



**Committee:** T&E  
**Committee Review:** At a future date  
**Staff:** Glenn Orlin, Senior Analyst  
**Purpose:** Final action – vote expected  
**Keywords:** #FY23-28CIP, US 29 Bus Rapid Transit

AGENDA ITEM #4  
November 29, 2022  
**Action**

## SUBJECT

Supplemental Appropriation to the County Government's FY23 Capital Budget and Amendment to the FY23-28 Capital Improvements Program, \$9,500,000, Bus Rapid Transit: US 29 Phase 2 (Source of Funds: Development Impact Tax, State Aid)

## EXPECTED ATTENDEES

(See attached staff report.)

## COMMITTEE RECOMMENDATION

A meeting of the Transportation and Environment (T&E) is scheduled for 1:30 pm on Monday, November 28 to review this project. Its recommendations will be reported at the November 29 Council worksession.

## SUMMARY OF KEY DISCUSSION POINTS

This project will ultimately construct dedicated lanes for bus transit and, possibly, carpools and vanpools along the US 29 between Burtonsville and Downtown Silver Spring. The Department of Transportation has been studying two alternatives: one that would create one or two dedicated lanes in the median and the other to repurpose an existing lane in the peak traffic direction for buses and, perhaps, carpool and vanpools. The Council initially included another \$6 million in the Capital Improvements Program towards the cost to conduct preliminary design of whichever alternative the Council selects. The State of Maryland has allocated an additional \$5 million for the project. However, this \$11 million has not yet been appropriated, and won't be until the Council selects the alternative to be designed. The Executive is requesting an appropriation of only \$9.5 million currently, which is the estimated cost to design the median alternative.

### This report contains:

Staff report for the November 28 T&E meeting

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**MEMORANDUM**

November 23, 2022

TO: Transportation and Environment (T&E) Committee

FROM: Glenn Orlin, Senior Analyst

SUBJECTS: Amendment to the FY23-28 Capital Improvements Program (CIP) and Special Appropriation to the FY23 Capital Budget, Montgomery County Government, Department of Transportation (DOT), Bus Rapid Transit: US 29-Phase 2, \$9,500,000 (Source of Funds: Impact Taxes and State Aid)

PURPOSE: Develop recommendations for the full Council

**EXPECTED ATTENDEES**

- Christopher Conklin, Director, DOT
- Joana Conklin, Manager, Transit Development, Advancement, and Innovation, Department of General Services
- Corey Pitts, Planning Section Manager, Director's Office, DOT
- Jason Sartori, Chief, Countywide Planning & Policy Division, Planning Department
- David Anspacher, Transportation Planning Supervisor, Countywide Planning & Policy Division, Planning Department

**BACKGROUND**

The 2013 Countywide Transit Corridors Functional Master Plan calls for a bus rapid transit line between Burtonsville and the Silver Spring CBD with a dedicated lane for express buses along most of its length. The initial Bus Rapid Transit: US 29 project funded several aspects of the planned bus rapid transit (BRT) along US 29—the acquisition of higher capacity BRT vehicles, the construction of stations that would allow for faster boarding and debarking and for off-board fare collection, signal priority for BRT at some intersections, bikeways, and sidewalks immediately around the new stations—but not a dedicated lane (or lanes) that would allow BRT to avoid general traffic congestion.

In 2020 DOT completed a study that identified means of improving mobility in the corridor for all travelers: transit patrons, bicyclists, pedestrians, carpoolers, and drivers of autos and trucks. Subsequently the Council approved funding in a new US 29 Pedestrian and Bicycle Improvements project to begin implementing those recommendations. As for the other modes, DOT developed

two alternatives: a Managed Lane option that would accommodate both BRT and high-occupancy vehicles, but which also included intersection improvements at several locations, and a Median Lane option that would create a physically separated lane for BRT. As part of his Recommended Amended FY21-26 CIP, the Executive proposed \$6 million to carry the Managed Lane option through the preliminary design stage.

The T&E Committee reviewed the Executive’s proposal on January 23, 2021, considering comments from the Planning Board and Council staff and some members of the public. According to the official minutes of the meeting, the Committee:

Recommended the Department of Transportation (DOT) develop means to render the Median Lane Bus Rapid Transit (BRT) Alternative more cost effective, as was done for the Managed Lane (BRT/high-occupancy vehicle (HOV)) Alternative. Each alternative should include similar roadway/intersection, bikeway/pedestrian, and traffic management improvements so that a more accurate “apples-to-apples” comparison can be made.

Subsequently the Council approved \$250,000 for DOT to conduct this follow-up analysis, and it postponed appropriating the funds needed for preliminary design until the study was completed, at which point the Council would select the preferred option. The follow-up study is now complete, so we have reached this decision point.

In its 2022 session, the Maryland General Assembly approved \$1.5 million in FY23 and pre-approved another \$3.5 million in FY24 for this project. The Council added these funds to the project in the FY23-28 CIP approved last spring—bringing the total to \$11 million—but as with the initial \$6 million, it did not appropriate it, awaiting the results of the study so it could select the preferred option. When the Executive transmitted his request that is before the Council now, he asked for an appropriation of only \$9.5 million of the \$11 million, indicating that this was the estimated cost to complete preliminary design.

## DESCRIPTION OF ALTERNATIVES

DOT will begin the session with an abbreviated PowerPoint presentation of the Managed Lane and Median Lane options; its full presentation is on ©1-28 – the cross sections of the two options are on ©6-10 and on overview of the whole corridor is on ©27. In summary:

*The Managed Lane option would accommodate BRT vehicles, carpools and vanpools by:*

- creating a fourth southbound lane in the morning peak and a fourth northbound lane in the evening peak between Musgrove Road in Fairland and Stewart Lane in White Oak by reinforcing and widening the inside shoulders of US 29 between these two points.
- running in mixed traffic through the New Hampshire Avenue (MD 650) interchange area.
- repurposing (i.e., taking away) from general traffic the existing inside lane southbound in the morning peak from MD 650 to Southwood Avenue near Four Corners, and in the evening peak from Burnt Mills northbound to MD 650, with a relocated BRT station in the median at Burnt Mills.
- relocating the BRT station at Four Corners to the median.

- running in mixed traffic southbound in the morning peak from Southwood Avenue to Sligo Creek Parkway and northbound in the evening peak from Sligo Creek parkway to Burnt Mills.
- repurposing the inside lane southbound in the morning peak and northbound in the evening peak between Sligo Creek Parkway and Spring Street.
- adding turning lanes at the US 29 intersections at Greencastle Road, Tech Road, Stewart Lane and Sligo Creek Parkway, an additional lane southbound over MD 650, and a second lane on the ramp from southbound US 29 onto westbound I-495.

In today’s dollars, the estimated preliminary design cost is \$7.7 million. The estimated final design, land acquisition, and construction cost is \$105.2 million

*The Median Lane option would accommodate BRT vehicles by:*

- creating a fourth southbound lane in the morning peak and a fourth northbound lane in the evening peak between Tech Road and Stewart Lane in White Oak by reinforcing and widening the shoulders of US 29 between these two points.
- creating a single-lane, barrier-separated bus lane in the median between Stewart Lane and Southwood Avenue, running southbound in the morning peak and northbound in the evening peak, and relocating the station at Burnt Mills to the median.
- creating two barrier-separated bus lanes between Southwood Avenue and I-495, relocating the station at Four Corners to the median.
- creating a single-lane, barrier-separated bus lane in the median between I-495 and Sligo Creek Parkway running southbound in the morning peak and northbound in the evening peak.
- repurposing the inside lane southbound in the morning peak and northbound in the evening peak between Sligo Creek Parkway and Spring Street.

In today’s dollars, the estimated preliminary design cost is \$9.5 million. The estimated final design, land acquisition, and construction cost is \$128.0 million

## **RECOMMENDATIONS FROM THE EXECUTIVE, PLANNING BOARD, AND HEARING TESTIMONY**

At the Council’s November 16 public hearing, DOT Director Conklin presented the Executive’s recommendation to proceed with the Median Lane option (©29-31). He points to the significant improvement for transit travel times in the corridor, and the greater reliability given the degree to which it is separate from recurring delays due to traffic congestion. He notes, however, that the Managed Lane option is worthy of consideration, as the study has shown that it would benefit all travelers in the corridor, not just transit riders. His question is whether enforcement of the Managed Lanes can be successively achieved since they would be immediately adjacent to the general use lanes.

The Planning Board majority—Commissioners Zyontz, Branson, and Hill—also support the Median Lane option (©32-33). They note that the Median Lane option would result in a greater travel time advantage for transit users over non-transit travelers, and that the Managed Lane option includes roadway capacity which is contrary to the transportation goals of Thrive 2050. Commissioner Presley recommends the Managed Lane option; following up with her, she notes that the study shows that the Managed Lane option is projected to produce shorter travel times

than the Median Lane option for all travelers, including BRT patrons, and at a much smaller cost. (Commissioner Piñero was not present at the Board’s November 10 session when this matter was discussed.)<sup>1</sup>

In addition, all four Board members support six other recommendations:

- Defer a decision on improvements to US 29 between Sandy Spring Road (MD 198) and Tech Road until the Fairland and Briggs Chaney Master Plan is approved by the County Council in late 2023.
- Delay implementation of a second ramp lane from southbound US 29 to westbound I-495. However, if advancing a second ramp lane is deemed essential to traffic operations, this improvement must be accompanied by improvements that eliminate conflicts between motor vehicles and pedestrians/bicyclists with a pedestrian and bicyclist overpass or traffic control on the west side of US 29.
- Defer a decision on capacity improvements at the intersection of US 29 and Greencastle Road until the Fairland and Briggs Chaney Master Plan is approved by the County Council in late 2023.
- Do not construct a sidewalk on Sligo Creek Parkway at the northeast corner of the US 29 and Sligo Creek Parkway intersection as part of the US 29 Mobility and Reliability Project. Instead, consider including a sidewalk along the northside of Sligo Creek Parkway from US 29 to Worth Avenue in the US 29 Pedestrian and Bicycle Improvements program.
- The proposed sidewalk relocation at Burnt Mills East Special Park will need to be reviewed in more detail by Parks staff and will be subject to issuance of a Historic Area Work Permit.
- Any proposed work on parkland would require Concept Review and Park Construction Permit review and approval.

The East County Citizens Advisory Board (ECCAB) supports the Median Lane option (©34-41). The ECCAB stipulates that the Median Lane option is more aligned to the policy objectives of Thrive 2050, provides superior transit reliability, better addresses historical inequities in the East County, and is better suited to the unique geometry and demographics of the US 29 Corridor.

The Greater Colesville Citizens Association (GCCA) also supports the Median Lane option (©42-43). GCCA avers that, in the post-COVID environment, ridesharing will not occur as much as predicted for the Managed Lane option. GCCA agrees with most of the rest of the Board’s recommendations, except not to consider widening the ramp from US 29 onto I-495, and most of the other intersection improvements included in the Managed Lane option. GCCA supports the improvement at Greencastle Road, but it agrees with the Board that it should not proceed until the Fairland and Briggs Chaney Master Plan is approved, and not as part of the BRT project.

The Northwood-Four Corners Civic Association (NFCCA) supports the Managed Lane option (©44-46). NFCCA points out that the Managed Lane option improves the commute time

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<sup>1</sup> For more background to the Planning Board’s consideration, see its staff’s report: [https://montgomeryplanningboard.org/wp-content/uploads/2022/10/US-29-BRT-Alternatives-Staff-Report-2022-11-02\\_Final\\_Rev.pdf](https://montgomeryplanningboard.org/wp-content/uploads/2022/10/US-29-BRT-Alternatives-Staff-Report-2022-11-02_Final_Rev.pdf)

for everyone, regardless of mode. Furthermore, it decries the Median Lane option's prohibition of left turns from US 29 onto Lorain Avenue, one of 10 such additional access prohibitions required by this option in the Four Corners and White Oak neighborhoods.

Woodmoor resident James Williamson supports the No Build option. He most opposes the Median Lane option due concerns about potential cut-through traffic in Woodmoor and other neighborhoods along US 29 (©46A).

### COUNCIL STAFF ANALYSIS AND RECOMMENDATIONS

As do the Executive, Planning Board, GCCA and NFCCA, Council staff supports a build option for BRT along US 29. The FLASH service is a promising start, but truly significant improvement to travel in the corridor can only be accomplished by providing for lanes dedicated to buses and, possibly, carpools and vanpools.

***Service to commuters.*** Of the two build options, the Managed Lane option is clearly superior in nearly every meaningful metric:

- Under the Managed Lane option, BRT travel time between Burtonsville and Silver Spring would be *5 minutes (18%) faster* in the morning peak and *6 minutes (19%) faster* in evening peak than the Median Lane option.
- Under the Managed Lane option, carpool/vanpool travel time between Burtonsville and Silver Spring would be *27 minutes (57%) faster* in the morning peak and *8 minutes (31%) faster* in evening peak than the Median Lane option.
- Under the Managed Lane option, travel time for non-BRT buses, trucks, and single-occupant vehicles between Burtonsville and Silver Spring would be *12 minutes (26%) faster* in the morning peak and *7 minutes (27%) faster* in evening peak than the Median Lane option.

Therefore, the Managed Lane option would provide the most travel time savings to all commuters, not just those who can use BRT to get to their destination. This is particularly significant as the route passes through many Equity Emphasis Areas. As the Council's RESJ consultant noted in its report on Thrive Montgomery 2050, BIPOC residents have expressed concerns that "transportation policies were being too focused on transit and not acknowledging the needs of the working class who rely on their vehicles to access jobs and employment."<sup>2</sup> Thus the Managed Lane option is the best alternative for addressing the historic inequities in the East County.

The Median Lane option is projected to carry 11,500 BRT passengers daily by 2040, about 3% more than for the Managed Lane option. The more meaningful metric, however, is the non-auto-driver mode share (NADMS), which captures the percentage of commuters that will not be driving, whether they are going by BRT, local Ride On, or ridesharing in carpools or vanpools. The study's projected NADMS in Year 2040 for each option is displayed below at different points along US 29. The Managed Lane option forecasts to be superior at each location:

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<sup>2</sup> Nspiregreen & Public Engagement Associates, Thrive Montgomery 2050: Racial Equity and Social Justice Review, p. 17.

Non-Auto-Driver Mode Share, US 29 Southbound in the Morning Peak (2040)

| <i>US 29 Location</i> | <i>No Build</i> | <i>Managed Lane</i> | <i>Median Lane</i> |
|-----------------------|-----------------|---------------------|--------------------|
| Paint Branch          | 54.7%           | 66.2%               | 56.1%              |
| Northwest Branch      | 59.8%           | 74.1%               | 61.0%              |
| Four Corners          | 60.7%           | 71.3%               | 62.7%              |
| Spring Street         | 61.7%           | 72.2%               | 66.9%              |

One critique of the Managed Lane option suggests that ridesharing will be much reduced due to the rise in telecommuting that has become popular during COVID. Indeed, the Council of Governments notes in its triennial commuter survey that ridesharing has dropped from 5% to 2% between 2019 and early 2022. However, the percentage commuting by transit also has dropped over the same period, from 24% to 8%. Both ridesharing and transit ridership have ticked up a bit since early 2022, but there is no evidence that one mode will recover and the other won't.

***Neighborhood access.*** As noted in NFCCA's testimony, the Median Lane option would introduce 10 new turn prohibitions from US 29, limiting access to several residential neighborhoods: North Hills of Sligo, Indian Spring Terrace, Four Corners, Woodmoor, Burnt Mills, and Burnt Mills Hills. On the other hand, the Managed Lane option would not introduce any new turn prohibitions.

***Cost and right-of-way impacts.*** DOT's study estimates the construction cost of the Managed Lane option to be \$22.8 million (18%) less than the Median Lane option. However, the \$105.2 million estimate for the Managed Lane option includes the cost of all six intersection improvements, while the Median Lane option includes only the improvement at Greencastle Road. The intersection improvements at Greencastle Road, Tech Road, Stewart Lane, and Sligo Creek Parkway, as well as the widening of US 29 over New Hampshire Avenue, are not essential to this transit project. Deleting them would reduce the Managed Lane option's construction cost to \$82.5 million. Since the Median Lane option includes the Greencastle Road intersection improvement; deleting it would reduce its construction cost to \$124.6 million. Therefore, *the Managed Lane option would be or \$42.1 million (34%) less than the Median Lane option.* This reflects the "apples-to-apples" comparison that the T&E Committee called for in January 2021.<sup>3</sup>

The existing southbound ramp to the Beltway is significant congestion point today. Queues attempting to enter the westbound Beltway—especially in the morning peak—regularly back up into the curb lane on US 29, and often as well on the second lane from the curb by those attempting to jump the queue. This situation often constrains traffic headed south into Silver Spring, adding a second lane on the ramp would provide more storage space for the queue so that the backup on US 29 would be mitigated or eliminated.

