



Transportation Analysis Results Mitigations

Fairfax County Department of Transportation

April 27th, 2026

Thomas Burke

Ashley Denner

Agenda

1. V/C Ratio Maps Recap (Existing, Baseline, and Proposed Conditions)
2. Government Center Parkway Extension (Proposed Mitigation)
3. Updated V/C Maps with Mitigations
4. Level of Service (LOS) Analysis
5. Potential Traffic Signal Improvements
6. Road Diet Opportunities
7. Fair Lakes Parkway Active Transportation Enhancements



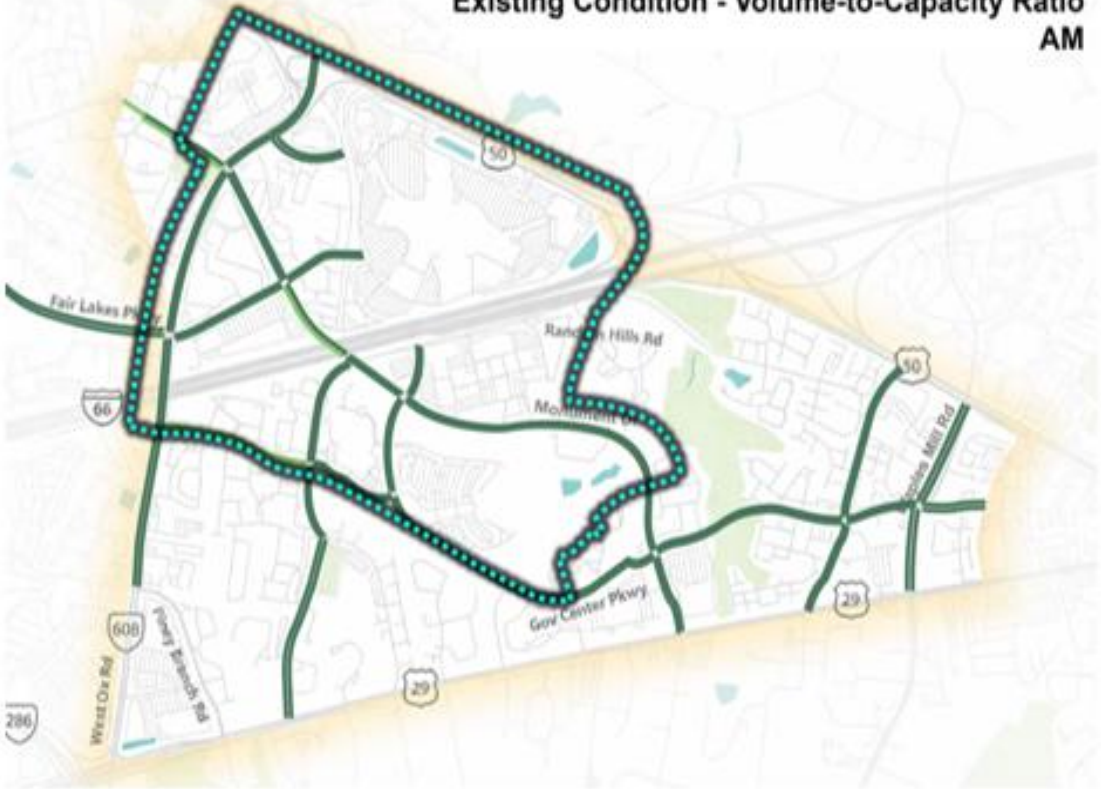


V/C Ratio Maps Recap

Existing Conditions: Volume-to-Capacity Ratio

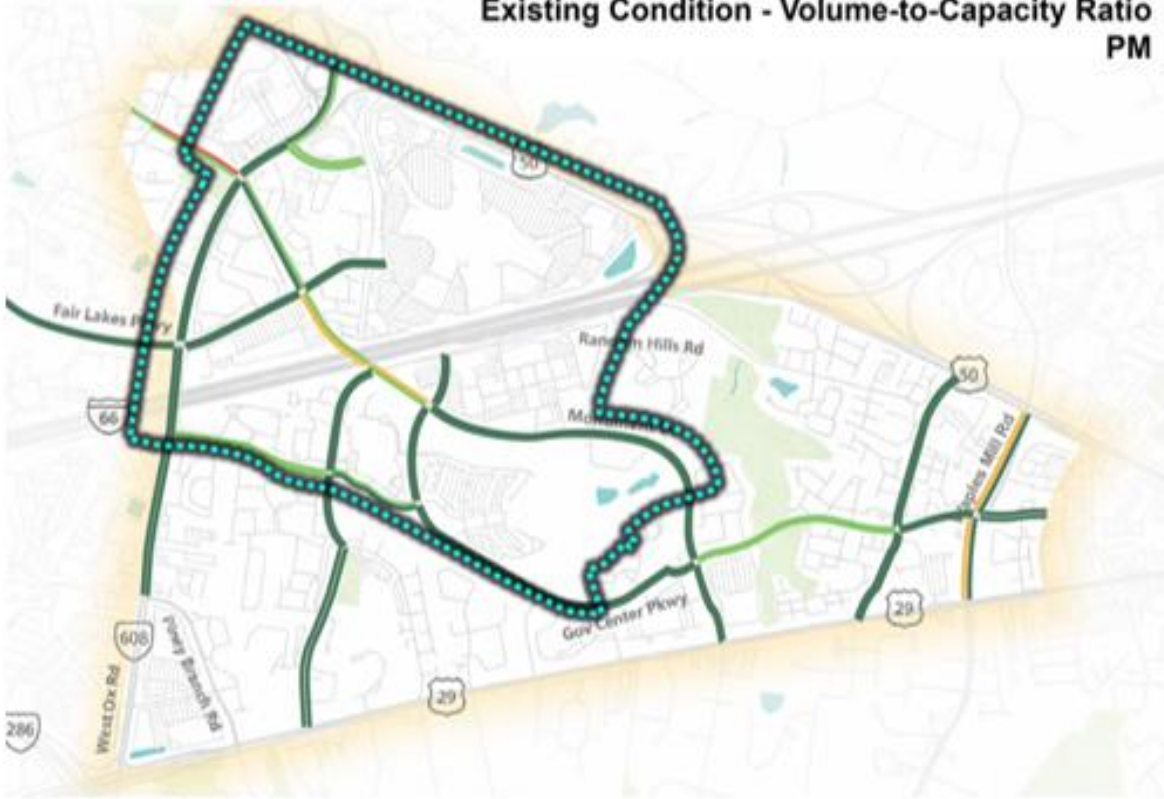
AM V/C Ratios

Existing Condition - Volume-to-Capacity Ratio AM



PM V/C Ratios

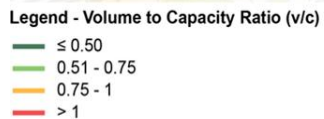
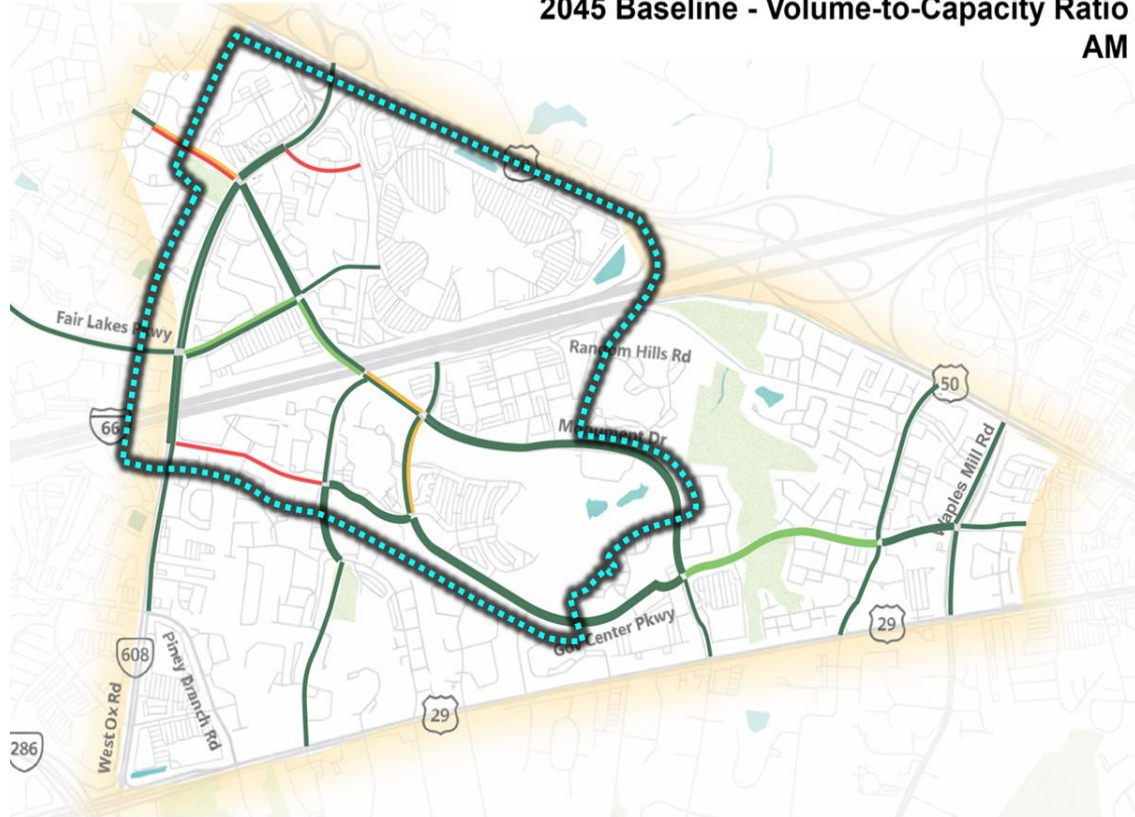
Existing Condition - Volume-to-Capacity Ratio PM



