Transportation (VDOT)**
- **Metropolitan Washington Airports Authority (MWAA) – Operator of the Dulles Toll Road**
- **TRIP II - Operator of the Dulles Greenway**
- **Fairfax County**
- **Loudoun County**



# PROJECT STUDY AREA

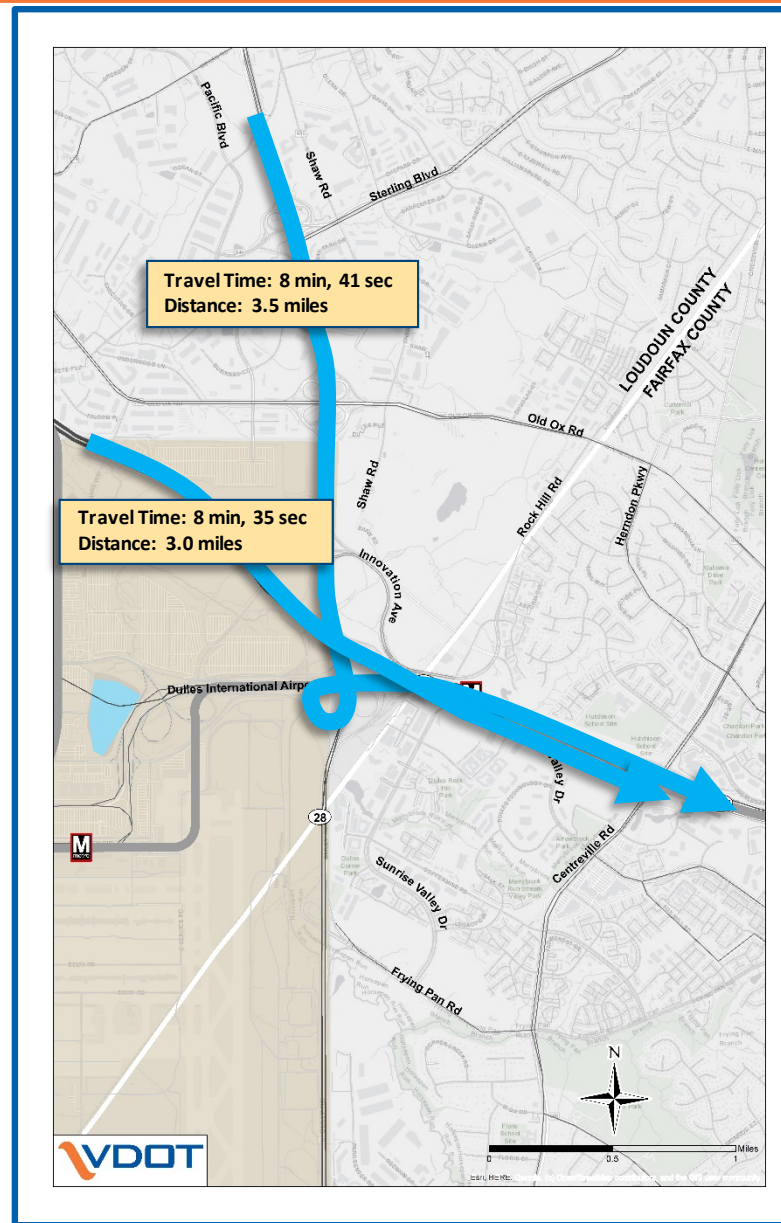
Roadway	Limits
3-mile segment of Route 28	Frying Pan Road to S. Sterling Blvd
2.5-mile segment of Route 267 (Dulles Toll Road and Dulles Greenway)	Centreville Road/Elden Street to Dulles Greenway Toll Plaza
2-mile segment of Dulles International Airport Access Highway	Centreville Road/Elden Street to Rudder Road



# EXISTING CONDITIONS

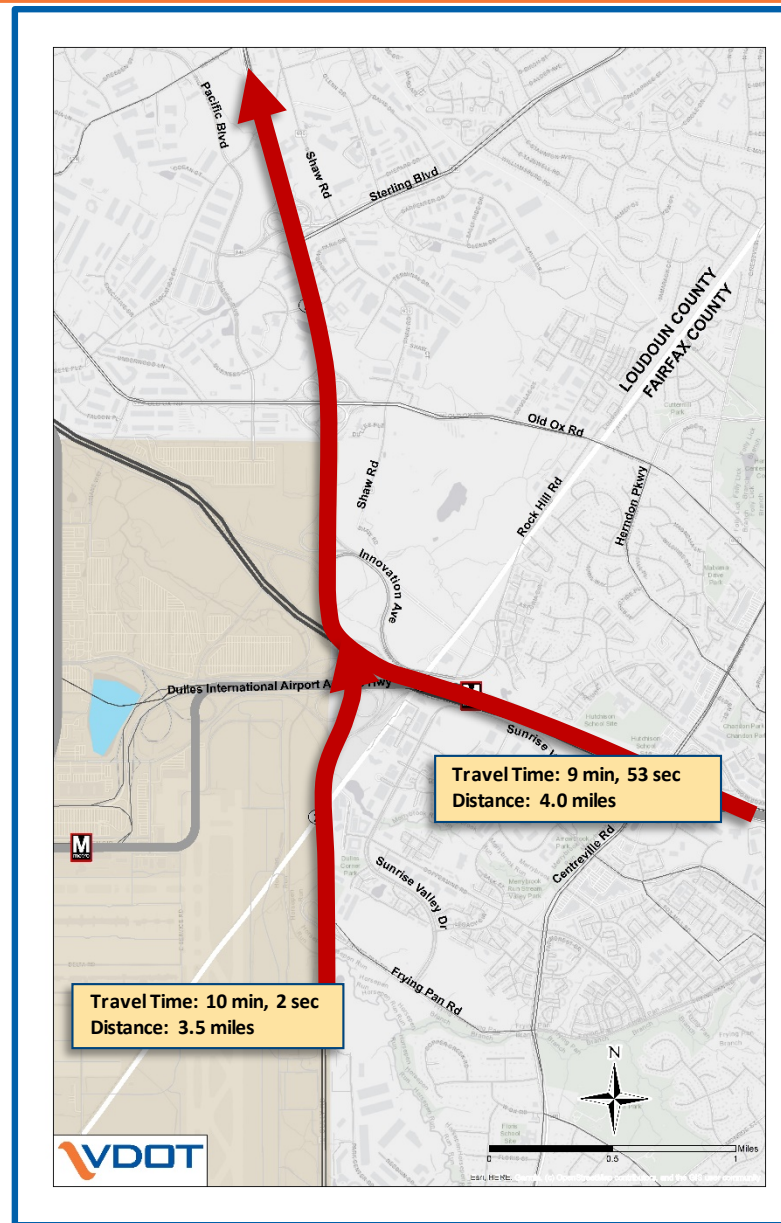
# EXISTING CONDITIONS -AM PEAK HOUR TRAFFIC OPERATIONS CHALLENGES

1. **AM Peak:** Southbound Route 28 to Eastbound Dulles Toll Road
2. **AM Peak:** Eastbound Dulles Toll Road between Route 28 and Centreville Road



# EXISTING CONDITIONS - PM PEAK HOUR TRAFFIC OPERATIONS CHALLENGES

- 1. PM Peak:** Northbound Route 28 north of Dulles Toll Road
- 2. PM Peak:** Westbound Dulles Toll Road east of Route 28 to northbound Route 28, spillback to Centreville Road