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<sup>3</sup> Neither the Executive nor the Planning Board are recommending extending the dedicated lane north to Burtonsville, as called for in the 2013 Master Plan. The reason is that neither option would provide much of a travel time advantage in the northern portion of US 29, so it was not included in order to keep costs down. Council staff concurs with this reasoning. However, should the County wish to extend it to Burtonsville in the long term, the estimated cost of extending the Median Lane from Tech Road to MD 198 would be \$72.4 million (including preliminary and final design, land acquisition and construction), while extending the Managed Lanes from Musgrove Road to MD 198 is estimated to cost \$57.7 million, \$14.7 million (20%) less.

The study states that the estimated right-of-way take of the current Managed Lane option is 6.9 acres, 1.4 acres (25%) more than the 5.5 acres for the Median Lane option. However, not including the same intersection improvements noted above would reduce the right-of-way take for the Managed Lane option to 4.9 acres, 0.6 acres (11%) less than the Median Lane option.

***Other advantages of the Managed Lane option.*** First, construction of the barriers in the Median Lane will disrupt traffic operations more considerably, especially along US 29 between Southwood Avenue and MD 650. Second, since the Managed Lane option would create a dedicated lane in both directions, DOT could operate express BRT service in the off-peak direction as well (i.e., northbound in the morning peak, southbound in the evening peak), something that cannot be done with the single-lane Median Lane option. The travel time advantage in the off-peak direction would be relatively small, but it would be better than running the BRT in mixed traffic, and it may be meaningful for commuters heading between the Downcounty and Viva White Oak, for example.

***Advantages of the Median Lane option.*** Both DOT and the Planning Board correctly characterize the Median Lane option as more consistent with the 2013 the Countywide Transit Corridors Functional Master Plan of 2013, which suggests the additional of an additional dedicate bus lane in most of the corridor. However, the 2013 Plan defers to the detailed study of each corridor to determine the ultimate cross-section:

This Plan identifies the rights-of-way necessary to facilitate the development of a network of dedicated transit lanes. It recognizes, however, that the final decision on treatment in each transit corridor must be made at the time of implementation when a transit service plan is in place ...” [p.30]

The more significant advantage is that a barrier-separated busway is more enforceable than a bus/carpool/vanpool lane that is not barrier separated from general use lanes. There are two means to control the use of Managed Lanes: police enforcement and camera enforcement. The former would be difficult on US 29 south of MD 650, given that there are few locations where police can be situated to pull over scofflaws. However, camera enforcement, combined with stiff fines, should be effective in deterring most potential violators. A recent study by the Transportation Planning Board on bus lane enforcement includes examples of such efforts in New York and California (see excerpt on ©47-50).

For camera enforcement the County would likely need to get authorization from the General Assembly, just as it had for speed and right-light camera enforcement. Regardless of the Council’s decision for US 29, it would be wise to get the authority anyway, as there will be other places on the planned BRT network where camera enforcement will be necessary. An example is the planned queue-jump lanes for the Veirs Mill Road BRT.

**Primary Council Staff Recommendation: Select the Managed Lane option as the preferred alternative, include the Beltway ramp widening in the scope of the project, and concur with the other Planning Board recommendations. Appropriate \$7.7 million to complete preliminary design and reduce the funding in FYs23-24 in the PDF to \$7.7 million, as shown on ©51-54.** The \$7.7 million should include the \$5 million in State aid, but the impact



tax funding would be reduced from \$6 million to \$2.7 million. The \$3.3 million savings could be used towards other transportation projects eligible to be funded with impact taxes.

**Secondary Council Staff Recommendation: Should the Council wish to select the Median Lane option as the preferred alternative, include the Beltway ramp widening in the scope of the project, and concur with the other Planning Board recommendations. Appropriate the \$9.5 million requested by the Executive to complete preliminary design and reduce the funding in FYs23-24 in the PDF to \$9.5 million, as shown on ©55-57. The \$9.5 million should include the \$5 million in State aid, but the impact tax funding would be reduced from \$6 million to \$4.5 million. The \$1.5 million savings could be used towards other transportation projects eligible to be funded with impact taxes.**

# US 29 Mobility and Reliability Study – Project Findings

Planning Board  
11.10.22

# Agenda

- Study Goals & Objectives
- Study Recap/Outcomes
- Corridor Alternatives
  - Concept Design
  - Costs
  - Traffic Operations
- Summary
- Feedback
- Questions & Answers

# Project Goals

Identify improvements on US 29 (Colesville Road / Columbia Pike) that:

- Complement the investment in US 29 Flash bus service
- Improve corridor travel time and reliability for all modes
- Increase pedestrian and bicycle access and safety



# Previous Study Recap/Outcomes

- Project team studied a Managed (Bus/HOV) lane and Median bus lane concept in 2020
- Team also identified pedestrian and bicycle access improvements to Flash stations between Silver Spring and Tech Road
- Findings were presented to the Planning Board (October 2020) and Council Transportation and Environment (T&E) Committee (January 2021)
- T&E Committee requested additional study of the median bus lane
- County Council approved funding to advance pedestrian and bicycle improvements as part of the FY23-28 budget
- Other MDOT SHA projects underway (e.g. Oak Leaf traffic signal, Stewart Lane pedestrian improvements)



# Corridor Alternatives Evaluated

- **No-Build:** No changes to existing conditions
- **Managed (Bus/ HOV) Lanes:** Musgrove Road to Spring Street and **Bus on shoulder** north of Musgrove Road
- **Dedicated Median Bus Lane:** Tech Road to Sligo Creek Parkway

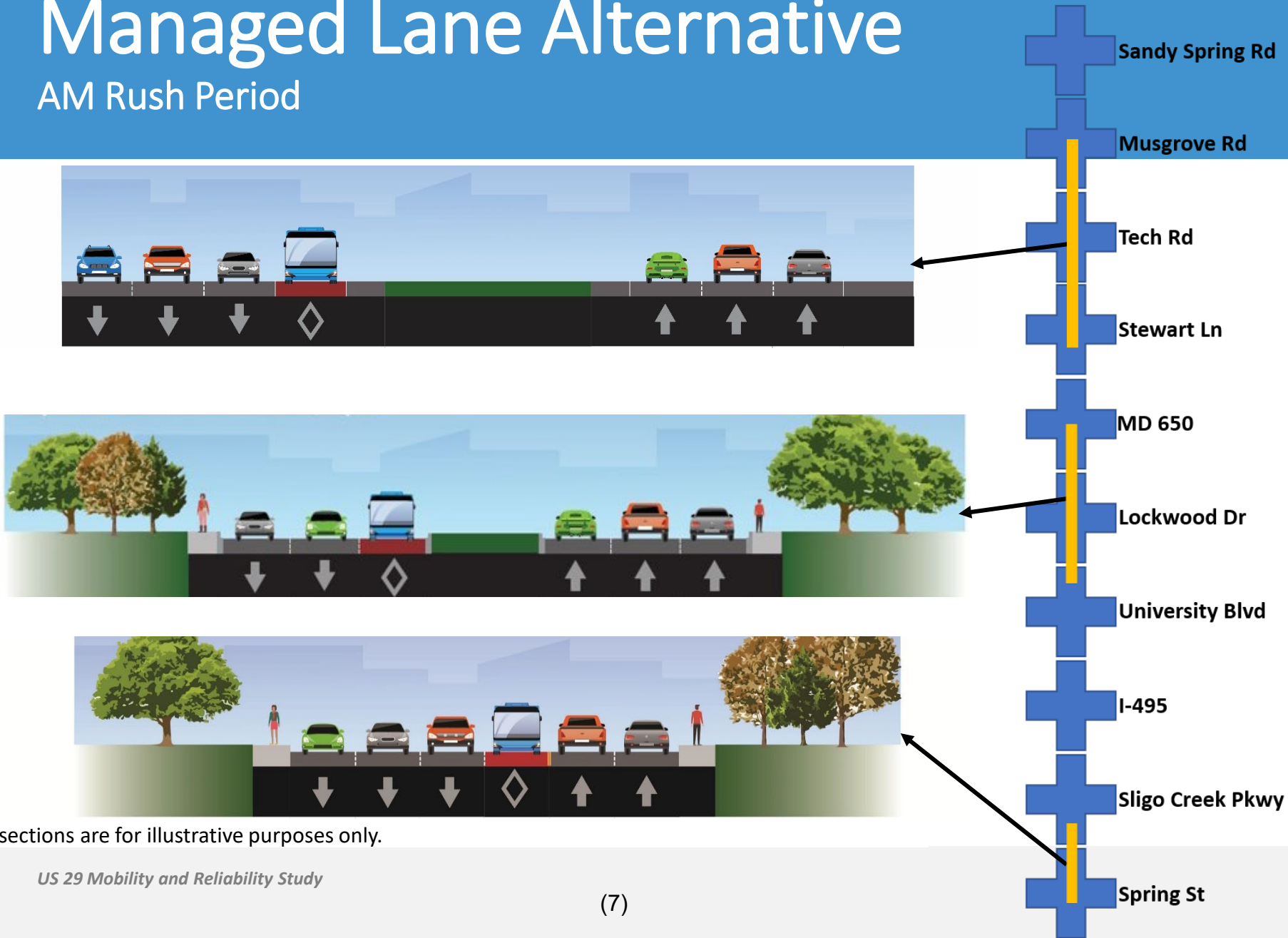
# Managed (Bus/HOV) Lane Alternative

- Managed (Bus/HOV) lane from Musgrove to Stewart, MD 650 to Southwood/Burnt Mills, and Dale Drive to Spring Street
- **Optional** inside shoulder Bus/HOV lane from Burtonsville to Musgrove
- Includes intersection improvements at Greencastle, Tech, Stewart, MD 650, I-495, and Sligo Creek Pkwy
  - May require changes to Burnt Mills and Four Corners Flash stations and traffic signal at Hillwood Drive
  - No changes to lane widths



# Managed Lane Alternative

AM Rush Period

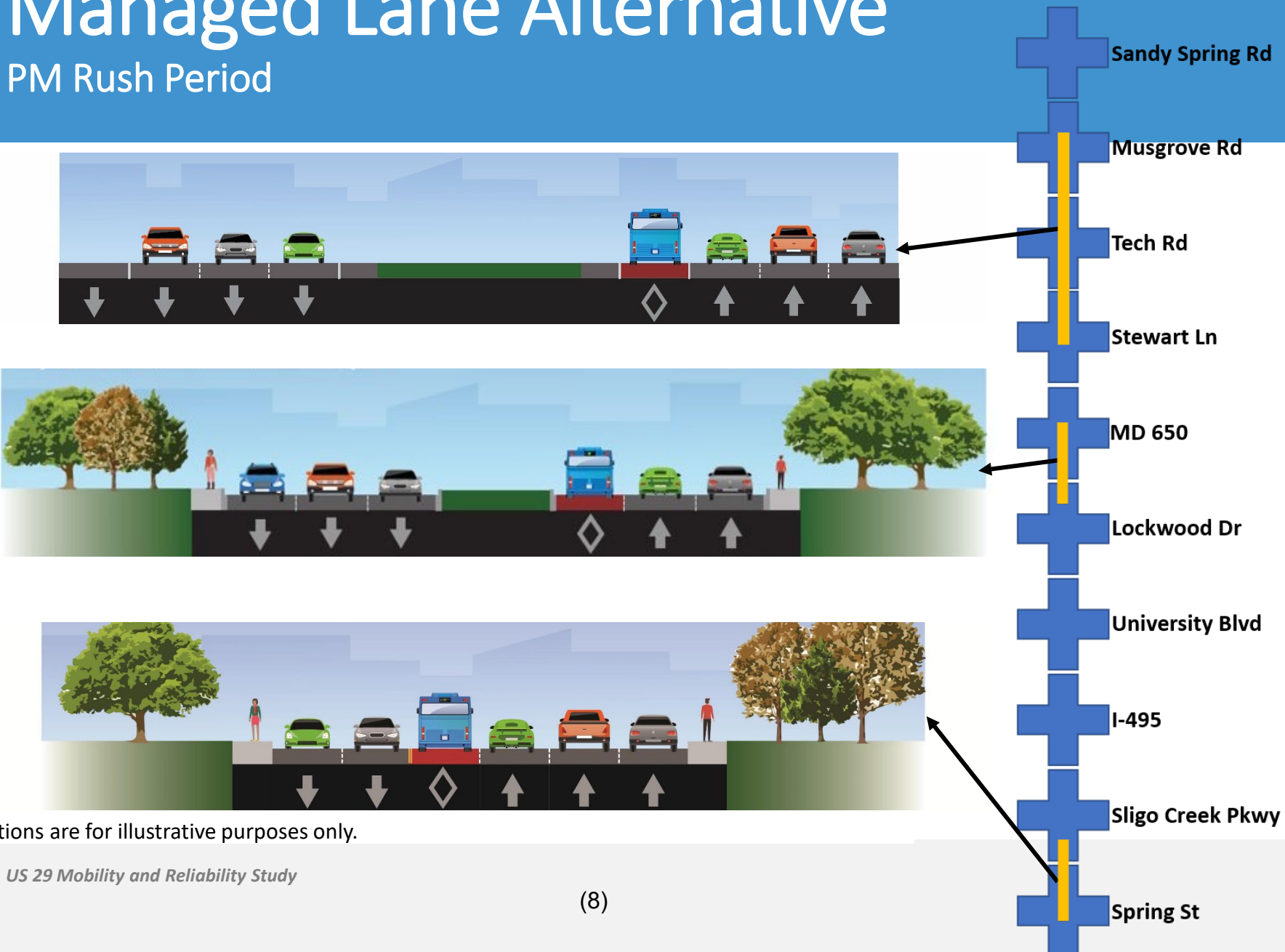


\*Cross-sections are for illustrative purposes only.



# Managed Lane Alternative

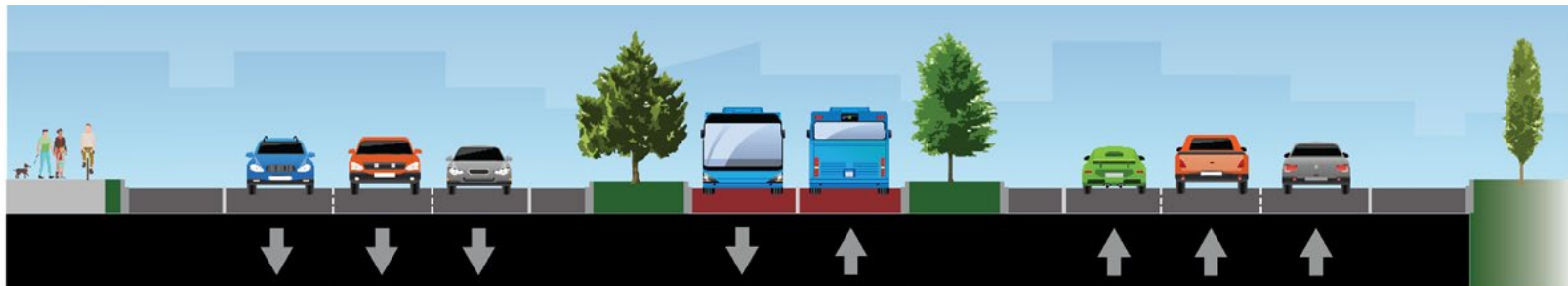
PM Rush Period



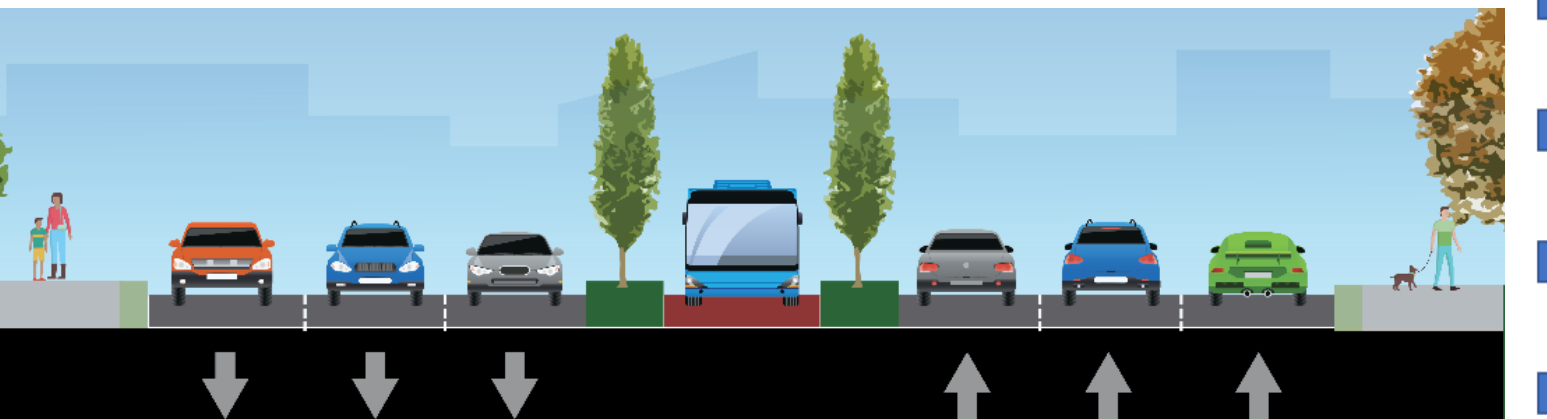
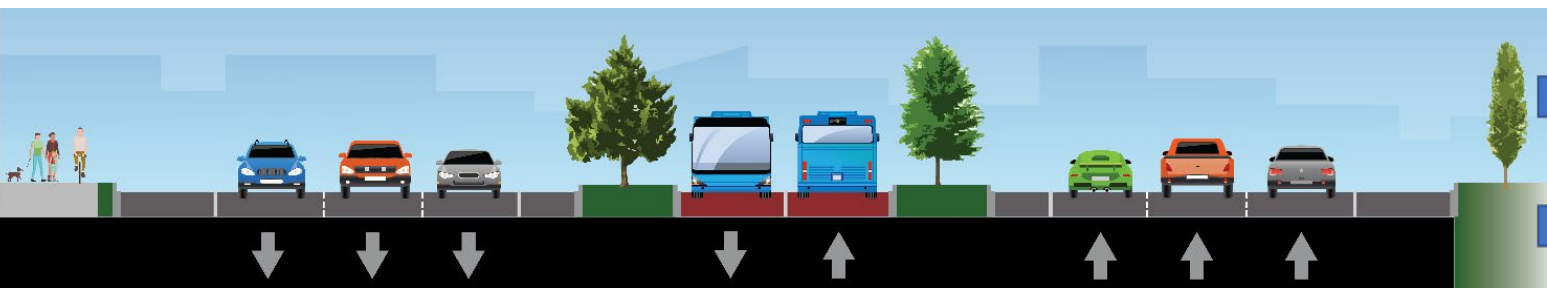
\*Cross-sections are for illustrative purposes only.

