



www.VirginiaDOT.org

Public Information Meeting

Centreville Road (Route 28) STARS Safety and Operational Improvements Study Prince William County

Wednesday, November 20, 2019
6 to 8 p.m.

Presentation starts at 6:30 p.m.

Cougar Elementry School
9330 Brandon Street
Manassas Park, VA 20111

Public Information Meeting

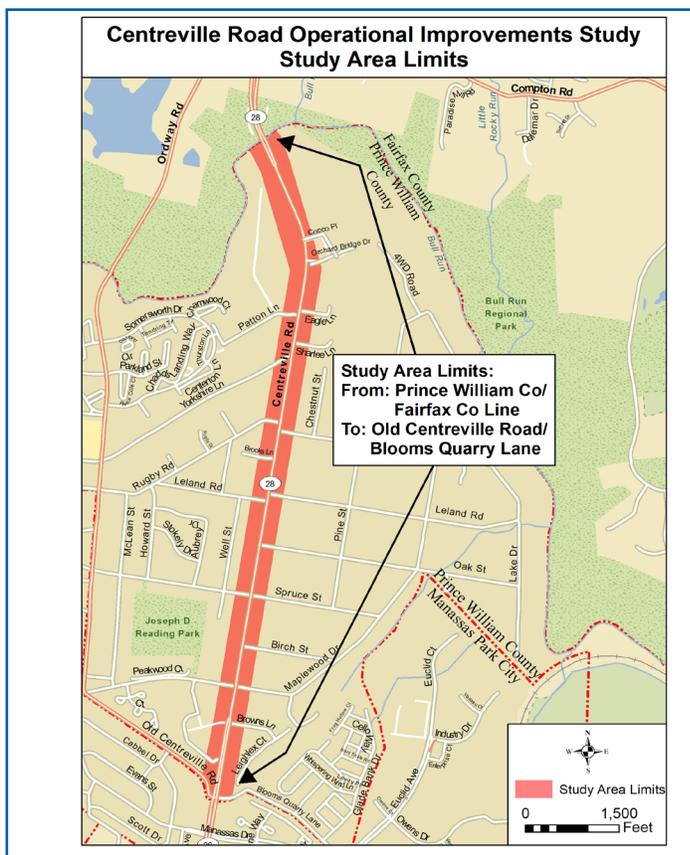
Welcome to the Virginia Department of Transportation's (VDOT) public information meeting on concepts being studied to assess potential safety and operational improvements along two miles of Centreville Road (Route 28) between Blooms Quarry Lane and the Fairfax County line. The concepts being studied may include roundabouts, overpasses, improved traffic signal timing and operations, turn lane improvements, access management and pedestrian enhancements.

This meeting is being held to inform the public on the progress of the STARS Study, present alternatives and solutions developed and solicit input from the public on the alternatives to determine what solutions are preferred and will be recommended for further consideration.

VDOT strives to ensure that all members of the community have the opportunity to participate in public decisions on transportation projects and programs affecting them.

VDOT representatives are here to discuss the concepts being studied and answer your questions. **Residents and drivers of the corridor in the study area are asked to take a short online survey** to provide feedback and vote on proposed concepts. The survey is available until **December 2, 2019** at **www.virginiadot.org/centrevilleroadstudy**. All comments received on this study will be reviewed and the final concepts based on public input will be made available on the VDOT study website.

Study at a Glance



Purpose: Assess potential safety and operational enhancements for drivers and pedestrians.

Lengths and Limits: Two miles of Centreville Road (Route 28) between Blooms Quarry Lane and the Fairfax County Line.

Phase: Study

Begin Date: July 2019

Completion Date: Winter 2019/20

Cost: \$284,000

Study Overview

This study is assessing potential safety and operational enhancements for drivers and pedestrians along two miles of Centreville Road (Route 28) between Blooms Quarry Lane and the Fairfax County line.

Currently, this segment of Centreville Road experiences severe congestion in the morning and evening peak periods.

The concepts studied will be developed based on public input and may include improving:

- Traffic signal timing and operations
- Turn lanes
- Access management for properties along the corridor including new medians

Other concepts being studied may also include Innovative Intersections (potential examples include roundabouts and overpasses) and pedestrian enhancements including crosswalks and new sidewalks.

Civil Rights

VDOT ensures nondiscrimination and equal employment in all programs and activities in accordance with Title VI and Title VII of the Civil Rights Act of 1964. If you need more information or special assistance for persons with disabilities or limited English proficiency, contact VDOT Civil Rights at 703-259-1775.

Get Involved

VDOT will review and evaluate any information received as a result of the public information meeting. The comment sheet and brochure is provided to assist in making your comments. You may leave the sheet or any other written comments in the comment box, or mail/ email your comments.

Residents and drivers of the corridor in the study area are asked to take a short online survey that is now available for responses at www.virginia.gov/centrevilleroadstudy.

Environmental Review

Potential environmental impacts will not be included as part of this study. When the operational concepts are finalized and carried forward into a future project design development, VDOT will coordinate with the appropriate federal, state and local agencies as part of the environmental review and approval process.

Right of Way

Preliminary study concepts presented on the displays are conceptual and may change as the study and concepts are refined. Property owners would be informed of the exact location of any easements during the right of way acquisition process and prior to construction if projects should be developed as a result of this study.

Information about right of way purchase is discussed in VDOT's brochure, "Right of Way and Utilities: Guide for Property Owners and Tenants." Copies of this brochure are also available online at: www.virginiadot.org/business/row-default.asp.

Contact Information

Primary Contact:
Terrell Hughes, P.E.

Transportation and
Mobility Planning

1401 East Broad Street
Richmond, VA 23219

804-343-9025



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COMMENT SHEET

All comments are subject to public disclosure.

Name (optional): _____

Address (optional): _____

Email (optional): _____

1. Which alternative(s) do you prefer as part of this study?

2. Do you have any concerns with the alternatives presented?

3. Please provide us with any additional information or suggestions that will assist VDOT in developing the final concepts of this study.

4. How did you hear about this meeting?

_____ Newspaper _____ Social Media _____ Website _____ Other _____

Fold Line

Postal Service
will not
deliver without
a stamp

Virginia Department of Transportation
Terrell Hughes, P.E.
1401 East Broad Street,
Richmond, VA 23219

Fold Line



CENTREVILLE ROAD (ROUTE 28) SAFETY AND OPERATIONAL IMPROVEMENTS STUDY

(PRINCE WILLIAM COUNTY)

A Study undertaken as part of VDOT's Strategically Targeted and Affordable Roadway Solutions (STARS) Program

Presentation Outline

1. Introductions
2. Meeting Objectives
3. Centreville Road (Route 28)
Safety and Operational
Improvements Study
4. Alternative Concepts
5. Safety & Operational Analysis
Results
6. Next Steps
7. Questions



2. Objectives for this Public Informational Meeting

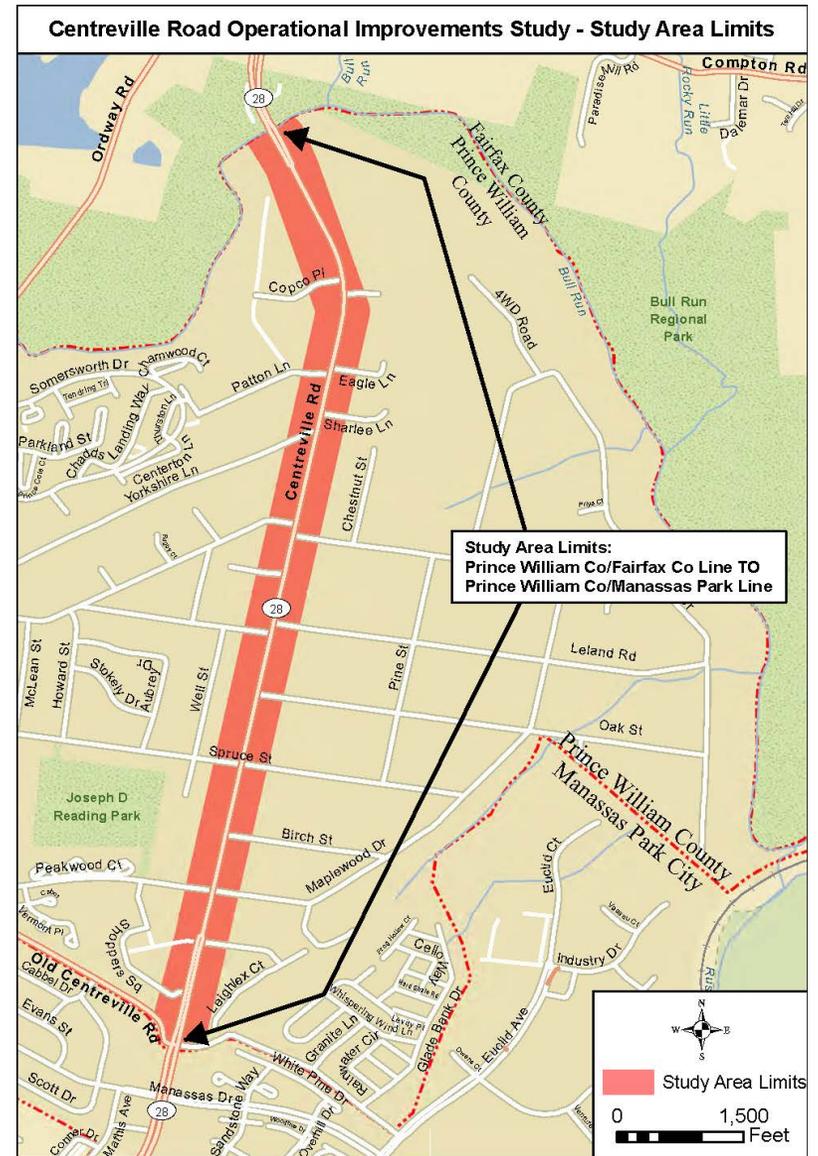
- **Inform the public on the progress of the Strategically Targeted and Affordable Roadway Solutions (STARS) Program Study**
- **Share results from previous survey**
- **Describe alternatives that were studied**
- **Solicit input from the public on the alternatives to determine what solutions are preferred**