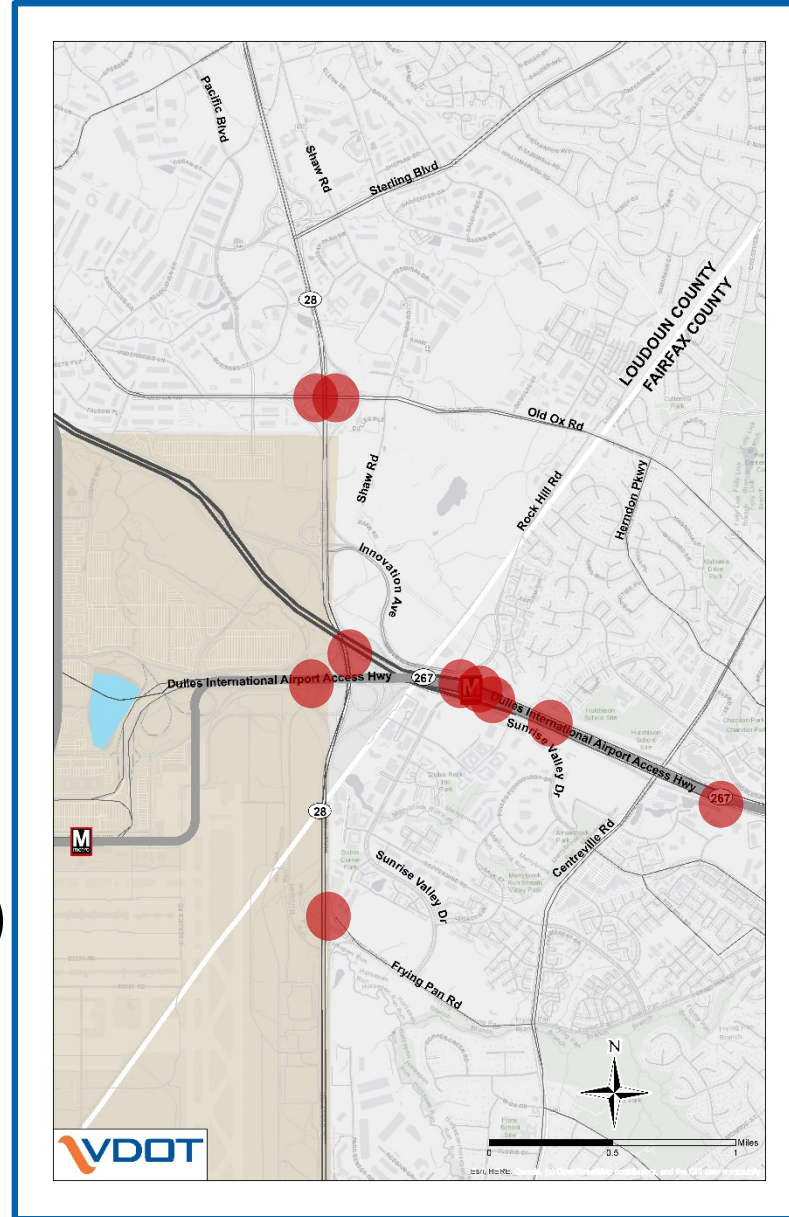




# EXISTING CONDITIONS - SAFETY

## 10 High Crash Locations Identified

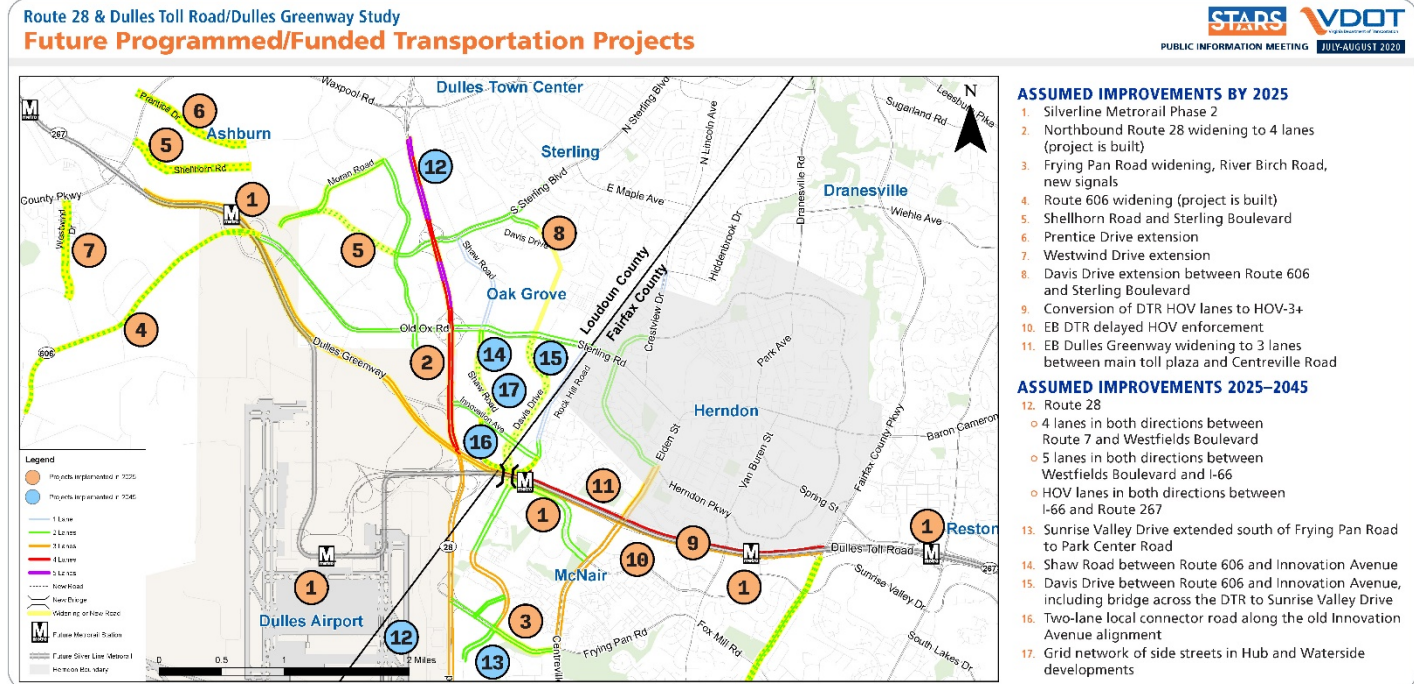
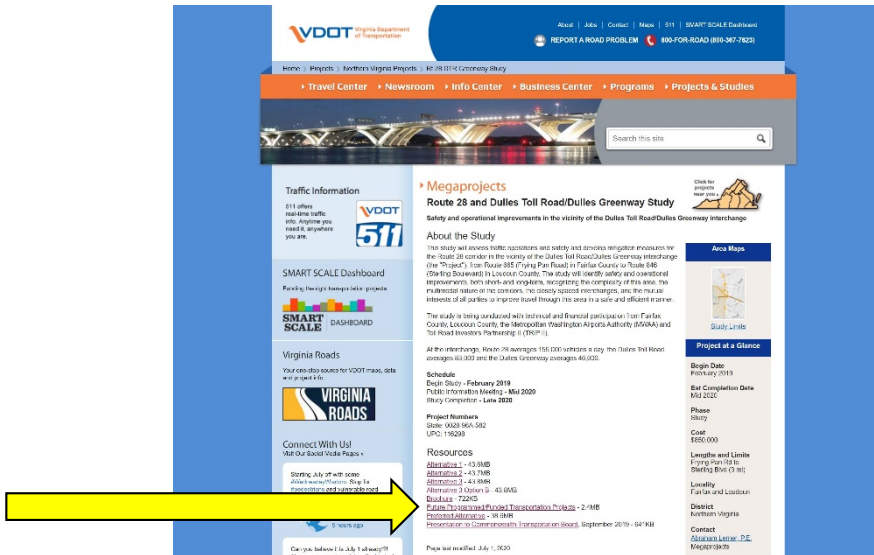
- Route 28 (4)
  - Closely spaced interchanges
  - Weaves between ramps
  - Congestion
- Route 267 (4)
  - Slip lanes to/from Dulles International Airport Access Highway
  - Congestion
- Dulles International Airport Access Highway (2)
  - Weaves between ramps
  - Slip lanes to/from Dulles Toll Road





# ANALYSIS OF FUTURE CONDITIONS

- Forecasting and analysis assumes future travel patterns
  - Approved development
  - Programmed/Funded Transportation Projects
- 2025 and 2025 Design Years



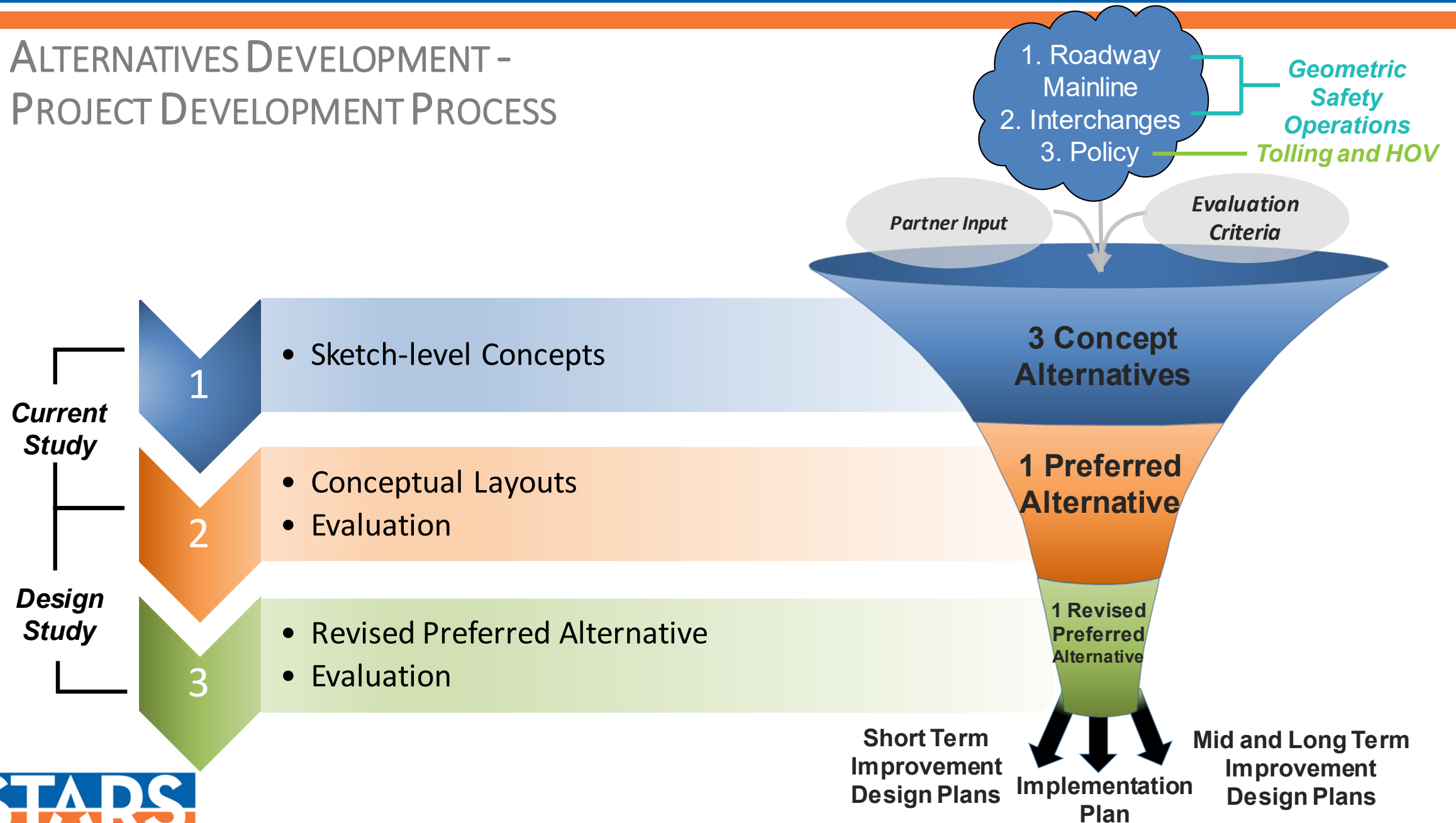
- ASSUMED IMPROVEMENTS BY 2025**
1. Silverline Metrorail Phase 2
  2. Northbound Route 28 widening to 4 lanes (project is built)
  3. Frying Pan Road widening, River Birch Road, new signals
  4. Route 606 widening (project is built)
  5. Shellhorn Road and Sterling Boulevard
  6. Prentice Drive extension
  7. Westwind Drive extension
  8. Davis Drive extension between Route 606 and Sterling Boulevard
  9. Conversion of DTR HOV lanes to HOV-3+
  10. EB DTR delayed HOV enforcement
  11. EB Dulles Greenway widening to 3 lanes between main toll plaza and Centreville Road
- ASSUMED IMPROVEMENTS 2025-2045**
12. Route 28
    - 4 lanes in both directions between Route 7 and Westfields Boulevard
    - 5 lanes in both directions between Westfields Boulevard and I-66
    - HOV lanes in both directions between I-66 and Route 267
  13. Sunrise Valley Drive extended south of Frying Pan Road to Park Center Road
  14. Shaw Road between Route 606 and Innovation Avenue
  15. Davis Drive between Route 606 and Innovation Avenue, including bridge across the DTR to Sunrise Valley Drive
  16. Two-lane local connector road along the old Innovation Avenue alignment
  17. Grid network of side streets in Hub and Waterside developments

