

US 29 Mobility and Reliability Study

Transportation and Environment Committee
January 27, 2021

Purpose of the US 29 Mobility and Reliability Study

To identify improvement(s) on US 29 to complement the investment in US 29 FLASH from Tech Road to the Silver Spring Transit Center.

- Improve corridor travel time and reliability
- Increase pedestrian and bicycle access and safety



Alternatives Evaluated

- **Full-time Dedicated Median Bus Lane:** Tech Road to Sligo Creek Parkway
- **Rush-hour Managed Bus/ HOV Lanes:** Musgrove Road to Spring Street and **Bus on shoulder** north of Musgrove Road
- **Intersection Improvements:** Select congested intersections/ interchanges
- **Transportation System Management / Transportation Demand Management** measures to reduce non-recurring congestion and encourage carpooling
- **Pedestrian and Bicycle** improvements and new connections for station access, increased walk and bike sheds (Silver Spring to Tech Road)

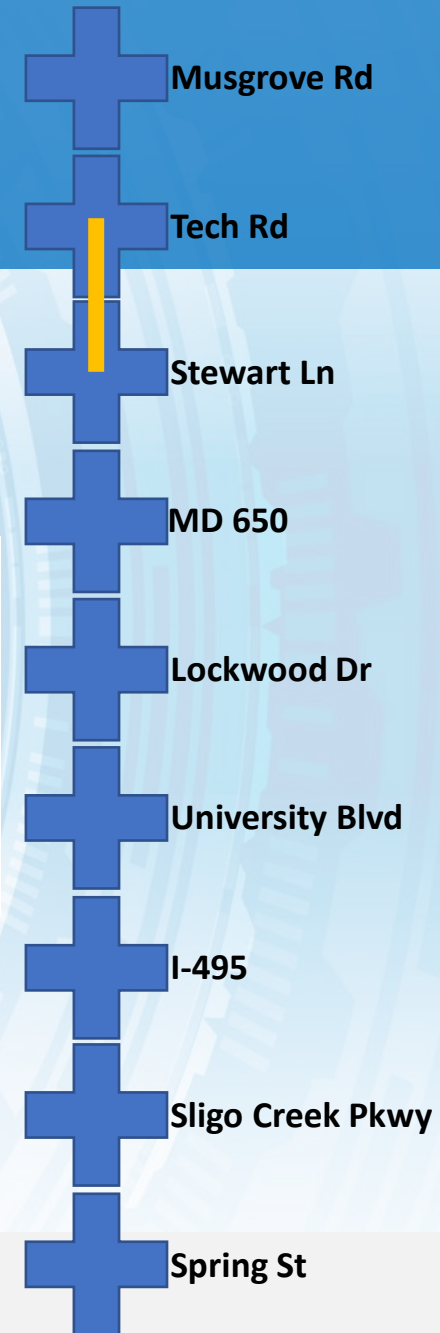
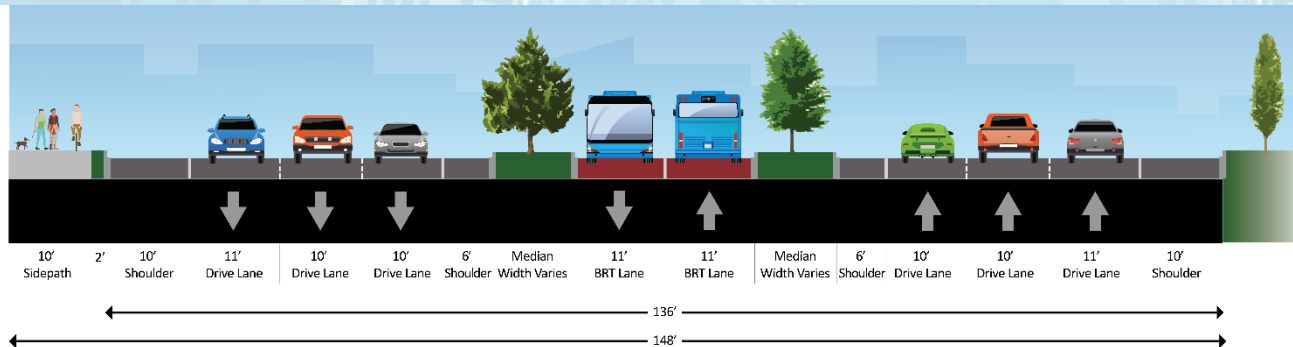
Study Measures of Performance