# Median Bus Lane Alternative

- Dedicated bus lane(s) from Tech Road to Silver Spring Transit Center
- **Optional** inside shoulder bus lane from Burtonsville to Tech Road could be added
- Includes intersection improvements at Greencastle and I-495
  - Would require relocation of Flash stations at Burnt Mills and Four Corners
  - Includes four (4) new traffic signals and some access restrictions
  - Does not change lane widths



# Median Bus Lane Alternative



\*Cross-sections are for illustrative purposes only.

US 29 Mobility and Reliability Study

Bus on shoulder (new lanes)

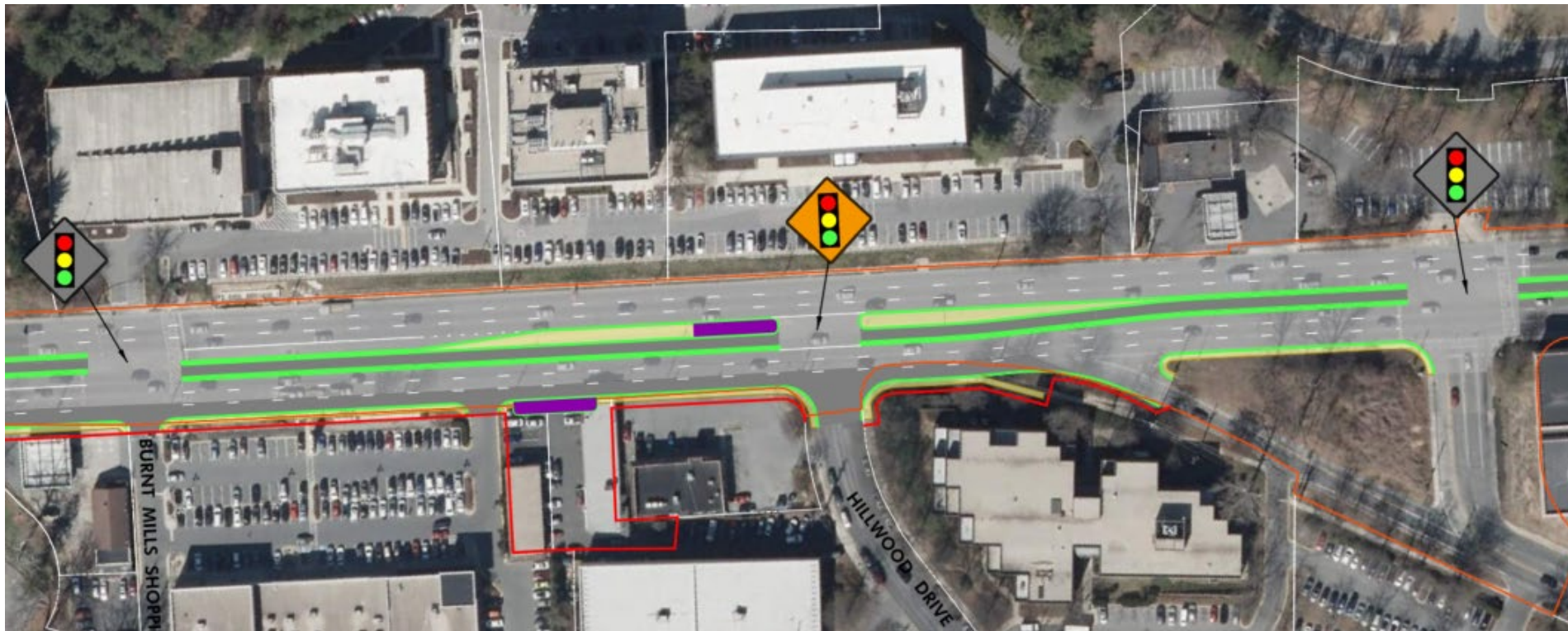
Dual median busway (new lanes)

(10)

Single median busway (new lanes)

# Burnt Mills Station Location/ Design

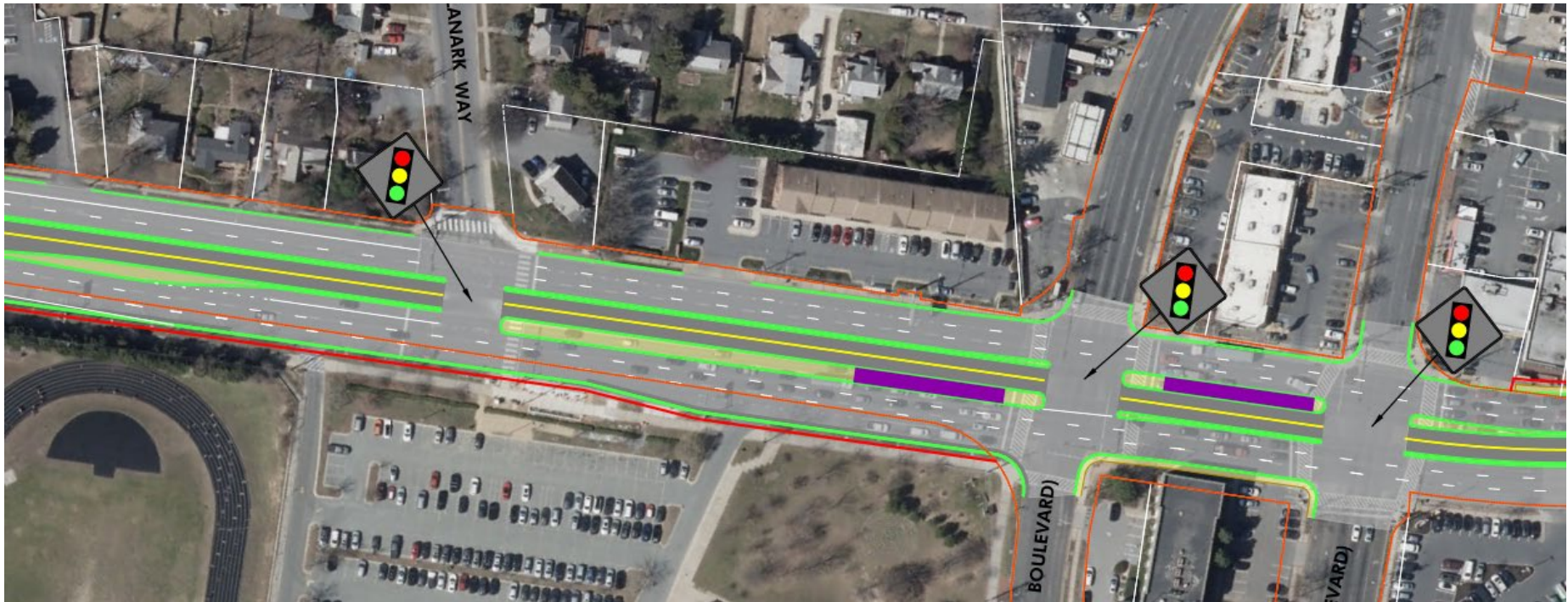
Median Bus Lane





# Four Corners Station Location/ Design

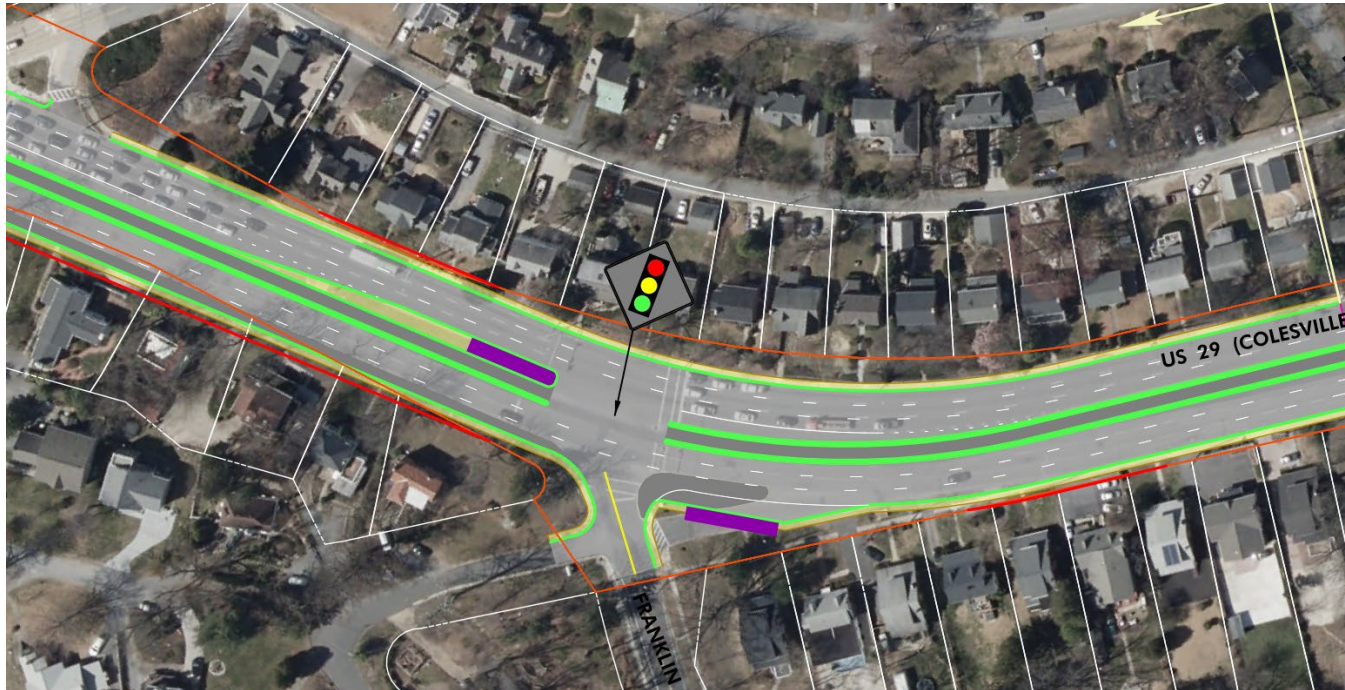
## Median Bus Lane



# Franklin Station Location/ Design

Optional for the Median Bus Lane

## Median Bus Lane



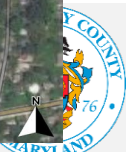
- Requested during previous community outreach
- Supported by master plans
- Permanent station locations (i.e. do not change by time of day)
- Estimated ridership – 200 daily riders
- Estimated station cost – \$4M



# Median Bus Lane Alternative: Left-turn Prohibitions



(14)























# Dedicated Bus Lanes between Sligo Creek Parkway and SSTC

- Multiple dedicated bus lane scenarios were evaluated between Sligo Creek Parkway and Silver Spring Transit Center
  - All showed potential for bus travel time savings
  - There were some questions about the impacts of northbound bus lanes during the PM peak
- The return of traffic following COVID has been inconsistent depending on the area and corridor. The model **does not** capture this.
- The Division of Traffic Engineering and Operations will be leading an effort to better assess priority bus lane concepts through lane repurposing south of Sligo Creek Parkway.