## EVALUATION CRITERIA

- **Safety – Address crash hot spots and geometric challenges**
- **Operations – Address known congestion areas**
- **Implementation – Constructability and potential impacts**
- **Cost (Relative)**



# ALTERNATIVES DEVELOPMENT - PROJECT DEVELOPMENT PROCESS



## ALTERNATIVES DEVELOPMENT APPROACH

- **Develop “packages” of interchange improvements for evaluation with criteria**
- **Create differences at locations to test performance**
- **Each alternative has a unique strategy to address challenges**

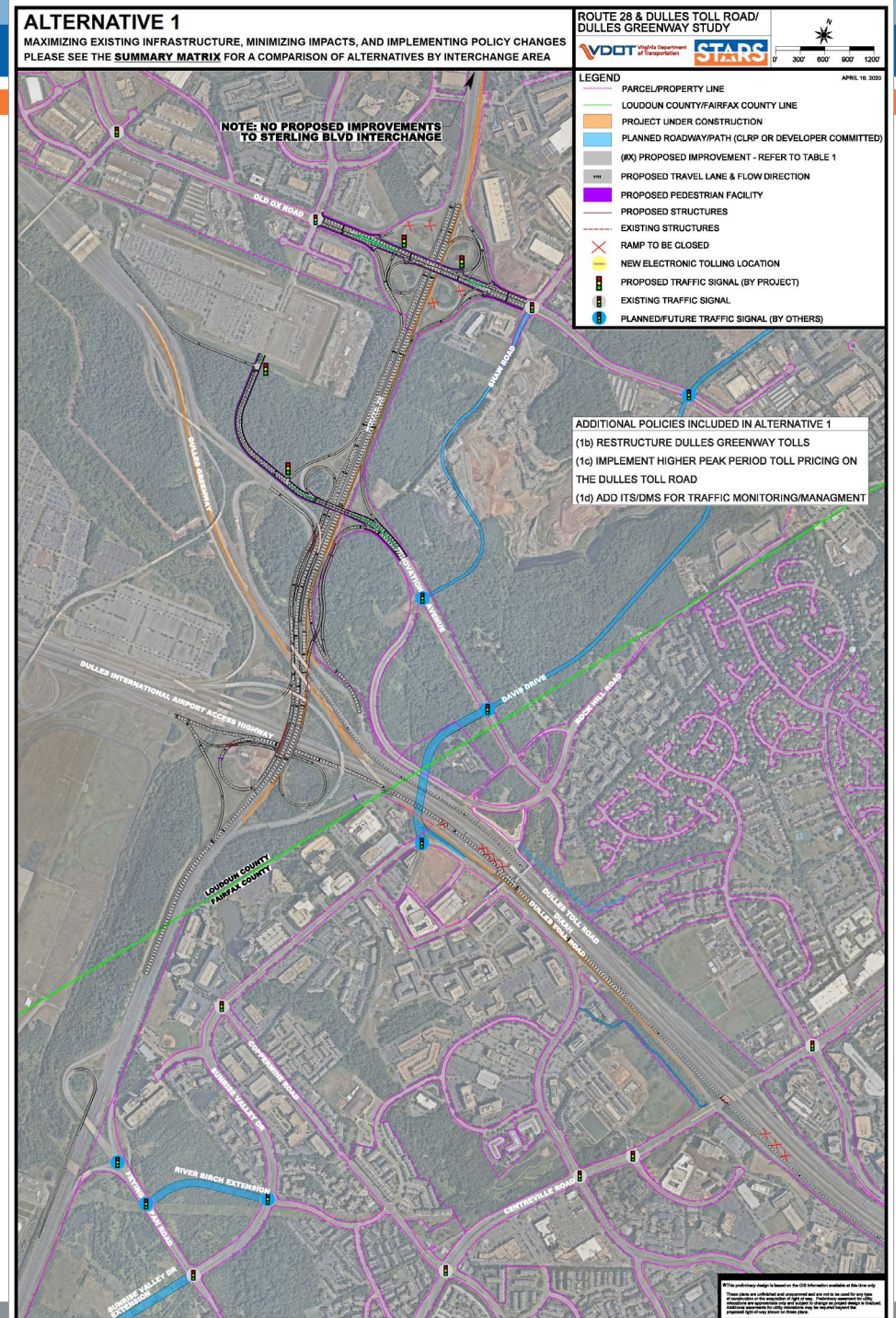




# SUMMARY OF ALTERNATIVES

## Alternative 1: Maximizing Existing Infrastructure

- Influence travel patterns/capacity through policy changes
- Minimize impacts





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**ALTERNATIVE 1**  
MAXIMIZING EXISTING INFRASTRUCTURE, MINIMIZING IMPACTS, AND IMPLEMENTING POLICY CHANGES  
PLEASE SEE THE **SUMMARY MATRIX** FOR A COMPARISON OF ALTERNATIVES BY INTERCHANGE AREA

ROUTE 28 & DULLES TOLL ROAD/  
DULLES GREENWAY STUDY

VDOT Virginia Department of Transportation STARS APRIL 16, 2020

LEGEND

- PARCEL/PROPERTY LINE
- LOUDOUN COUNTY/FAIRFAX COUNTY LINE
- PROJECT UNDER CONSTRUCTION
- PLANNED ROADWAY/PATH (CLRP OR DEVELOPER COMMITTED)
- (#X) PROPOSED IMPROVEMENT - REFER TO TABLE 1
- PROPOSED TRAVEL LANE & FLOW DIRECTION
- PROPOSED PEDESTRIAN FACILITY
- PROPOSED STRUCTURES
- EXISTING STRUCTURES
- RAMP TO BE CLOSED
- NEW ELECTRONIC TOLLING LOCATION
- PROPOSED TRAFFIC SIGNAL (BY PROJECT)
- EXISTING TRAFFIC SIGNAL
- PLANNED/FUTURE TRAFFIC SIGNAL (BY OTHERS)

NOTE: NO PROPOSED IMPROVEMENTS TO STERLING BLVD INTERCHANGE

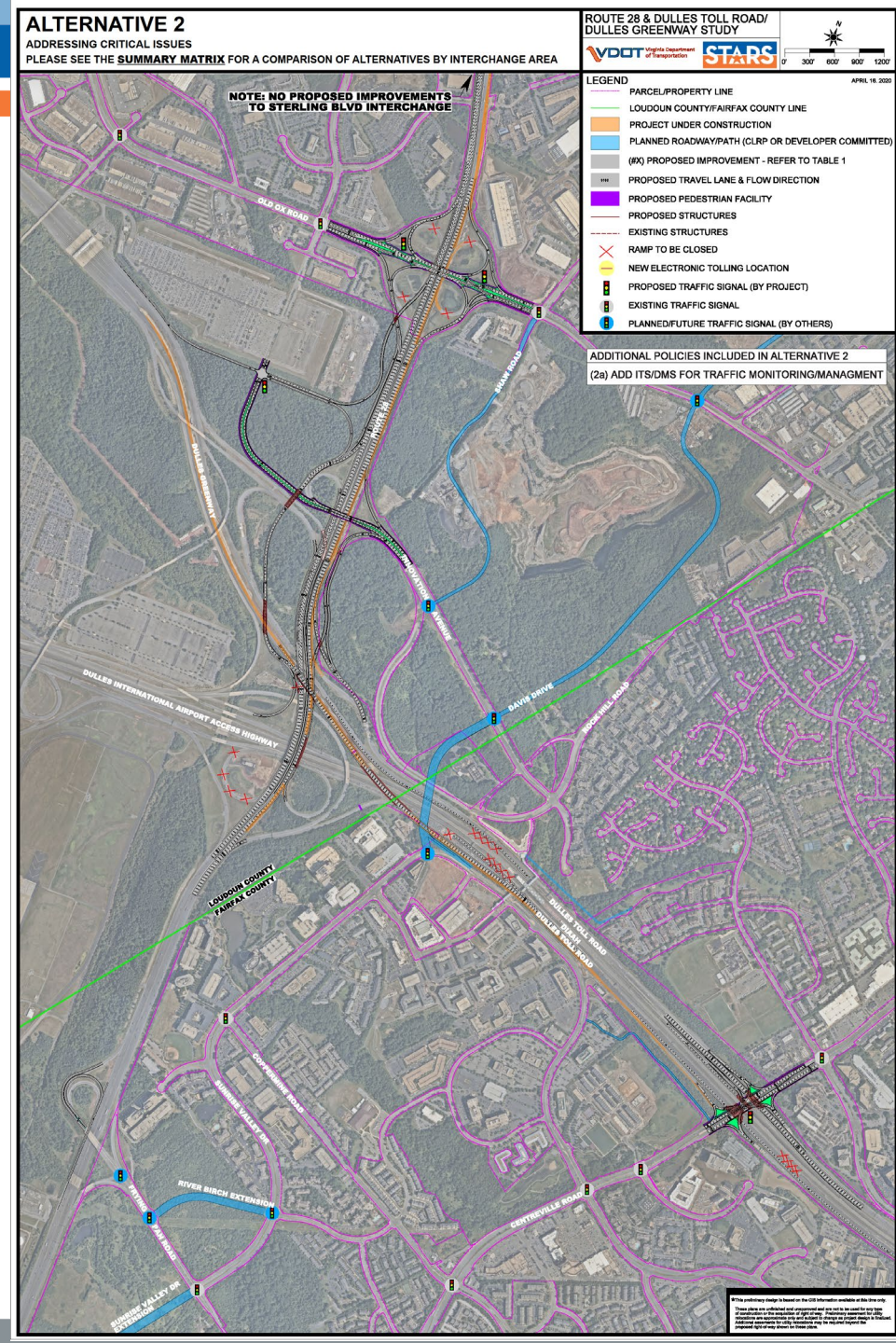
Example: Alternative 1 at Route 606/Route 28



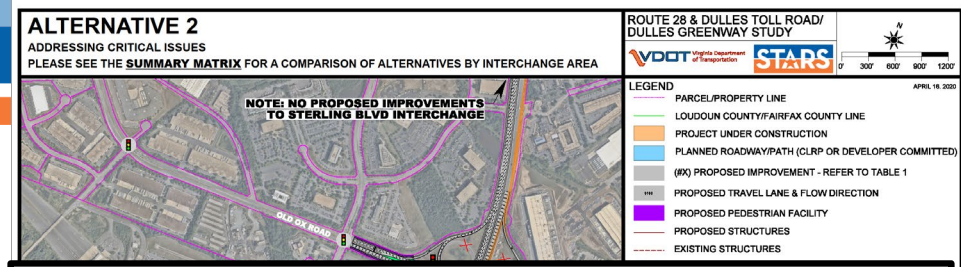
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## Alternative 2: Addressing Critical Needs