- Person throughput
- Travel time by mode
- Intersection/Segment Level of Service and Delay
- Impact to neighborhoods/ traffic management
- Cost



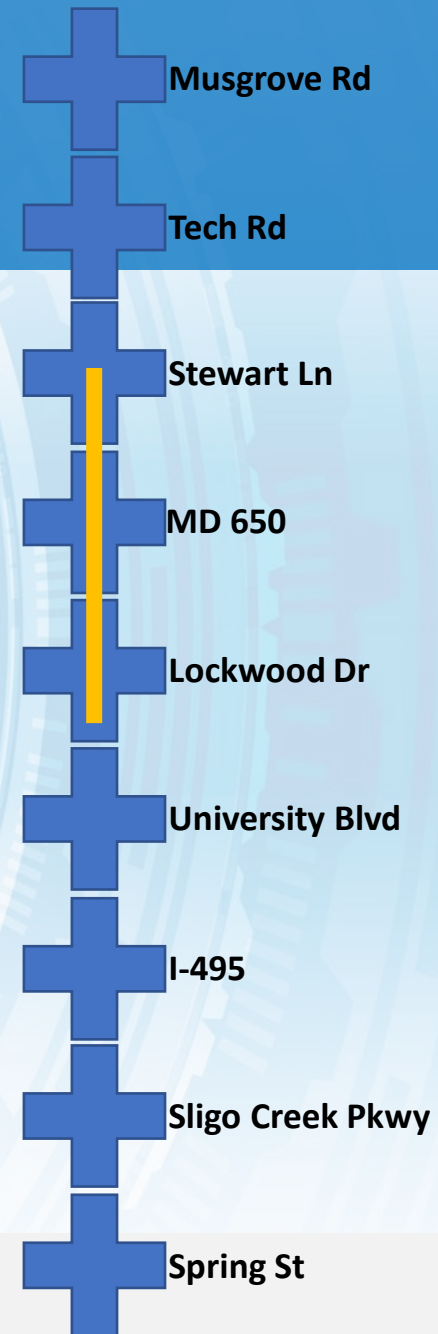
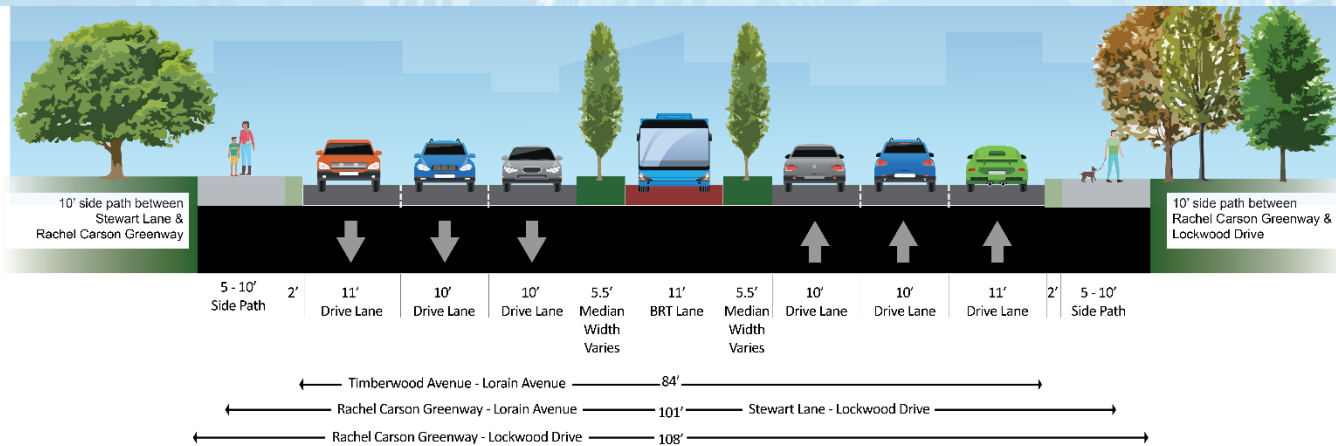
Median Bus Lane Concept