3. STUDY OVERVIEW

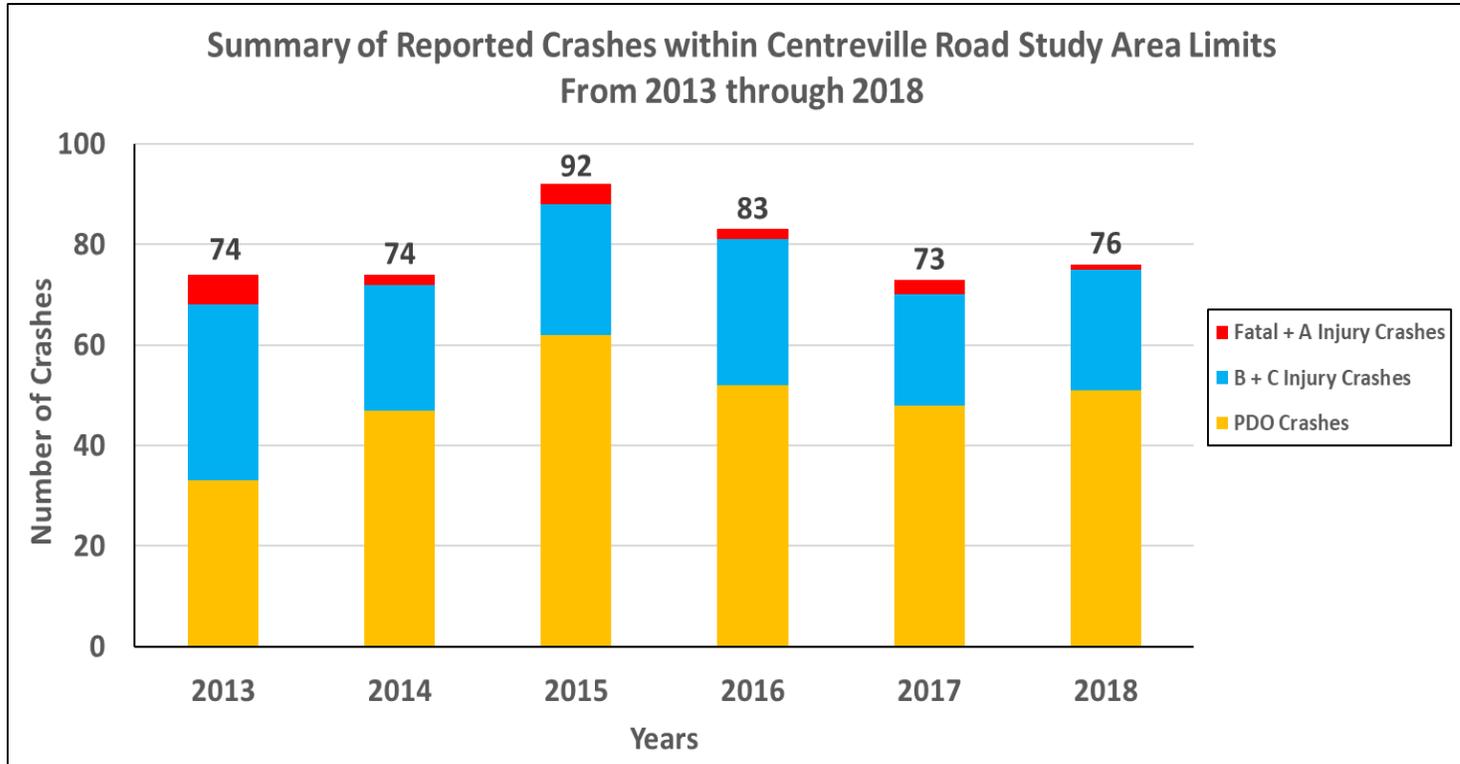
Study Area

Centreville Road (VA 28) -
between Prince William / Fairfax County line at
the bridge over Bull Run
and
Blooms Quarry Lane / Old Centreville Road
intersection at the Prince William County /
City of Manassas Park line

- **High traffic volumes: 2,500-2,700 vehicles per hour in northbound in AM and southbound in the PM**
- **100 driveways over 2 miles**
- **5 lane cross-section with center two-way left turn only lane**

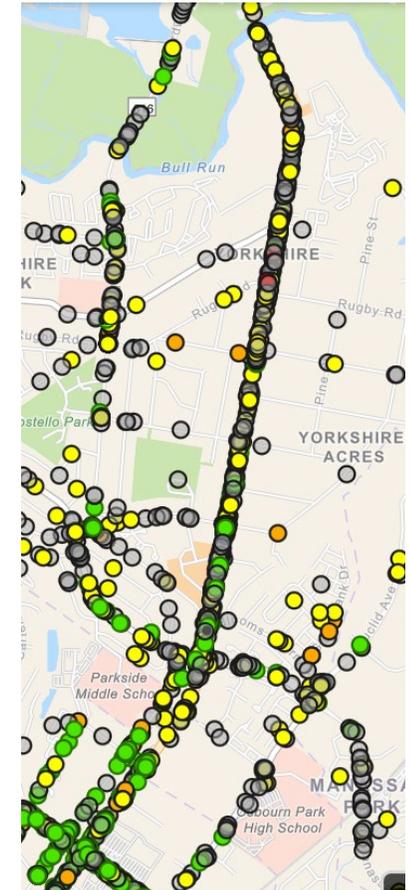


Crashes Reported on Centreville Road within Study Limits



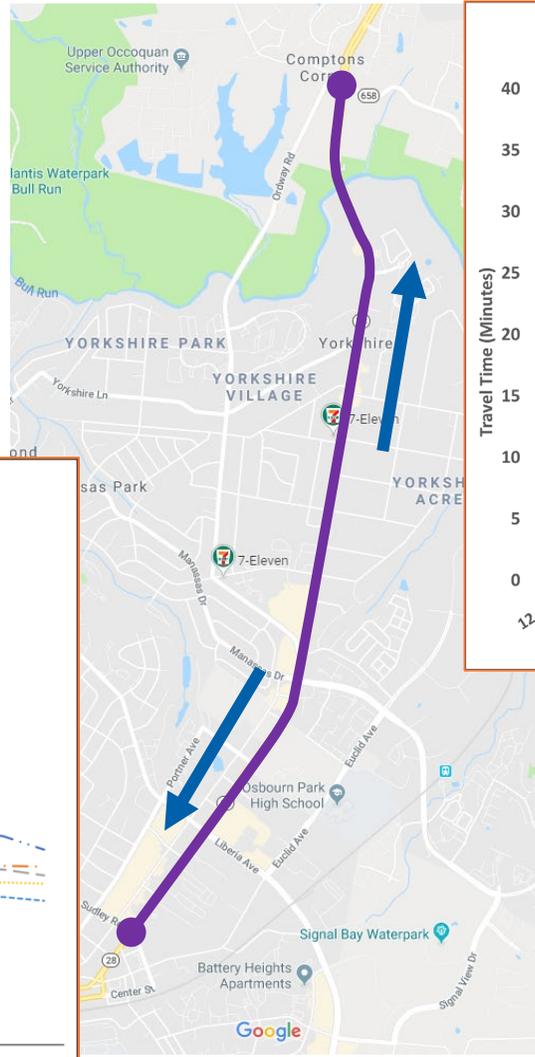
Average Annual Crash Rates between 2013 and 2018 ranged from 193 to 242 crashes per 100 million vehicle miles.

- **50 to 78%** higher than Average Annual Crash Rates for Primary Highways in VDOT NOVA District.
- **50 to 88%** higher than Statewide Average Rates

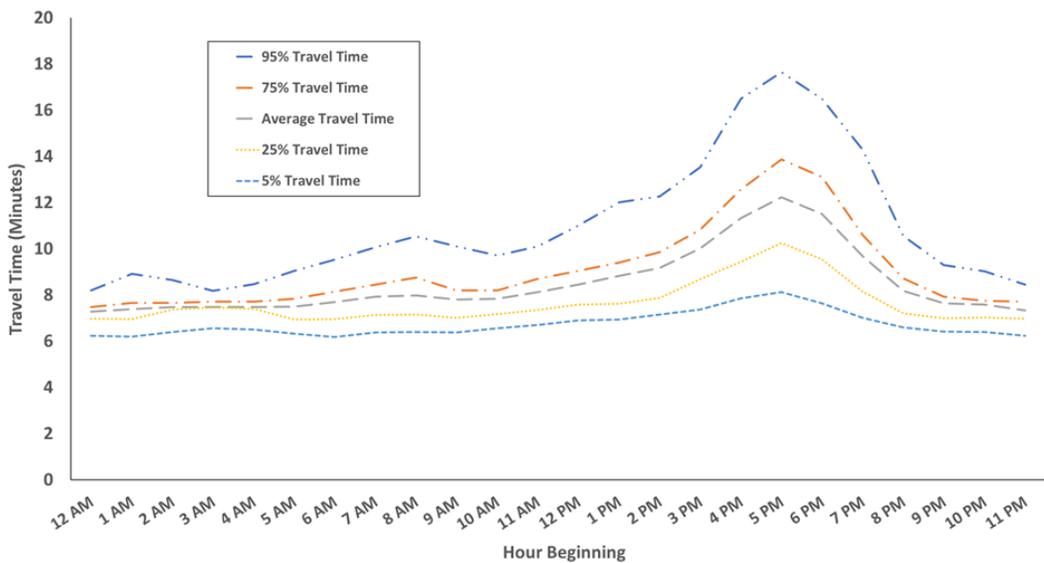


Fatal injuries include deaths which occur within thirty days following injury in a motor vehicle crash. “A Injury” Severe injuries include skull fractures, internal injuries, broken or distorted limbs, unconsciousness, severe lacerations, severe burns, and unable to leave the scene without assistance. “B Injury” Moderate injuries include visible injuries such as a “lump” on the head, abrasions, and minor lacerations. “C Injury” Minor injuries include hysteria, nausea, momentary unconsciousness, and complaint of pain without visible signs of injury. “PDO” No fatality or injury; property damage only above a set threshold

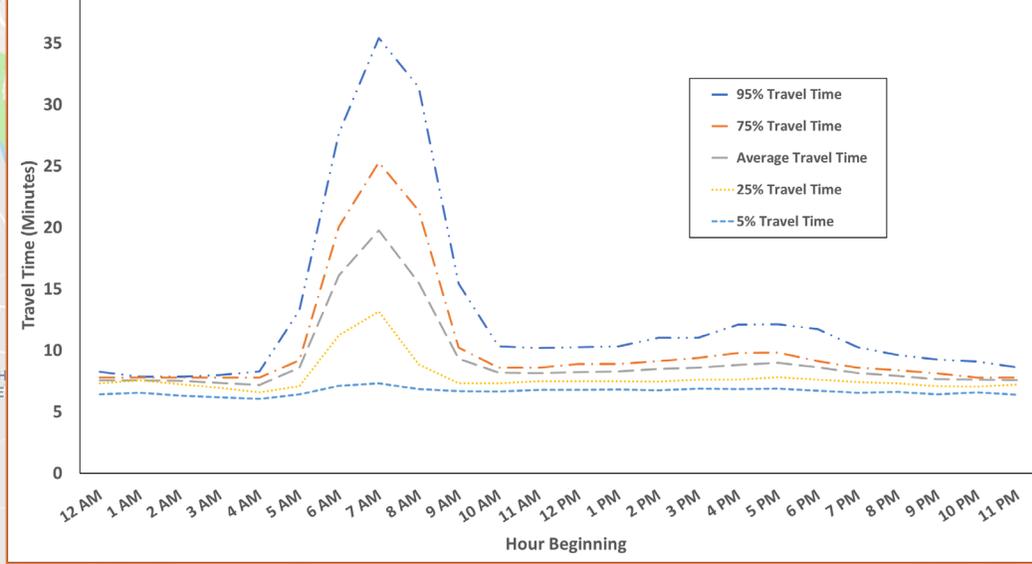
Travel Times on Centreville Road / VA Route 28



Travel Time (Minutes) for SB Centreville Road (Rte 28) between Compton Road (Rte 658) and Prescott Ave/Sudley Road September 03, 2018 through August 30, 2019 (Every weekday)