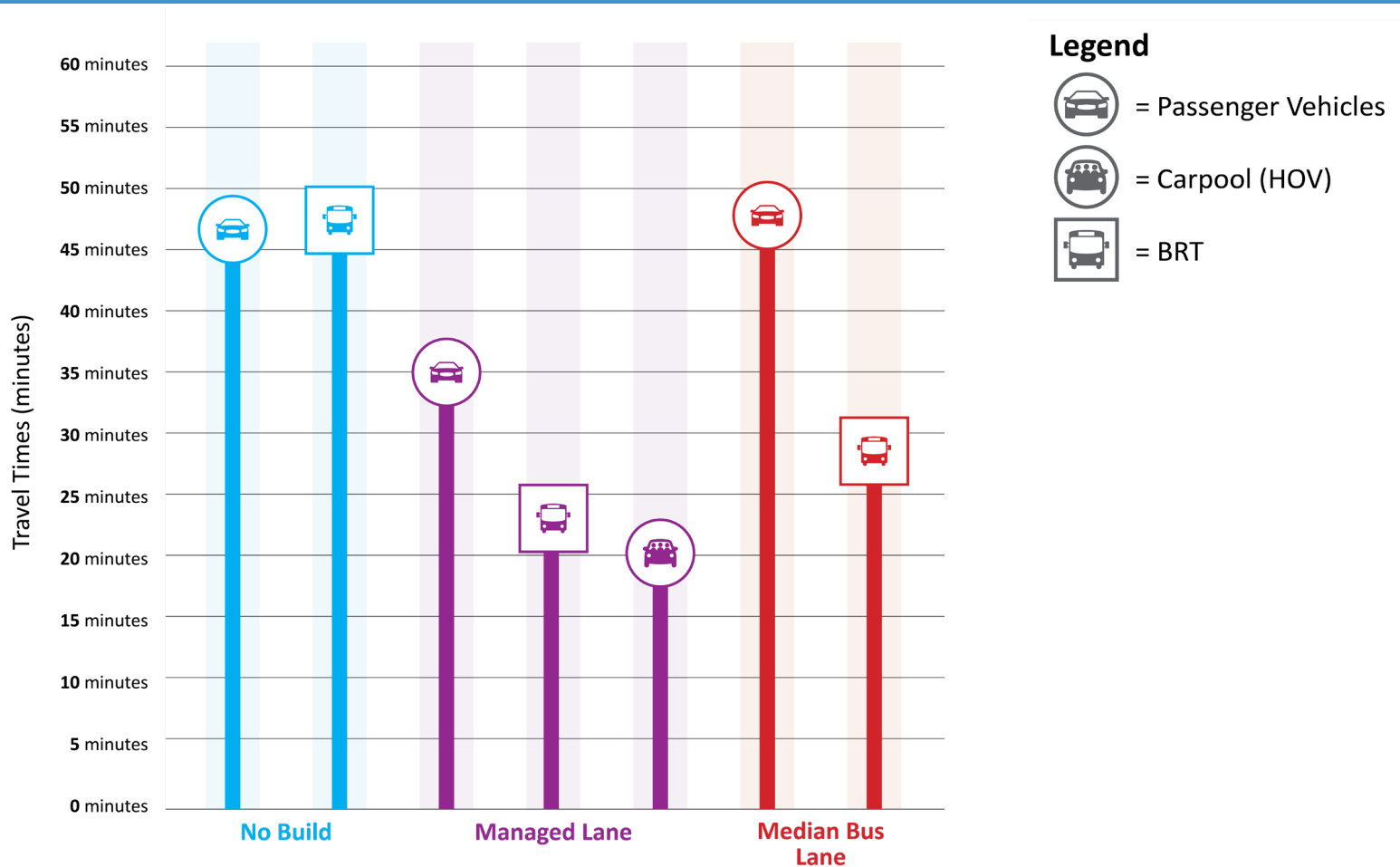


# Intersection Improvement Independent Value

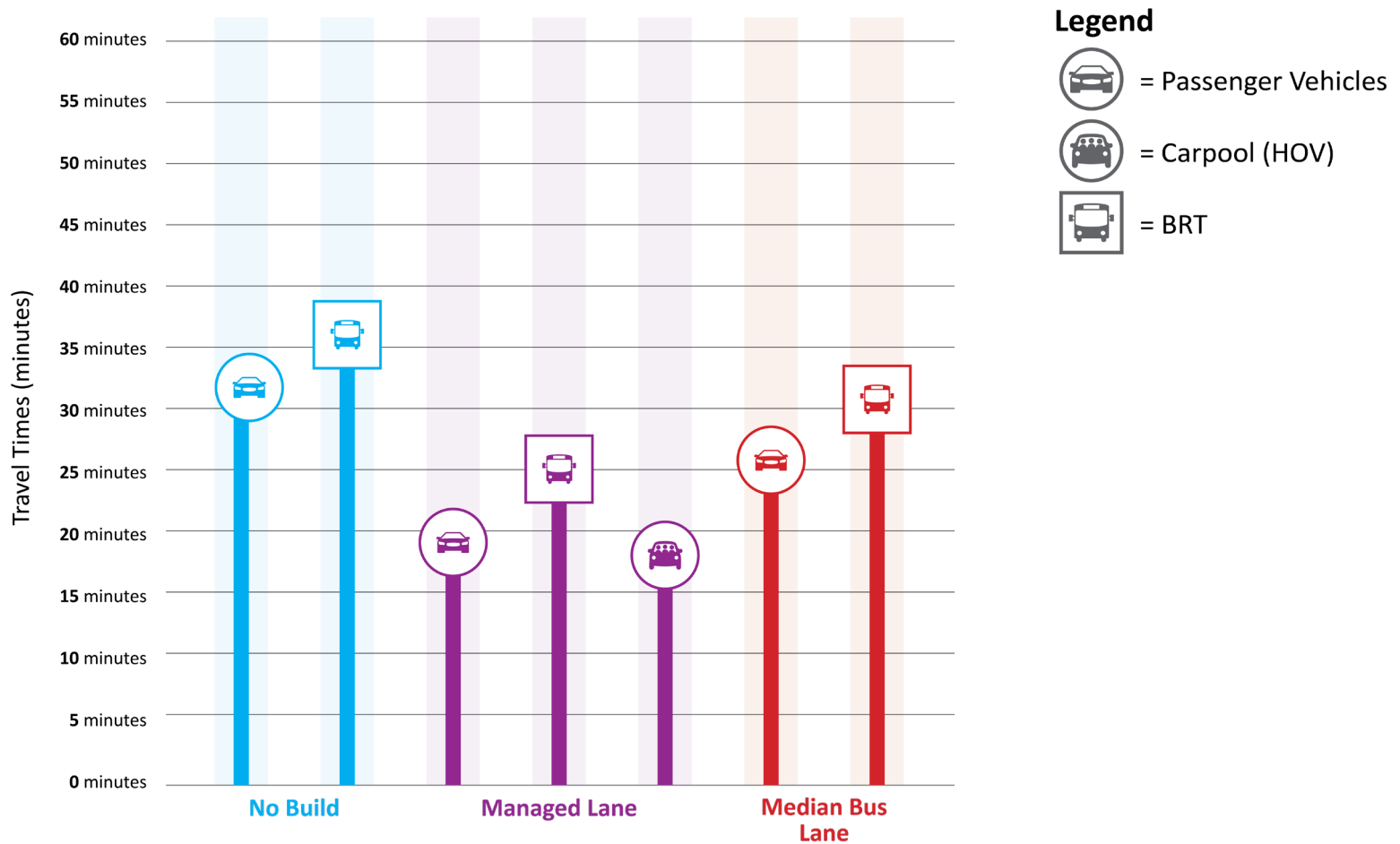
| Location            | Intersection<br>LOS Benefit  | Capacity<br>Benefit   | Travel Time<br>Benefit   | Recommend  |
|---------------------|--|---|--|--|
| Greencastle<br>Rd   |   |   |   |   |
| Tech Rd             |   |   |   |   |
| Stewart Ln*         |   |   |   |   |
| MD 650              |  |   |   |   |
| I-495               |  |   |   |   |
| Sligo Creek<br>Pkwy |  |  |  |  |

\*MDOT SHA has completed recent pedestrian and capacity improvements

# Summary of Results Travel Time - AM Southbound



# Summary of Results Travel Time - PM Northbound



# Comparison of Alternatives

|  |  | No Build   | Managed<br>(Bus/HOV) Lane<br>Alternative | Median Bus<br>Lane<br>Alternative |
|--|--|------------|--|-----------------------------------|
| Travel Time<br>(minutes)   | Single-Occupant<br>Vehicle: AM SB (PM<br>NB) | 46 (32)    | 35 (19)                                  | 47 (26)                           |
|  | HOV 2+ Vehicle: AM<br>SB (PM NB)             | n/a        | 20 (18)                                  | n/a                               |
|  | BRT: AM SB (PM NB)                           | 47 (36)    | 23 (25)                                  | 28 (31)                           |
| Number of Level of Service E/F<br>Signalized Intersections AM (PM) |  | 11 (8)     | 5 (5)                                    | 13 (11)                           |
| Person Throughput AM (PM)  |  | 3800(4250) | 4550(4650)                               | 3850(4250)                        |
| 2040 Flash Weekday Boardings*                                      |  | 8200       | 11200                                    | 11500                             |
| Right-of-Way (acres)   |  | -          | 6.9**                                    | 5.5                               |
| Cost   |  | -          | \$105 million***                         | \$128 million                     |

\* Flash April 2022 ridership – 2500 daily riders

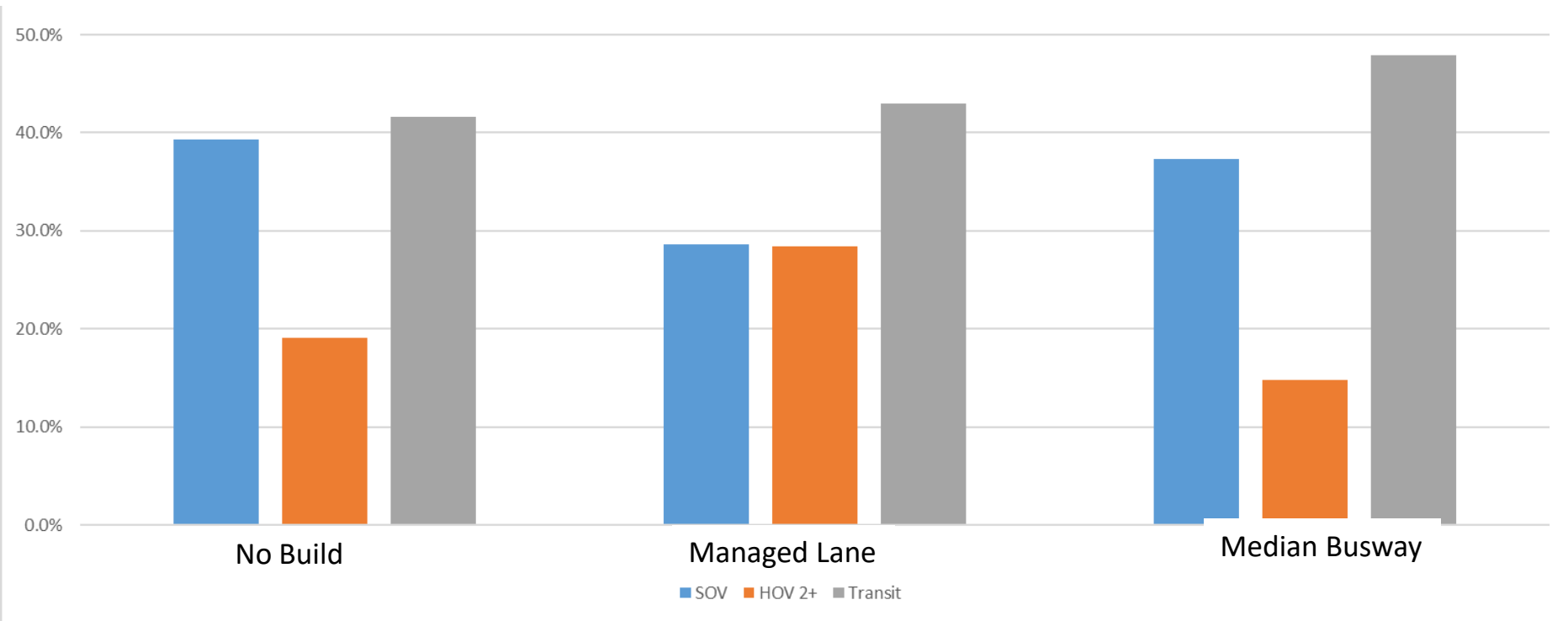
\*\* Includes right-of-way for **optional** Burnt Mills (1.5 acres) and Four Corners (1.2 acres) stations.

\*\*\* Includes costs of **optional** Burnt Mills (\$16.6M) and Four Corners (\$8.7M) stations.

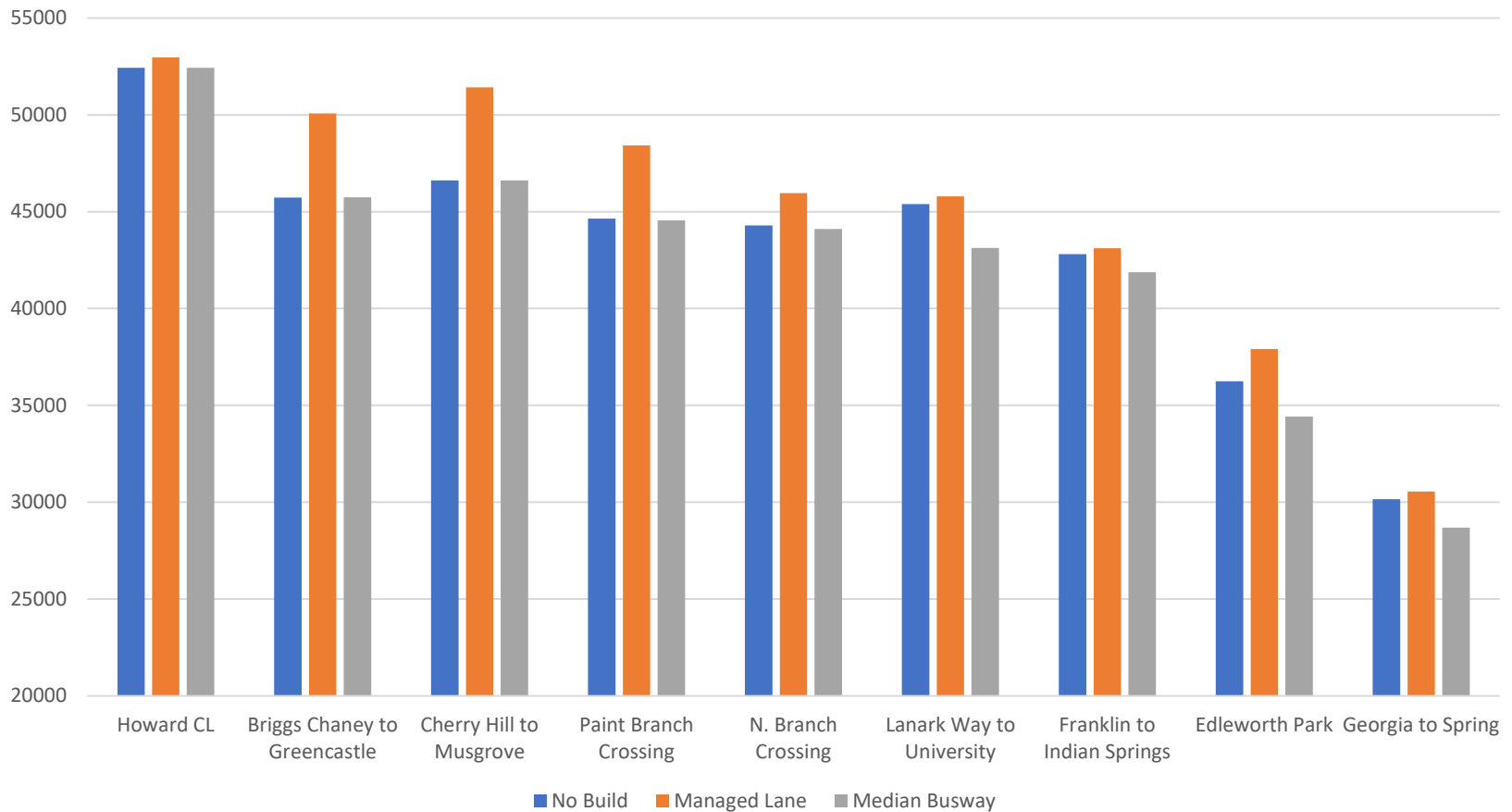


# 2040 AM SB Person Trip Mode Share

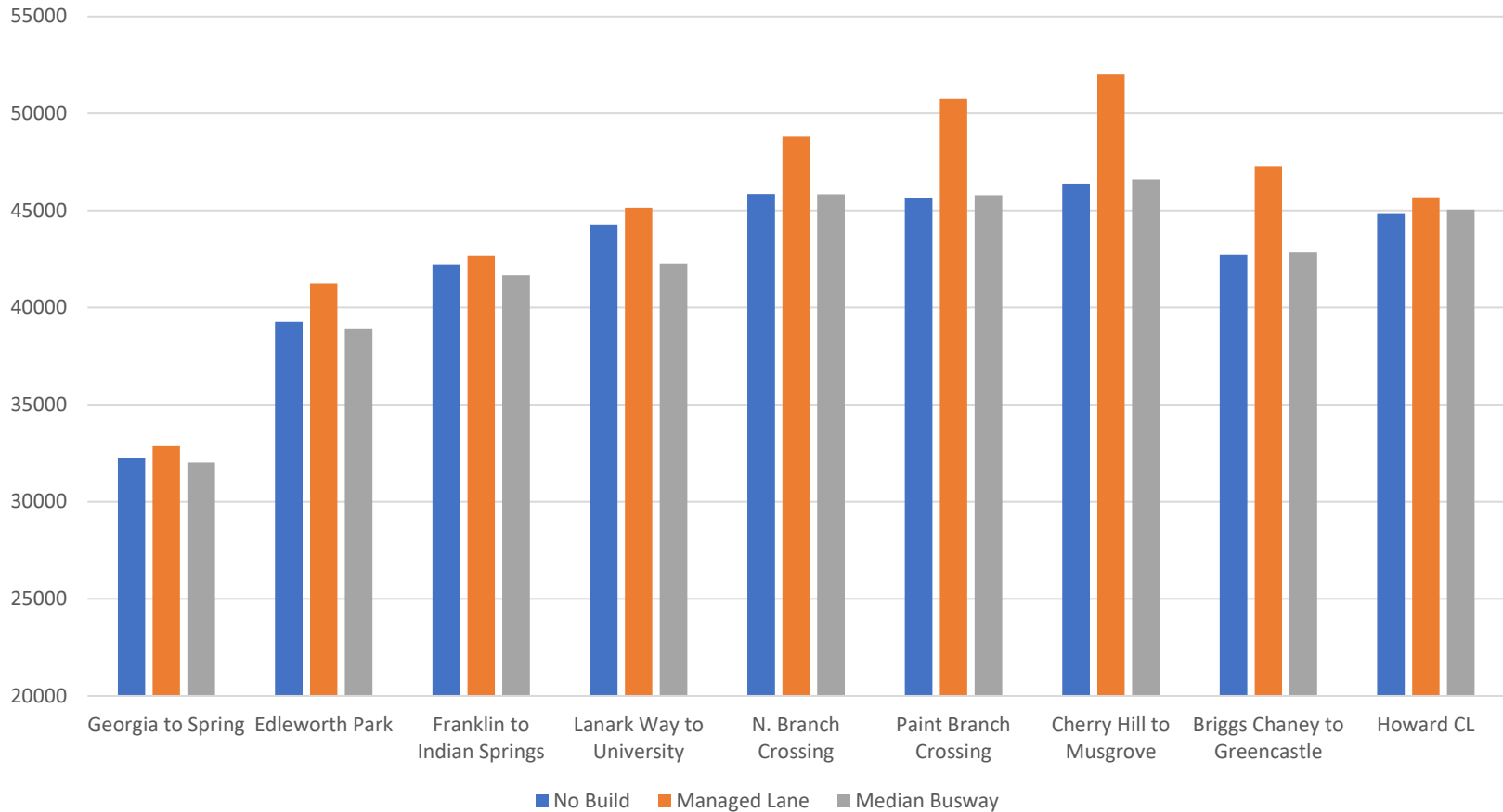
(North of Lanark Way)



# 2040 Average Weekday Volumes (Southbound)



# 2040 Average Weekday Volumes (Northbound)



# Other Considerations

- Managed Lanes
  - Could benefit other buses, if curb lane selected\*
  - Requires periodic enforcement and monitoring to ensure optimal operation
  - Improved operations reliant on carpooling. May require marketing, program support, and incentives to reach potential



Managed Lane – San Francisco, CA



# Other Considerations

- Median Lanes
  - Strong protection from unauthorized use of transit lane and from friction between lanes/turning movements
  - High level of reliability for bus service – Less impacted by congestion
  - Transitways give bus a prominent place within the streetscape
  - Consistent with master plan
  - Only benefits Flash and other express buses



Median Bus Lane – Alexandria, VA

# Agency and Stakeholder Outreach

- Agency Meeting (M-NCPPC and MDOT SHA) – October 6, 2021
- CAC Meeting – November 6, 2021
- Public Meeting – December 16, 2021
- Agency Meeting (M-NCPPC and MDOT SHA) – May 27, 2022
- CAC Meeting – June 9, 2022
- Agency Meeting (M-NCPPC and MDOT SHA) – September 6, 2022
- CAC Meeting – October 6, 2022
- Public Meeting – October 13, 2021

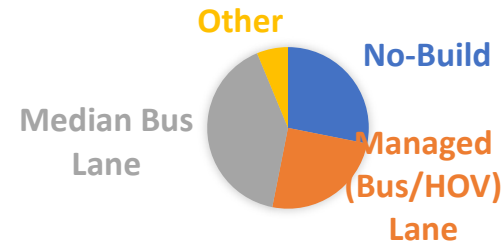
Meeting summaries, presentations, and recordings can be found on the project website (<https://www.montgomerycountymd.gov/dot-dte/projects/US29Study/index.html>).