Tech Road to Stewart Lane



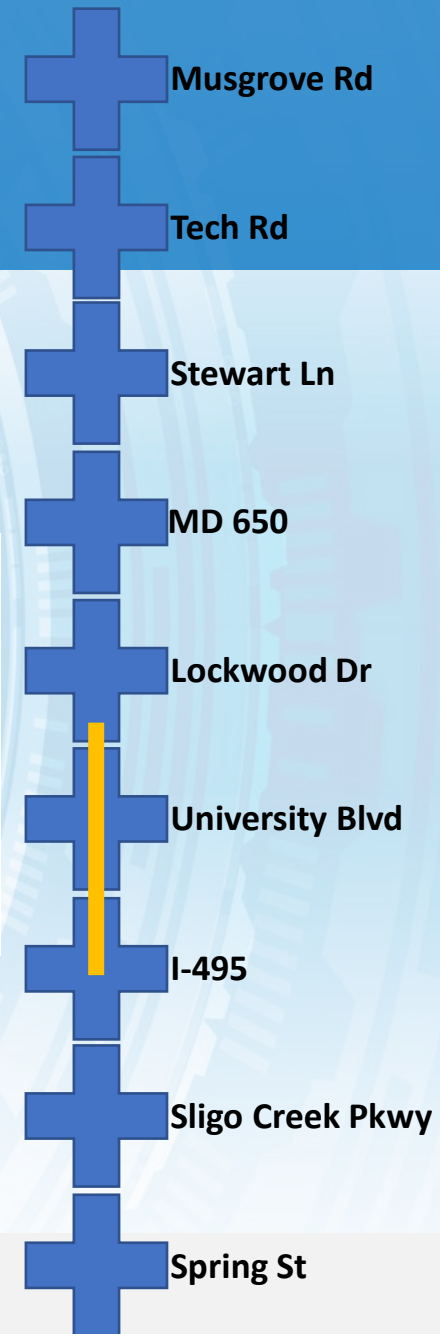
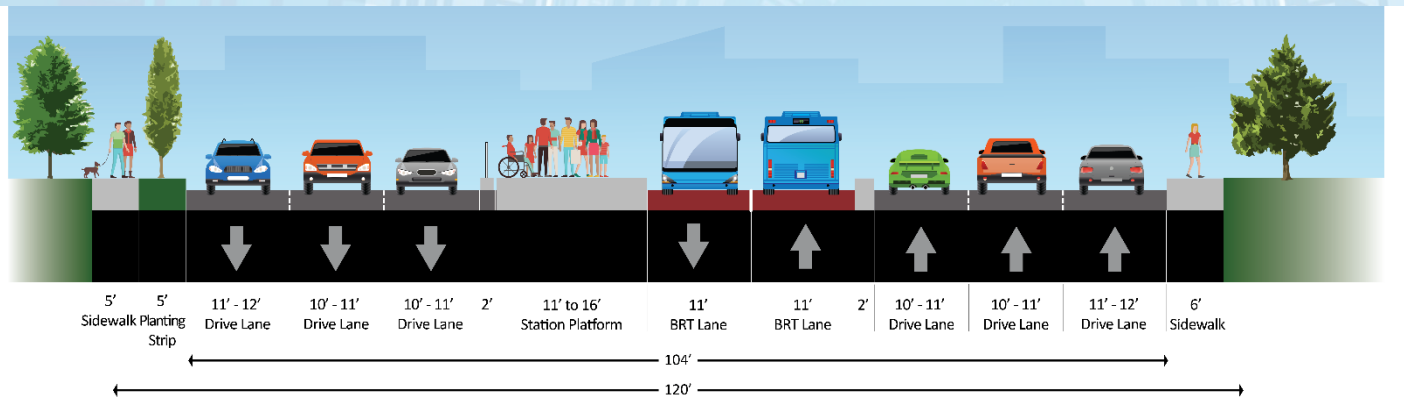
Median Bus Lane Concept