2045 Baseline Conditions: Volume-to-Capacity Ratio

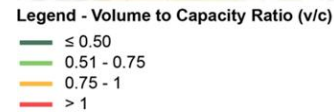
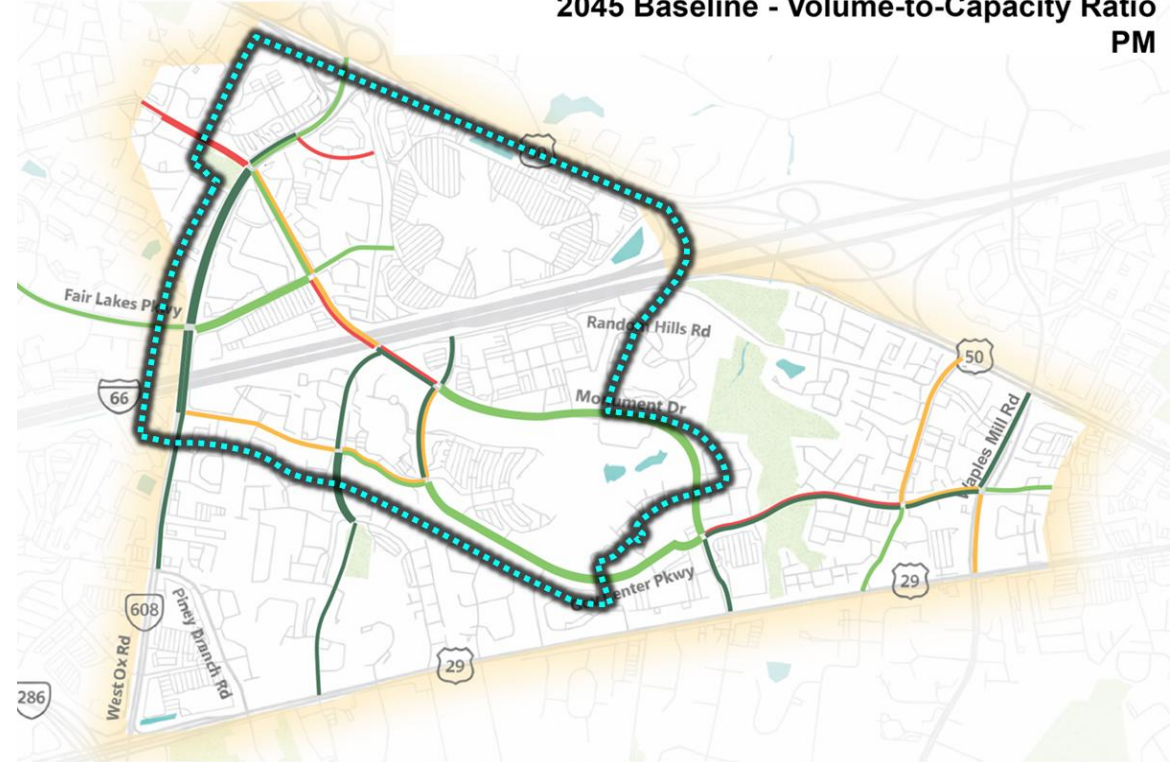
AM V/C Ratios

2045 Baseline - Volume-to-Capacity Ratio
AM



PM V/C Ratios

2045 Baseline - Volume-to-Capacity Ratio
PM



2045 Preferred Conditions: Volume-to-Capacity Ratio

AM V/C Ratios

2045 Preferred - Volume-to-Capacity Ratio
AM

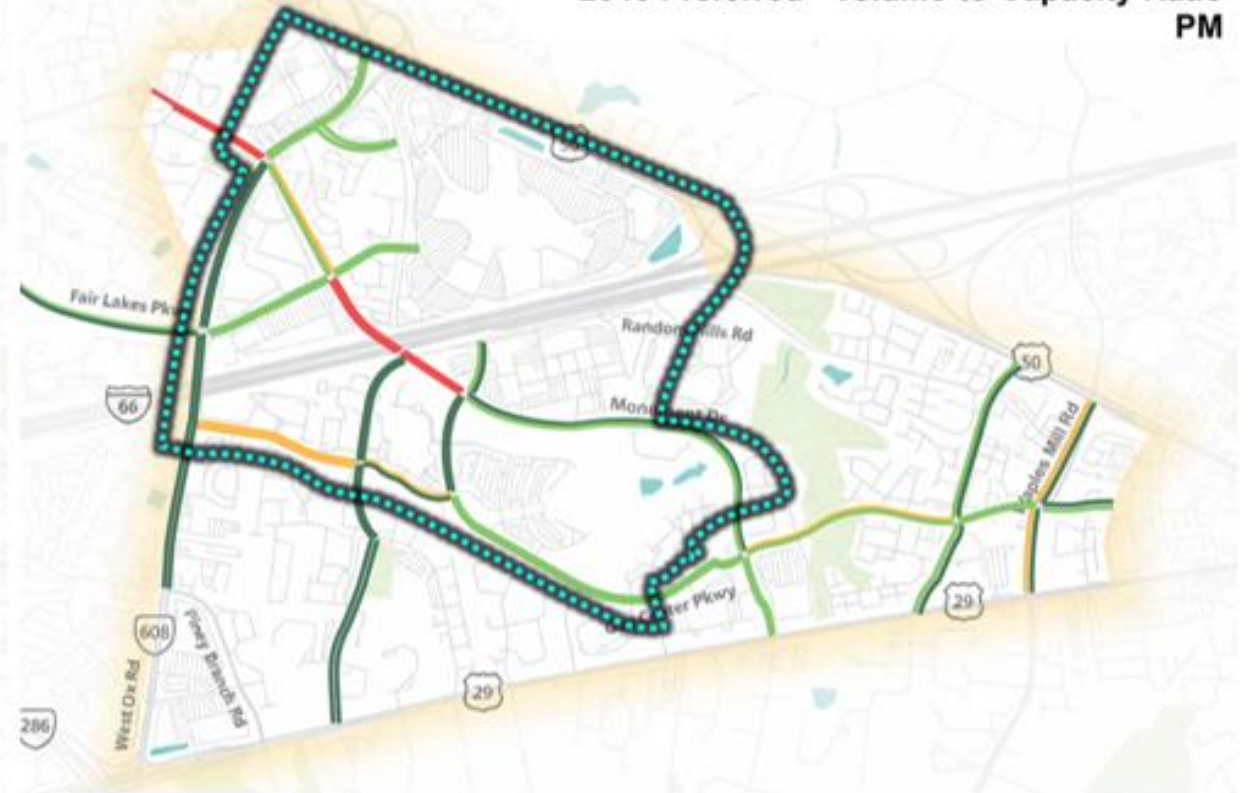


Legend - Volume to Capacity Ratio (v/c)

- ≤ 0.50
- 0.51 - 0.75
- 0.75 - 1
- > 1

PM V/C Ratios

2045 Preferred - Volume-to-Capacity Ratio
PM



Legend - Volume to Capacity Ratio (v/c)

- ≤ 0.50
- 0.51 - 0.75
- 0.75 - 1
- > 1

Recap of V/C Ratios Takeaways

AM Peak Hours

Generally stable across all scenarios

PM Peak Hours

Congestion increases over time and expands in the core area

Key corridors impacted

Monument Drive, Legato Road, Government Center Parkway, Post Forest Drive

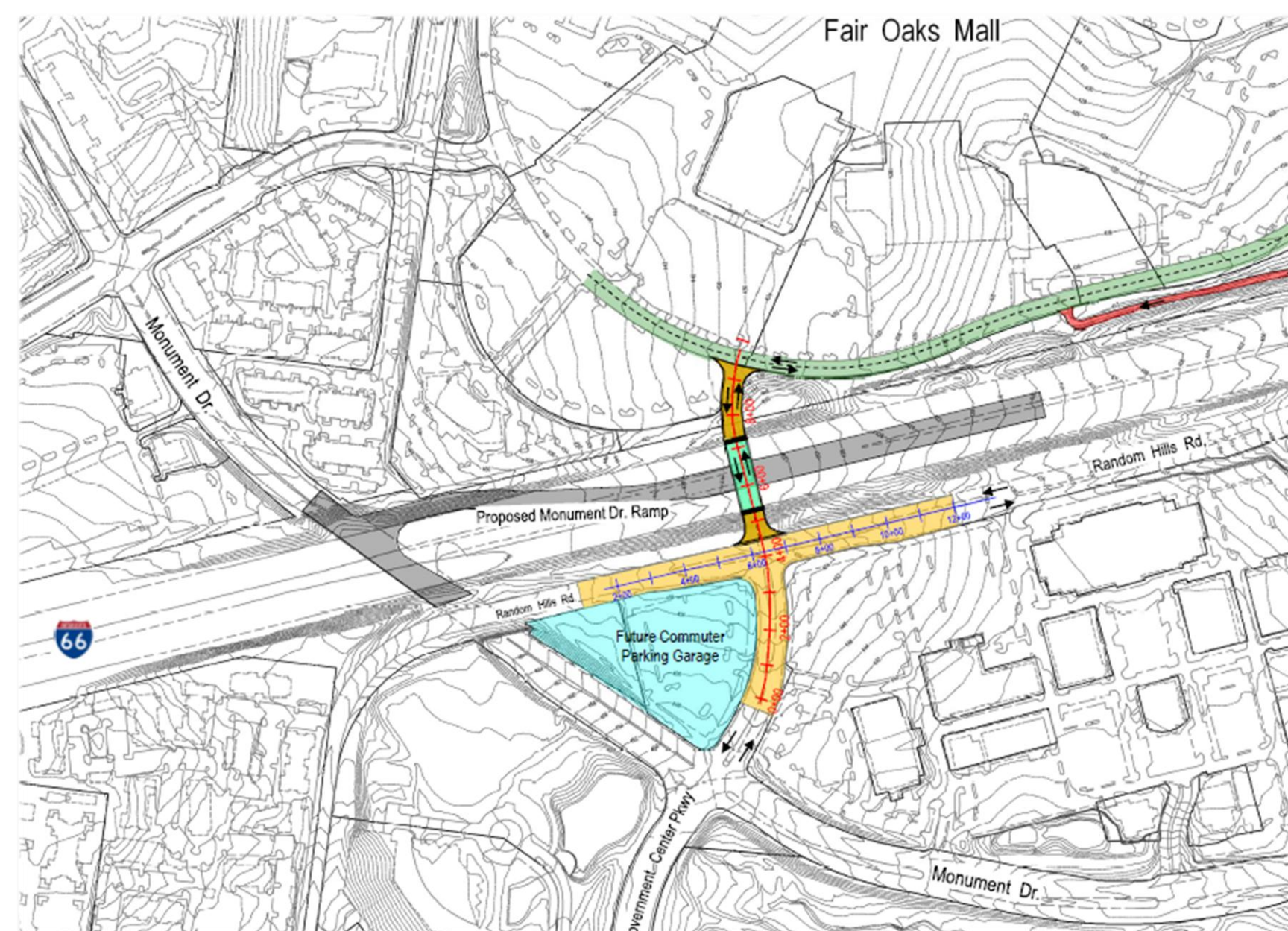
Preferred Scenario

Maintains AM performance but shows greater PM peak pressure in core segments



Government Center Parkway Extensions (Proposed Mitigation)

Government Center Parkway Extension Potential Connection



Proposed connection from Random Hills Road to the Fair Oaks Mall Ring Road.

This topographic graphic illustrates how the Express Lanes ramp could be realigned to accommodate the proposed connection.