# Results of the Survey Poll and Public Comments

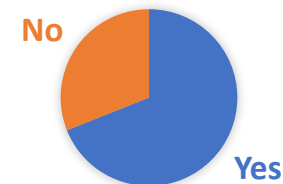
## Free Form Comments

- Concerns for pedestrian safety and traffic calming along US 29
- Concerns for worsening traffic along US 29 and neighborhood impacts
- Neighborhood access concerns related to access control

## 1. WHICH CORRIDOR ALTERNATIVE DO YOU PREFER?

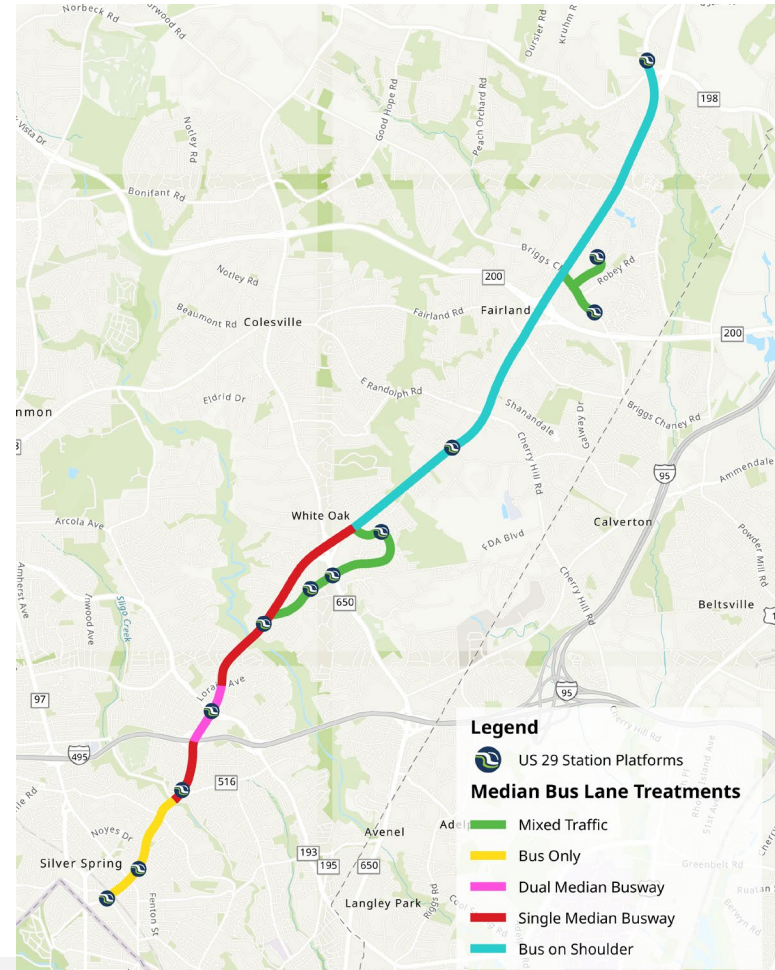
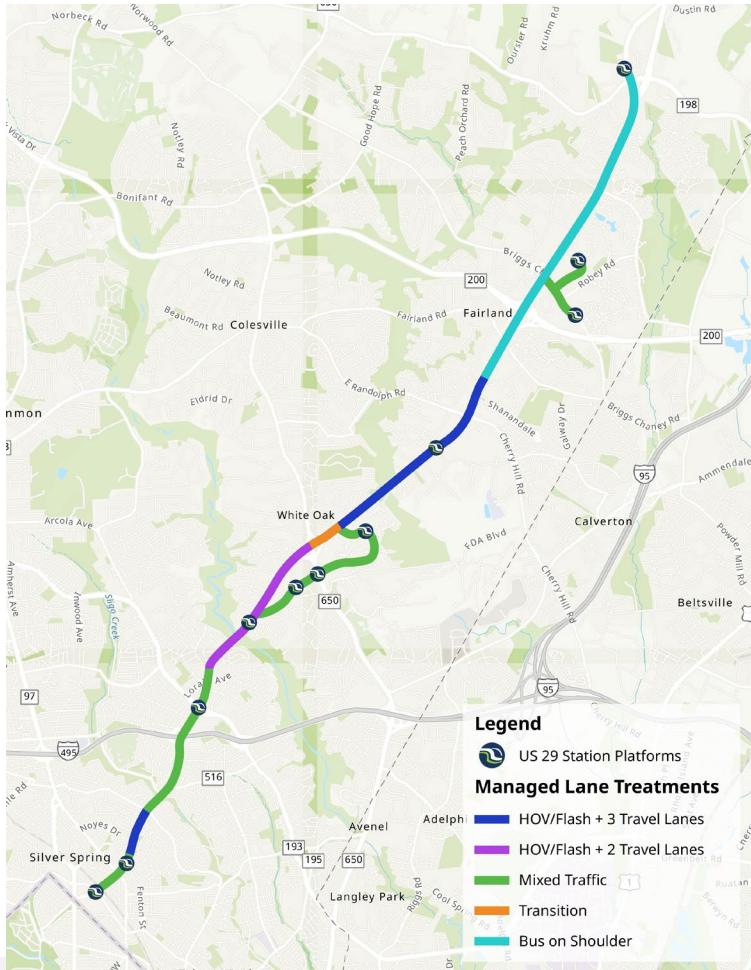


## 2. SHOULD A FLASH STATION BE ADDED AT FRANKLIN AVENUE?



# Alternatives Summary

## Transitway Type and Station Location



US 29 Mobility and Reliability Study

# Summary of Options by Segment

- North (MD 198 to Tech Road)
  - Harden shoulder to create Bus/HOV or Bus-only lane
  - Additional \$52 million
  - Limited benefit given current traffic
  - Fairland/Briggs Chaney Master Plan still underway
- Middle (Tech Road to Sligo Creek Parkway)
  - Harden shoulder and repurpose lanes to create Bus/HOV or Bus-only lane
  - Potential to add a station at Franklin Avenue
  - \$105 Million for Managed (Bus/HOV)
  - \$128 Million for Median
- South (Sligo Creek Parkway to SSTC)
  - Division of Traffic Engineering beginning study to explore pilot bus lanes south of Sligo Creek Parkway






OFFICE OF THE COUNTY EXECUTIVE

Marc Elrich  
*County Executive*

MEMORANDUM

November 15, 2022

TO: Gabe Albornoz, President  
Montgomery County Council

FROM: Marc Elrich, County Executive 

SUBJECT: Recommendation for Bus Rapid Transit: US 29 Phase 2 (CIP No. 502201)

A special appropriation to the FY23 Capital Budget and amendment to the FY23-28 Capital Improvement Program (CIP) in the amount of \$9,500,000 for the Bus Rapid Transit (BRT): US 29 Phase 2 (CIP NO. 502201) project was introduced on my behalf during the October 25, 2022, Council session. The appropriation of already programmed funds is needed to allow the project to complete preliminary engineering once the Council confirms a preferred alternative.

The US 29 Flash opened in October 2020, and, despite COVID, the reception from the community and riders has been overwhelmingly positive. Interest in seeing the transformation of the way people move as the County grows has motivated us to explore additional improvements on the corridor. The US 29 Mobility and Reliability Study sought to identify additional investment for the US 29 corridor that would complement the current US 29 Flash, improve corridor travel time and reliability, and increase pedestrian and bicycle access and safety.

As a result, I recommended, and the County Council approved, funding to advance the pedestrian and bicycle access improvements around Flash stations as part of the FY23-28 capital budget. While some access improvements were made as part of the initial US 29 Flash project, there are numerous upgrades underway to improve walking and biking to the Flash stations.

The additional study that County Council requested for a Median Bus Lane option for US 29 has concluded. I recommend that the Council approve a special funding request to advance the Median Bus Lane to the preliminary engineering milestone. While there is a cost associated with improving transit options, doing nothing is not a realistic option. We need to improve transit's

ability to support growth and renewal in East County and to become the best option for traveling on the US 29 corridor.

The No Build Alternative does not address the longer-term growth needs of the County and will not address the return of traffic congestion we are already experiencing. We are all aware that expanding roadway capacity is not just infeasible on this corridor but also not in alignment with the County's vision for how we should grow, move people, and support our climate commitments.

The Median Bus Lane will elevate public transportation in this corridor by giving the Flash and other express services a dedicated facility, separate from traffic congestion in the regular lanes. Median bus lanes will do more to allow buses to bypass the common areas of recurring congestion along US 29; they will also keep the buses isolated from congestion-creating events such as breakdowns and traffic crashes. These events can cause even greater disruption to the flow of traffic and result in travelers having to build extra time into their schedules. An on-time arrival is critical to someone trying to access a job. The median bus lane will provide improved travel time and reliability, and consistency to that travel time. This corridor has been identified as an Equity Emphasis Area by the Metropolitan Washington Council of Governments. It has been well established that shorter commute times due to faster public transit is a strong indicator of a person moving out of poverty due to improved access to opportunity.

The median bus lane will result in a better travel time for the Flash over its current situation. It will offer significant travel time savings over driving, potentially influencing car drivers to use public transit in support of the County's climate goals. This can be accomplished with no significant travel time change for drivers compared to the No Build or major widening of the corridor. I will note that if we rely on automobile travel as the primary mode on this corridor, there may be pressure to expand the road as congestion worsens over time.

The median bus lane aligns with the County's Transit Corridors Functional Master Plan, which seeks dedicated bus lanes along US 29 from MD 198 to the Silver Spring Transit Center. It also reinforces our investment and commitment to growth and renewal in East County. Advancing the median bus lane from Tech Road to Silver Spring will help link the vibrant downtown of Silver Spring to White Oak and Burtonsville – strengthening the connection so that people can access jobs in the East County from the rest of the region and allow residents of the East County improved access to jobs elsewhere. The median bus lane also has the potential to carry even more people than projected in the study. Flash service levels can be increased as ridership grows, the Flash network expands, and neighborhood connections are improved over the long-term, making it possible to carry even more passengers than the forecast based on current service levels.

I acknowledge that the Managed Lane concept studied also shows promising results through the analysis and modeling completed. This option could improve travel time for most corridor uses

and incentivize additional carpooling, reducing the number of single-occupant vehicles traveling the corridor during peak periods. However, this option also shows that the percentage of transit users in the corridor may decrease as carpoolers increase. The Managed Lane option also assumes that the questions around enforcement, shifts to carpool, and operations can be translated into actual practice. While some examples of arterial-running managed lanes can be looked at for lessons learned and best practices, there are still significant questions about the long-term viability of this option. However, this option shows the highest overall benefit for travel in this corridor by all vehicular modes. It is worthy of some consideration by the County Council on this basis.

I believe the County Council should approve the Median Bus Lane alternative and provide the appropriation needed to continue work on this corridor. This project is an exciting opportunity to spur additional employment growth in this corridor and provide more improvement to the residents already taking advantage of the US 29 Flash service. While every project has some impacts, this alternative demonstrates that we can do a lot more with only small changes to the footprint of our existing infrastructure to prioritize transit with a high level of usage.

ME:cc



November 15, 2022

The Honorable Gabe Albornoz  
President, Montgomery County Council  
Stella B. Werner Council Office Building  
100 Maryland Avenue, Room 501  
Rockville, Maryland 20850

Re: US 29 Mobility and Reliability Study, Part 2

Dear Council President Albornoz:

At its meeting on November 10, 2022, the Montgomery County Planning Board reviewed Part 2 of the US 29 Mobility and Reliability Study project. Staff highlighted the fact the build alternatives represented a value choice for decisionmakers. The Median Bus Lanes alternative will give an advantage to transit riders. The managed lane option will increase roadway capacity for transit and non-transit users. After learning that guidance from Thrive Montgomery was aligned with giving preferences for transit riders, the Board voted 3-1 (Chair Zyontz and Commissioners Branson and Hill in favor; Vice Chair Presley opposed) to forward the following recommendations to the County Council:

- 1) Advance the Median Bus Lanes alternative.
- 2) Defer a decision on the following improvements until the Fairland and Briggs Chaney Master Plan is approved by the County Council in late 2023:
  - a. Shoulder improvements on US 29 between Sandy Spring Road (MD 198) and Tech Road.
  - b. Capacity improvements at the intersection of US 29 and Greencastle Road.
- 3) Delay implementation of a second ramp lane from southbound US 29 to westbound I-495. However, if advancing a second ramp lane is deemed essential to traffic operations, this improvement must be accompanied by improvements that eliminate conflicts between motor vehicles and pedestrians/bicyclists with a pedestrian and bicyclist overpass or traffic control on the west side of US 29.
- 4) Do not construct a sidewalk on Sligo Creek Parkway at the northeast corner of the US 29 and Sligo Creek Parkway intersection as part of the US 29 Mobility and Reliability Project. Instead, consider including a sidewalk along the north side of Sligo Creek Parkway from US 29 to Worth Avenue in the US 29 Pedestrian and Bicycle Improvements program.
- 5) The proposed sidewalk relocation at Burnt Mills East Special Park will need to be reviewed in more detail by Parks staff and will be subject to issuance of a Historic Area Work Permit.

The Honorable Gabe Albornoz  
November 15, 2022  
Page Two

- 6) Any proposed work on parkland would require Concept Review and Park Construction Permit review and approval.

The majority did not recommend an additional Franklin Avenue station suggested in the Planning Staff report. The additional station would slow transit speeds, be difficult to design, add few riders, and would add some \$4 million to the cost of the project.

In opposing the majority recommendation, Vice Chair Presley supported the Managed Bus Lanes alternative with the limitations noted in points 2 through 6 above.

Thank you for your attention to this matter regarding Part 2 of the US 29 Mobility and Reliability Study project. For more detailed background, the Planning Staff memorandum provide to the Board is attached. If you have any questions or comments concerning our review, please contact David Anspacher at 301-495-2191.

Sincerely,



Jeff Zyontz  
Chair

JZ:DA:aj

Attachment: Montgomery Planning Staff Report

cc: Corey Pitts, MCDOT  
Joanna Conklin, MCDGS  
Daniel Sheridan, MCDOT  
Christopher Conklin, MCDOT  
Tanya Stern, Montgomery Planning  
Jason Sartori, Montgomery Planning  
David Anspacher, Montgomery Planning  
Glenn Orlin, Montgomery County Council



## East County Citizens Advisory Board

November 22, 2022

Mr. Marc Elrich  
County Executive, Montgomery County Maryland  
101 Monroe Street, Second Floor, Rockville, MD 20850

**Subject: US 29 Bus Rapid Transit Mobility and Reliability Study**

Dear Mr. Elrich,

On behalf of the East County Citizens Advisory Board (ECCAB), we would like to provide feedback and recommendations to you and the County Council, on the **US 29 Bus Rapid Transit Mobility and Reliability Study**, which the County Council's T&E committee is scheduled to discuss and possibly take action on before the end of this month (Nov 28).

I would like to thank you and the County Council for persistent leadership and support of making our transportation network safer, more efficient, and more equitable. We appreciate your support in particular of advancing long-awaited transit projects in East County, such as the BRT routes on US 29 (in operation) and New Hampshire Avenue (in design).

Our Board supports the Median Bus Lane alternative because; it provides *Consistency with General Plan, Addressing Historical Inequities, and Provides Transit Reliability*. Based upon our review of the three alternatives: the No-Build Alternative, the Managed Lane Alternative, and the Median Bus Lane Alternative, the East County Citizens Advisory Board recommends the Median Bus Lane Alternative over the Managed Lane Alternative.

As described in the addendum to this letter,

- the Median Bus Lane Alternative is preferred because it is more aligned with the policy objectives of Thrive 2050,
- provides superior transit reliability,
- better addresses historical inequities in East County, and
- is better suited to the unique geometry and demographics of the US 29 corridor.

Our recommendations are consistent with letters submitted by the ECCAB in previous years as well as the analysis performed by staff at the Montgomery County Planning Department. The Planning Board voted unanimously on November 10, 2022 to recommend the Median Bus Lane over the Managed Lane Alternative, for many of the same reasons outlined in this letter.

We thank you again for your thoughtful consideration of the Board's comments regarding the US 29 Mobility & Reliability Study.

Sincerely,

A handwritten signature in black ink, appearing to read "P. Myo Khin". The signature is fluid and cursive, with a horizontal line underlining the name.

Peter Myo Khin  
Chair, East County Citizens Advisory Board

cc:

County Council President, Gabe Albornoz  
Tom Hucker, County Council T&E Committee Chair  
Jewru Bandeh, Director, East County Regional Office  
Christopher Conklin, Director MCDOT

Attachment: Addendum to letter

## Addendum

### US 29 Bus Rapid Transit Mobility and Reliability Study

The East County Citizens Advisory Board (Board) provides this addendum as attachment to the letter sent to Montgomery County, County Executive Marc Elrich regarding the **US 29 Bus Rapid Transit Mobility and Reliability Study**.