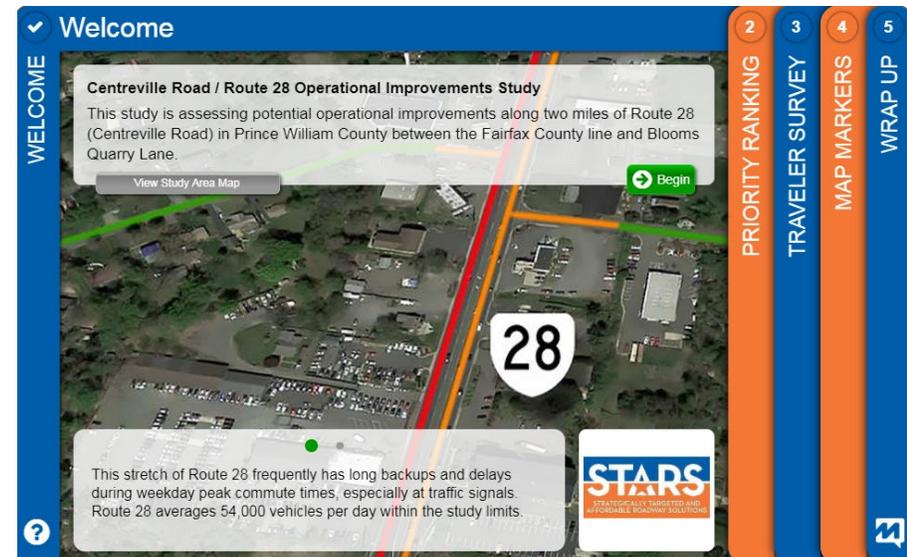


Travel Time (Minutes) for NB Centreville Road (Rte 28) between Compton Road (Rte 658) and Prescott Ave/Sudley Road September 03, 2018 through August 30, 2019 (Every weekday)



Public Involvement

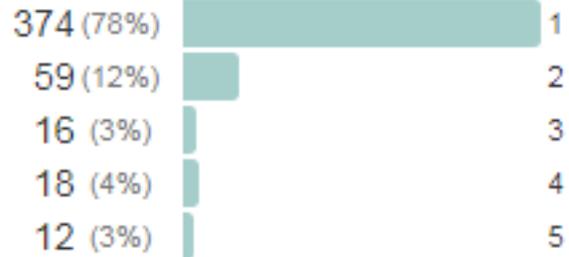
- **Public Information Meeting – September 30th**
 - About 100 attendees
- **Online Survey – September 20th – October 7th**
 - Participants – 647
 - Comments – 987
 - Total Data Points* – 18,277



***A data point is one user input. A user survey response will typically have multiple data points**

Public Involvement Takeaways

Travel Time Reliability



Times ranked: 479
Average rank: 1.403

Vehicular Traffic Safety



Times ranked: 440
Average rank: 2.602

Difficulty Making Turns



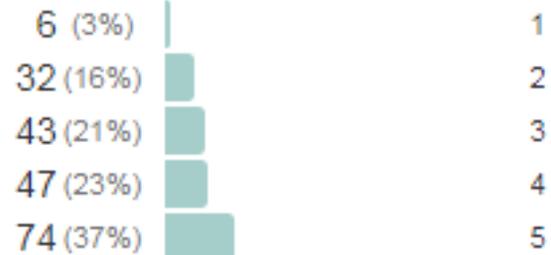
Times ranked: 389
Average rank: 2.992

Public Transit



Times ranked: 223
Average rank: 3.632

Roadway Aesthetics



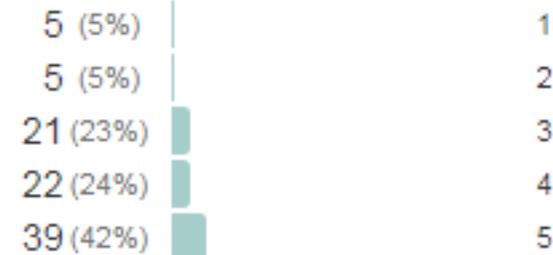
Times ranked: 202
Average rank: 3.748

Pedestrian Safety



Times ranked: 263
Average rank: 3.825

Bicycle Safety



Times ranked: 92
Average rank: 3.924

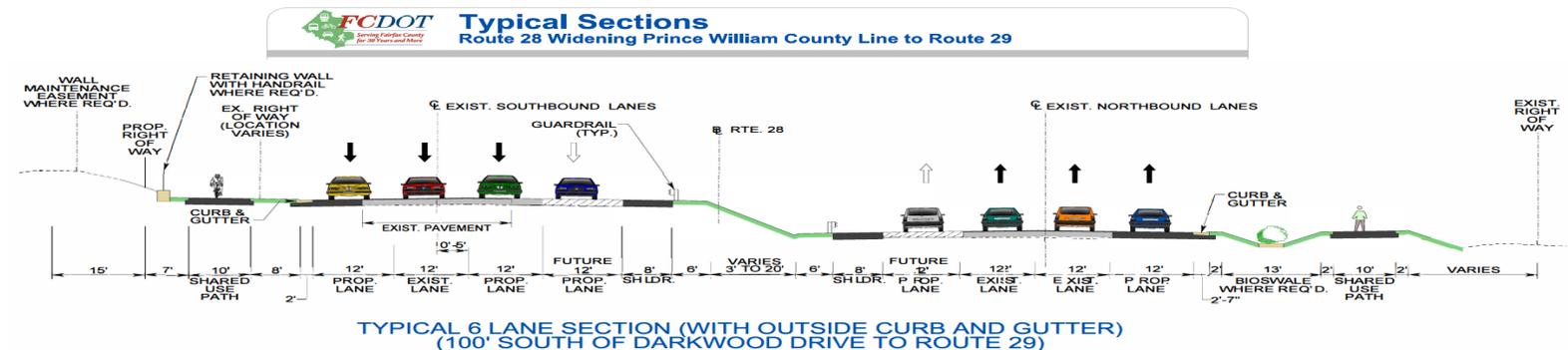
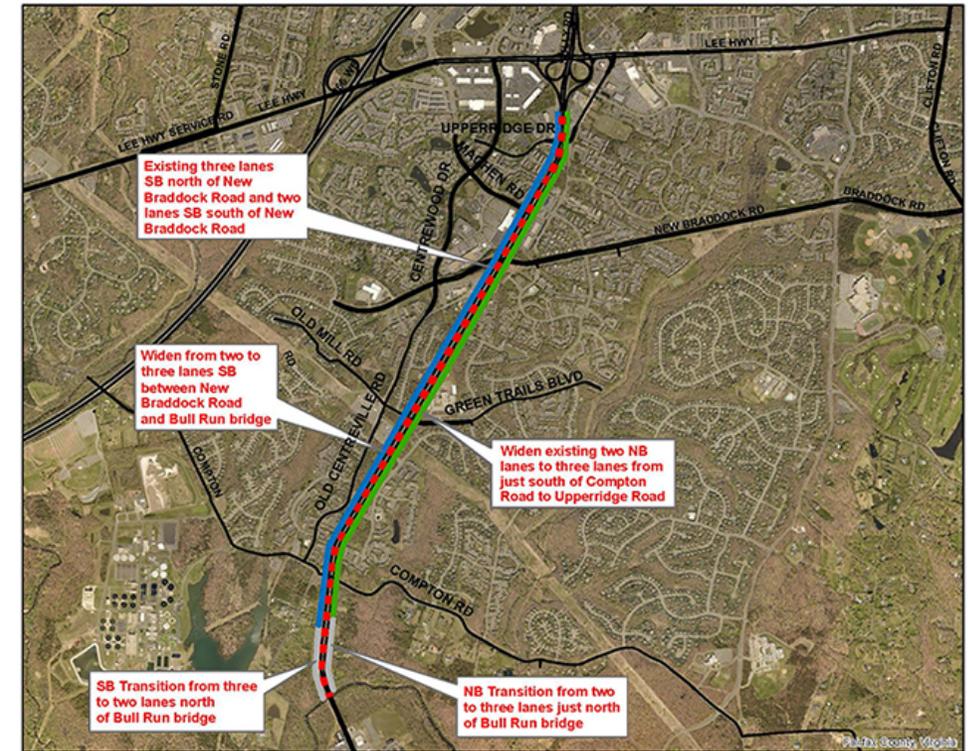
Property Access



Times ranked: 222
Average rank: 4.054

Route 28 Widening (Fairfax County)

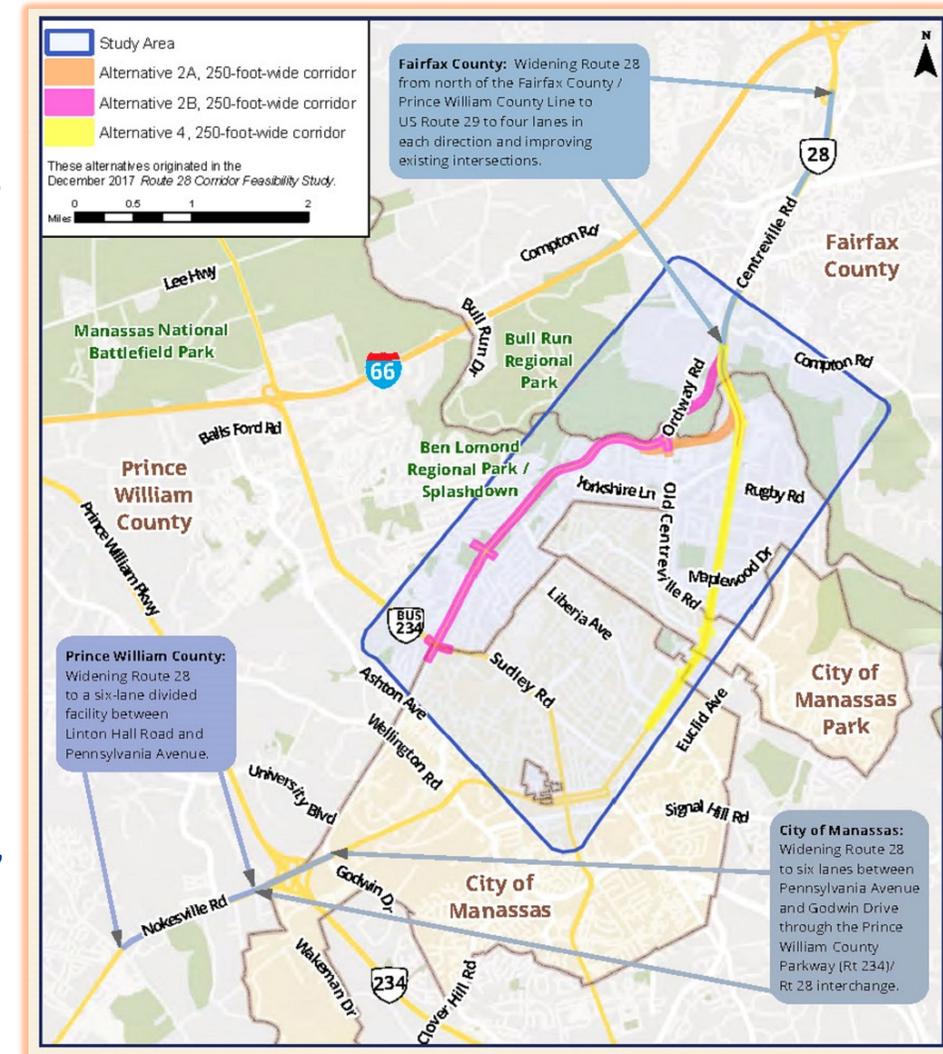
- Widening from four lanes to six lanes from Route 29 to bridge over Bull Run
- Cost: \$86,480,000
- Anticipated Schedule:
 - Start Construction – Fall 2020
 - Finish Construction – Spring 2023