Stewart Lane to Timberwood Avenue



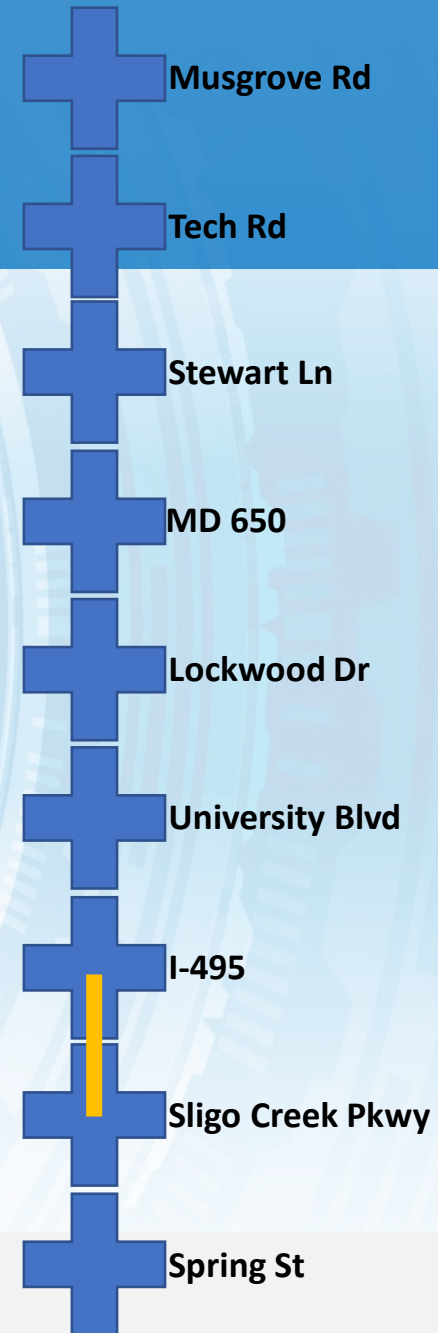
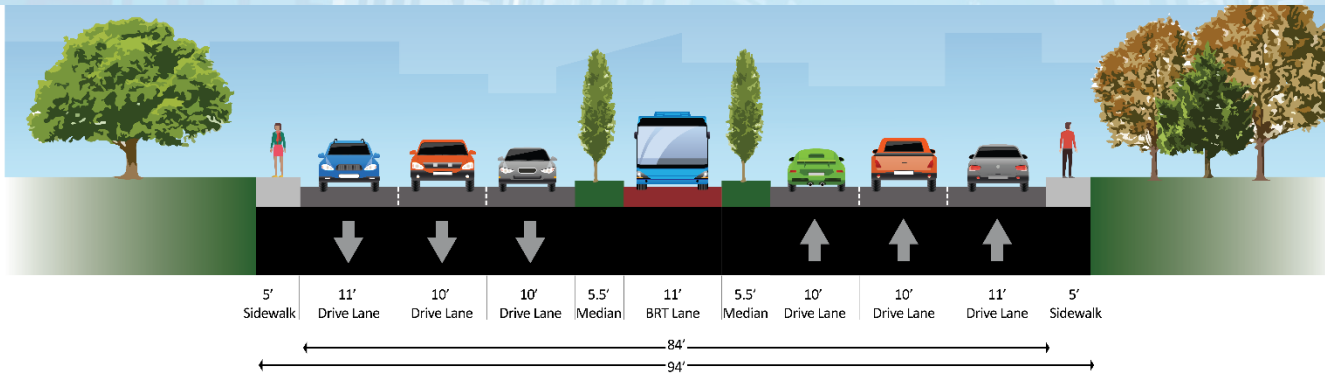
Median Bus Lane Concept