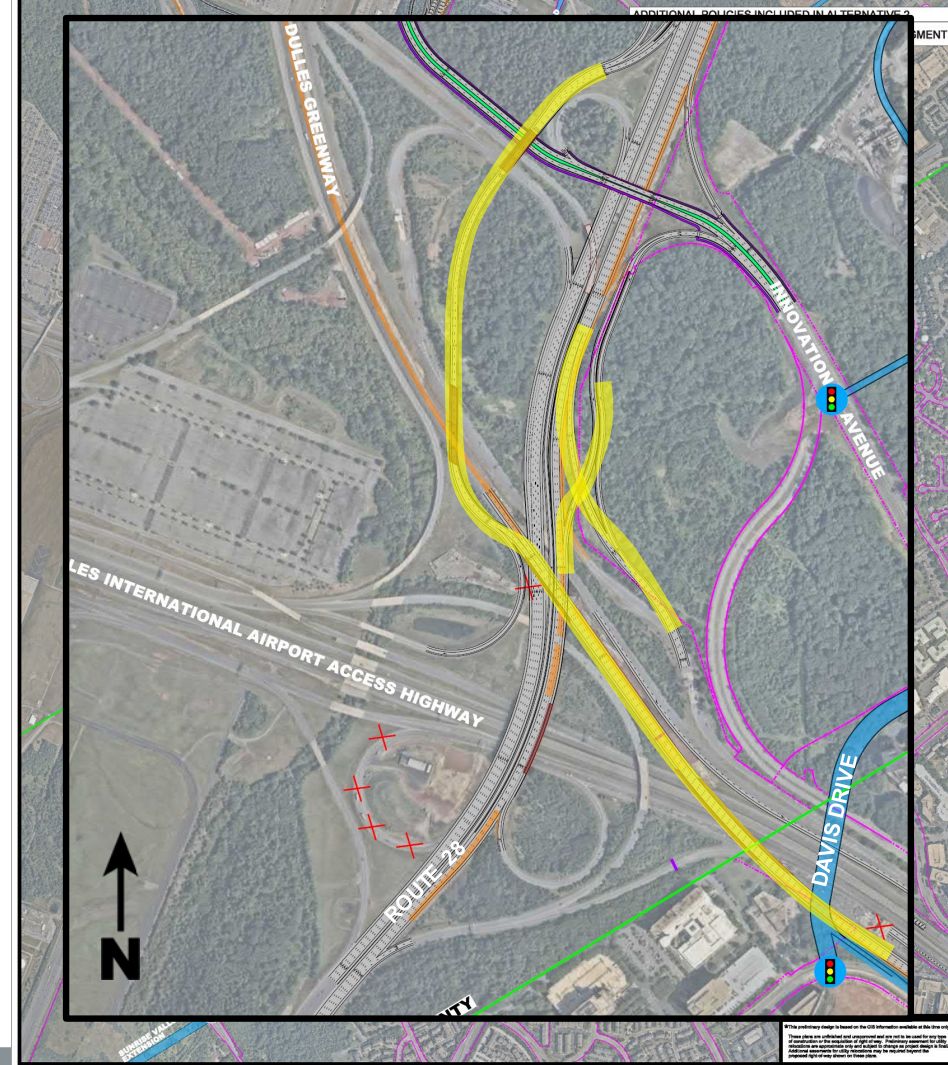
- Southbound Route 28 to Eastbound Dulles Toll Road and the Westbound Dulles Toll Road to Northbound Route 28 movements
- Route 28 weaving movements
  - Between Dulles Toll Road and Innovation Avenue
  - Within the Route 606 interchange
- Eastbound Dulles Toll Road congestion
- Frying Pan Road/Route 28 interchange safety
- Dulles Toll Road weaves between Centreville Road and Dulles Airport







**Example: Alternative 2 at Route 28 and Dulles Toll Road/Dulles Greenway Interchange**



# SUMMARY OF ALTERNATIVES

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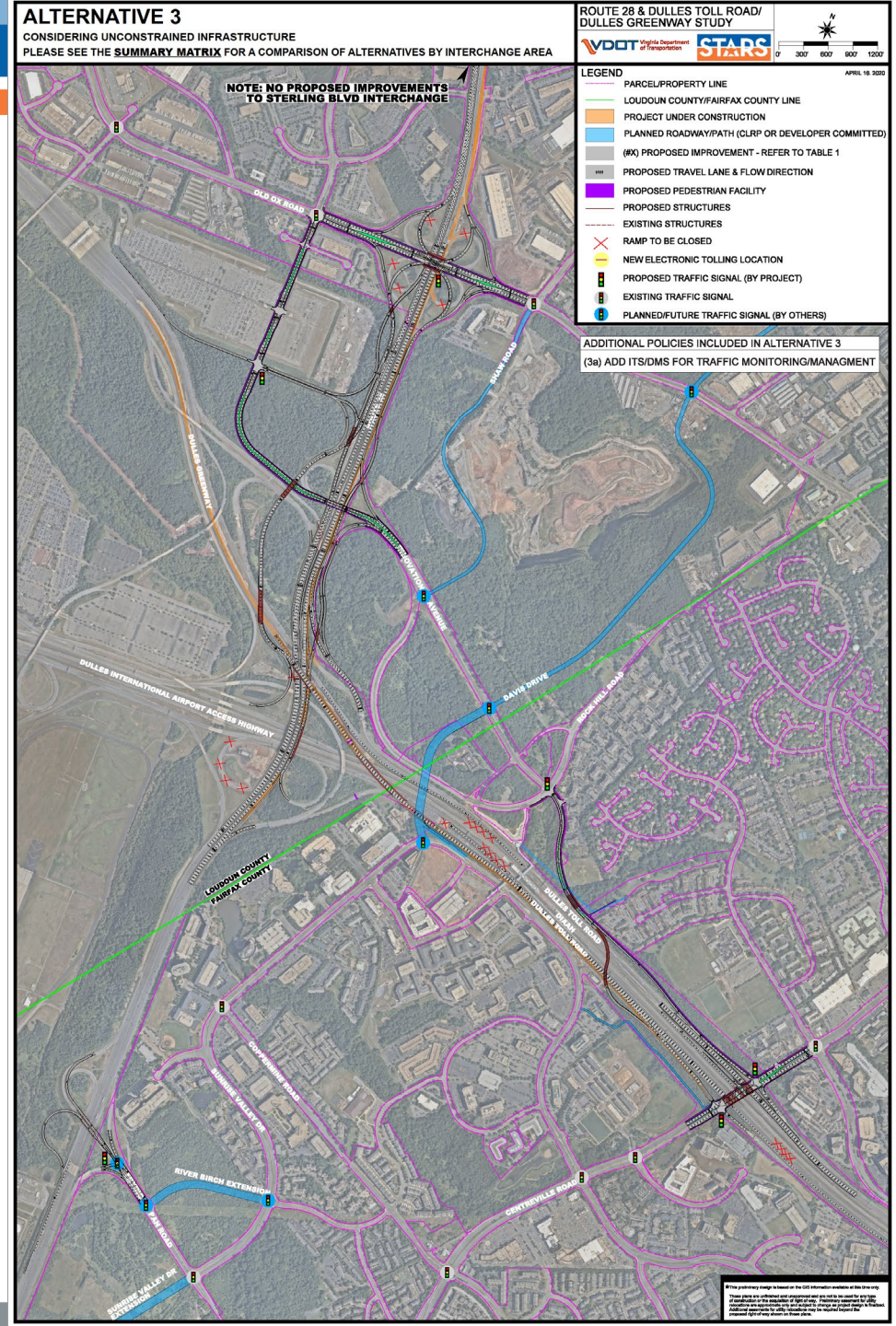
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# SUMMARY OF ALTERNATIVES

## Alternative 3: Considering Unconstrained Infrastructure

- Address all safety, all operational, and nearly all geometric challenges
- Adds more roadway connectivity and capacity