Disclaimer: This is for illustrative purposes only

Source: Wells & Associates Topographic Image

I-66 Corridor Improvements

MATCHLINE STA. 5932+00.00 - SHEET 12

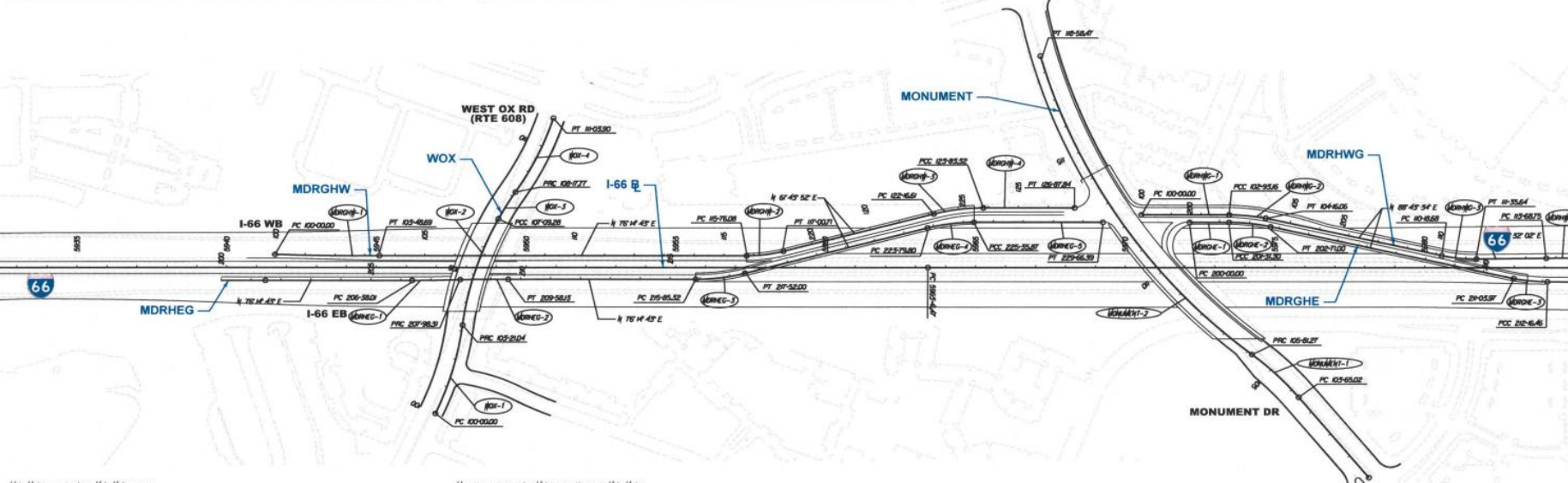
MATCHLINE STA. 5985+00.00 - SHEET 14

MONUMENT - MONUMENT DRIVE TO WESTBOUND MANAGED LANES

CURVE	POINT	STATION	EAST BE	WEST BE	DELTA	TANGENT	LENGTH	RADIUS
MONUMENT-1	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
MONUMENT-2	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
MONUMENT-3	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
MONUMENT-4	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000

BOX - REALIGNED WEST OX ROAD

CURVE	POINT	STATION	EAST BE	WEST BE	DELTA	TANGENT	LENGTH	RADIUS
BOX-1	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
BOX-2	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
BOX-3	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
BOX-4	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000



MONUMENT - REALIGNED MONUMENT DRIVE

CURVE	POINT	STATION	EAST BE	WEST BE	DELTA	TANGENT	LENGTH	RADIUS
MONUMENT-1	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
MONUMENT-2	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000

MONUMENT - EASTBOUND MANAGED LANES TO MONUMENT

CURVE	POINT	STATION	EAST BE	WEST BE	DELTA	TANGENT	LENGTH	RADIUS
MONUMENT-1	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
MONUMENT-2	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000

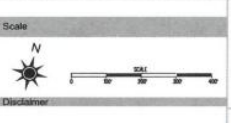
MONUMENT - MONUMENT DRIVE TO WESTBOUND MANAGED LANES

CURVE	POINT	STATION	EAST BE	WEST BE	DELTA	TANGENT	LENGTH	RADIUS
MONUMENT-1	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
MONUMENT-2	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000

MONUMENT - WESTBOUND MANAGED LANES TO MONUMENT DRIVE

CURVE	POINT	STATION	EAST BE	WEST BE	DELTA	TANGENT	LENGTH	RADIUS
MONUMENT-1	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
MONUMENT-2	PC	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000
	PT	6000.00	6000.0000	6000.0000	0° 00' 00" E	0.0000	0.0000	0.0000

SHEET 13 OF 15



I-66 CORRIDOR IMPROVEMENTS GEOMETRY - MONUMENT DRIVE

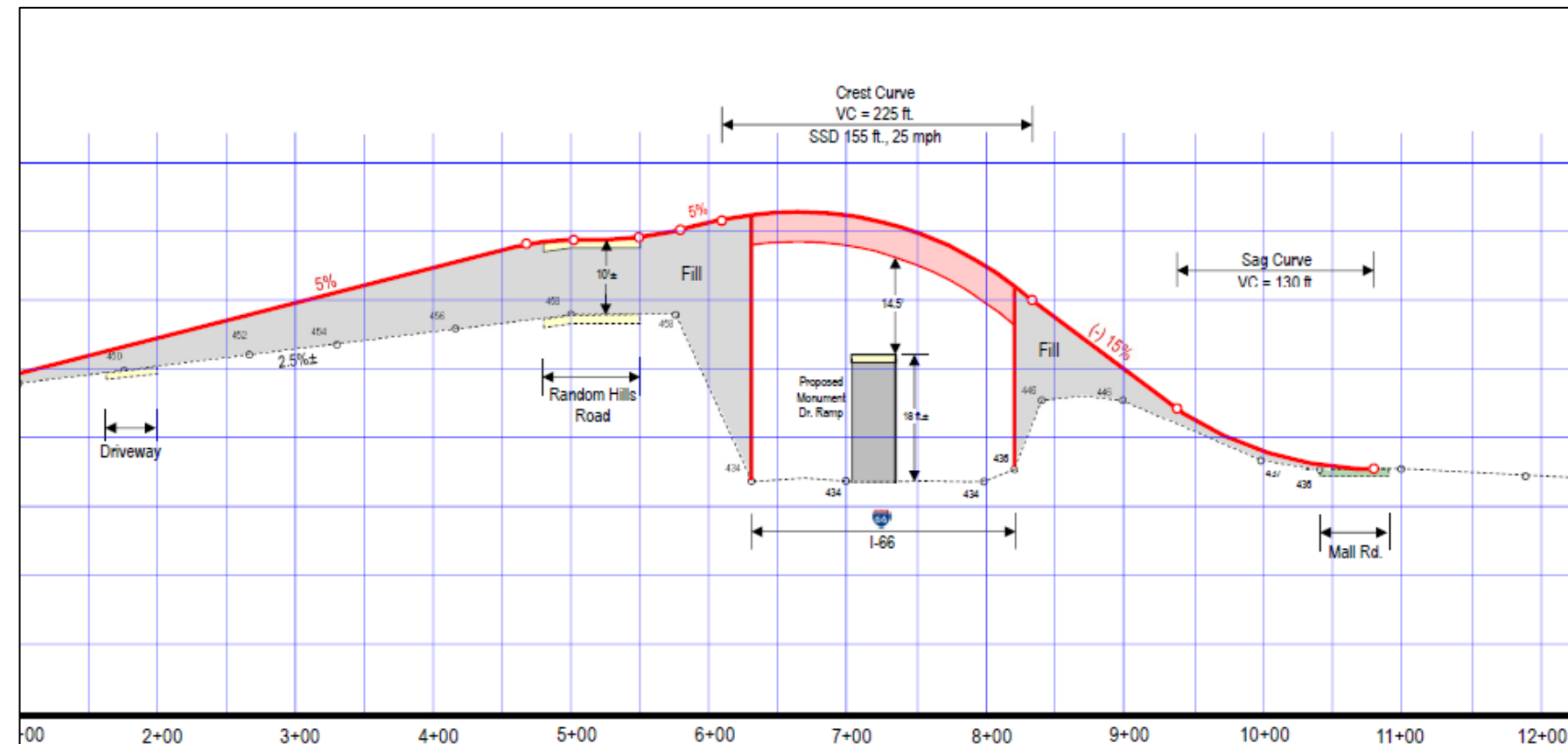
This preliminary design is based on the GIS information available at the time only. These plans are unadvised and unapproved and are not to be used for any type of construction or the acquisition of right-of-way. Preliminary assessment for utility, hazardous materials, and other conditions shall be conducted by the project engineer. A final proposed right-of-way shown on these plans may be required to be approved.