**The Board supports the Median Bus Lane alternative.** This recommendation is consistent with previous ECCAB letters of support for dedicated bus lanes along US 29 for several years. Among other benefits, the managed lane option is **A)** more consistent with the County’s general plan, **B)** addresses long-standing transportation inequities in East County, and **C)** offers the most reliability for transit riders. Furthermore, the Median Bus Lane alternative is better suited to the unique geometry and demographics of the US 29 corridor, for reasons explained in this letter (items **D, E, F, G, H**).

The ECCAB received a presentation from MCDOT at our November 2, 2022 Board meeting reviewing the results of the study. The study was further discussed at the ECCAB’s Planning & Economic Development (PED) Committee on November 7, 2022. A summary of our findings is provided below.

#### **A) Consistency with General Plan**

Of the two options evaluated by MCDOT, the Median Bus Lane alternative is most consistent with Thrive Montgomery 2050. In particular, Montgomery County’s new general plan has an explicit policy goal of improving our public transit system to make it “the fastest, most convenient and most reliable way to travel”. While both alternatives are anticipated to provide travel time savings for transit riders, only the Median Bus Lane option is designed to primarily benefit transit riders.

The Managed Bus Lane Alternative is specifically designed to incentivize automobile travel: while it is true that incentivizing carpoolers is consistent with the general plan’s goals for reducing vehicle miles traveled (VMT) per capita and non-auto driver mode share, it should be noted that the Managed Lane Alternative also reduces travel times for drivers of single-occupancy vehicles, which conflicts with Thrive’s goal to “improve travel times and travel costs of transit services to achieve greater parity with automotive travel”.

It is worth noting that the Glossary of Thrive 2050 defines BRT as a system where buses “operate in dedicated lanes, either physically or through signing and marking, *distinct from general purpose lanes used by automobiles*”, and the new general plan makes no implied or explicit references to managed lanes, carpooling, or HOV lanes.

The County Council voted unanimously to approve Thrive 2050 less than a month ago. The new general plan repeatedly emphasizes the importance of dedicated bus lanes and improving transit to make it competitive with driving. Only the Median Bus Lane option advances these goals.

## **B) Addressing Historical Inequities**

The 1981 Eastern Montgomery County Plan master plan allowed for thousands of apartments and townhouses to be built in White Oak and Briggs Chaney in anticipation of a rapid transit line along US 29. One of the underlying concepts of the 1981 Plan was “transit serviceability,” wherein high-density communities would be provided with fast, high-quality, and reliable transit, to provide alternatives to driving. When the Fairland Master Plan was revised in 1997, the concept of “transit serviceability” was removed altogether, deprioritizing the plans to expand transit even for the development that had already occurred, let alone what was to come.

As noted in Thrive 2050, the decision in previous general plans to remove Route 29 as a growth corridor “contributed to effectively directing new public and private investment away from the East County and toward the established Urban Ring and I-270 corridor”. The new general plan states that re-establishing Route 29 as a growth corridor “is vital to reversing decades of no growth and ensuring that the benefits of growth are more equitably distributed across lines of geography, class, and race.”

The two alternatives MCDOT offers are fundamentally different in how they would affect land-use and traffic patterns in East County for years to come. The Managed Lane Alternative would expand the automobile capacity along US 29, leading to more vehicle traffic along the corridor which is already experiencing some of the worst congestion and automobile dependency in the county. As noted in the Planning Staff report, “the Median Bus Lanes Alternative best addresses historical injustices that have resulted in the heaviest traffic volumes in census tracts that Montgomery County defines as Equity Focus Areas”.

The Median Bus Lane Alternative on the other hand, would fulfill a decades-long promise of providing a high-quality transit system. A median bus lane would make the transitway a permanent and prominent element of the corridor, thereby encouraging more compact and walkable transit-oriented development, which in turn creates more favorable conditions for building safer and more cohesive communities, promoting economic growth, and addressing the historic lack of transportation investments in East County.

## **C) Transit Reliability**

As acknowledged by MCDOT, the Median Bus Lane alternative provides the highest level of reliability for transit riders, because the BRT network would be completely separated from general traffic from White Oak into downtown Silver Spring.

In the Managed Lane Alternative, buses must share the lane with automobile traffic and local buses throughout most of the corridor. Notably, the Managed Lane Alternative does not provide any bus priority from Southwood Avenue to Dale Drive, forcing buses to operate in mixed traffic along some of the most congested portions of the corridor.

Transit service in the Managed Lane Alternative will not be consistently reliable because the BRT vehicles would operate in the same lanes as automobiles. In this alternative, any slowdown on Route 29 due to a disabled vehicle, police traffic stop, collision, or lane closure would severely impact the performance of all road users, resulting in unacceptable delays for the transit

service. Additionally, the Managed Lane Alternative offers less protection from unauthorized use of the transit lane, further reducing the potential reliability of transit service (see **Item D** below).

One of the benefits of the Managed Lane Alternative is that local buses could use the HOV/bus lane for travel time savings. However, having local buses stop along a dedicated transitway could result in delays for the BRT service, as the local buses take longer to board.

In order for transit to be truly competitive with driving, it must be consistently reliable, regardless of general traffic conditions. Only the Median Bus Lane Alternative provides this level of reliability, because it provides bus-only lanes along the entire US 29 corridor.

#### **D) Considerations regarding Managed Lane Enforcement on US 29**

Although MCDOT's traffic model was based on the assumption that all drivers follow traffic laws, the study team acknowledged that compliance with the HOV restrictions for the Managed Lane Alternative would be challenging, particularly because the restrictions would be in place only during rush hour. There is a concern that drivers of single occupancy vehicles could improperly enter the managed lanes due to confusion, distracted driving, unfamiliarity with the traffic patterns, or a deliberate intention of using the lanes to get around congestion.

The MCDOT study notes that periodic enforcement and monitoring is required to ensure optimal operation of the managed lanes. However, the MCDOT study makes no mention of the potential capital or operating costs required to implement this enforcement.

While automated enforcement of HOV lanes is available and has been used in other jurisdictions, there is no precedent in Montgomery County. Implementing an automated enforcement system would require significant additional capital and recurring operating costs, which were not accounted for in the study. Automated enforcement would also require amending state law.

The other enforcement option is traffic stops, which raises concerns about officer safety, community-police relations, and racial equity. Routine traffic stops will increase the frequency of interactions between the public and law enforcement, which are of particular concern given the racial demographics of East County. Given the current limitations on patrol officer availability, heightened awareness of the impact of police interactions on communities of color, and evolving views on the roles and responsibilities of law enforcement, **a transit system that relies on regular police enforcement to function correctly is not a sustainable long-term solution.** It is also unclear how traffic stops would impact congestion and transit reliability, given that there are limited areas along US 29 to pull over without blocking a travel lane.

It should also be noted that the examples given by MCDOT of an arterial road (i.e., not a controlled access highway) with similar rush-hour lane restrictions face recurring issues with enforcement and compliance. The nearest example of an HOV lane on an arterial road is US Route 1 in Alexandria, Virginia (Figure 1, below), which MCDOT has acknowledged publicly does not function optimally and has persistent challenges due to unauthorized use.

The Median Bus Lane alternative, on the other hand, would not face these concerns, as the bus lanes are physically separated from other road users, practically eliminating





**Figure 1. Example of HOV lane on an arterial road. Route 1 in Alexandria, VA.**  
Note the “LEFT LANE HOV 2+ ONLY 3PM - 7PM MON-FRI” sign next to the traffic signal.

### **E) Reduction of Lanes in Burnt Mills**

Between New Hampshire Avenue (MD 650) and Southwood Avenue, the Managed Lane Alternative will repurpose three general purpose lanes to two GP lanes plus one HOV/bus lane in the peak hour direction (Figures 2 and 3). While MCDOT’s traffic models predict that this modification will result in less congestion, one can also anticipate that reducing the number of lanes available to drivers in this congested segment of US 29 would create some level of disruption and confusion. We urge the County Council to carefully consider how this change would be perceived and experienced by the people that live in and commute through this area.

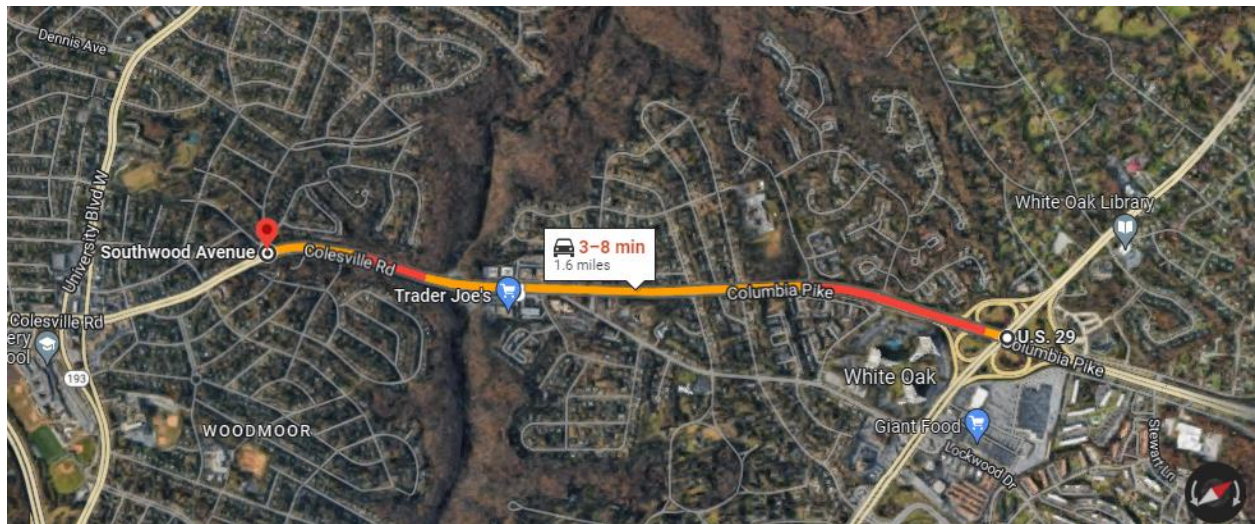




Figure 2. Segment of Managed Lane Alternative without bus lanes.

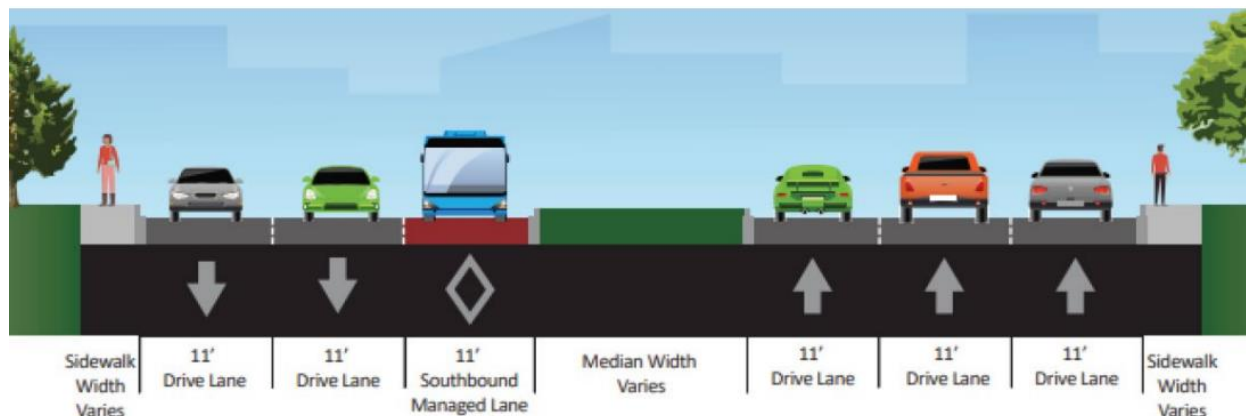


Figure 1. Managed Lane Alternative Cross Section, from New Hampshire Ave (MD 650) to Southwood Avenue (AM Peak Period).

### F) Demographics of US 29 Corridor

One of the benefits of the Managed Lane Alternative is that it would reduce travel times for drivers. The ECCAB would like to take this opportunity to point out that approximately half of households on the US 29 Flash corridor live in car-free or car-lite households. According to MCDOT<sup>1</sup> 12% percent of households do not have access to a car, and an additional 38% of households on the corridor only have access to one car. While incentivizing carpooling is a worthy objective for any transportation project, it makes more sense to prioritize investments in transit reliability, given the lower-than-average rates of car ownership in East County.

### G) Emergency Vehicle Response Time

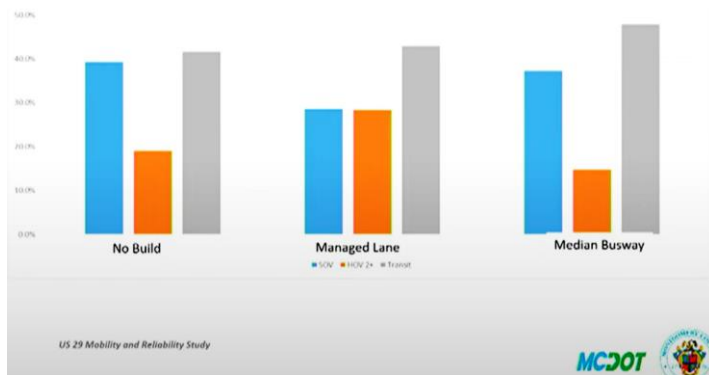
US 29 is heavily congested during rush hour, impairing the ability of emergency services to travel along the corridor. The Median Bus Lane Alternative provides more reliability for emergency responders, as the bus lane could be used by fire trucks, ambulances, and police cruisers if the automobile lanes are congested. In the Managed Lane Alternative, emergency vehicles would have to travel in the same lanes as general traffic, which could result in delayed response times if the HOV lanes are congested.

### H) Viability of Carpool Assumptions

The mode share assumptions used by MCDOT for the traffic modeling were considered by some board members to be overly optimistic. According to MCDOT, 15% (one out of seven) of current US 29 rush hour commuters are carpoolers, and adding an HOV priority lane would encourage more people to switch from driving alone to carpooling. MCDOT's study suggests that implementing the Managed Lane Alternative would result in an equal mode share for single-occupancy vehicles and HOV commuters, meaning that there would be approximately one carpooler for every solo driver on US 29 (Figure 4).

<sup>1</sup> Source of data: "Montgomery County US-29 BRT TIGER Discretionary Grant Application". MCDOT, 2016. page 6. [https://www.montgomerycountymd.gov/brr/Resources/Files/narrative\\_US29\\_TIGER\\_final.pdf](https://www.montgomerycountymd.gov/brr/Resources/Files/narrative_US29_TIGER_final.pdf)

The success of the Managed Lane Alternative relies on these carpool mode share assumptions, which may or may not come to fruition. For reference, MWCOG’s 2019 State of the Commute Survey Report indicates a 3% carpool mode share on US 29. If the carpooling mode share is less than what was assumed in the study, the automobile travel time savings for the Managed Lane Alternative will be less than predicted by the MCDOT model.



**Figure 4. Estimated Mode Share.**

Source: MCDOT presentation to Montgomery County Planning Board, 11/10/2022.

Left: No Build Alternative  
 Middle: Managed Lane Alternative  
 Right: Median Bus Lane Alternative

- Blue: percent of road users in single occupancy vehicles
- Orange: percent of road users in high occupancy vehicles (HOV 2+)
- Gray: percent of road users on transit

## Conclusions

Based upon our review of the two alternatives, the East County Citizens Advisory Board recommends the Median Bus Lane Alternative over the Managed Lane Alternative.

As described in this letter, the Median Bus Lane Alternative is preferred because it is more aligned with the policy objectives of Thrive 2050, provides superior transit reliability, better addresses historical inequities in East County, and is better suited to the unique geometry and demographics of the US 29 corridor.

Our recommendations are consistent with letters submitted by the ECCAB in previous years as well as the analysis performed by staff at the Montgomery County Planning Department<sup>2</sup>. The Planning Board voted unanimously on November 10, 2022 to recommend the Median Bus Lane over the Managed Lane Alternative, for many of the same reasons outlined in this letter.

We thank you again for your thoughtful consideration of the Board’s comments regarding the US 29 Mobility & Reliability Study.

<sup>2</sup> Montgomery County Planning Department Staff Report. “US 29 Mobility and Reliability Study, Part 2 Alternatives Selection” November 3, 2022. Available online at [https://montgomeryplanningboard.org/wp-content/uploads/2022/10/US-29-BRT-Alternatives-Staff-Report-2022-11-02\\_Final\\_Rev.pdf](https://montgomeryplanningboard.org/wp-content/uploads/2022/10/US-29-BRT-Alternatives-Staff-Report-2022-11-02_Final_Rev.pdf)

**Orlin, Glenn**

---

**From:** djwilhelm@verizon.net  
**Sent:** Sunday, November 20, 2022 4:21 PM  
**To:** Glass's Office, Councilmember; Riemer's Office, Councilmember; Hucker's Office, Councilmember  
**Cc:** Orlin, Glenn  
**Subject:** US 29 Reliability Study

[EXTERNAL EMAIL]

**Greater Colesville Citizens Association**

PO Box 4087  
Colesville, MD.20914  
November 20, 2022

Montgomery County Council  
Attn T&E Committee, Tom Hucker, Chair  
100 Maryland Ave  
Rockville, MD 20850

Re: US 29 Reliability Study

Dear T&E Committee Member:

The Greater Colesville Citizens Association (GCCA) has been actively involved with BRT for more than a decade and wishes to provide comments related to the latest MC DOT Study for improving the reliability of BRT on US29.