Timberwood Avenue to I-495



Median Bus Lane Concept

I-495 to Sligo Creek Parkway



Median Bus Lane Concept

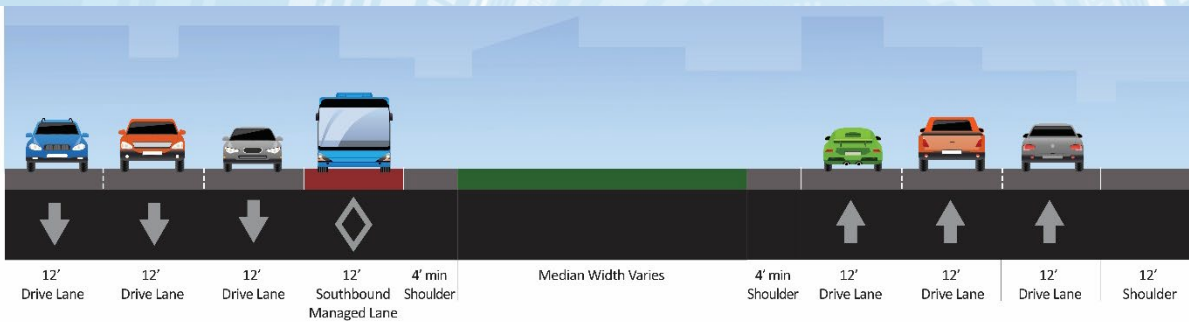
Additional Design Modifications

- Required new traffic signals and turn restrictions
- Required lane width changes