Disclaimer: This is for illustrative purposes only

Source: VDOT



I-66 Express Lane



Disclaimer: This is for illustrative purposes only

Source: Wells & Associates

PROFILE A1
With Monumental Drive flyover ramp from I-66 Express Lane

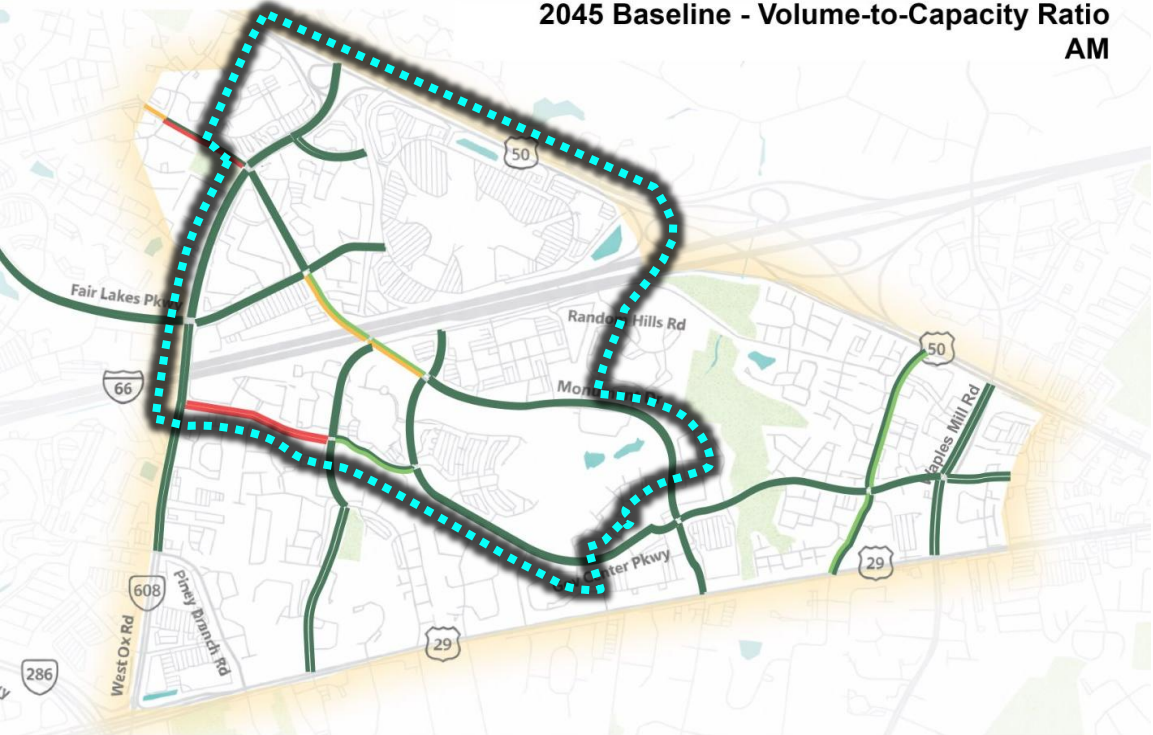


V/C Ratio Maps with Mitigations

2045 Baseline with Mitigations: Volume-to-Capacity Ratio

AM V/C Ratios

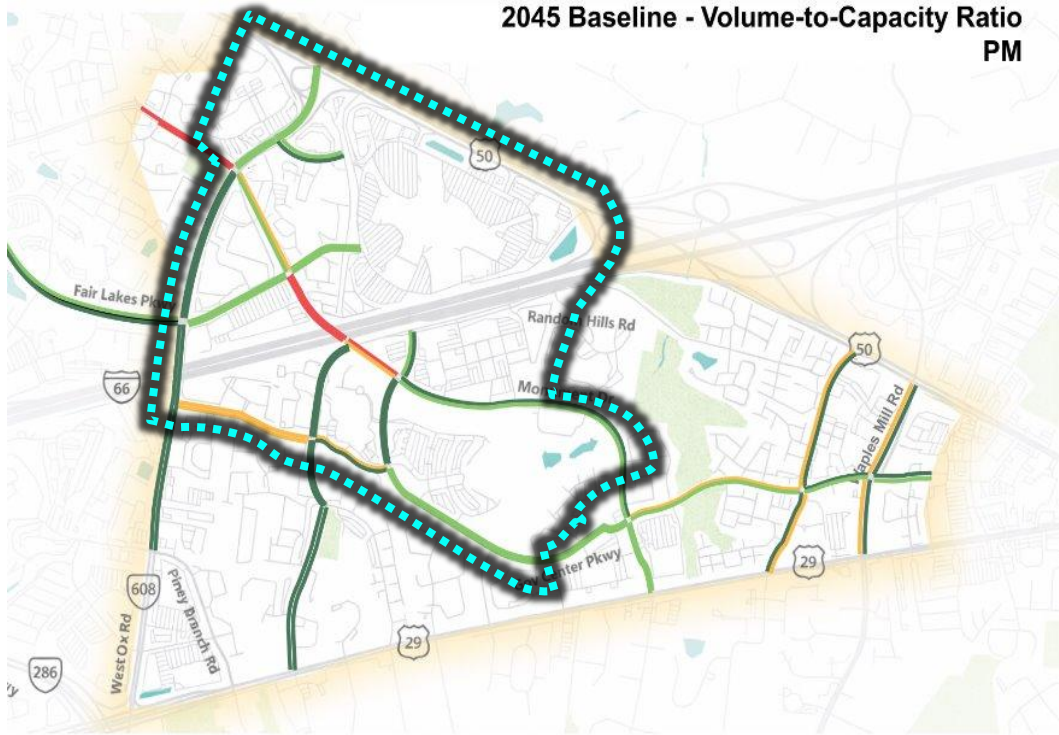
2045 Baseline - Volume-to-Capacity Ratio AM



- Legend - Volume to Capacity Ratio (v/c)
- ≤ 0.50
 - 0.51 - 0.75
 - 0.75 - 1
 - > 1

PM V/C Ratios

2045 Baseline - Volume-to-Capacity Ratio PM

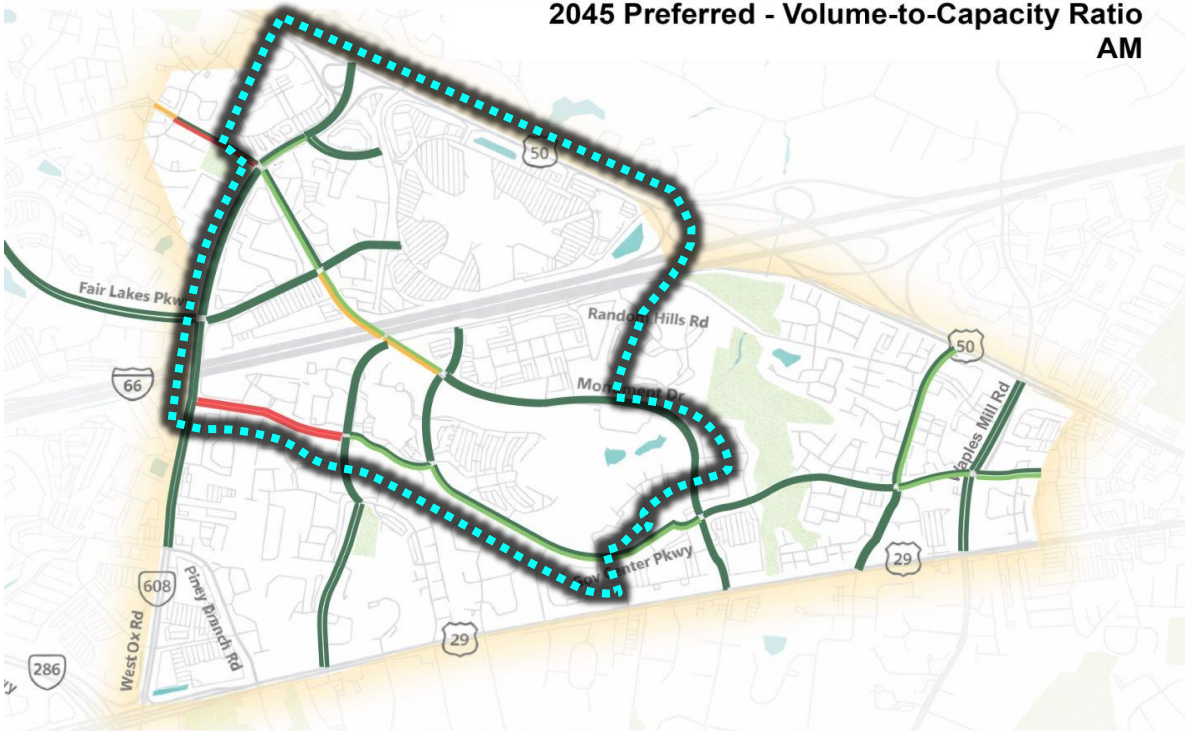


- Legend - Volume to Capacity Ratio (v/c)
- ≤ 0.50
 - 0.51 - 0.75
 - 0.75 - 1
 - > 1

Preferred Land Use (No Extension) with Mitigations: Volume-to-Capacity Ratio

AM V/C Ratios

2045 Preferred - Volume-to-Capacity Ratio
AM

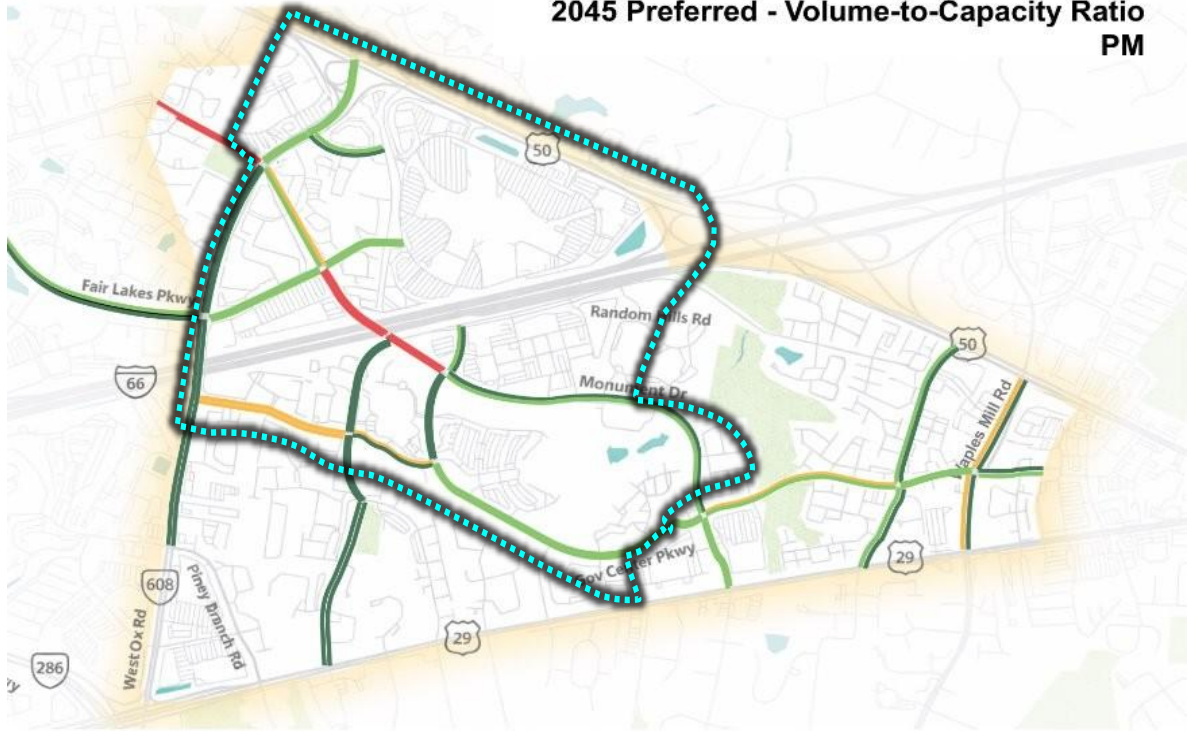


Legend - Volume to Capacity Ratio (v/c)