1. GCCA agrees with Planning staff and Board that the Median Bus Lane Alternative should be advanced. The following were considered in making this recommendation.
  - a. It provides one or two dedicated BRT lanes from Sligo Creek Pkwy to Tech Road, the northern limit of the study. In theory the outside shoulder already provides a dedicated lane to Burtonsville. By comparison, the Managed Lane Alternative fails to provide any dedicated lanes in Four Corners and only about half in the most congested section between University Blvd and MD.650.
  - b. The Median Alternative provides higher on-time reliability.
  - c. It meets the policy objective of providing high quality transit service along growth corridors and in activity centers as identified in the Thrive General Plan.
  - d. It is in line with the Climate Action Plan of reducing vehicle miles driven and increasing the use of transit.
  - e. The Managed Lane Alternative assumes a massive increase in carpooling – 15%. A MWCOG's 2019 State of the Commute Survey Report indicates a 3% carpool mode share on US 29. We think that going from 3% to 18% is not realistic. This assumption allows passenger vehicle travel time to be shorter with the Managed Lane Alternative. Also, the study is based upon pre-pandemic conditions. We do not believe that there will be many additional carpools in a post-pandemic environment, maybe even less, since many more people are working from home, at least part of the work week. Another reason the carpool assumption is not realistic is that, according to MCDOT<sup>[1]</sup>, 12% percent of households in the White Oak/Briggs Chaney area do not have access to a car, and an additional 38% of households on the corridor only have access to one car. Finally, looking to the future once the full BRT service has been implemented and integrated with local bus, we think people would prefer transit service over carpooling. Thus, we do not believe there will be a travel savings for passenger vehicles with the Managed Lane Alternative compared with the Median Alternative.

- f. We believe that taking one of the three travel lanes for the Managed Lane Alternative will severely impact passenger vehicle travel and that the result would be increased cut-thru traffic in neighborhoods, which we want to avoid.
  - g. The study team acknowledged that compliance with the HOV restrictions for the Managed Lane Alternative would be challenging, particularly because the restrictions would be in place only during rush hour. Thus, periodic enforcement and monitoring would be required, at an additional cost.
2. GCCA supports allowing other express buses to use the dedicated BRT lane but buses that have frequent stops should continue to use the outside shoulder so they do not delay the BRT vehicles.
  3. GCCA does not support a BRT station at Franklin Ave because the ridership will be low and thus does not justify one. The surrounding area is all single-family housing. Good local bus service should be used to service that area. If future data and studies indicate a BRT station is needed, it can always be added without the need to change the proposed design.
  4. GCCA opposes a second ramp lane from southbound US29 to westbound I-495. At peak times, both I-495 and US29 operate in a stop-and-go manner, and adding another lane will not provide any improvement in traffic operation since it will just add more space for stop- and-go traffic. Adding it will be a waste of limited funds.
  5. GCCA does not support making the proposed intersection improvements as part of the BRT effort, but rather as separate efforts. Improvements are needed at Greencastle. GCCA also does not support adding a third southbound lane on the bridge over MD 650 for the reasons reached in 1997. The volume of vehicles exiting onto southbound US29 from southbound MD 650 is around 30% of the total US29 volume and adding another lane will not allow safe merging of such a large amount of traffic.
  6. In addition to making the changes identified above, additional improvements are needed in East Montgomery County to fully achieve the vision, including the following:
    - BRT on New Hampshire Ave with a stop at FDA and direct connection through the existing development to the US29 BRT at the White Oak Transit Center
    - BRT on Randolph Rd, with transfers at Tech Rd to US29 BRT.
    - New road from Viva White Oak across Paint Branch to the White Oak Rec Center. This would replace the widening of Old Columbia Pike and Bridge Replacement over the Paint Branch.
    - Reroute US29 BRT (Orange route), Randolph Rd BRT and New Hampshire Ave through the Life Science Activity Center and White Oak Activity Center from Tech Rd to FDA using the above new bridge. Viva White Oak will add a huge amount of housing and commercial development in this area. It will also connect to other major destinations including White Oak Medical Center, Montgomery College and existing/planned housing and commercial development.
    - Reimaging and optimizing of the local bus to connect people from homes and business to BRT stations, including circulators. Existing service needs to be expanded. This is required to provide service to equity focus areas.
    - Improved sidewalks to support pedestrian and bikes/scooters in and around the BRT stations in the activity centers.

Sincerely,

Daniel L. Wilhelm, President

# NORTHWOOD-FOUR CORNERS CIVIC ASSOCIATION



November 14, 2022

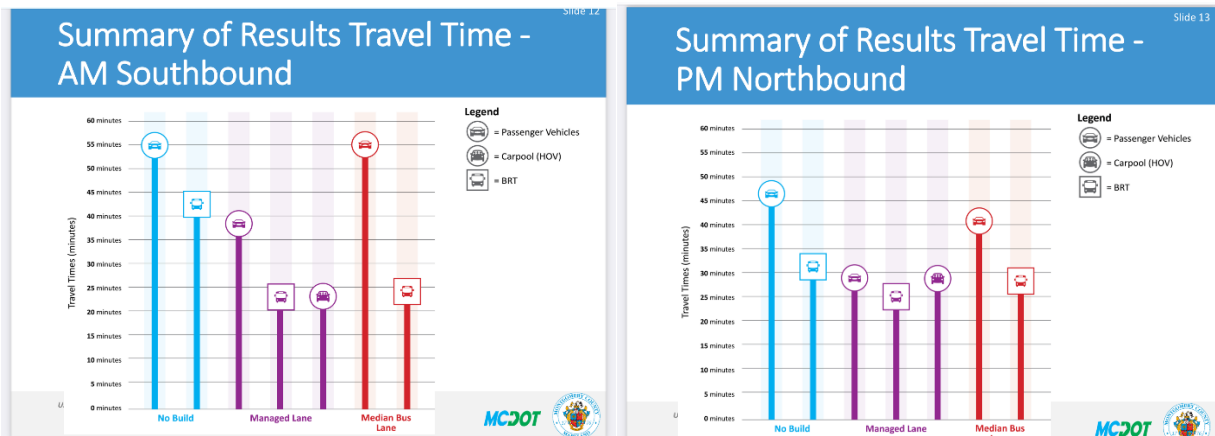
RE: Montgomery County Council Session on November 15

Dear Councilmember:

The ~1,600 households represented by the Northwood-Four Corners Civic Association (NFCCA) would like to take this opportunity to express our views regarding the alternatives to the Bus Rapid Transit (BRT) plan that are mapped out in the 2022 draft U.S. 29 Mobility and Reliability Study (the 2022 study). On November 10<sup>th</sup>, the Montgomery County Planning Board approved the staff's recommendation for a Dedicated Median Bus Lane rather than a Managed Lane (Bus/HOV) on US 29.

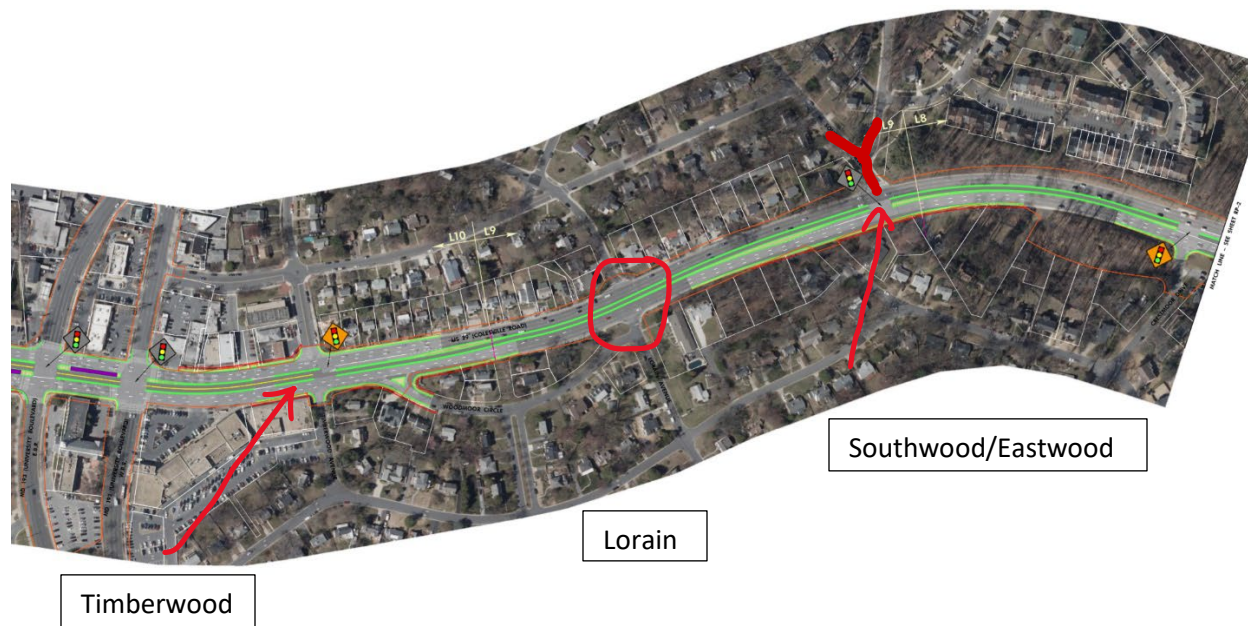
On November 14<sup>th</sup> the Council is scheduled to consider a Supplemental Appropriation to the County Government's FY23 Capital Budget and Amendment to the FY23-28 Capital Improvements Program (CIP), \$9,500,000, Bus Rapid Transit: US 29 Phase 2.

NFCCA believes the Managed Lane alternative is a much better option than installing a Dedicated Median Bus Lane. According to the 2022 study, bus drive time would be cut in half by a Managed Lane over the No Build option and is marginally faster than BRT drive time under the Dedicated Median Bus Lane alternative. Plus, the Managed Lane alternative benefits HOV car riders and all buses, not just the BRT bus, which along with Express busses from Burtonsville would be the only transit permitted in the Dedicated Median Bus Lane. A Managed Lane has distinct advantages—it is cheaper than a Dedicated Median Bus Lane and markedly faster for cars (particularly for HOV carpoolers) than the Dedicated Median Bus Lane alternative. See illustration below.<sup>1</sup>



<sup>1</sup> US 29 Mobility and Reliability Study – Project Findings, U.S. 29 Corridor Advisory Committee Update, October 6, 2022 at slides 12, 13.

A Dedicated Median Bus Lane will reduce North Four Corners residents' available entry/exit points on US 29 by blocking off Lorain Avenue, which will eliminate turns there for North Four Corners drivers. Allowing a north-bound left turn at Timberwood Avenue could retain a north-bound entry point into North Four Corners to make up for losing access via Lorain Avenue (see illustration below).



If only one way remains into or out of North Four Corners from US 29 at Southwood Avenue, in order to give our neighborhood adequate access both the turn lane and traffic signal time on US 29 would need to be lengthened to accommodate additional waiting traffic. Outbound neighborhood traffic, which already backs up significantly, would also need more time to exit at that traffic light. It is unclear if the 2022 Study factored into its evaluation of the Dedicated Median Bus Lane alternative (both as to cost and traffic mobility) the necessity to lengthen both the cycle time for this traffic light and the length of the US 29 turn lane. At a minimum, a traffic study analysis should be performed to evaluate neighborhood impact and the adjustments suggested by NFCCA should be evaluated during the Engineering phase if the Dedicated Median Bus Lanes alternative is adopted by the Council.

Furthermore, the Dedicated Median Bus Lane, as designed, will widen from a single busway to a two-lane busway in the Four Corners area.<sup>2</sup> This area is precisely the chokepoint on US 29 where traffic backs up significantly before a sizable portion moves onto I-495 at the beltway exit. It is unclear in the graphic whether a dual busway will remove a lane in both directions, but that would certainly be problematic.

In endorsing the Dedicated Median Bus Lane alternative, Planning Board staff argue that "When one alternative (Managed Lanes) improves both auto and transit travel times, and a second alternative (Median Bus Lanes) only improves transit travel times, it

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<sup>2</sup> *Ibid.* at slide 11.



is the second alternative that is going to best incentivize people to make the switch from driving to taking transit.”<sup>3</sup>

By making a \$128 million investment in Dedicated Median Bus Lanes, the county will do nothing to relieve drive time for cars and trucks, including carpoolers and other transit riders (Metro and RideOn) as well as those who must use a vehicle to commute (i.e. the equity argument that one cannot take a ladder on a bus). This seems like a big bet on an unproven construct. The proposition that large numbers of suburban residents will abandon their cars in favor of public transportation is simply unproven. A better investment of taxpayer dollars would be to adopt the Managed Bus Lanes alternative, measure over time how this improves adoption of public transit usage and determine in the future if a further investment in a Dedicated Median Bus Lane is warranted.

Another argument by Planning staff is that the Dedicated Median Bus Lane concept is enshrined in Thrive 2050. Here we would simply ask—is Thrive 2050 a straitjacket or is it, as was argued during its consideration, a vision and framework.

In closing, NFCCA urges Councilmembers to support the Managed Lane alternative. By ignoring the safety of and access to nearby communities, a decision in favor of Dedicated Median Bus Lanes would sacrifice the quality of life for Four Corners residents who must live with the inconvenience and cut through traffic resulting from many years of transportation decisions that have favored moving the maximum volume of traffic through Four Corners.

NFCCA opposes the Dedicated Median Bus Lane alternative because it is costlier, does not improve drive time conditions on US 29, and more specifically, would limit neighborhood access for Four Corners residents, increase neighborhood traffic backups, further intensify cut-through traffic, and add two additional traffic signals along this half-mile stretch of US 29.

Finally, rather than rushing through consideration of this decision, NFCCA believes the incoming Councilmembers, including a principal stakeholder, the representative for the newly configured District 5 that encompasses the US 29 Corridor, should be given the opportunity to review and vote upon this decision. Thank you for your consideration of NFCCA’s views.

Submitted by:

Sharon Canavan  
NFCCA Secretary  
10213 Edgewood Avenue  
Silver Spring, MD 20901

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<sup>3</sup> Montgomery County Planning, US 29 Mobility and Reliability Study, Part 2 Alternatives Selection at page 6. See [US-29-BRT-Alternatives-Staff-Report-2022-11-02\\_Final\\_Rev.pdf](https://montgomeryplanningboard.org/US-29-BRT-Alternatives-Staff-Report-2022-11-02_Final_Rev.pdf) ([montgomeryplanningboard.org](https://montgomeryplanningboard.org)).

**From:** [james\\_williamson@verizon.net](mailto:james_williamson@verizon.net)  
**To:** [gabe.albornoz@montgomerycountymd.gov](mailto:gabe.albornoz@montgomerycountymd.gov); [Orlin, Glenn](mailto:Orlin, Glenn); [marc.elrich@montgomerycountymd.gov](mailto:marc.elrich@montgomerycountymd.gov); [County Council](#)  
**Subject:** Fw: Rt. 29 proposals  
**Date:** Wednesday, November 23, 2022 8:18:27 AM

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**[EXTERNAL EMAIL]**

----- Forwarded Message -----

**From:** james\_williamson@verizon.net <james\_williamson@verizon.net>  
**To:** Montgomery County DOT <corey.pitts@montgomerycountymd.gov>  
**Sent:** Wednesday, November 23, 2022 at 12:45:53 AM EST  
**Subject:** Rt. 29 proposals

There has been over 30 proposals of Rt. 29 in the decades I have been attending meetings. A median busway has never shown an improvement in traffic for all modes. In the most recent study by McDOT, no build is the least disruptive and costs nothing to implement. You could take the over \$100 planned for the other options and put it toward the over \$900 million deficit needed for repairs on County roads. A median busway demonstrated virtually no improvement for all modes of traffic and costs over \$125 million at today's prices which will go up. A brt/hov lane is little better in people and traffic throughput, is disruptive with traffic switching lanes and costs over \$100 million at today's prices which will go up.

Furthermore, if any changes are made to the road, in my opinion you must **you must** look at the effect the changes will have on the neighborhoods along 29. I live in Woodmoor which gets an inordinate and overwhelming amount of cut-through traffic. Any changes such as more traffic lights which slows cars along 29 will inevitably increase the traffic in out neighborhood. I have repeatedly asked SHA to look at the spillover effect when they have made changes to the road and they ignore us. I have asked McDOT to not look at the recent proposals in a vacuum but to also study how much more cut-through we would get in the neighborhoods due to any change on Rt. 29. The answer was that is not part of our scope and we, McDOT, did a cursory look. That isn't good enough. If traffic slows down on Rt. 29 due to more signals and a change in travel lanes, we will feel the brunt of it with an increase in cars on our residential streets. That will not be safe.