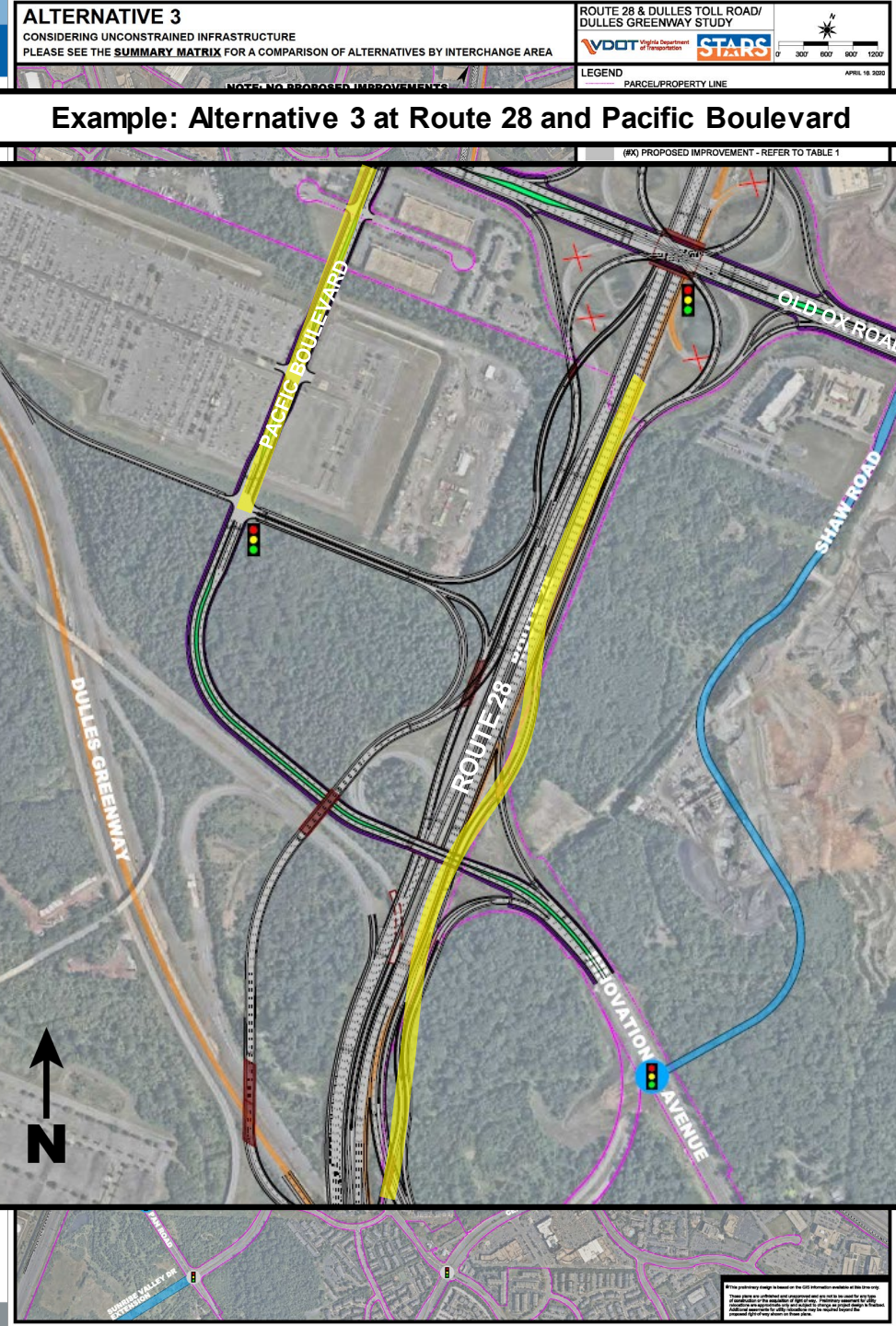




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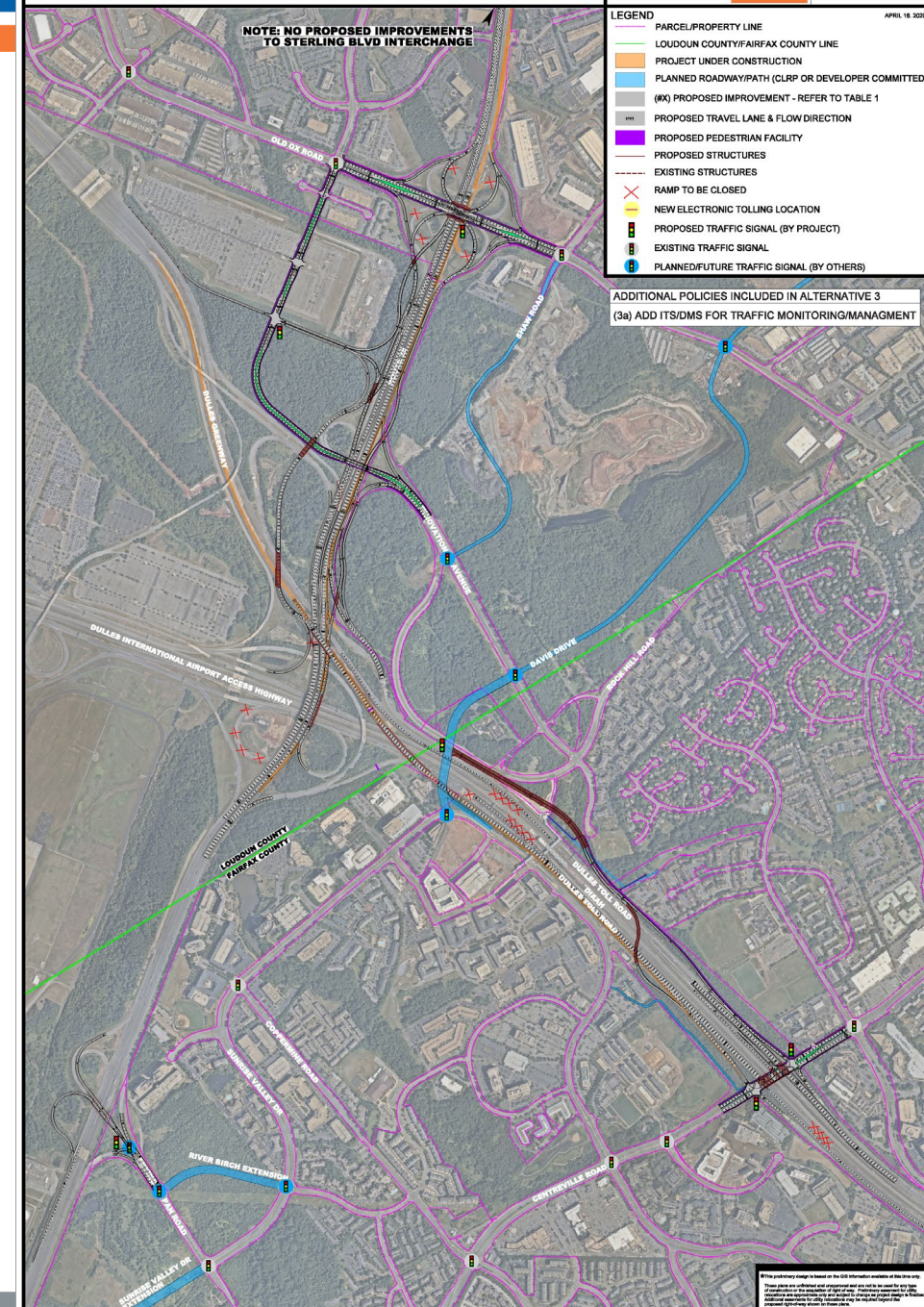
## Alternative 3-Option B: Considering Unconstrained Infrastructure

- Similar to Alternative 3
- Only exception is connection from Innovation Avenue to Centreville Road
  - Changed to westbound only from Centreville Road to the future Davis Drive bridge
  - New connection from Dulles Corner Drive to the northbound Route 28 ramp to Route 267

### ALTERNATIVE 3B

CONSIDERING UNCONSTRAINED INFRASTRUCTURE  
PLEASE SEE THE SUMMARY MATRIX FOR A COMPARISON OF ALTERNATIVES BY INTERCHANGE AREA

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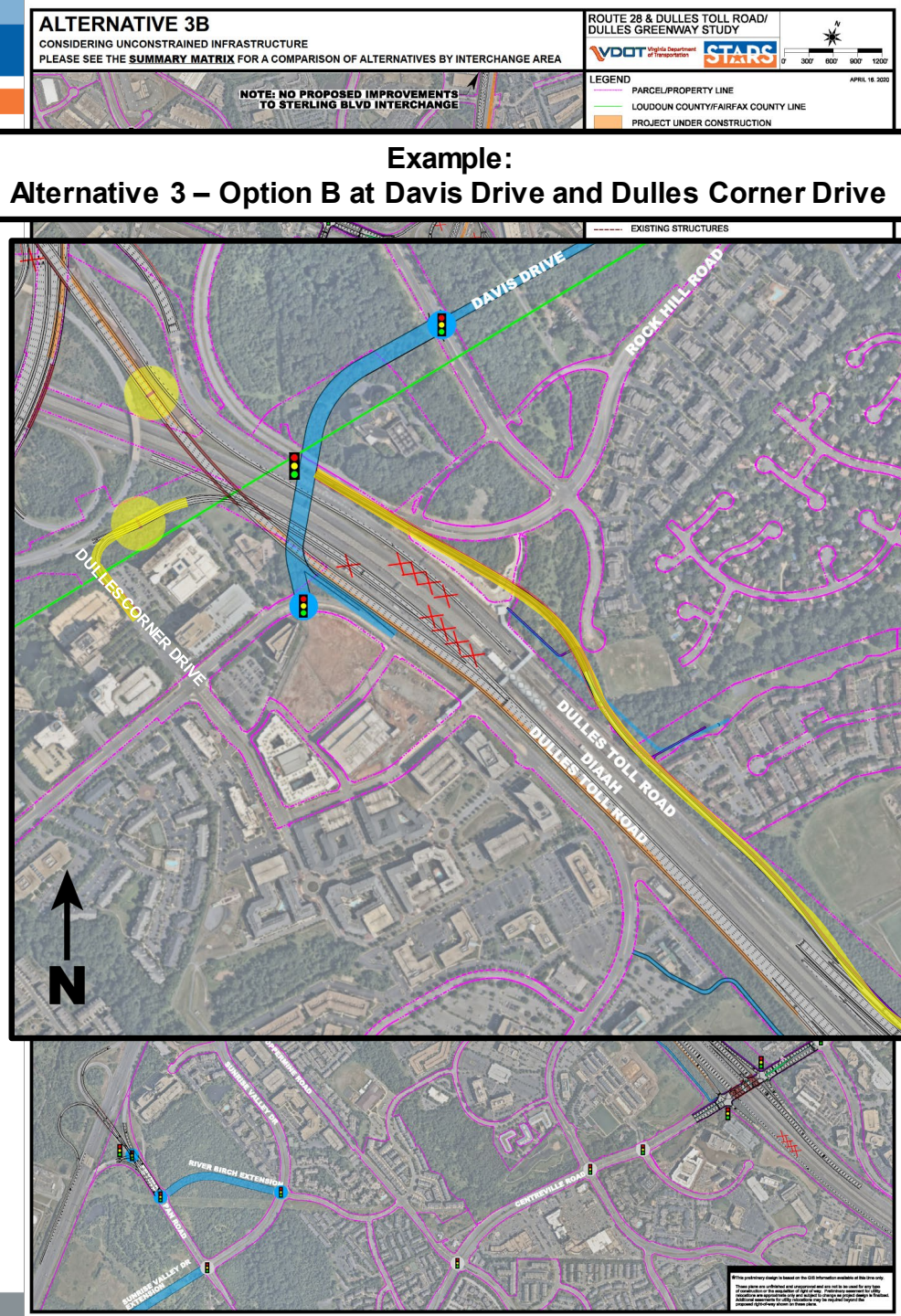




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## Alternative 3-Option B: Considering Unconstrained Infrastructure

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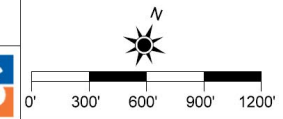