Route 28 Bypass / Widening Update

Purpose: Construction of a bypass or widening of existing Route 28 to relieve congestion between the City of Manassas and Fairfax County

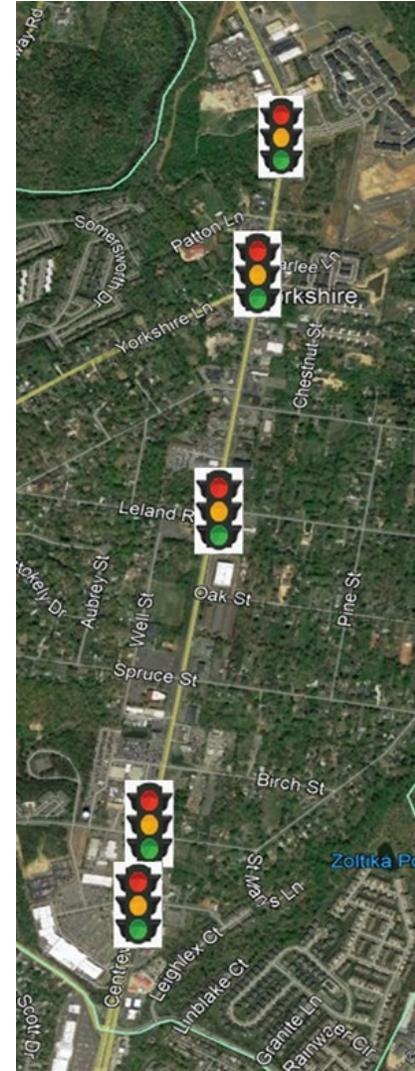
- **Description:** 4-lane limited access road, extending from Flat Branch to Route 28 near the Fairfax/Prince William County Line and one bike/ped facility or widening of existing Route 28 to 6 lanes.
- **Approximate Project Cost:** \$300,000,000
- **Proposed Bond Authorization: \$200,000,000**
 - The approved bond referendum authorizes the Board of County Supervisors to use general obligation bonds to fund this project.
 - The Board of County Supervisors will still need to approve and identify sources to finance the project as part of the annual budget process.
- **Existing Funding:** \$95 million in NVTAF funds.
- **Project Duration:** 5 to 7 years
- **Pros:** Relieves congestion, improves capacity, regional project, bike/ped access, improves travel time, transit reliability
- **Cons:** Cost, environmental impacts, ROW impacts, large wall construction, neighborhood impacts, alignment TBD



4. ALTERNATIVE CONCEPTS

Overview of Alternative Options

- Option 1 - Minor Improvements
- Option 2 - Innovative Intersections
- Option 3 - Innovative Intersections with Continuous Median
- Option 4 – Flyovers and Roundabouts

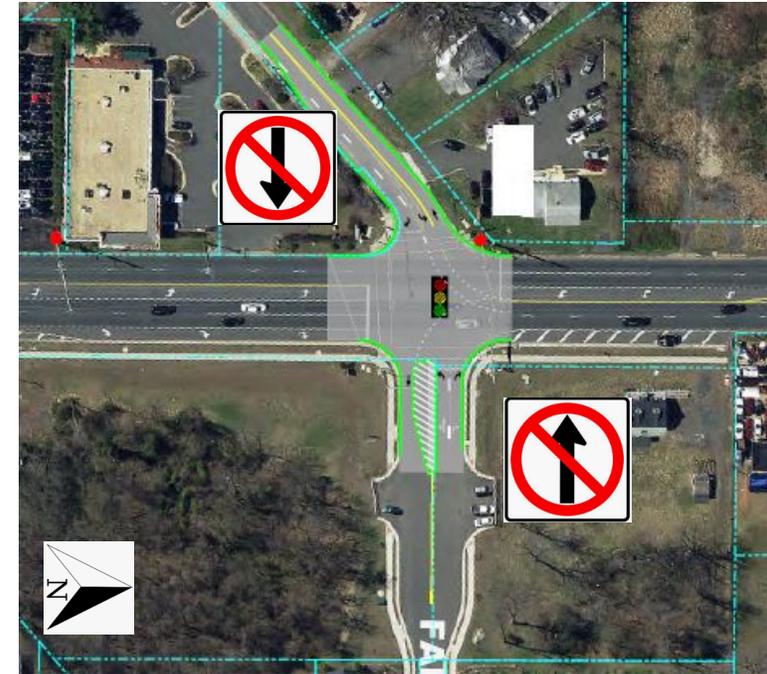


- Improvements Common to All Alternatives
 - 10 ft-wide Multi-purpose Path at North End
 - Flashing Yellow Arrows for Left Turns
 - High Visibility Backplates
 - High Visibility Crosswalks across Rt 28
 - CCTV Cameras
 - Arterial Performance Monitoring



Option 1 – Improvements Overview

- **Lower-Cost Intersection Improvements targeted at specific signalized intersections**
- **Considered restricting some movements and minor geometric improvements**
- **Pedestrian Accommodations include sidewalk and crosswalks at spot locations**



Option 2 – Improvements Overview

- Goal is to minimize property impacts while improving safety and reducing congestion
- Primary focus for option is using innovative intersections at signalized intersection locations.
 - <http://www.virginiadot.org/innovativeintersections/>
- Pedestrian Accommodations focus on filling in missing sidewalk connections on east side of Route 28 and providing pedestrian crossings



Option 3 – Improvements Overview

- **Similar Intersection Treatments as Option 2 with Innovative Intersection Treatments**
- **Modified locations for U-Turns to accommodate access**
- **Addition of median throughout corridor to improve safety**
- **Pedestrian Accommodations include 10 ft-wide Shared-Use Path**



Option 4 – Improvements Overview

- Look into additional options such as flyovers and roundabouts to improve safety and reduce congestion at intersections
- Additional options were investigated at spot intersection locations.

Roundabout

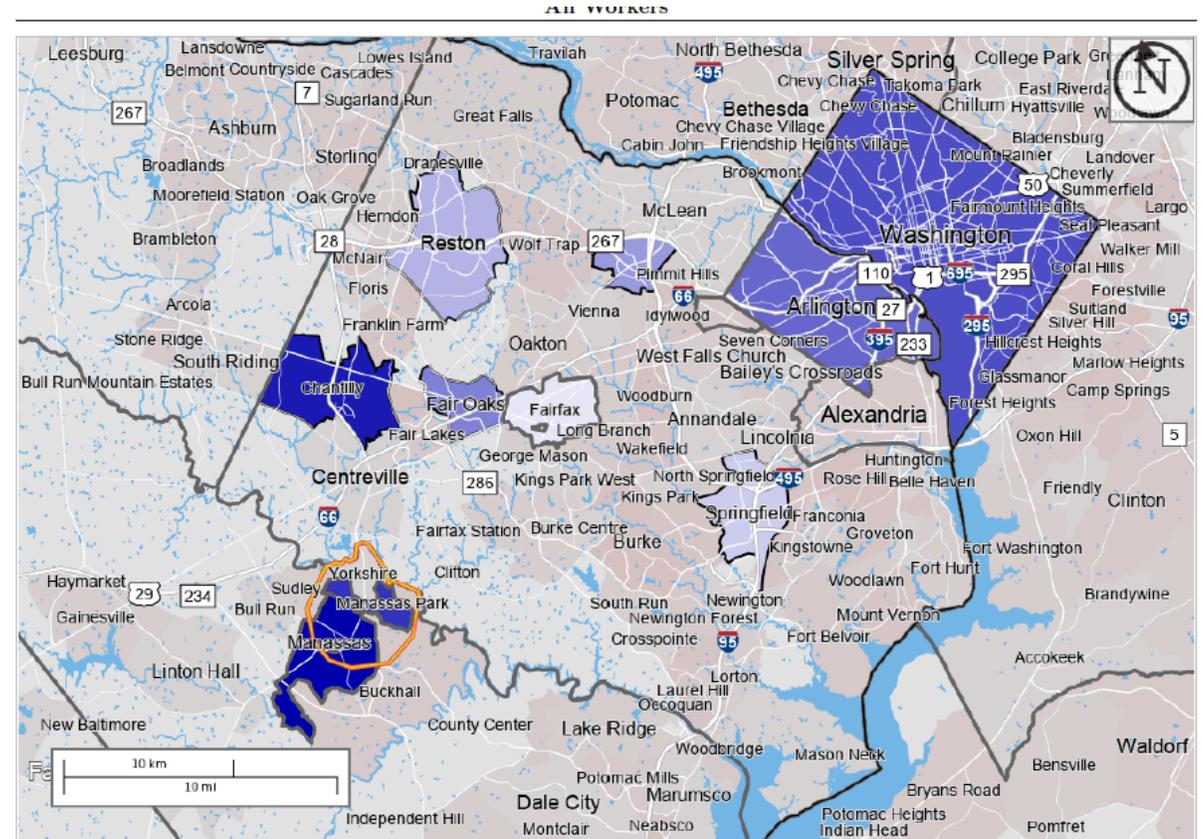


Car/Van Pool Options

- Recommend a study of locations for Park & Ride/Commuter Lots
- Recommend a study of north/south transit – especially to Chantilly

All Jobs from Home Selection Area to Work Places (Cities, CDPs, etc.) in 2017
All Workers

Places (Cities, CDPs, etc.) as Work Destination Area	2017	
	Count	Share
All Places (Cities, CDPs, etc.)	26,866	100.0
Manassas city, VA	2,400	8.9
Chantilly CDP, VA	1,320	4.9
Manassas Park city, VA	845	3.1
Washington city, DC	844	3.1
Arlington CDP, VA	834	3.1
Fair Oaks CDP, VA	822	3.1
Tysons CDP, VA	766	2.9
Reston CDP, VA	760	2.8
Springfield CDP, VA	657	2.4
Fairfax city, VA	641	2.4
All Other Locations	16,977	63.2