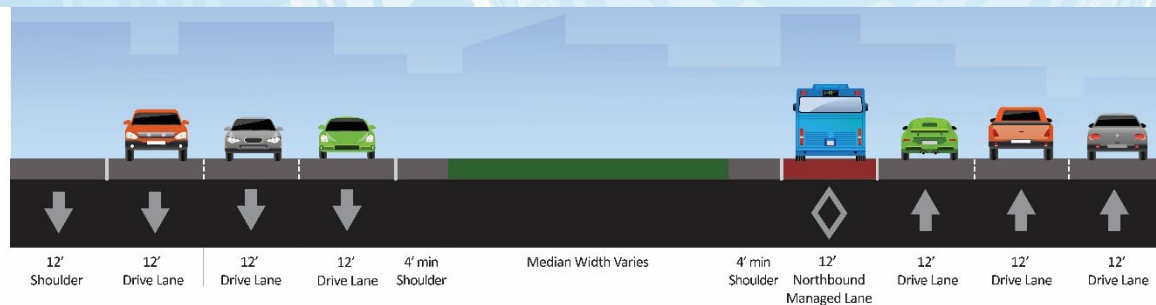
Managed Lane Concept

Musgrove Road to Stewart Lane

AM Peak Period



PM Peak Period



Sandy Spring Rd

Musgrove Rd

Tech Rd

Stewart Ln

MD 650

Lockwood Dr

University Blvd

I-495

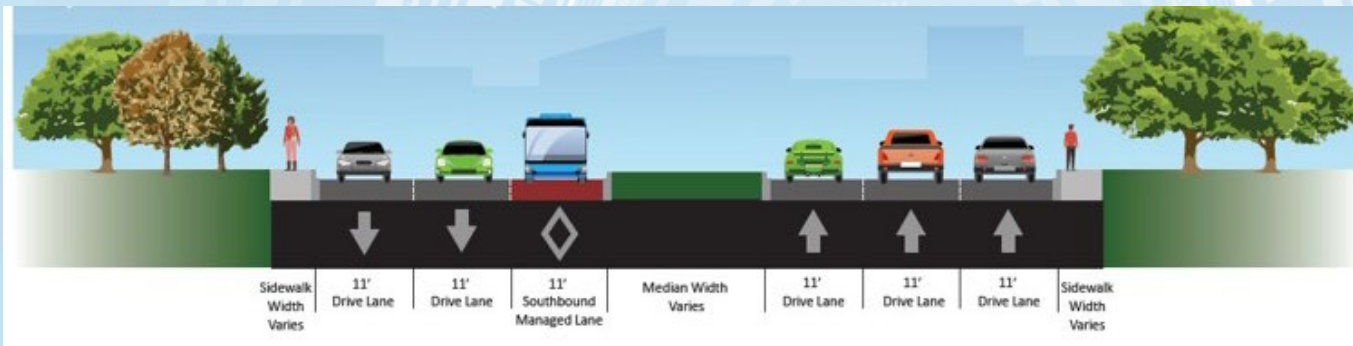
Sligo Creek Pkwy

Spring St

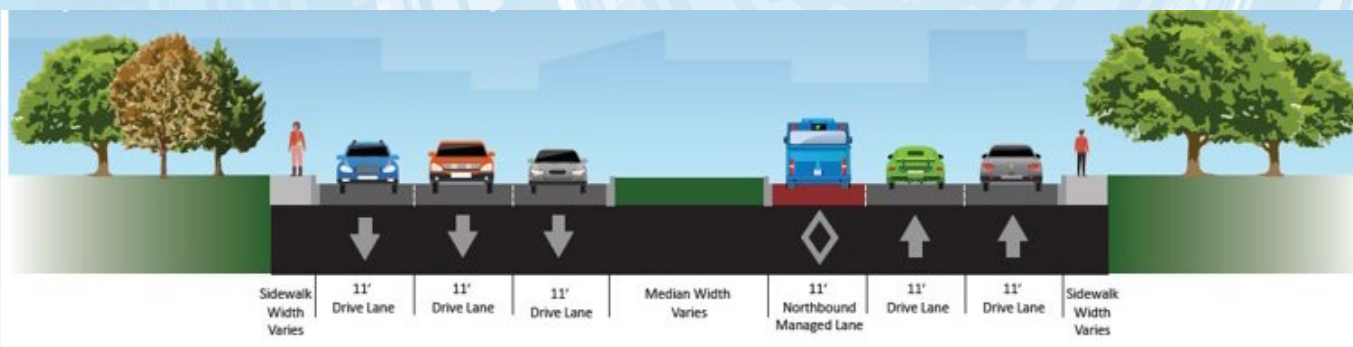
Managed Lane Concept

MD 650 to Southwood Avenue /Burnt Mills Avenue

AM Peak Period



PM Peak Period



Sandy Spring Rd

Musgrove Rd

Tech Rd

Stewart Ln

MD 650

Lockwood Dr

University Blvd

I-495

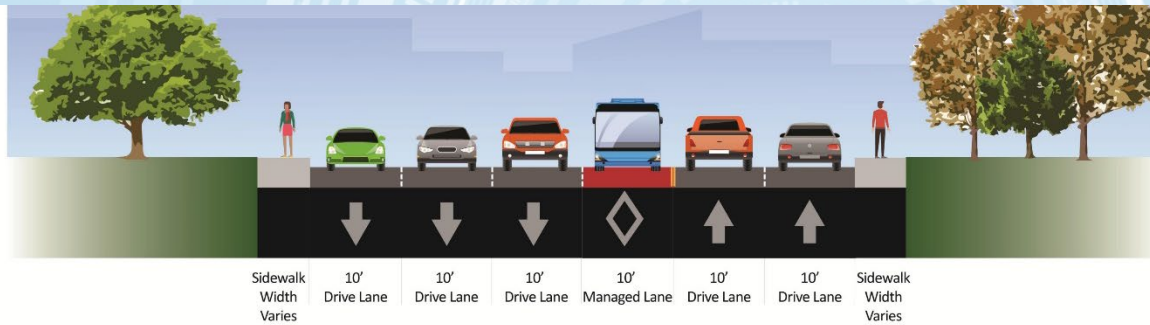
Sligo Creek Pkwy

Spring St

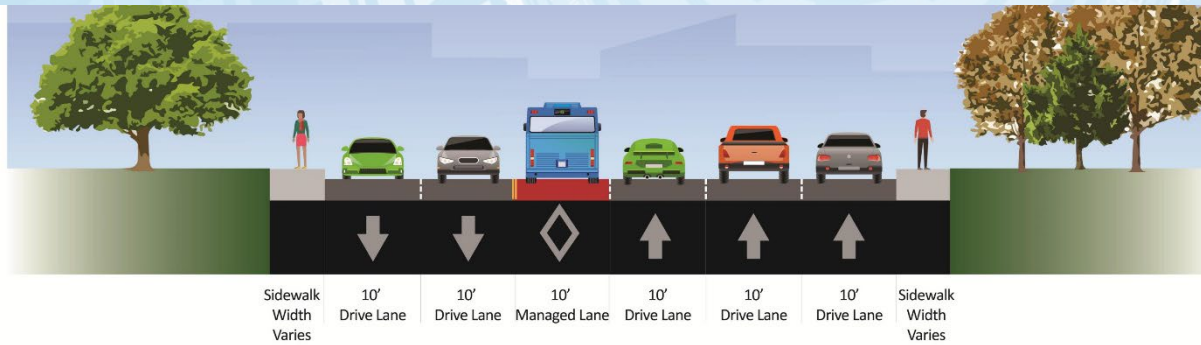
Managed Lane Concept

Sligo Creek Parkway to Spring Street

AM Peak Period



PM Peak Period



Sandy Spring Rd

Musgrove Rd

Tech Rd

Stewart Ln

MD 650

Lockwood Dr

University Blvd

I-495

Sligo Creek Pkwy

Spring St

Summary of Results

Comparison of Alternatives

	No Build	Median Bus Lane	Managed Lane
Number of Intersections LOS E/F AM(PM)	12(9)	12(13)	7(4)
Number of Segments LOS E/F AM(PM)	19(12)	20(12)	15(8)
Person Throughput AM(PM)	3800(4250)	3800(3950)	4550(4650)
Travel Time Auto in Minutes AM(PM)	46(32)	45(40)	35(19)
Travel Time HOV in Minutes AM(PM)	n/a	n/a	19(18)