- ≤ 0.50
- 0.51 - 0.75
- 0.75 - 1
- > 1

PM V/C Ratios

2045 Preferred - Volume-to-Capacity Ratio
PM



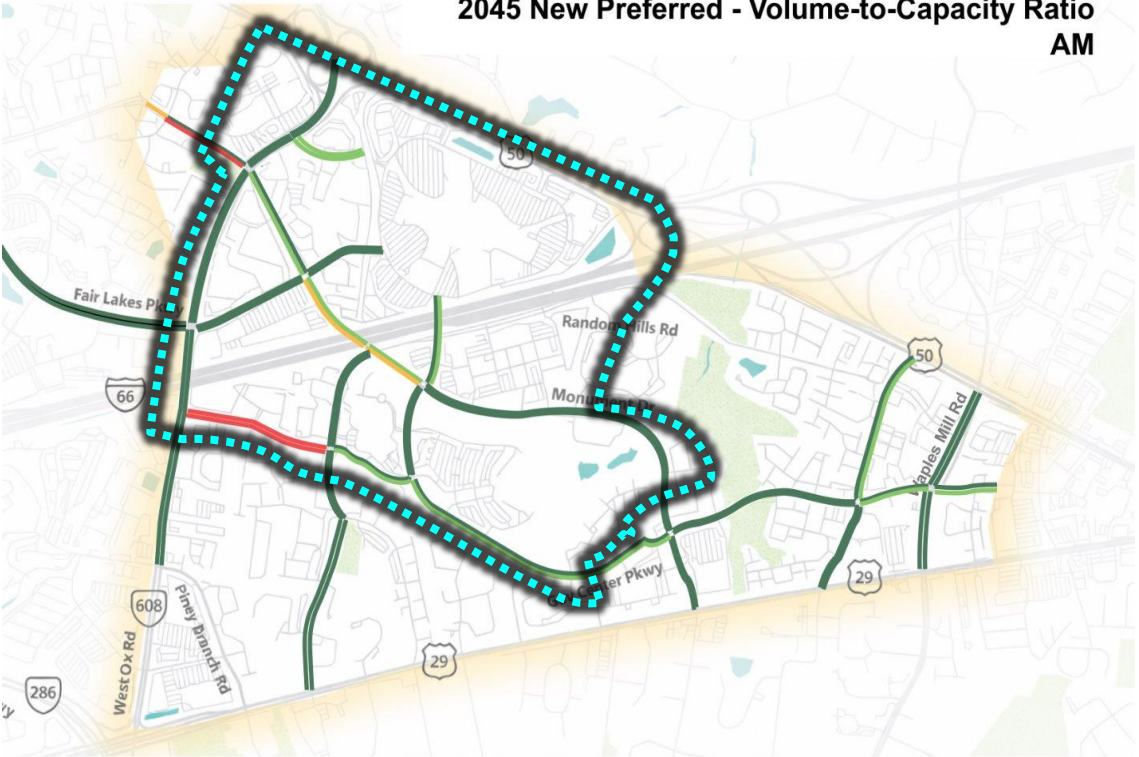
Legend - Volume to Capacity Ratio (v/c)

- ≤ 0.50
- 0.51 - 0.75
- 0.75 - 1
- > 1

Preferred Land Use (With Extension) with Mitigations: Volume-to-Capacity Ratio

AM V/C Ratios

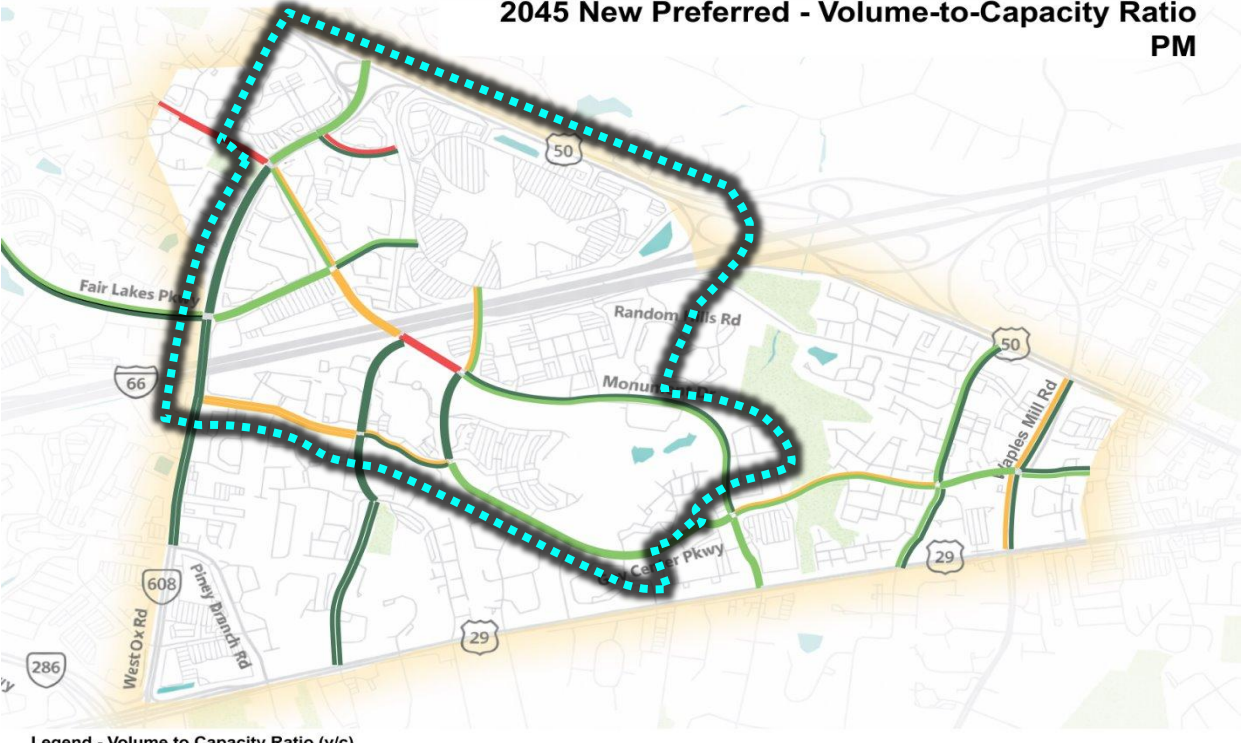
2045 New Preferred - Volume-to-Capacity Ratio AM



- Legend - Volume to Capacity Ratio (v/c)
- ≤ 0.50
 - 0.51 - 0.75
 - 0.75 - 1
 - > 1

PM V/C Ratios

2045 New Preferred - Volume-to-Capacity Ratio PM



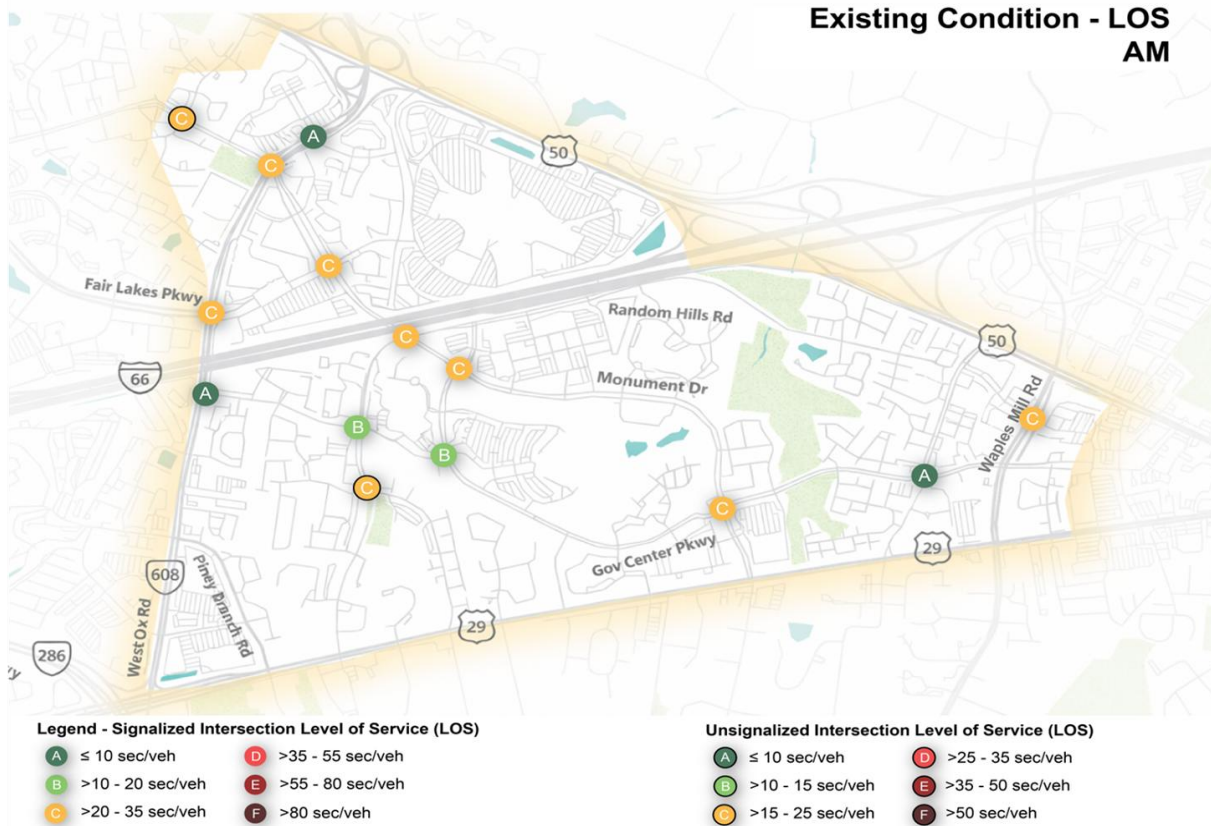
- Legend - Volume to Capacity Ratio (v/c)
- ≤ 0.50
 - 0.51 - 0.75
 - 0.75 - 1
 - > 1