OPTION 1 – MINOR IMPROVEMENTS

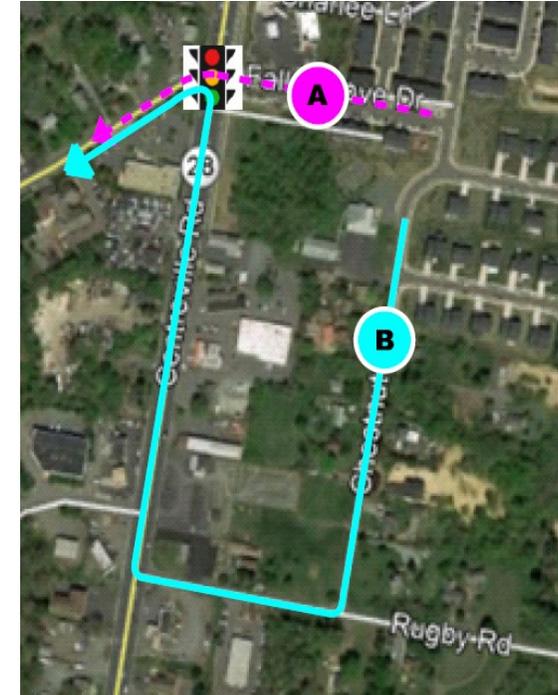
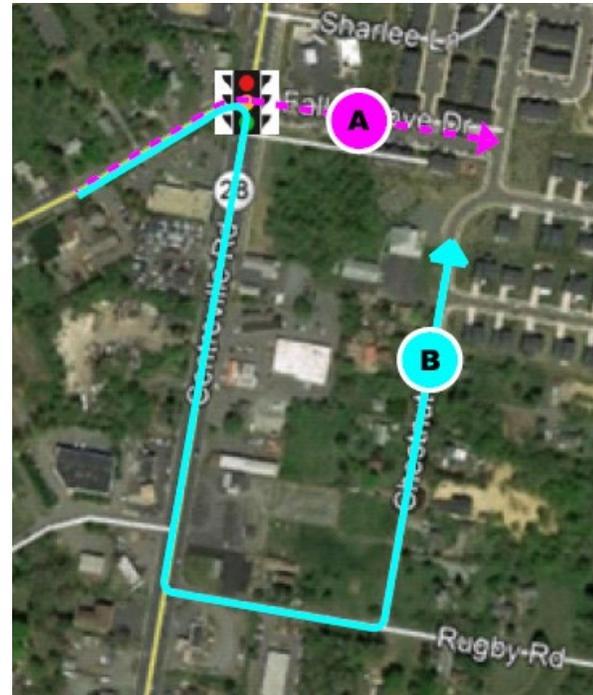
Option 1 – Orchard Bridge Drive

- Remove Northbound Left/U-Turn Lane
- Convert Southbound Left to Single Lane with Flashing Yellow Arrow to allow permissive Left Turns
- Extend Sidewalk to Bull Run Bridge/Tie into Fairfax County Project



Option 1 – Yorkshire Lane

- Restrict Side street Through Movements, approaches become Left/Right Out and reduces side street time requirements
- Add additional outbound lane to Yorkshire Lane
- Improve Pedestrian Crossing



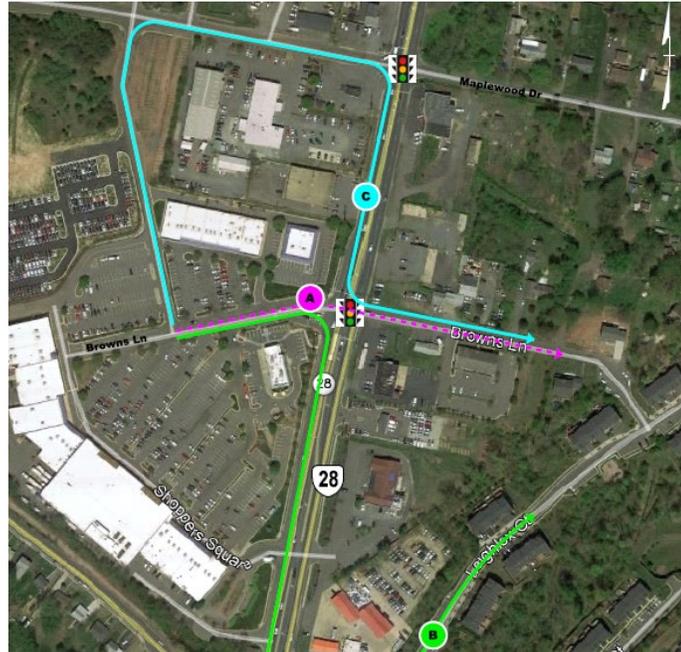
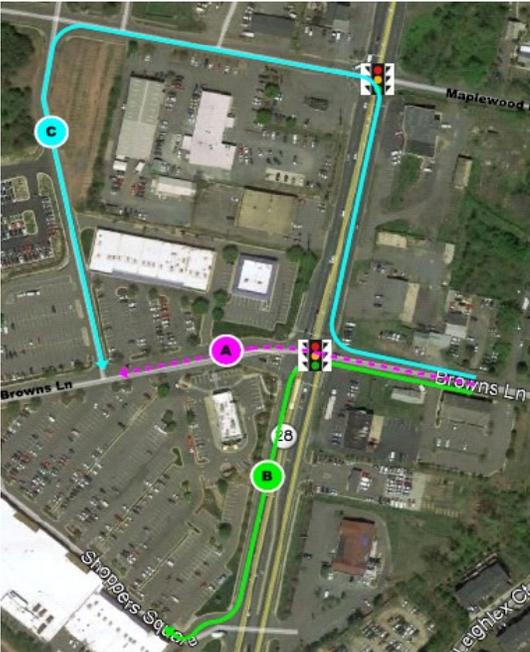
Option 1 – Maplewood Drive

- Restrict Westbound Approach to Ingress Only
- Widen Eastbound approach to Two Lanes
- Extend sidewalk from Shopping Center, consider pedestrian crossing



Option 1 – Browns Lane

- Restrict side street Through movements, approaches become Left/Right Out
- Widen Browns Lane to a two lane approach
- Realign approaches to allow concurrent left turns
- Restrict South Shopping Center entrance to Left In

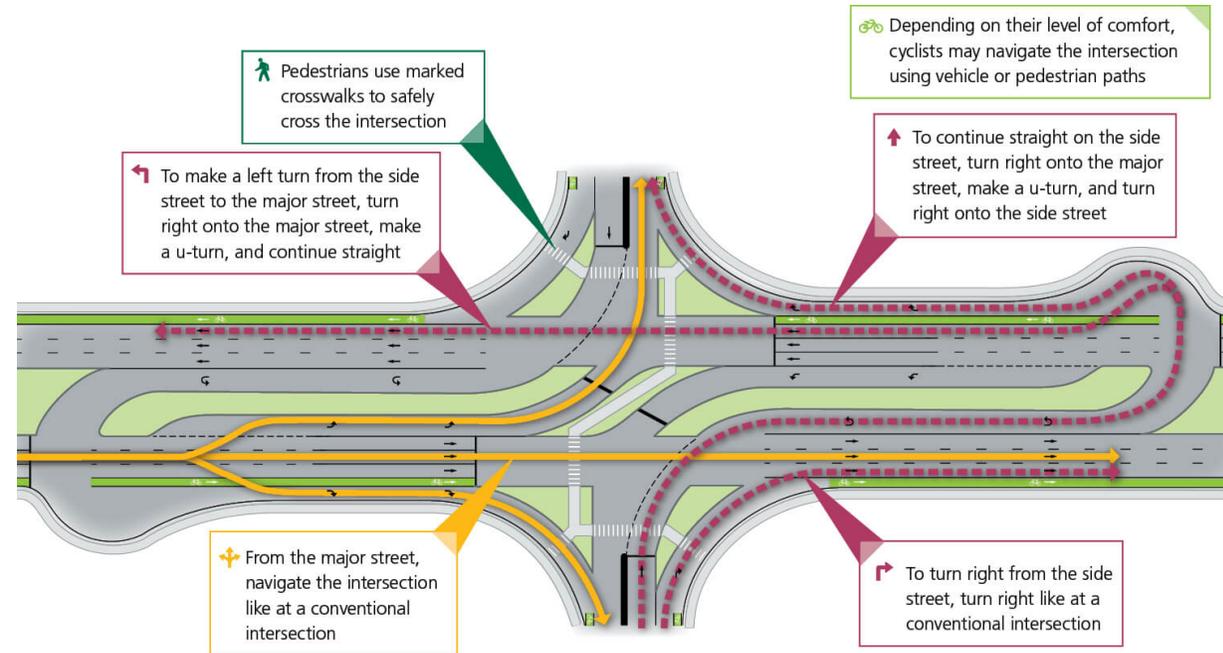
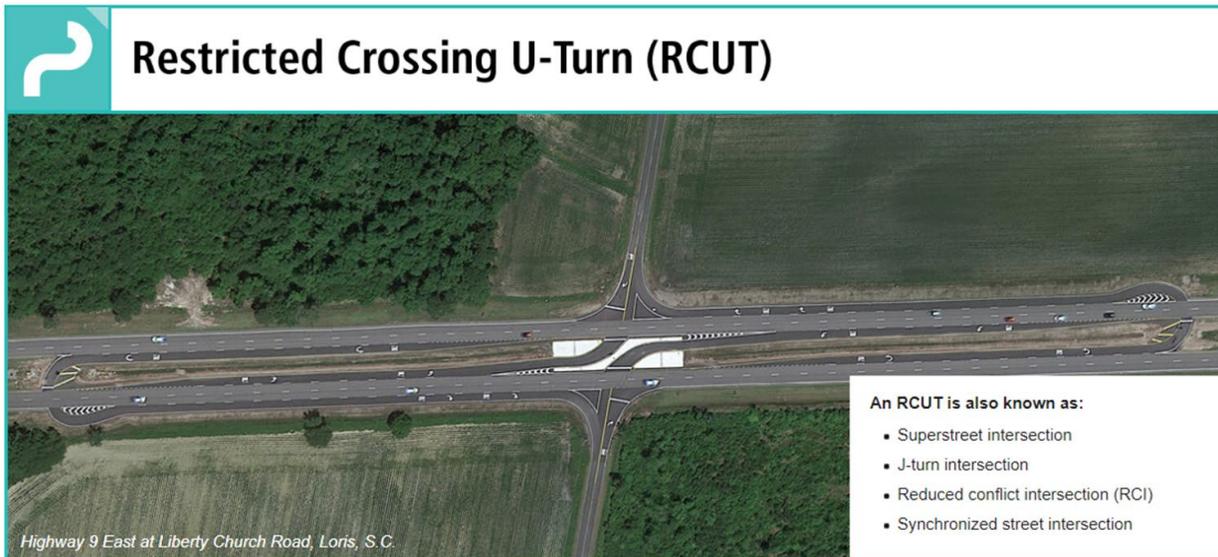


OPTION 2 – INNOVATIVE INTERSECTIONS

Restricted Crossing U-Turn (RCUT) Intersection

- **Restricted Crossing U-Turn (RCUT)**

- http://www.virginiadot.org/info/innovative_intersections_and_interchanges/rcut.asp