RECOMMENDED PREFERRED  
ALTERNATIVE

# RECOMMENDED PREFERRED ALTERNATIVE

PLEASE SEE THE **SUMMARY MATRIX** FOR A COMPARISON OF ALTERNATIVES BY INTERCHANGE AREA

ROUTE 28 & DULLES TOLL ROAD/  
DULLES GREENWAY STUDY



APRIL 24, 2020

**NOTE: NO PROPOSED IMPROVEMENTS  
TO STERLING BLVD INTERCHANGE**



## LEGEND

- PARCEL/PROPERTY/VDOT EASEMENT LINE
- LOUDOUN COUNTY/FAIRFAX COUNTY LINE
- PROJECT UNDER CONSTRUCTION
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- EXISTING TRAFFIC SIGNAL
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- APPROXIMATE PROPOSED RIGHT-OF-WAY LINE

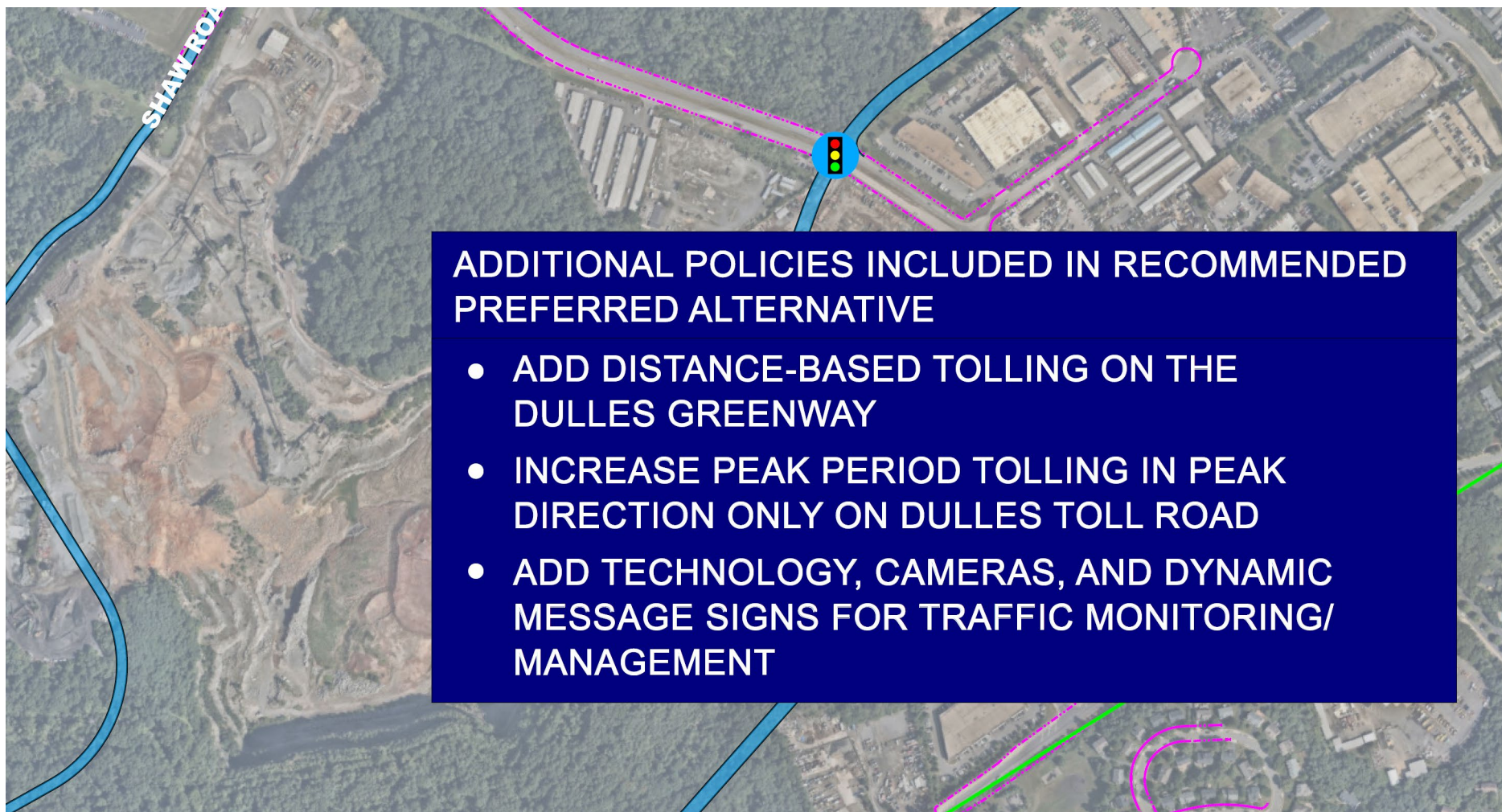
## ADDITIONAL POLICIES INCLUDED IN RECOMMENDED PREFERRED ALTERNATIVE

- ADD DISTANCE-BASED TOLLING ON THE DULLES GREENWAY
- INCREASE PEAK PERIOD TOLLING IN PEAK DIRECTION ONLY ON DULLES TOLL ROAD
- ADD TECHNOLOGY, CAMERAS, AND DYNAMIC MESSAGE SIGNS FOR TRAFFIC MONITORING/MANAGEMENT