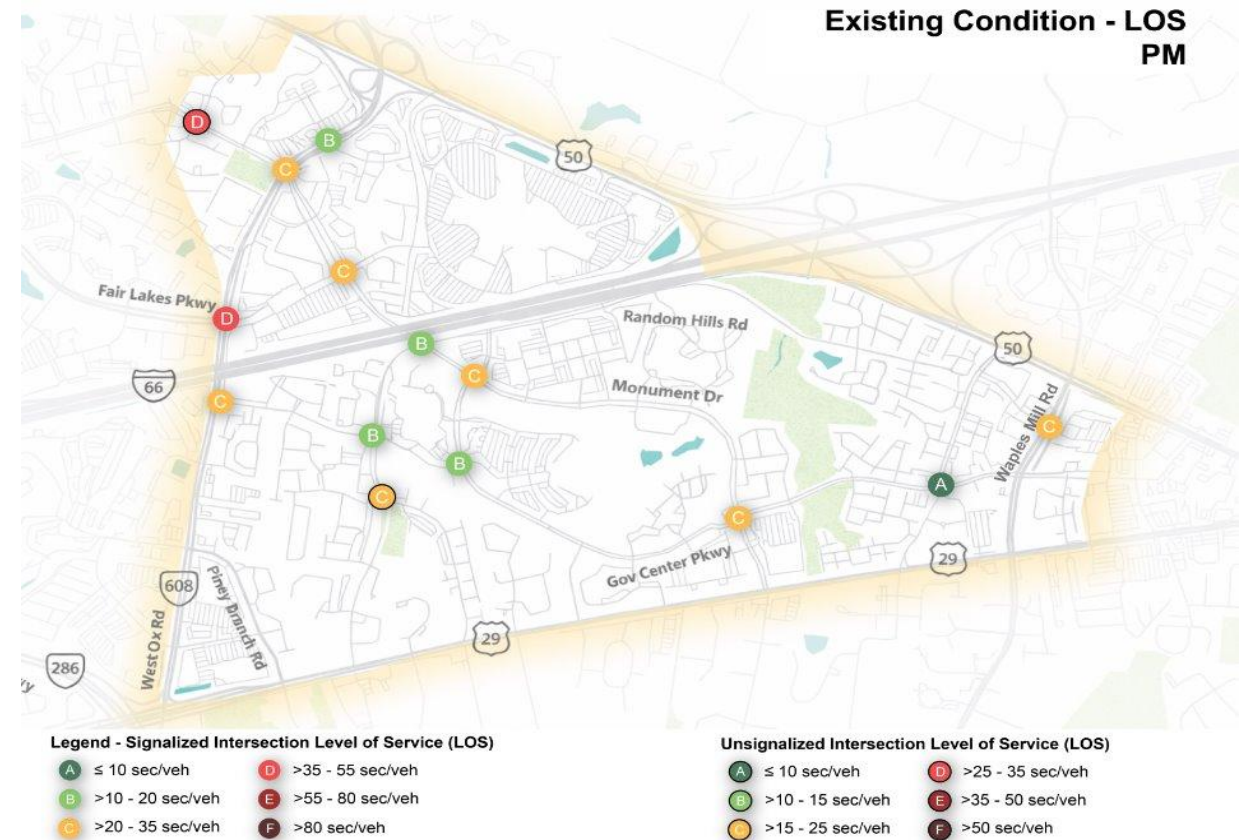
Level of Service (LOS) Analysis

Existing Conditions

AM Level of Service

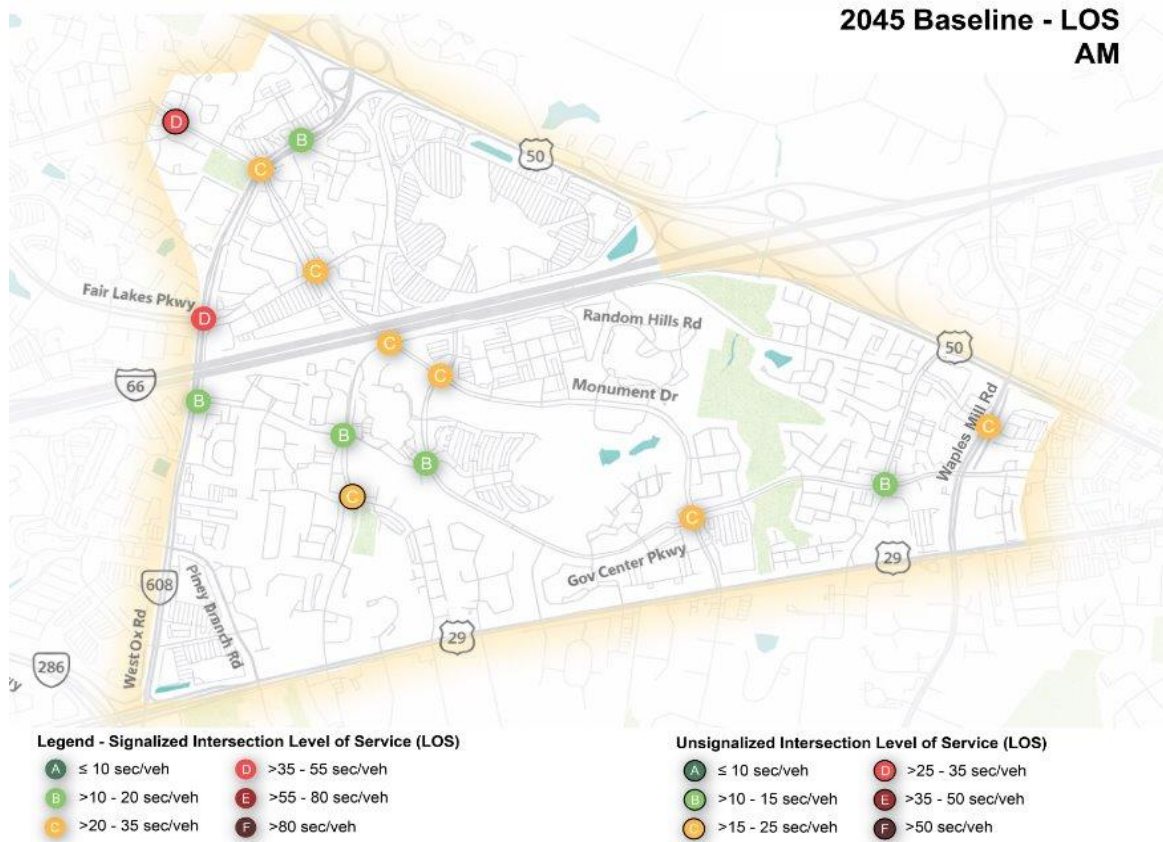


PM Level of Service

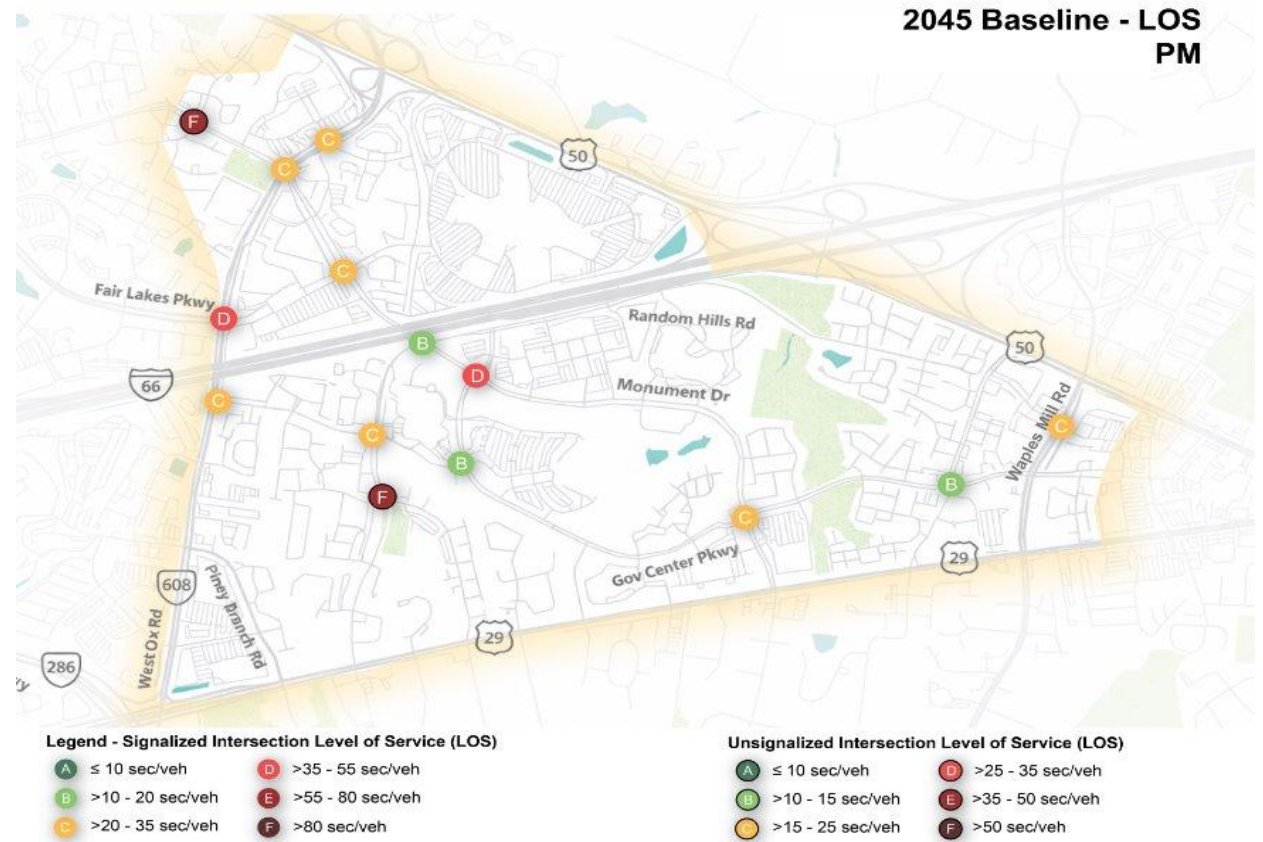


2045 Baseline/Adopted Plan Conditions

AM Level of Service

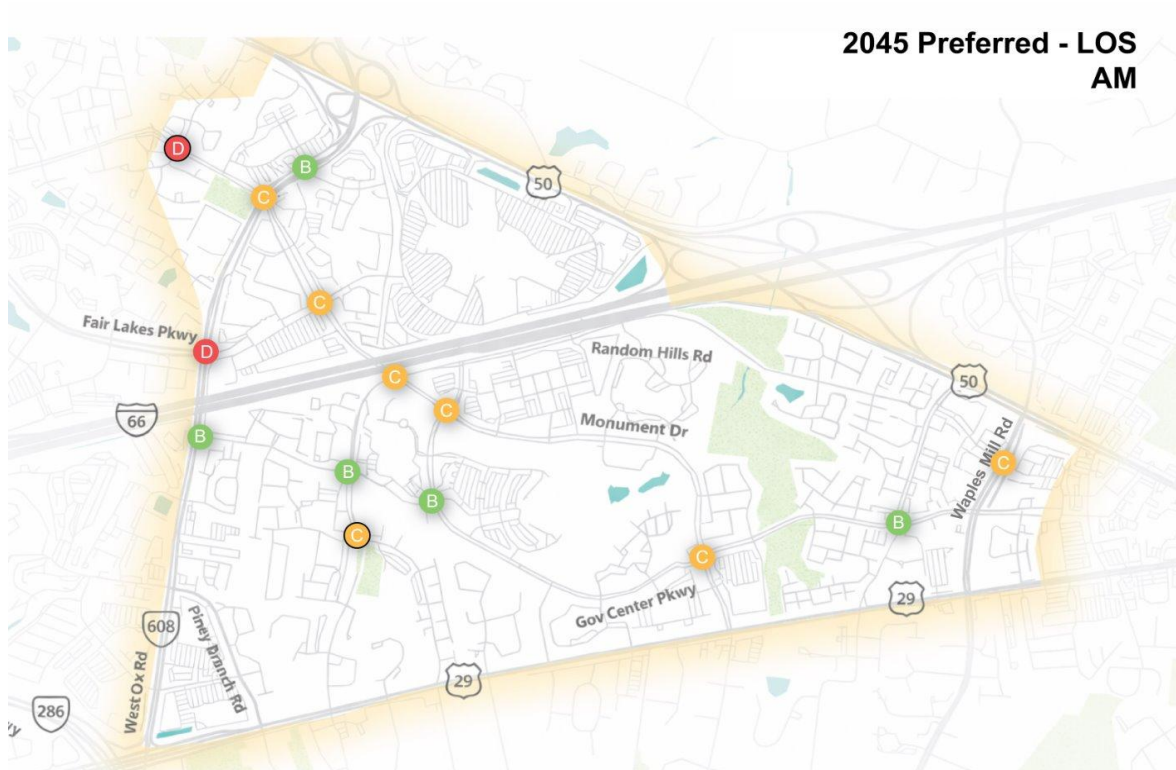


PM Level of Service



2045 Preferred without Government Extension

AM Level of Service



2045 Preferred - LOS AM

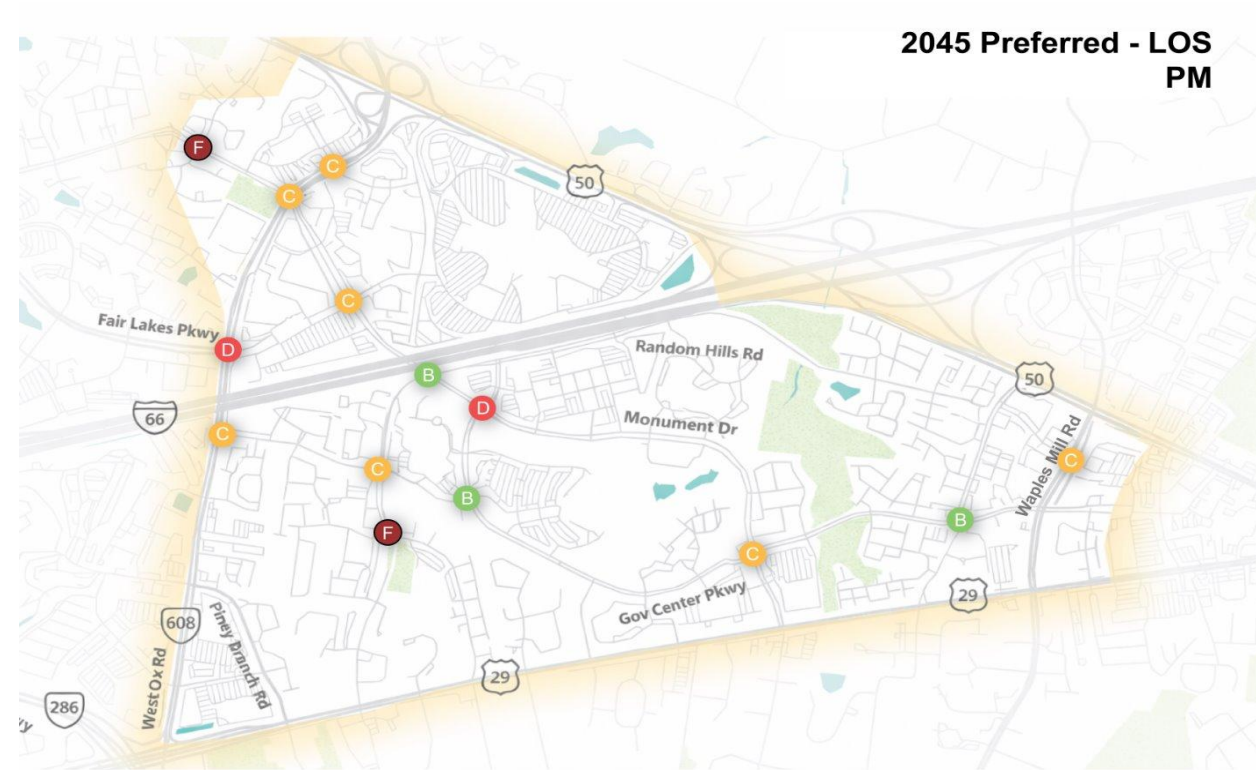
Legend - Signalized Intersection Level of Service (LOS)

- | | |
|--------------------|--------------------|
| A ≤ 10 sec/veh | D >35 - 55 sec/veh |
| B >10 - 20 sec/veh | E >55 - 80 sec/veh |
| C >20 - 35 sec/veh | F >80 sec/veh |

Unsignalized Intersection Level of Service (LOS)

- | | |
|--------------------|--------------------|
| A ≤ 10 sec/veh | D >25 - 35 sec/veh |
| B >10 - 15 sec/veh | E >35 - 50 sec/veh |
| C >15 - 25 sec/veh | F >50 sec/veh |

PM Level of Service



2045 Preferred - LOS PM

Legend - Signalized Intersection Level of Service (LOS)

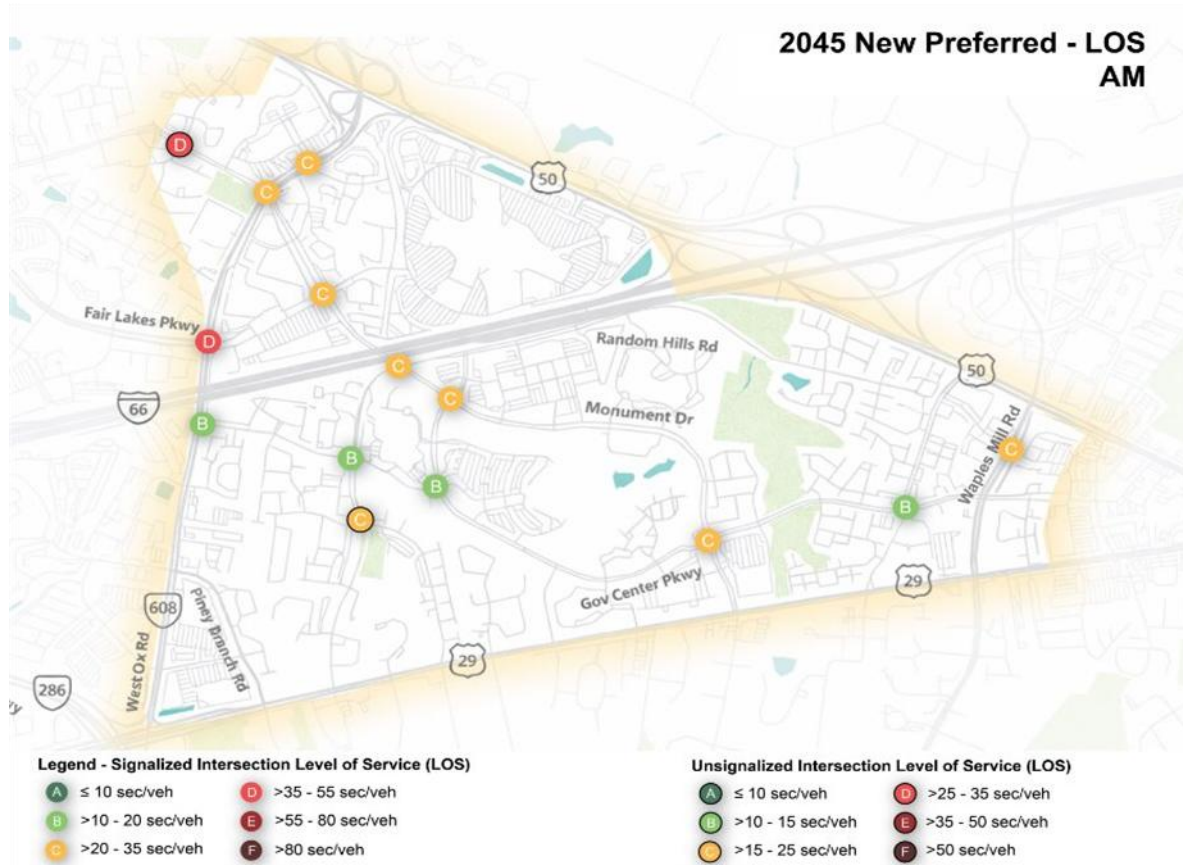
- | | |
|--------------------|--------------------|