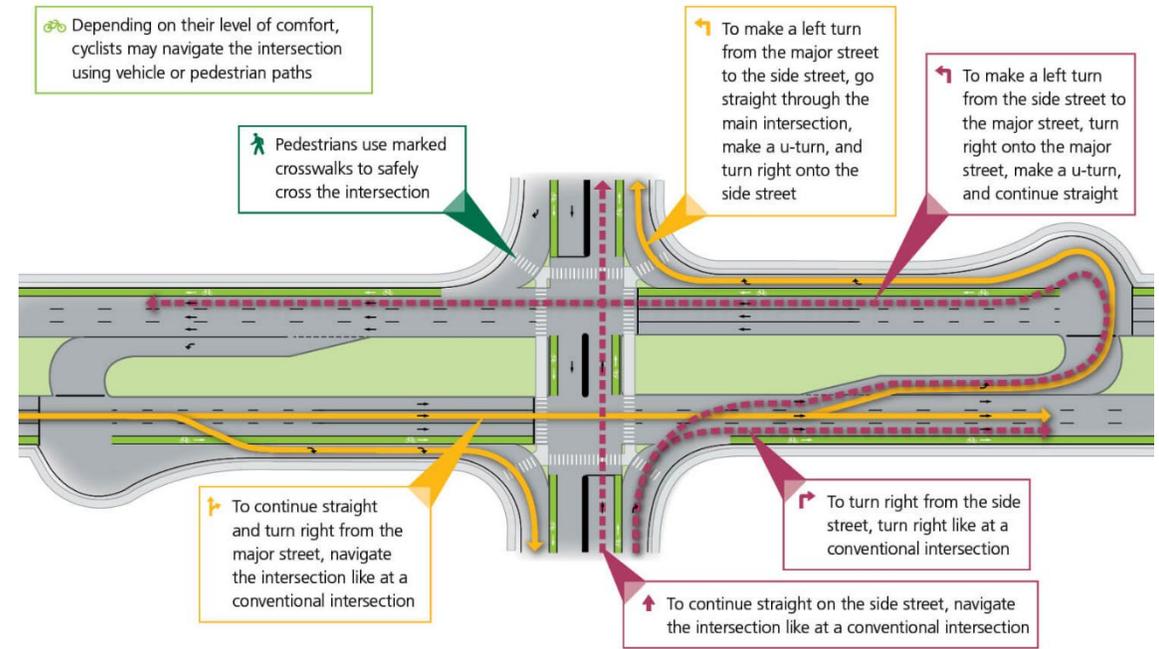
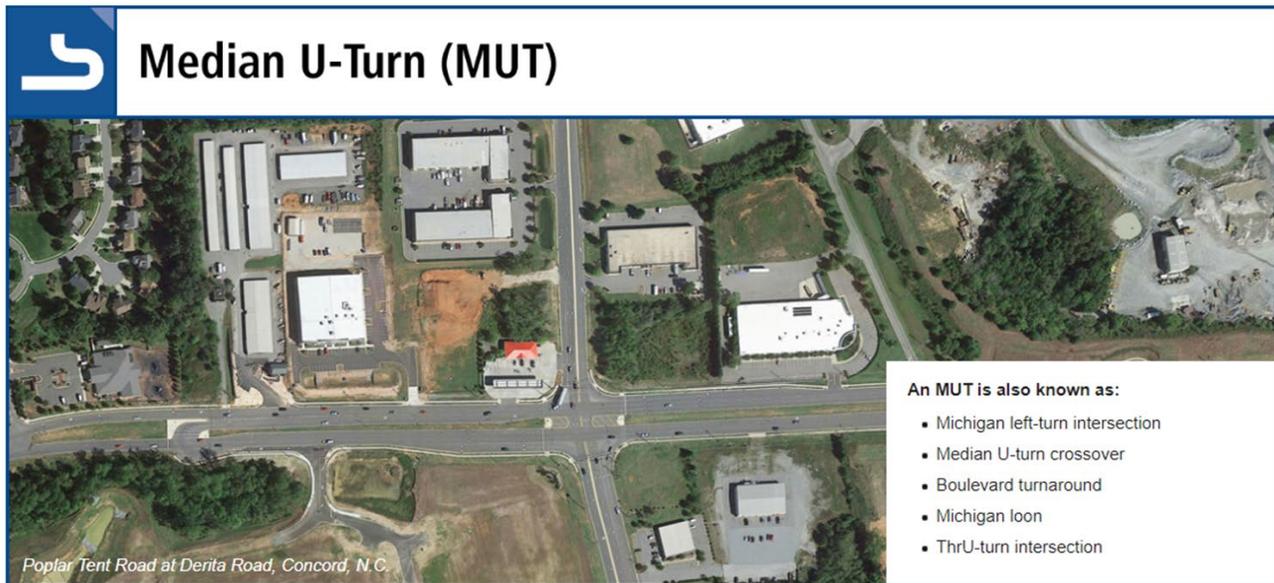
NOT TO SCALE

Note: For simplicity, only two directions of traffic are shown. Opposing traffic follows similar routes.

Median U-Turn (MUT) Intersections

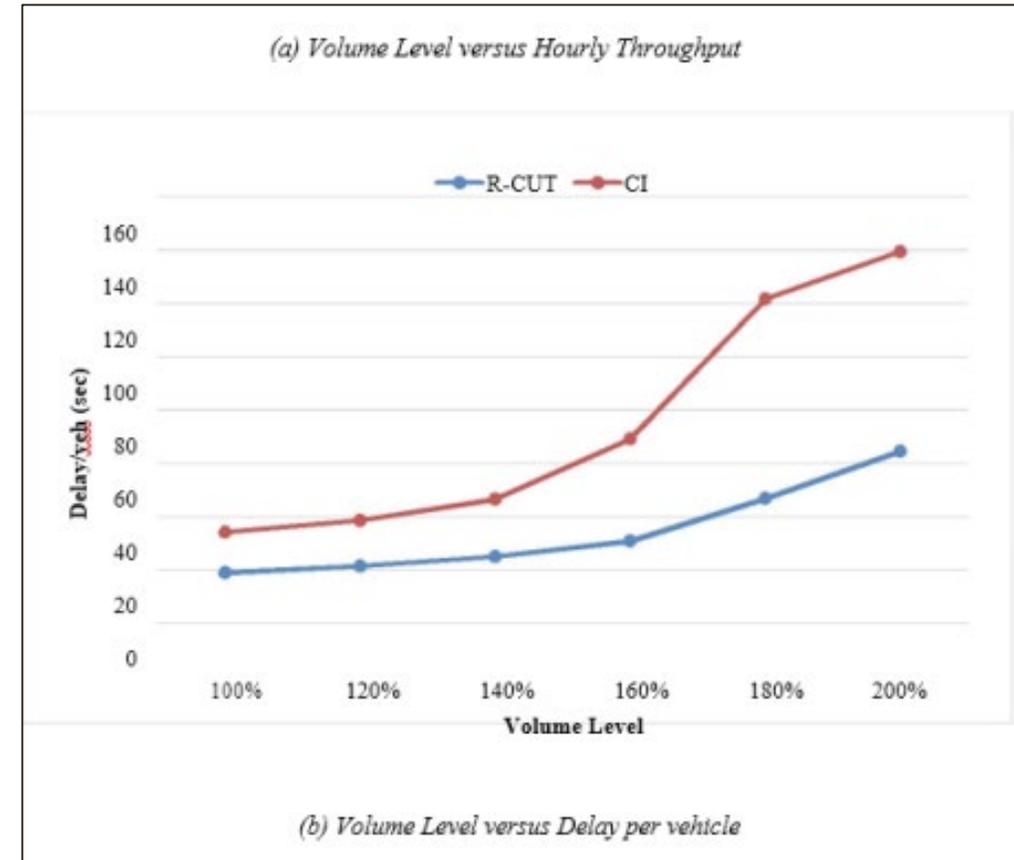
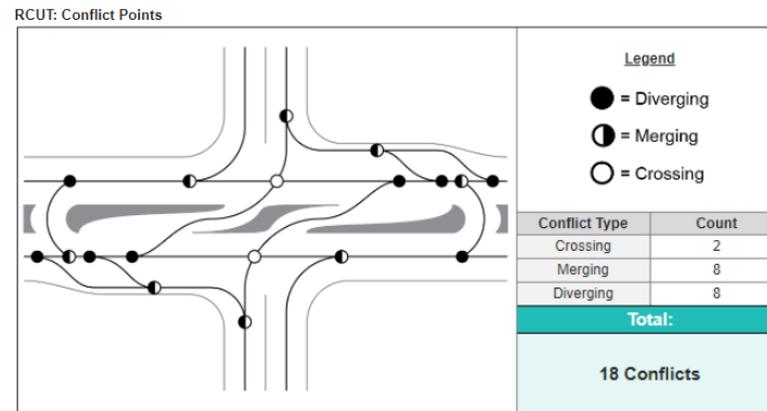
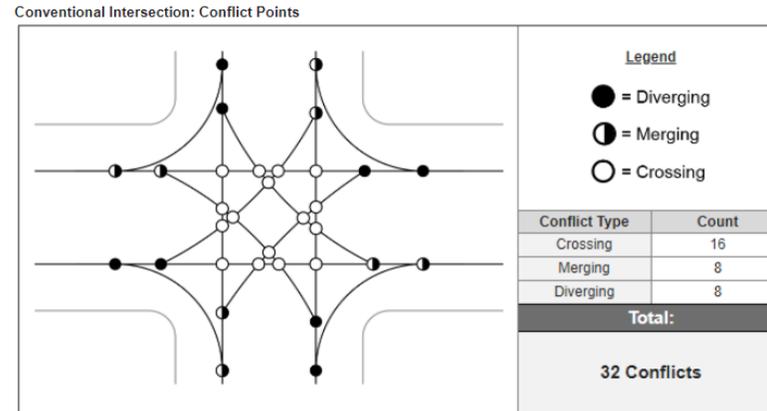
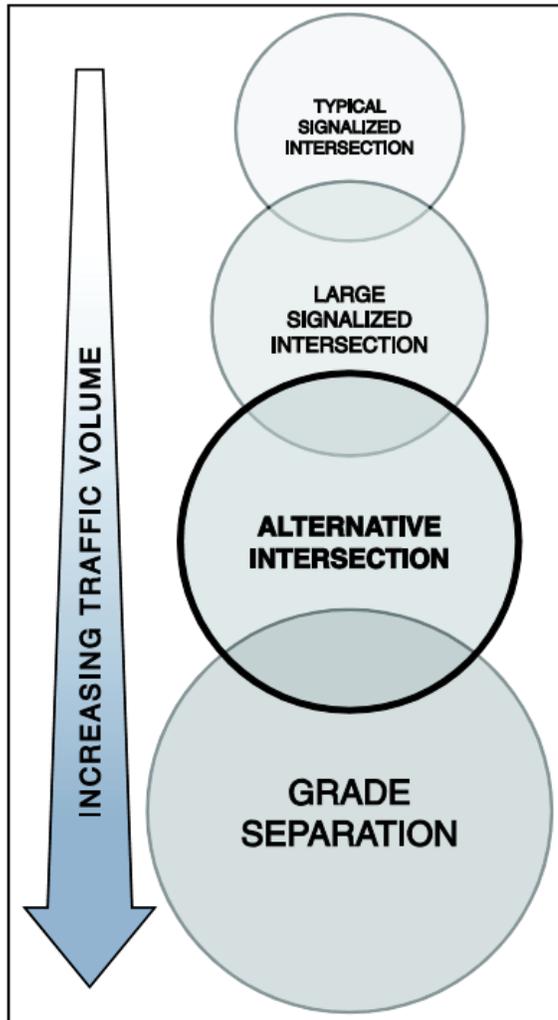
- **Median U-Turn (MUT) Intersection**

- http://www.virginiadot.org/info/innovative_intersections_and_interchanges/mut.asp



Note: For simplicity, only two directions of traffic are shown. Opposing traffic follows similar routes.