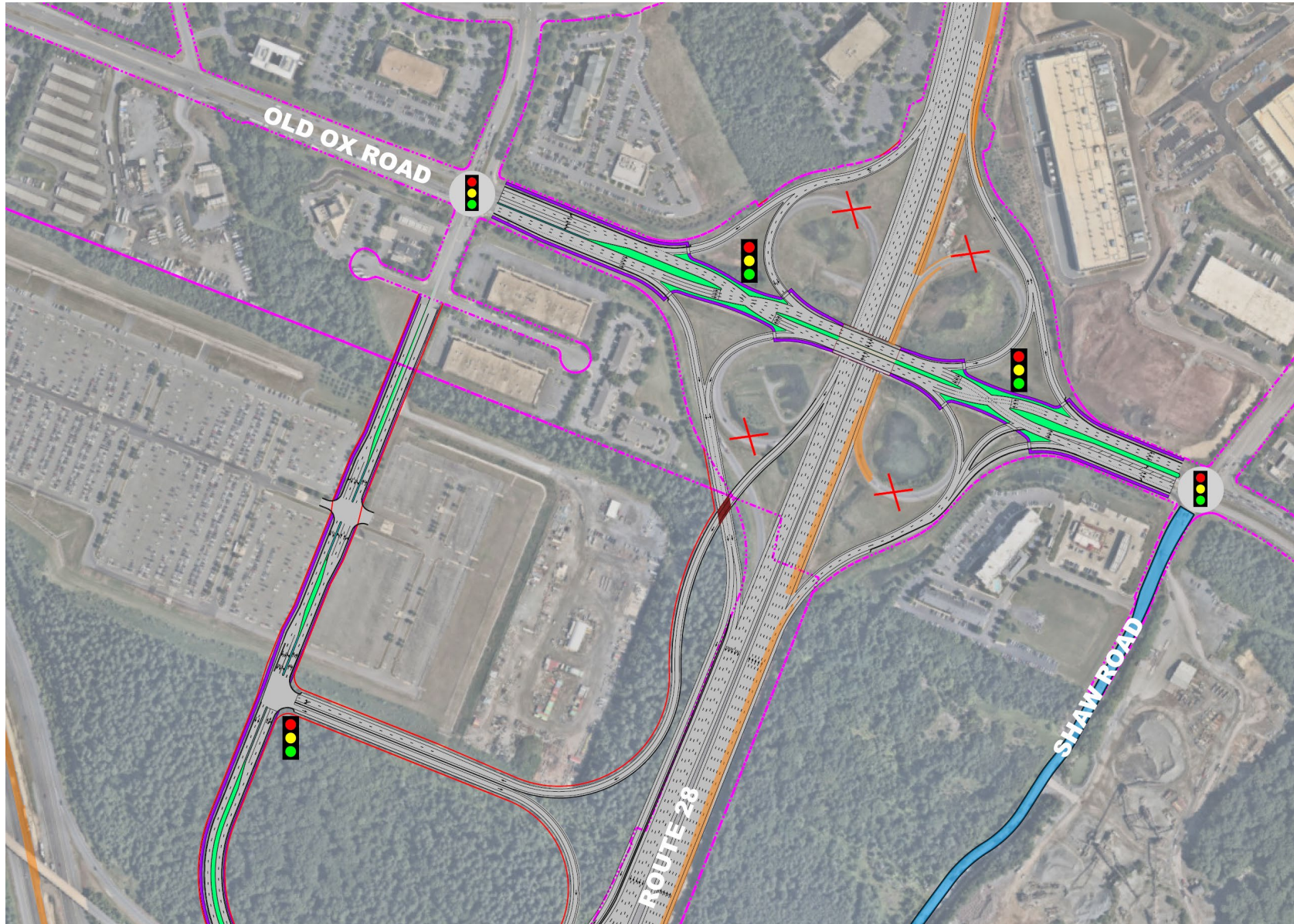


## Recommended Preferred Alternative: Policy



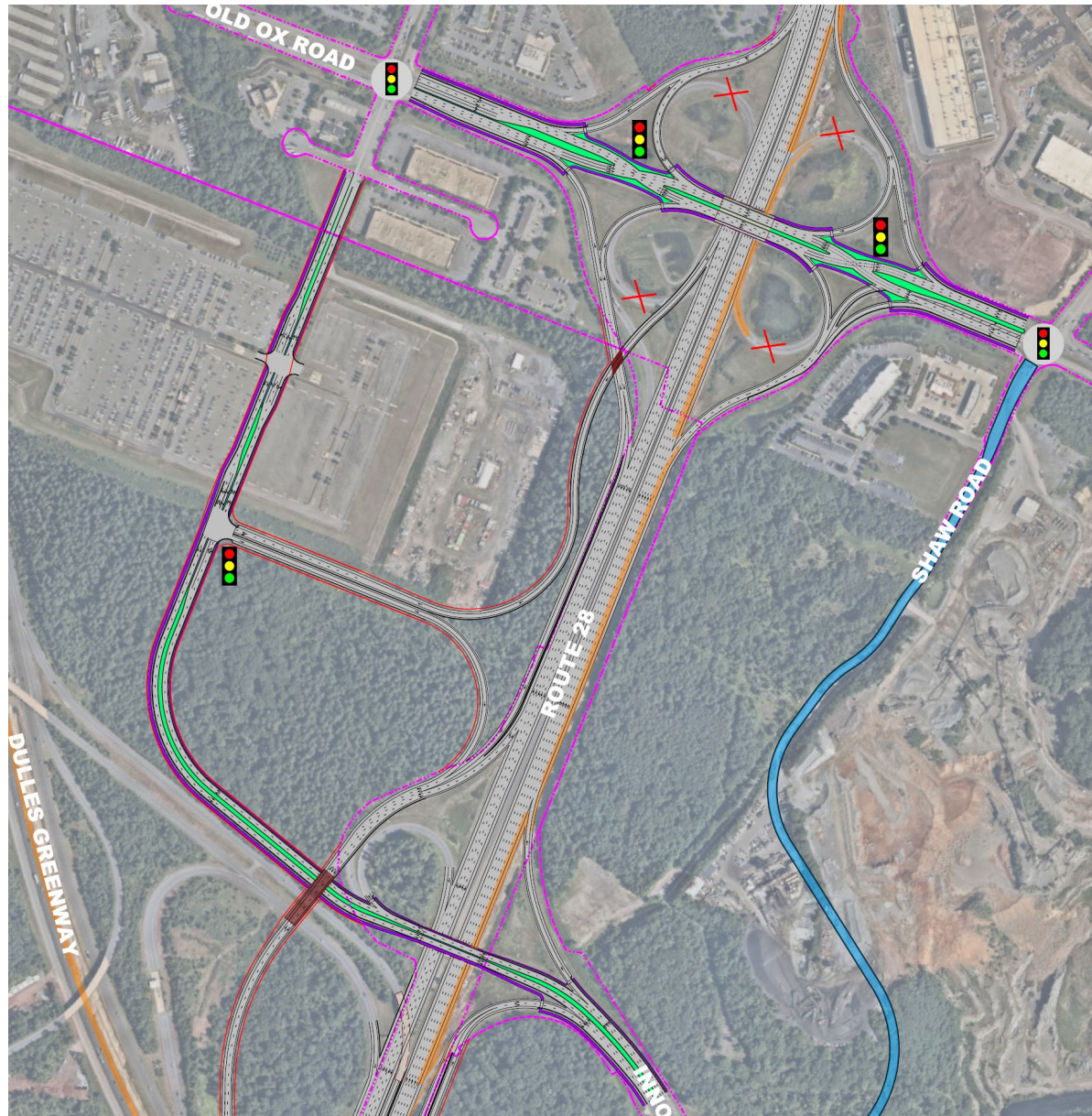


## Recommended Preferred Alternative: Route 606/Route 28 Interchange Area



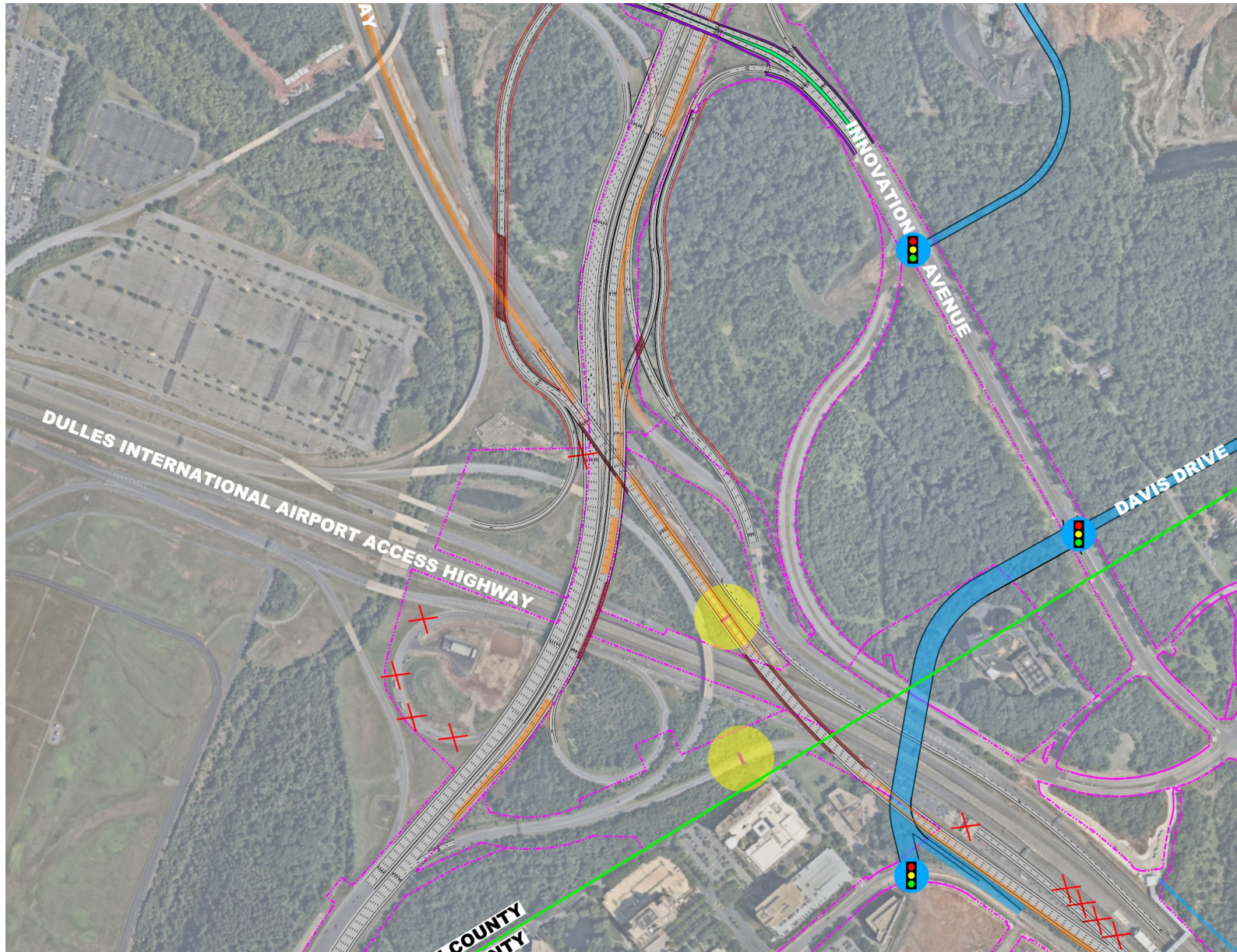


## Recommended Preferred Alternative: Innovation Avenue/Route 28 Interchange Area



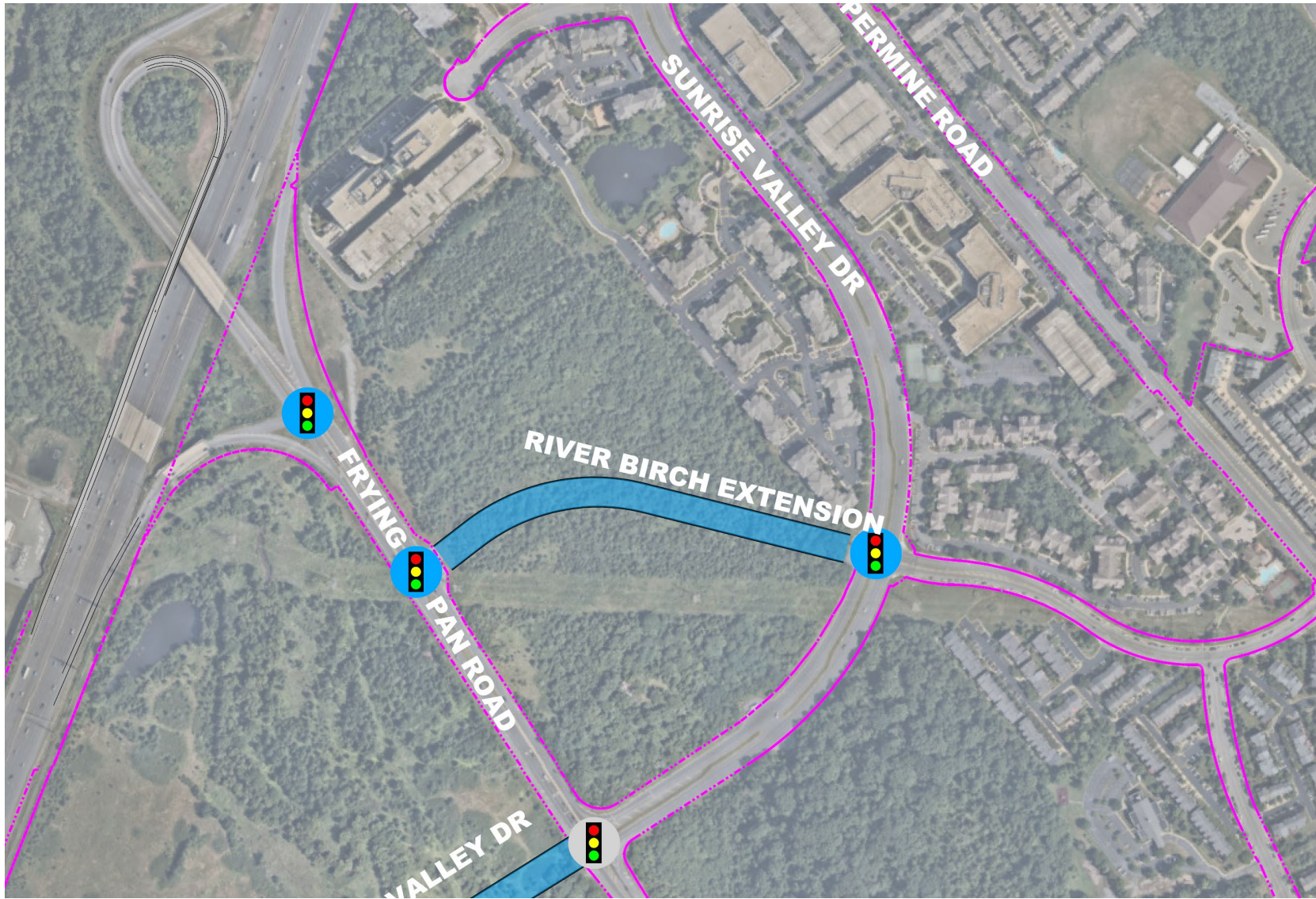


## Recommended Preferred Alternative: Route 28/Route 267 Interchange Area



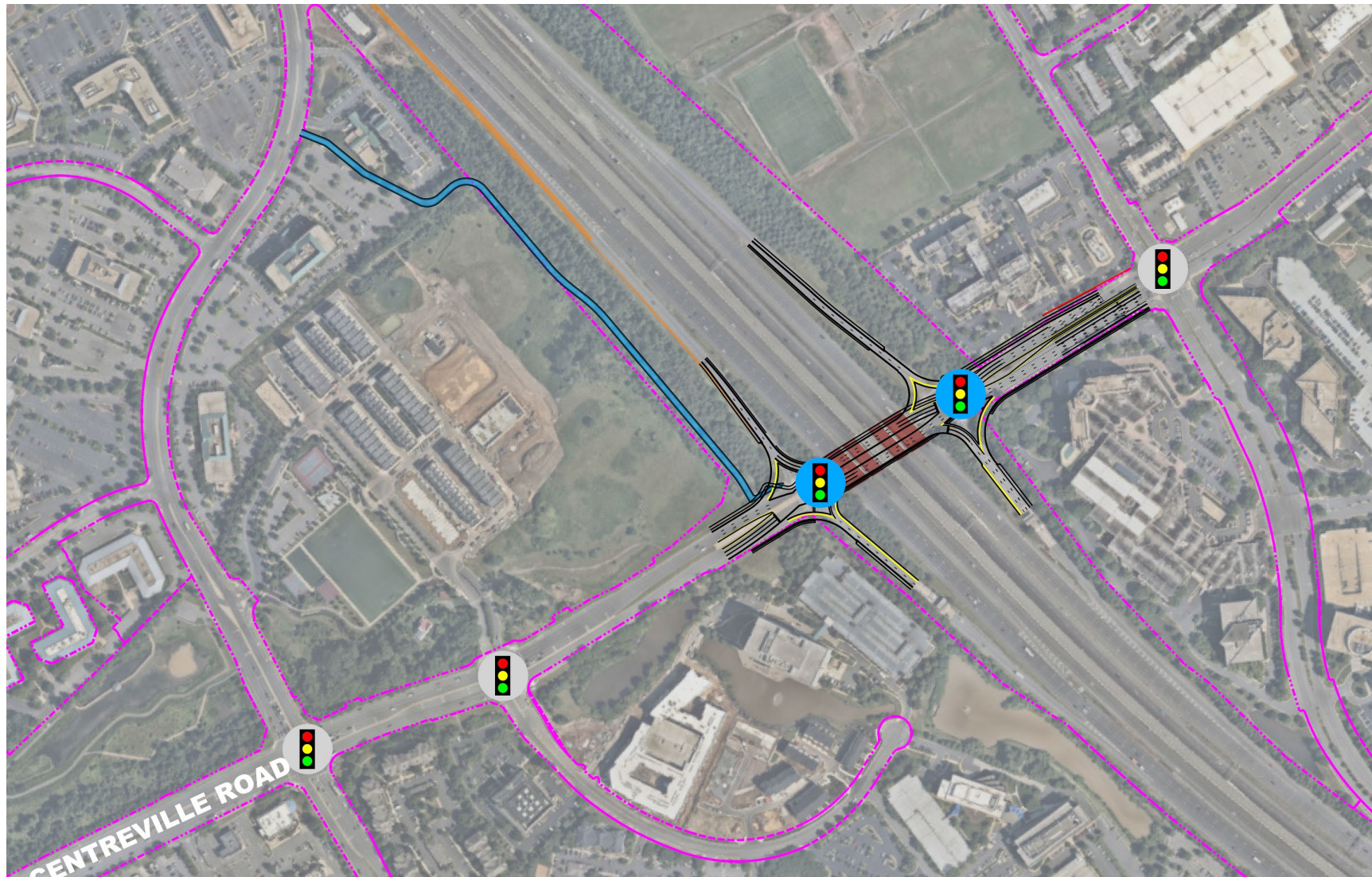


## Recommended Preferred Alternative: Frying Pan Road/Route 28 Interchange Area



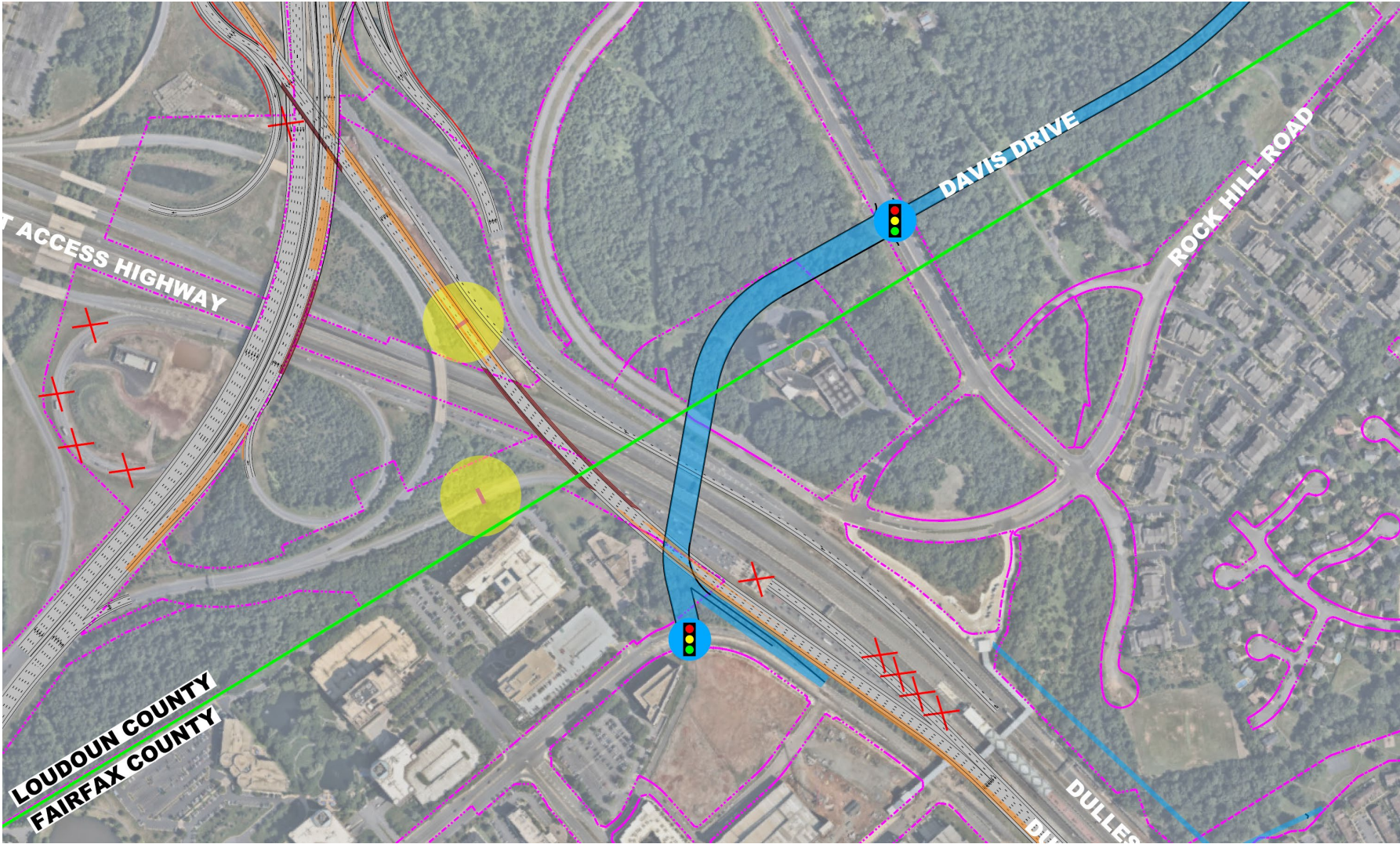


## Recommended Preferred Alternative: Centreville Road/Dulles Toll Road Interchange Area





**Recommended Preferred Alternative: Route 267 Mainline**



## BENEFITS OF RECOMMENDED PREFERRED ALTERNATIVE

- **Addresses critical movements and reduces travel time:**
  - Southbound Route 28 to eastbound Dulles Toll Road
  - Westbound Dulles Toll Road to northbound Route 28/Innovation Avenue
- **Removes weaves at critical areas:**
  - Southbound Route 28 between on-ramp from Dulles Greenway/ Dulles Toll Road and off-ramps to Dulles Airport and eastbound Dulles Toll Road
  - Eastbound Dulles International Airport Access Highway between Route 28 ramps
  - Northbound Route 28 between on-ramp from westbound Dulles Toll Road and off-ramp to Innovation Avenue
  - Route 28 and Route 606 cloverleaf interchange (4 weaves)



# NEXT STEPS

- **Public Engagement through August 3<sup>rd</sup>**
  - Provide input on the Recommended Preferred Alternative at [www.Route28DTRGreenwayStudy.org](http://www.Route28DTRGreenwayStudy.org)
  - Submit comments to VDOT Project Manager:  
Abi Lerner, P.E.  