| A ≤ 10 sec/veh | D >35 - 55 sec/veh |
| B >10 - 20 sec/veh | E >55 - 80 sec/veh |
| C >20 - 35 sec/veh | F >80 sec/veh |

Unsignalized Intersection Level of Service (LOS)

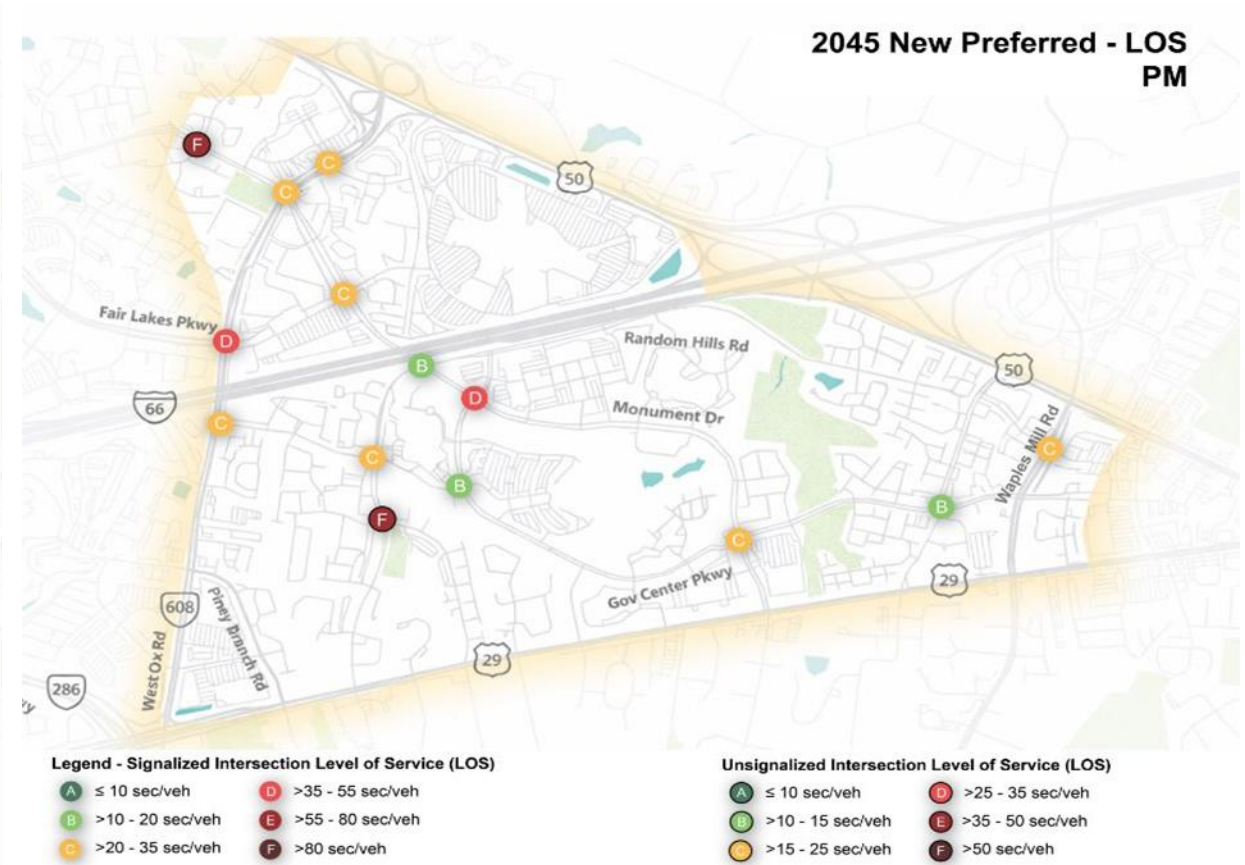
- | | |
|--------------------|--------------------|
| A ≤ 10 sec/veh | D >25 - 35 sec/veh |
| B >10 - 15 sec/veh | E >35 - 50 sec/veh |
| C >15 - 25 sec/veh | F >50 sec/veh |

2045 Preferred with Government Extension

AM Level of Service



PM Level of Service





Potential Traffic Signal Improvements

Potential Traffic Signals



Source: Google Earth Aerial Image

- Within the Fairfax Center Area, two two-way stop-controlled intersections are currently operating at failing conditions:
 1. Monument Drive at Fair Ridge Drive (behind Safeway)
 2. Legato Road at Dixie Hill Road/Ruffin Drive
- **Proposed Mitigation**
 - Install traffic signals to improve left- and right-turn movements into adjacent neighborhoods and driveways
 - Enhance safety for pedestrians and bicyclists

Note: Signal installation would require a Signal Justification Study and approval from VDOT, including meeting applicable warrants.