Benefits of Innovative Intersections – Improved Safety and Traffic Operations



Option 2 – Orchard Bridge Drive

- Convert to RCUT Innovative Intersection
- Access Control to U-Turn Location
- Add 5 feet wide Sidewalk throughout corridor



Option 2 – Yorkshire Lane

- Convert to Median U-Turn (MUT) Innovative Intersection
- Add 5 feet wide Sidewalk



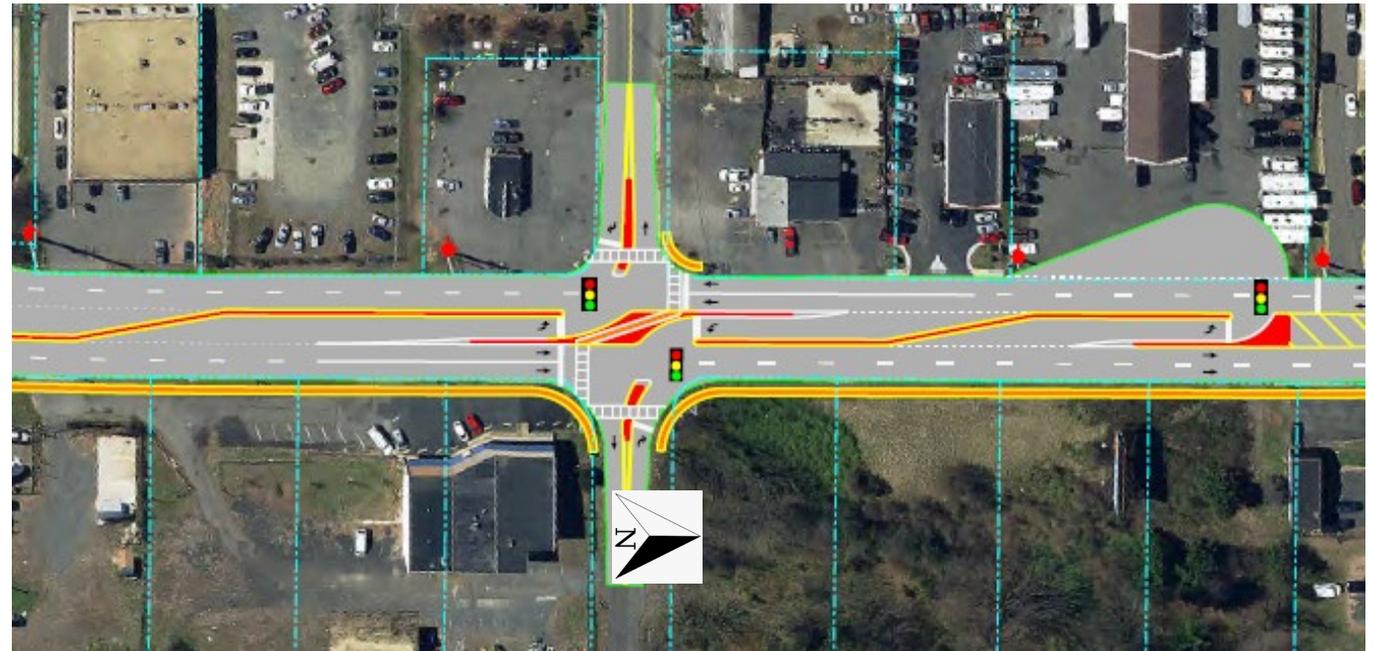
Option 2 – Leland Road

- **Convert to RCUT Innovative Intersection**
- **Add 5 feet wide Sidewalk**
- **Improve Pedestrian Crossing**
- **Rugby Road Remains Open within Turnaround Area**



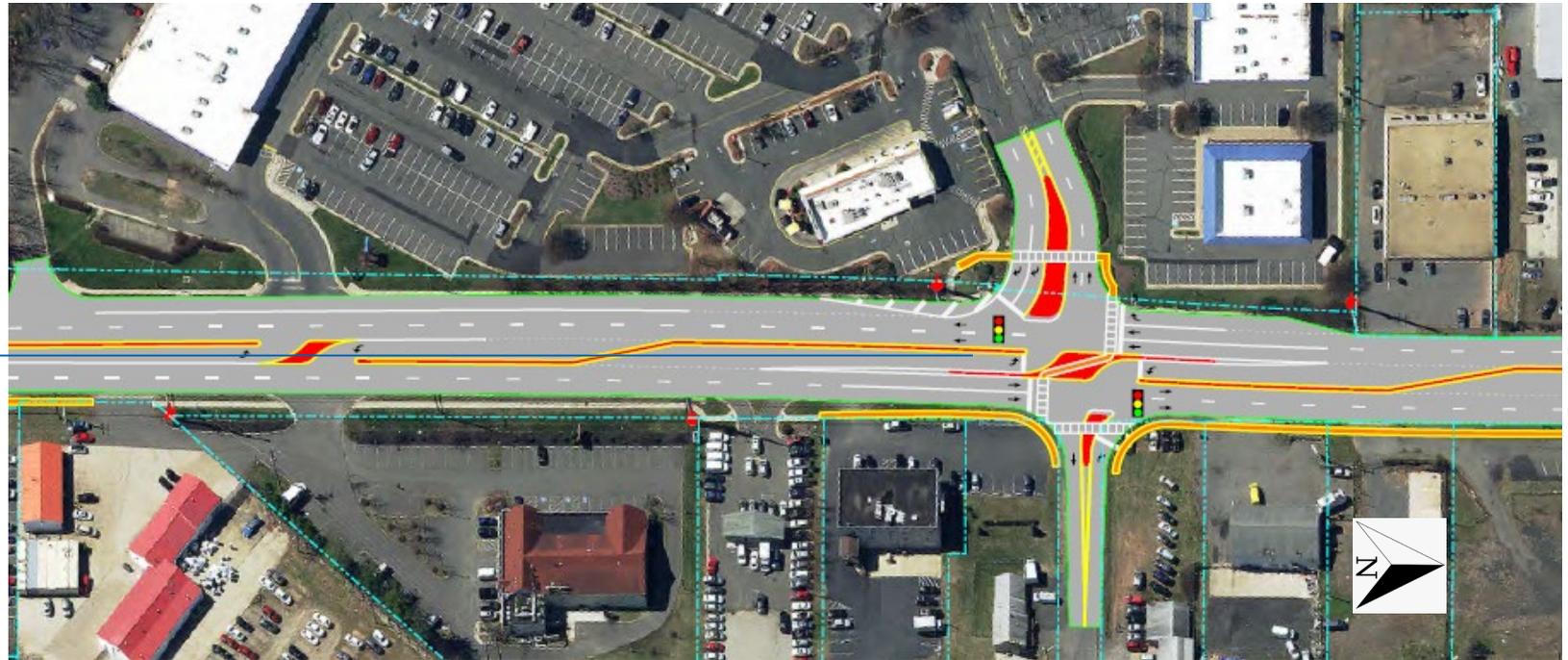
Option 2 – Maplewood Drive

- **Convert to RCUT Innovative Intersection**
- **Add 5 feet wide Sidewalk**
- **Add Pedestrian Crossing**
- **Utilize Browns Lane/Blooms Quarry for turn around locations**



Option 2 – Browns Lane

- Convert to RCUT Innovative Intersection
- Add 5 feet wide Sidewalk
- Add Pedestrian Crossing
- Restrict Mid-Block Shopping Center access to Left-In
- Utilize Shopping Center Access/Blooms Quarry for turn around locations



**OPTION 3 –
INNOVATIVE INTERSECTIONS
WITH CONTINUOUS MEDIAN**

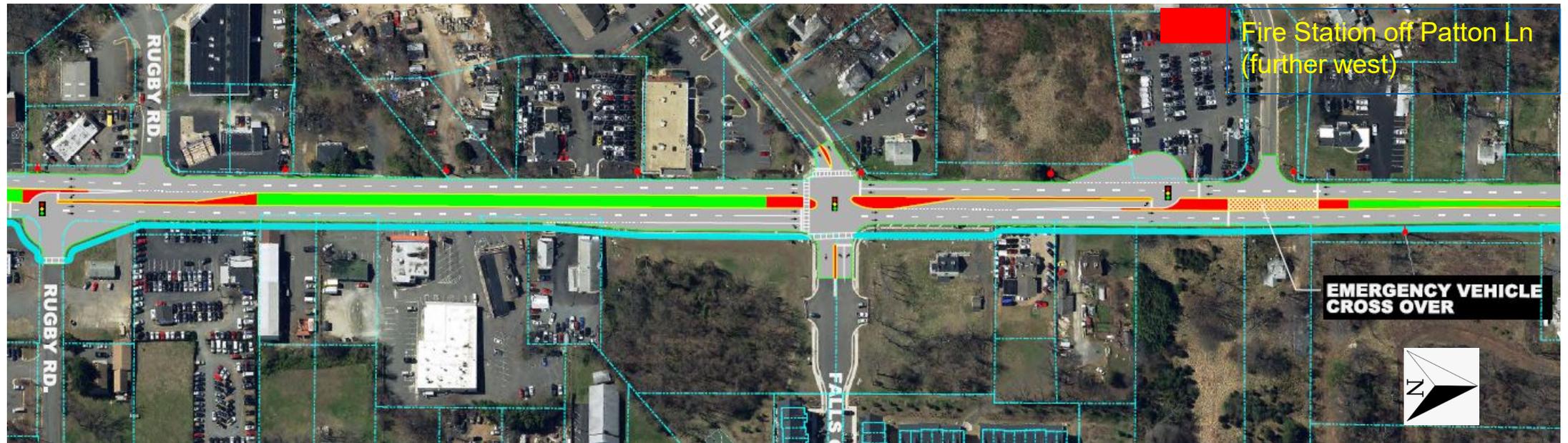
Option 3 – Orchard Bridge Drive

- **Convert to RCUT innovative intersection**
- **Add 10 feet wide multi-use path through corridor**
- **Access Management to adjacent intersections**



Option 3 – Yorkshire Lane

- Convert to RCUT innovative intersection
- Add 10 feet wide multi-use path
- Maintains Emergency Signal at Patton Lane with traversable median/preemption of RCUT Signals
- Access Management to adjacent intersections



Option 3 – Leland Road

- **Convert to RCUT innovative intersection**
- **Add 10 feet wide multi-use path through corridor**
- **Access Management to adjacent intersections**



Option 3 – Maplewood Drive

- Convert to RCUT innovative intersection
- Add 10 feet wide multi-use path through corridor
- Access Management to adjacent intersections



Option 3 – Browns Lane

- Convert to RCUT innovative intersection
- Add 10 feet wide multi-use path through corridor
- Access Management to adjacent intersections
- Utilize Blooms Quarry/Maplewood Drive turnaround for U-turn locations



OPTION 4 – FLYOVERS AND ROUNDABOUTS

Left Turn Flyover Alternative at Orchard Bridge Drive

Left Turn Flyover

- **Fully remove southbound left turn and replace with Grade Separated Flyover (approximately \$30M)**
 - **Minor improvements in delays over existing**
 - **Similar delay and safety benefits to other improvement options**
 - **Signal would still need retained for outbound Orchard Bridge Drive**