Travel Time BRT in Minutes AM(PM)	43(32)	25(33)	23(25)
Right-of-Way	n/a	9.8 acres	2.2 acres
Cost	n/a	\$105-110M	\$40-50M

Priority Intersection Improvements

- Identified through an assessment of over 30 improvements
 - Greencastle Road Intersection Improvements
 - Tech Road Intersection Improvements
 - Stewart Lane Intersection Improvements
 - MD 650 Interchange Improvements
 - US 29 Southbound Exit Ramp to Westbound I-495 Improvements
 - Sligo Creek Intersection Improvements

Transportation Systems / Demand Management

- Cost: \$1-5M
- Provide real-time travel time information from the county line to I-495 and Silver Spring
- Travel Demand Management (TDM) incentive programs to encourage carpool, transit, and bicycle use
- Develop Integrated Corridor Management Plans (US 29/I-95/US 1/MD 295)
- Increase incident response patrols
- Implement smart signal technology for demand-responsive timing plans
- Provide real-time commuter park and ride space availability



Pedestrian and Bicycle Improvements

Over 200 individual walking and biking recommendations between Silver Spring and Tech Road (Cost \$15-20M*)

- New and widened sidewalks
- ADA compliance updates
- Bike routes/lanes
- US 29 crossing upgrades
- Bike parking/shares