Road Diet Opportunities

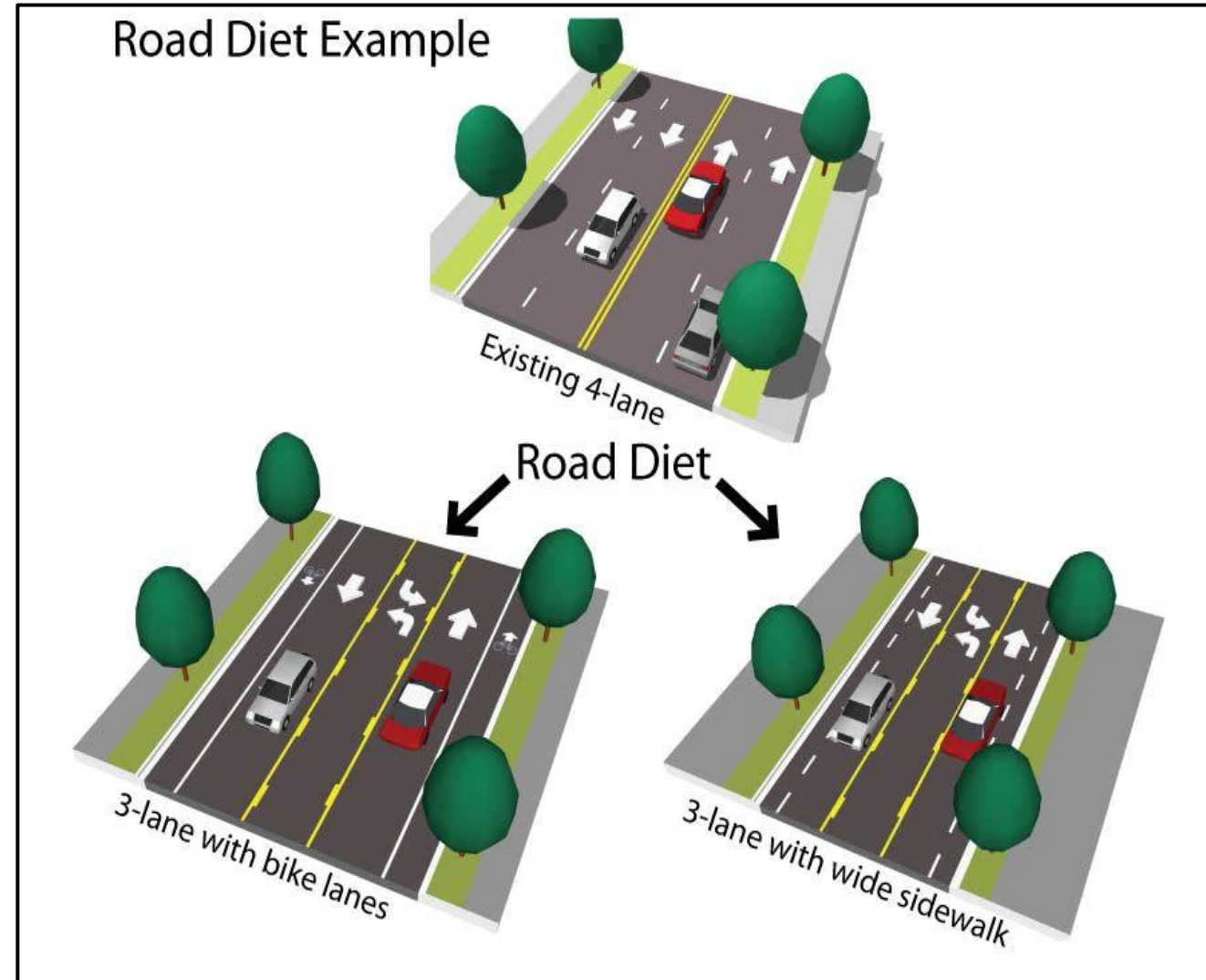
What is a Road Diet?

Reconfiguration of an existing roadway to improve safety and accessibility for all users, often by reducing vehicle lanes and reallocating space.

Example: A 4-lane road converted to 3 lanes which can allow space for bike lanes or pedestrian improvements.

Active Transportation Possible Additions

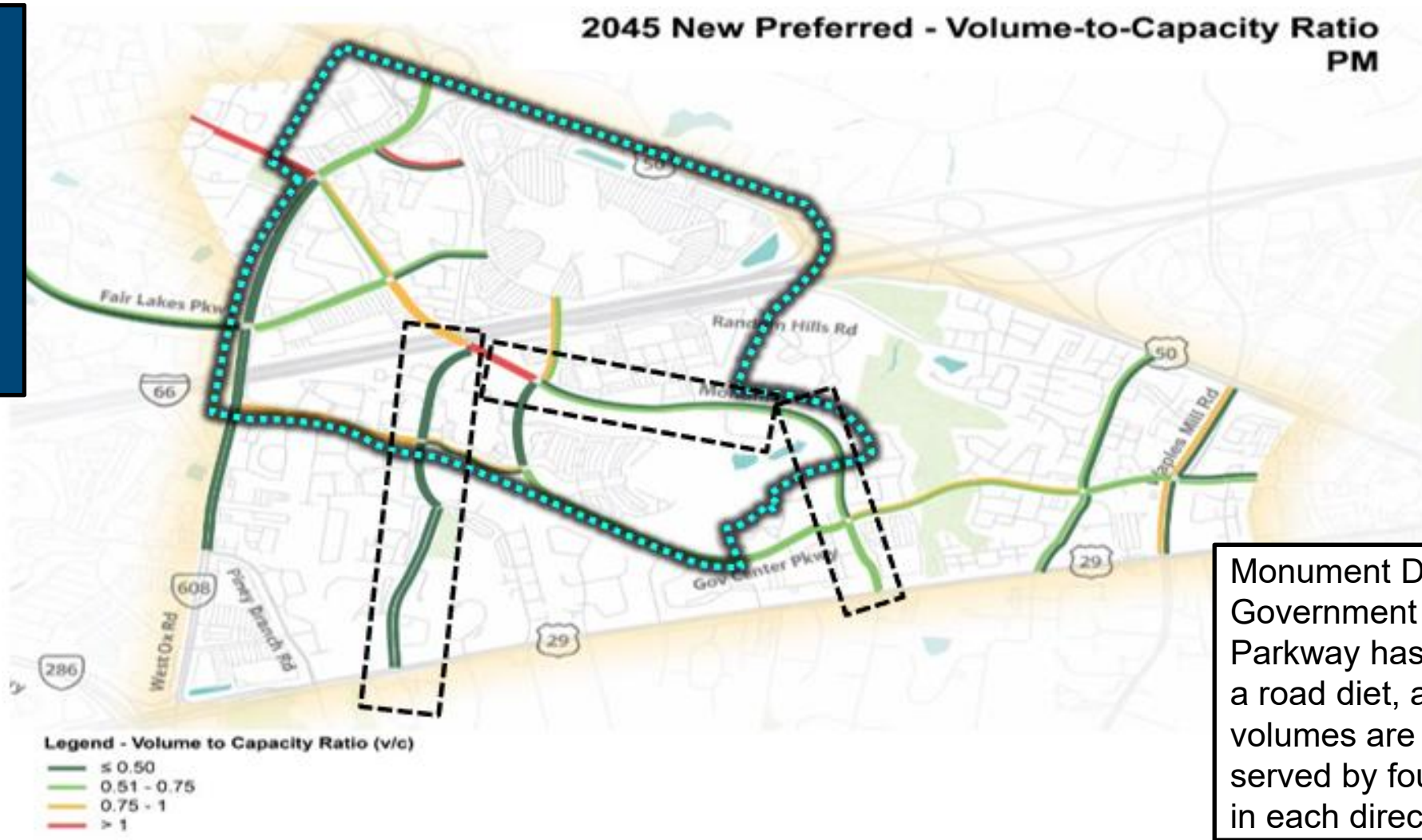
- Bike Lanes
- Wider Sidewalks
- Urban Trails
- Pedestrian Refuge Islands
- On-street Parking



Source: Microsoft Bing Photos

Potential Road Diets in the FCA Core Area

Random Hills Road and Legato Road south of Government Center Parkway has potential for a road diet, as its lower volumes are being well served by four lanes (two in each direction)



Monument Drive near Government Center Parkway has potential for a road diet, as its lower volumes are being well served by four lanes (two in each direction)

Note: Further study and coordination with VDOT will be required as each roadway is considered for improvement.



Fair Lakes Parkway Active Transportation Enhancements

Fair Lakes Parkway (East) Towards the Mall

Level of Comfort
1= Very Comfortable
2= Comfortable
3= Somewhat Comfortable
4= Uncomfortable
5= No Pathway

Level of Traffic Stress
LTS 1= Low Speed/ Traffic Volume Roadway
LTS 2= Somewhat Low Speed/Traffic Volume Roadway
LTS 3= Moderate Speed/ Traffic Volume Roadway
LTS 4= High Speed/ Traffic Volume Roadway



Recommendation for Pedestrian Facilities:
10-foot Urban Trails on both sides of the road

The current Plan text for this portion of the FCA, within Subunit A2, recommends coordinating with VDOT to approve removal of the existing sidewalk in favor of a single trail with enhanced landscaping, including street trees.

PLOC + BLTS Analysis – ATTP Plan

Overall Key Takeaways + Conclusions

- The transportation network appears capable of accommodating anticipated demand associated with the preferred land use scenario in the Fairfax Core Area.
- Staff continues to support the Government Center Parkway Extension as a potential mitigation strategy.
- Additional potential mitigations, including road diets and traffic signal improvements, have been identified and will require further study and coordination with VDOT.
- Recommendations will also prioritize improvements that achieve PLOC and BLTS scores of 1 or 2, enhancing safety, comfort, and connectivity for pedestrians and cyclists across the network.



Thank You!

Thomas.Burke@fairfaxcounty.gov

Ashley.Denner@fairfaxcounty.gov

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