Email: [meetingcomments@vdot.virginia.gov](mailto:meetingcomments@vdot.virginia.gov)  
Please reference the Route 28 DTR Greenway Study in the subject line.
- **Develop Implementation Plan for Programming Improvements**
- **Future Public Input Opportunities**

The screenshot shows the VDOT website for the 'Route 28 and Dulles Toll Road/Dulles Greenway Study'. The page is titled 'Route 28 and Dulles Toll Road/Dulles Greenway Study' and describes safety and operational improvements in the vicinity of the Dulles Toll Road/Dulles Greenway interchange. Key information includes:

- About the Study:** This study will assess traffic operations and safety and develop mitigation measures for the Route 28 corridor in the vicinity of the Dulles Toll Road/Dulles Greenway interchange (the "Project"), from Route 665 (Frying Pan Road) in Fairfax County to Route 846 (Sterling Boulevard) in Loudoun County. The study will identify safety and operational improvements, both short- and long-term, recognizing the complexity of this area, the multimodal nature of the corridors, the closely spaced interchanges, and the mutual interests of all parties to improve travel through this area in a safe and efficient manner.
- Schedule:** Begin Study - February 2019; Public Information Meeting - Mid 2020; Study Completion - Late 2020.
- Project Numbers:** State: 9029-96A-582; UPC: 116298.
- Resources:** Alternative 1 - 43.6MB; Alternative 2 - 43.7MB; Alternative 3 - 43.8MB; Brochure - 72KB; Future Programmed/Funded Transportation Projects - 2.4MB; Preferred Alternative - 38.6MB; Presentation to Commonwealth Transportation Board - September 2019 - 641KB.



# STARS

STRATEGICALLY TARGETED AND  
AFFORDABLE ROADWAY SOLUTIONS

## ROUTE 28 AND DULLES TOLL ROAD/DULLES GREENWAY STUDY

*Thank you!*