Roundabout Alternative at Yorkshire Lane

Roundabout

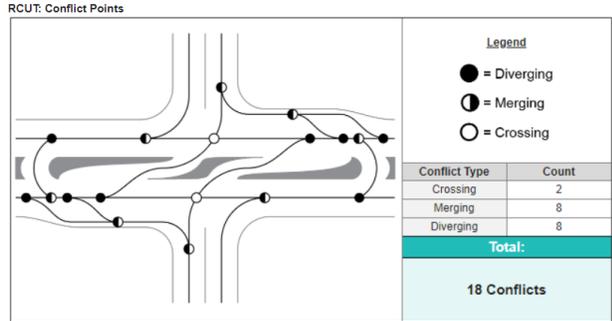
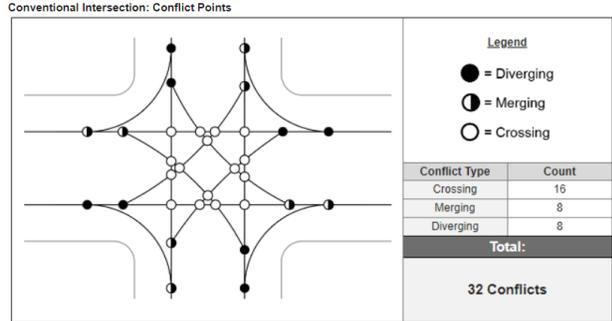
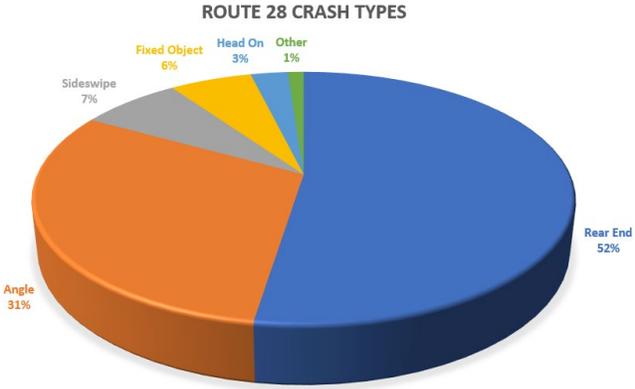
- **Convert Signalized intersection to Hybrid Roundabout**
- **Significant queues and delays in models and analysis performed**



5. SAFETY & OPERATIONAL ANALYSIS RESULTS

Safety Benefits

Alternative	Potential Crash Reduction at Intersections	Potential Crash Reduction for Corridor
Option 1 - Minor Geometrics Alternative	5-10%	2-5%
Option 2 - Innovative Intersections Alternative	15-20%	7-14%
Option 3 - Innovative Intersections with Continuous Median Alternative	15-20%	40-50%



Traffic Operational Benefits

Alternative	Potential Reduction in Travel Time in the Future Year 2030 AM Peak Hour	Potential Reduction in Travel Times in the Future Year 2030 PM Peak Hour
Option 1 - Minor Geometrics Alternative	30-40%	10-20%
Option 2 - Innovative Intersections Alternative	40-50%	20-25%
Option 3 - Innovative Intersections with Continuous Median Alternative	40-50%	20-25%



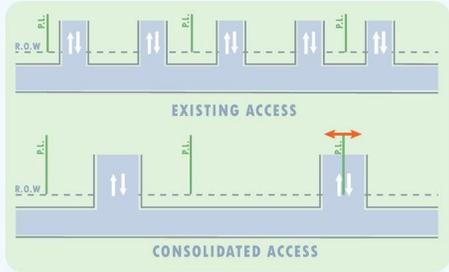
Pedestrian Accommodation – Alternatives Comparison

	Option 1 – Minor Improvements	Option 2 – Innovative Intersections	Option 3 – Innovative Intersections with Continuous Median
Enhancements for Pedestrians	High Visibility Crosswalk at 2 locations and Sidewalk/Trail along east side from Orchard Bridge Rd to bridge over Bull Run	Improved pedestrian crossings, with enhanced safety and reduced delays at 5 locations	Improved pedestrian crossings, with enhanced safety and reduced delays at 5 locations
Assessment	Enhanced Ped Safety on 2 locations and 0.4 mile Extension of Trail/Sidewalk	Significantly enhanced pedestrian safety, reduced pedestrian delays, improved refuges and enhanced mobility for the crosswalks across Route 28 and signalized side road approaches	Significantly enhanced pedestrian safety, reduced pedestrian delays, improved refuges and enhanced mobility for the crosswalks across Route 28 and signalized side road approaches
Rating	Slightly Better	Significantly Better	Significantly Better

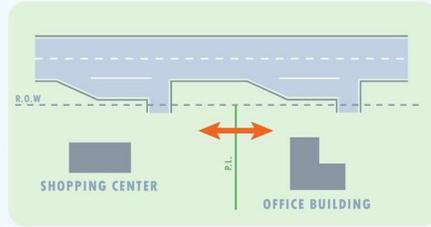
Driveway/Access Impacts – Alternatives Comparison

	Option 1 – Minor Improvements	Option 2 – Innovative Intersections	Option 3 – Innovative Intersections with Continuous Median
Locations where Safety at Access Locations Enhanced and Potential Conflict Points Reduced	4 locations	6 locations	Entire Corridor
Movements removed at intersections	4 locations	5 locations	5 locations
Left turns removed to/from Driveways	Near new median on Rt 28 on approach to Leland Rd and north of Orchard Bridge Dr	On the approaches to and within the limits of the innovative intersections	The entire corridor, except at designated driveway locations
Number of Parcels (approximate acreage) impacted for New U-Turn Locations	0 parcels (0 acres)	7 parcels (0.5 acres)	7 parcels (0.5 acres)
Rating	Slightly Better	Moderately Better	Moderately Better

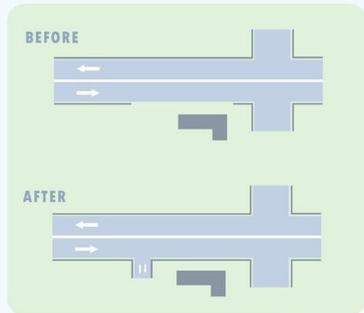
DRIVEWAY / ACCESS IMPROVEMENTS



X CONSOLIDATE ACCESS POINTS



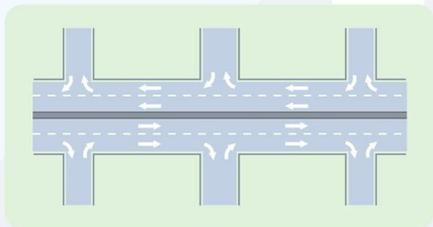
CONNECT ADJACENT PROPERTIES



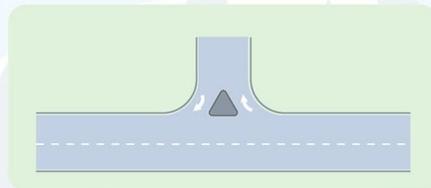
DEFINE DRIVEWAYS

LOCATE INTERSECTIONS TO FAVOR THROUGH TRAFFIC AND PROVIDE ADEQUATE SPACE TO DEVELOP DECELERATION LANES FOR TURNING TRAFFIC **M**

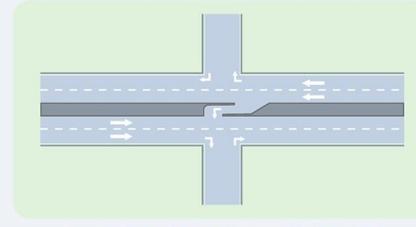
USE TURN LANES TO REMOVE VEHICLES FROM THROUGH TRAFFIC



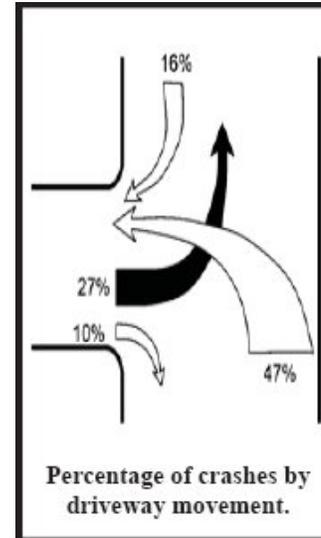
*** RIGHT-IN, RIGHT-OUT WITH RAISED MEDIAN**



*** RIGHT-IN, RIGHT-OUT WITH CHANNELIZING ISLAND**



▲ DIRECTIONAL MEDIAN OPENING OR 3/4 MOVEMENT

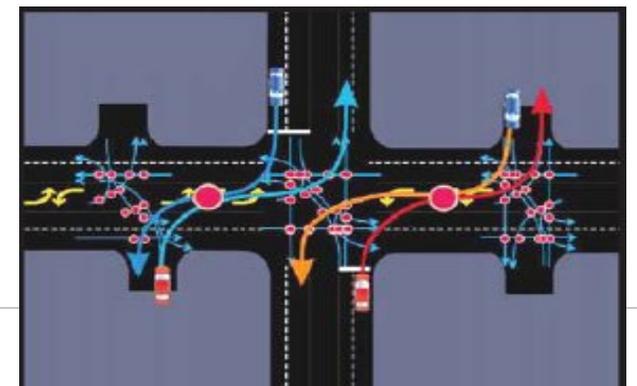


SAFE ACCESS IS GOOD FOR BUSINESS



You may be reading this primer because your state transportation agency or local government has told you about plans that will affect access to your business. They may be planning to install a raised median on your roadway, to close a median opening, or to reconfigure your driveway. Perhaps your request for a driveway is under review or the regulating agency has imposed conditions on its approval. Or, maybe the state or local agency is planning a new access policy and you have questions or concerns about the economic effects of these changes.

Whatever the reason, it is important for you to understand the basis for these changes and how they might affect your business. This primer will address questions you may have about access management and its effect on business activity and the local economy. It focuses on economic concerns that may arise in response to proposed access changes or policies, including potential impacts on business activity, freight and deliveries, parking for customers, and property or resale value of affected property.



Overall Alternatives Comparison

Metric	Minor Improvements Alternative	Innovative Intersections Alternative	Innovative Intersections with Continuous Median Alternative
Traffic Operations	Slightly Better	Moderately Better	Moderately Better
Traffic Safety	Slightly Better	Moderately Better	Significantly Better
Pedestrian Accommodation	Slightly Better	Significantly Better	Significantly Better
Driveway/Access Impacts	Slightly Better	Moderately Better	Moderately Better

Next Steps

- **We want your feedback:**
www.virginiadot.org/centrevilleroadstudy



- **Comment Deadline – December 2nd, 2019**
- **Study Completion – Winter 2019/2020**

Additional Resources

Website Links to FHWA case studies documenting innovative intersections:

- **Restricted Crossing U-Turn (RCUT) intersections**

https://safety.fhwa.dot.gov/intersection/alter_design/pdf/fhwasa14070_rcut_infoguide.pdf

RCUT - FHWA Safety - US Department of Transportation

<https://www.youtube.com/watch?v=BLwl01NCp9I>

<https://www.youtube.com/watch?v=AxliLzv-GOA>

<https://www.youtube.com/watch?v=LB5nTDSVEzs>

- **Median U-Turn (MUT) intersections**

https://www.youtube.com/watch?v=fshW_O_Xggl

<https://www.youtube.com/watch?v=fiEhiNyQ4Oo>

<https://www.youtube.com/watch?v=rvazA22vhN0>



Thank you!

Your participation and feedback is essential to developing a solution that works for all!

Project Website: www.virginiadot.org/centrevilleroadstudy