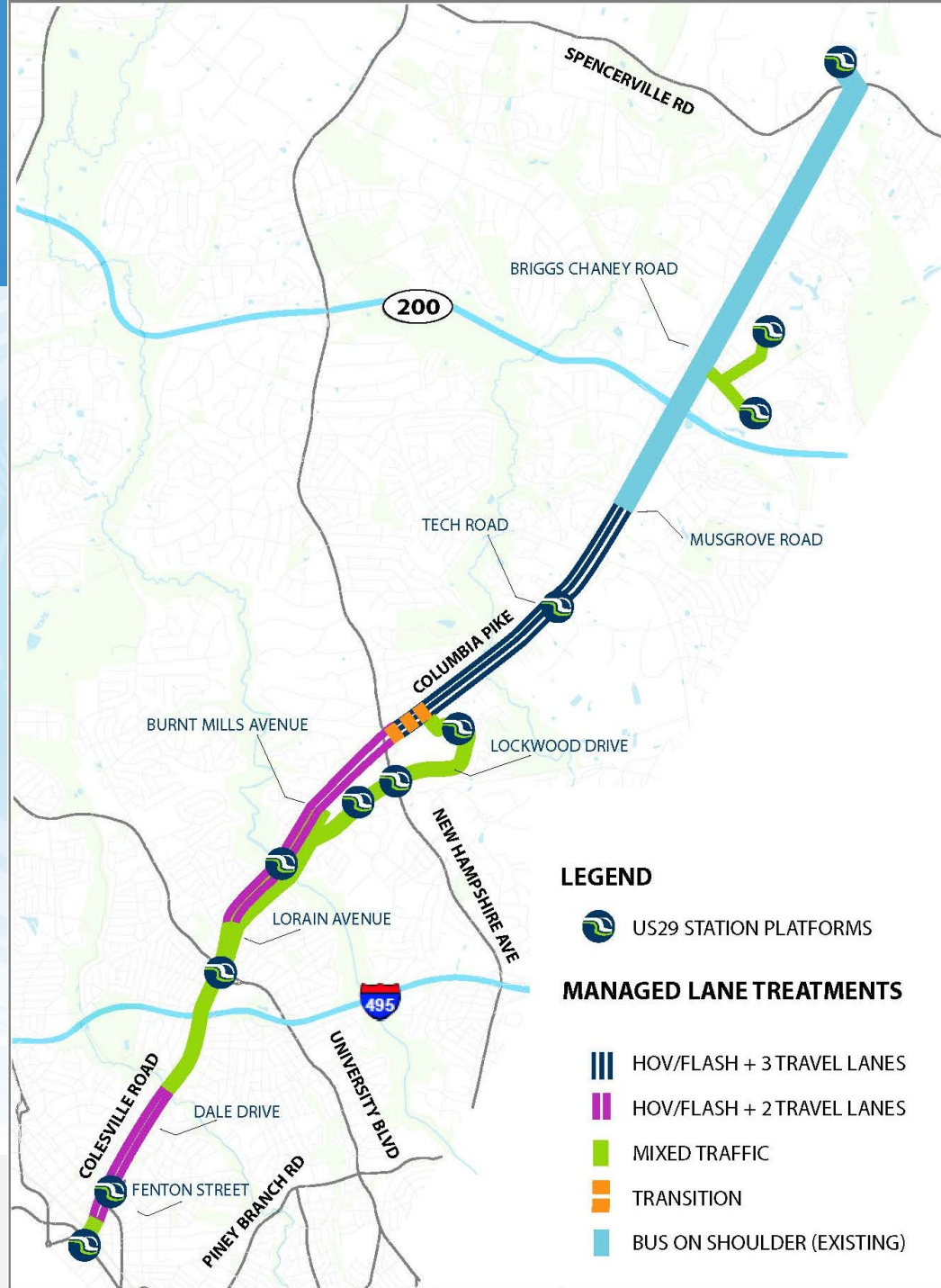
*Cost excludes sidepaths and bridges

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Proposed Recommendations

- Advance managed lane concept (\$40-50M)
 - **Musgrove Road to Stewart Lane** – Peak Period/Direction HOV + Bus Managed Lane with Hard Running Shoulder
 - **MD 650 to Southwood/Burnt Mills** – Peak Period/Direction HOV + Bus Managed Lane
 - **Sligo Creek Parkway to Spring Street** – Peak Period/Direction HOV + Bus Managed Lane



Proposed Recommendations

Continued

- Advance intersection/interchange improvements (\$20-25M)
 - Greencastle Road intersection improvements
 - Tech Road intersection improvements
 - Stewart Lane intersection improvements
 - MD 650 interchange improvements
 - I-495 interchange improvements (US 29 SB)
 - Sligo Creek intersection improvements
- Advance station access (bike/ped) improvements (\$15-20M)

Outreach

- Various stakeholder briefings
 - M-NCPPC staff
 - MDOT SHA
- US 29 BRT Corridor Advisory Committee – May 2018
- Public Open House #1 – November 2018
- South Four Corners Civic Association – February 2019
- *Virtual* Public Open House #2 – July 2020

Next Steps

- Advance design for selected alternative(s) pending additional funding
 - Resolve managed lane location
 - Refine designs and cost estimates
- Future improvements/phases

Questions