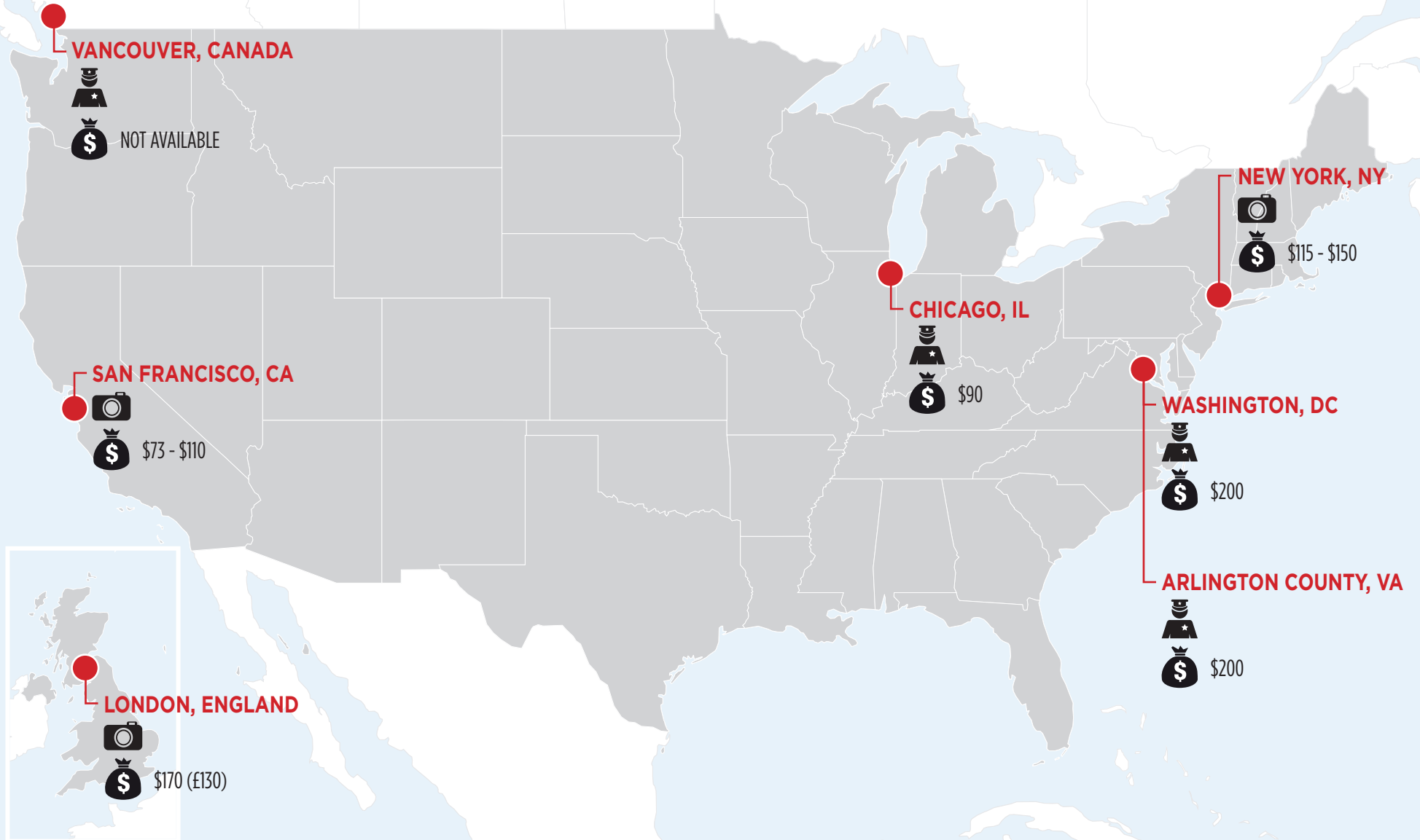
Rt. 29 has been studied more than any road in Montgomery County. The proposal for a median busway that was made 2-3 years ago is not what it was purported to be which is proven by your own DOT and their consultants. It improved nothing, is disruptive and costs way too much money.

Move on **without** a median busway.



## SECTION 2.2: ENFORCEMENT

Although practices vary, police enforcement and automated enforcement (e.g., camera) are the two most common enforcement tools utilized to minimize bus lane violations. This page shows the enforcement strategies for agencies interviewed for this study, including bus lane violation fines.



## SECTION 2.2.1: POLICE ENFORCEMENT

Several studies indicated that the perception of limited bus lane enforcement increases violation rates, diminishing the effectiveness of bus lanes and resulting in reduced bus speeds.<sup>4,5</sup> When automated camera enforcement is not practical, some level of police presence is needed to discourage potential violators from entering the bus lanes.

Typically, transit agencies and jurisdictions place more emphasis on police enforcement when bus lanes first open. However, targeted enforcement tends to diminish afterwards due to several challenges associated with police enforcement:

- **Resources:** Police enforcement requires considerable financial and human resources. Budget limitations and conflicting priorities can make it difficult to sustain a continuous police enforcement program.
- **Authorization:** For most agencies, including local jurisdictions in the TPB region, transit agency staff (including transit police) are rarely authorized to enforce bus lane restrictions or moving violations. This increases reliance on police enforcement, which compounds budget and resource allocation issues.
- **Physical Infrastructure:** Low-cost, low-resource bus lane concepts, such as curbside lanes with no paint, are the easiest to implement but also the most difficult to consistently enforce. It is necessary to find a balance between building a “self-enforcing” lane (e.g., offset bus lanes with red paint) and paying to enforce restrictions.
- **Compliance Impact on Operations:** Pulling over non-compliant vehicles in the bus lanes can block buses, negatively affecting bus operations. To address this issue on recently implemented bus lanes in Baltimore City, Baltimore police pull violators over on side streets.
- **Other Permitted Users:** Curbside bus lanes often allow other vehicles such as taxis, shuttles, and right-turning vehicles to use bus lanes. While allowing other vehicles in bus lanes increases utilization of roadway space, it creates enforcement challenges.

4 Assessment of bus lane violations in relation to road infrastructure, traffic, and land-use features: The case of Thessaloniki, Greece, Gavanas et al., 2013

5 Factors contributing to bus lane obstruction and usage in New York City: Does design matter? Safran et al., Transportation Research Record, Vol. 2418, 2014

CONCEPTS THAT ARE EASIEST TO IMPLEMENT ARE THE HARDEST TO CONSISTENTLY ENFORCE AND REQUIRES CONSTANT POLICE PRESENCE.



## SECTION 2.2.2: AUTOMATED ENFORCEMENT

Generally, transit agencies or law enforcement use two types of camera enforcement to automate the enforcement process:

1. Stationary cameras installed at selected locations/corridors
2. Cameras on buses

Both types can generate automatic citations for both moving and parking violations. Compared to active police enforcement, which is resource-intensive, automated enforcement can have significant fiscal and enforcement benefits.

However, transit agencies are rarely authorized to enforce restrictions in the bus lanes within which they operate, presenting challenges in ensuring that only buses use the lanes designated solely for their use.<sup>6</sup> Automated enforcement via cameras is usually permitted by legislation, and usually cannot be implemented without new enabling legislation (see *Section 2.3* for legislation details). New York and California are the only states in the U.S. with specific bus lane camera enforcement, and each required enabling legislation before implementing camera enforcement. Specific legislation enabled each state to begin camera-based bus lane enforcement as a pilot or a demonstration program, then extended and expanded their pilot programs as part of an iterative legislative process.

None of the agencies or jurisdictions currently operating bus lanes in the TPB region use automated enforcement as part of the bus lane enforcement program. However, agency interviews indicated that jurisdictions would be open to switching to automated enforcement if bus lanes receive strong negative feedback both from the public and transit operators related to enforcement and violations.

## NEW YORK

The implementation of “Select Bus Service (SBS)” in New York is one of the most successful examples of introducing bus lanes as part of bus rapid transit in the United States. Due to the heavy volume of traffic on New York City streets, bus lane enforcement cameras have been useful in automating a process that would otherwise require significant human capital, while also developing an enforcement regime that discourages potential violators from entering the bus lanes.

New York’s initial legislation (2010) granted NYCDOT and MTA New York City Transit the ability to install bus lane enforcement cameras on five specified SBS routes. In 2015, the New York State Legislature and Governor extended the law for ten years, allowing the city to use bus lane cameras on up to 15 additional routes. New York’s enabling legislation includes a maximum fine amount, requirements for camera-related signage along corridors, and a time span for enforcement (bus lane cameras may only be operated on designated bus lanes during weekdays from 7:00 AM to 7:00 PM).<sup>7</sup>

Two types of camera enforcement have been used in New York City to date: Stationary Cameras and On-Bus Cameras. On-bus cameras record standing violations; stationary cameras primarily record driving violations in the bus lane. Stationary cameras, installed along SBS corridors, are operated by NYCDOT; a pilot program with on-bus cameras was administered by MTA New York City Transit. Each enforcement method was designed to capture multiple photos to ensure that a violation was being committed, and to allow MTA New York City Transit staff (on-bus cameras) or NYCDOT staff (stationary cameras) to determine if there was a legitimate reason for a private vehicle to enter the bus lane. An adjudication process, managed by the New York City Department of Finance, was also established to allow drivers who felt they were wrongly cited to appeal the fine. As of 2012, only two percent of all citations were overturned.<sup>8</sup>

Before photo enforcement was implemented on the M15 SBS route, the New York Police Department placed officers along the route who issued both moving and parking violations to vehicles illegally obstructing the bus lane.<sup>9</sup>

6 Shared-Use Bus Priority Lanes on City Streets: Case Studies in Design and Management. Mineta Transportation Institute, 2012.

7 Laws of New York, Vehicle and Traffic Law, § 1111-c.

8 New York City Department of Transportation, 2012 Bus Lane Camera Enforcement Update Report

9 Select Bus Service on M15 in New York City, Transportation Research Board, 2012.



## CALIFORNIA

California's initial automated bus lane enforcement legislation (2007) established a Transit-Only Lane Enforcement (TOLE) pilot program on a pre-defined list of specific streets in San Francisco. In 2011, the state legislature extended the pilot project through 2015 for 25 miles of dedicated curbside transit lanes. In 2015, the TOLE pilot program was made permanent. California defines "transit-only traffic lane" as any designated transit-only lane on which use is restricted to mass transit vehicles, or other designated vehicles including taxis and vanpools, during posted times.<sup>10</sup>

San Francisco uses forward facing cameras on buses for its TOLE program (**Figure 3**). If a vehicle is using the lane illegally (detected by cameras automatically, doesn't rely on driver initiation), the bus camera takes a photograph of the vehicle's license plate and a citation is issued to the vehicle's owner.<sup>11</sup> San Francisco's legal ability to install cameras on city-owned public transit vehicles is enabled by changes made to the California Vehicles Code, as well as municipal regulations.<sup>12</sup> The City and County of San Francisco<sup>13</sup> can issue citations (civil penalties) for violations captured during the posted hours of operation for a transit-only traffic lane; the video image is confidential, and destroyed after six months (or 60 days after the final disposition of the citation). Bus lane use violation is not treated as a traffic infraction, and thus does not result in points assessed to the driver's license.<sup>14</sup>

An education and outreach program was conducted prior to beginning automated enforcement with on-board cameras so drivers would be aware of new regulations and the consequences of parking or driving in the transit-only lanes (**Figure 4**).<sup>15</sup> The TOLE pilot program found very few repeat offenders; typically, once a driver is given a citation for blocking the transit-only lane, it is very unlikely they will do so again.

Following an 18-month TOLE pilot project on a busy corridor, the San Francisco Municipal Transportation Authority (SFMTA) found that while bus travel times only decreased slightly, the variability of travel times decreased significantly.<sup>16</sup>

10 California Assembly Bill No. 1041 (2011). [http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab\\_1001-1050/ab\\_1041\\_bill\\_20110926\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_1001-1050/ab_1041_bill_20110926_chaptered.pdf)

11 Red Light Camera and Other Automated Enforcement, SFMTA. <https://www.sfmta.com/services/permits-citations/camera-enforcement>

12 California Assembly Bill No. 1041 (2011). [http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab\\_1001-1050/ab\\_1041\\_bill\\_20110926\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_1001-1050/ab_1041_bill_20110926_chaptered.pdf)

13 San Francisco is a consolidated city-county jurisdiction.

14 Bus Lanes in Downtown Miami Final Report, Miami-Dade MPO, 2015.

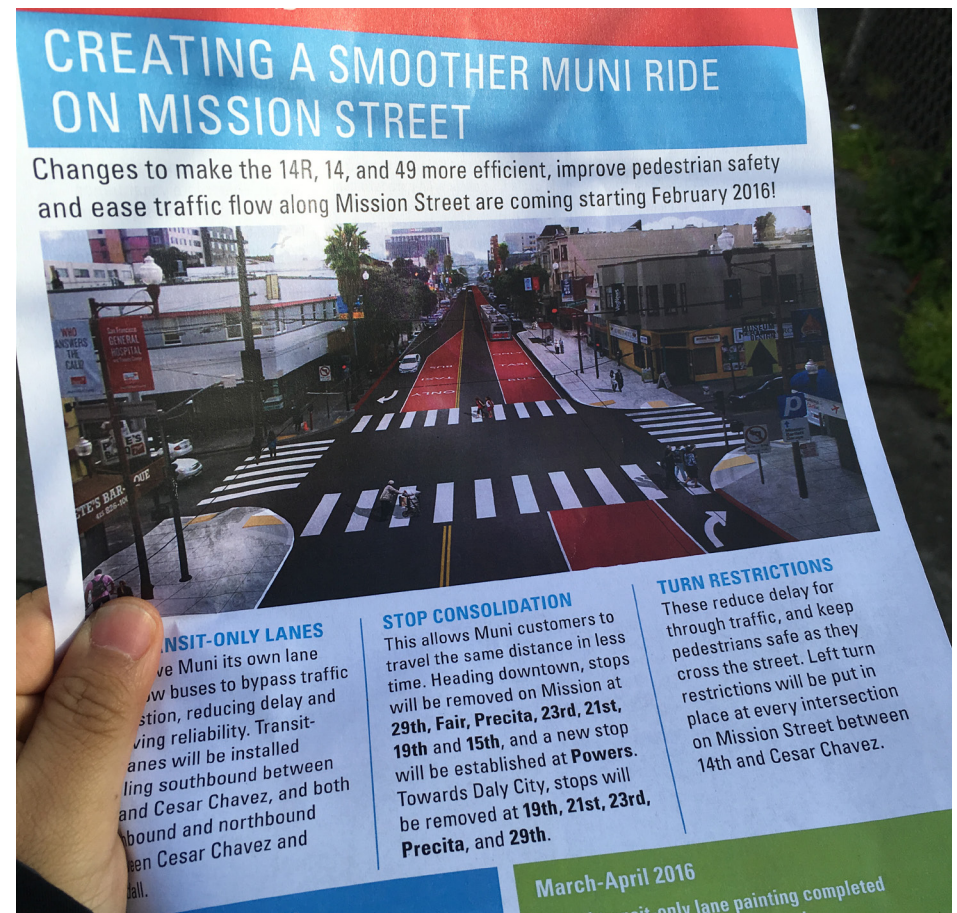
15 "Laying out the Red Carpet for Muni's Rapid Transit Network," SFMTA, March 22, 2016. <https://www.sfmta.com/about-sfmta/blog/laying-out-red-carpet-muni%E2%80%99s-rapid-network>

16 Church Street Pilot Transit Lanes. SFMTA, 2015.

**FIGURE 3** MUNI COACH WITH TOLE BUMPER STICKER



**FIGURE 4** MISSION STREET TRANSIT ONLY LANES NEWSLETTERS FOR EDUCATION



Resolution No: \_\_\_\_\_  
Introduced: \_\_\_\_\_  
Adopted: \_\_\_\_\_

COUNTY COUNCIL  
FOR MONTGOMERY COUNTY, MARYLAND

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By: Council President at the Request of the County Executive

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SUBJECT: Amendment to the FY23-28 Capital Improvement Program and Special  
Appropriation #23-53 to the FY23 Capital Budget  
Montgomery County Government  
Department of Transportation  
Bus Rapid Transit: US 29 Phase 2 (CIP No. 502201), \$9,500,000

Background

1. Section 308 of the Montgomery County Charter provides that a special appropriation: (a) may be made at any time after public notice by news release; (b) must state that the special appropriation is necessary to meet an unforeseen disaster or other emergency or to act without delay in the public interest; (c) must specify the revenues necessary to finance it; and (d) must be approved by no fewer than six members of the Council.
2. Section 302 of the Montgomery County Charter provides that the Council may amend an approved capital improvements program at any time by an affirmative vote of no fewer than six members of the Council.
3. The County Executive recommends the following capital project appropriation increases:

| <u>Project Name</u>                 | <u>Project Number</u> | <u>Cost Element</u>                 | <u>Amount</u>      | <u>Source of Funds</u> |
|-------------------------------------|-----------------------|-------------------------------------|--------------------|------------------------|
| Bus Rapid Transit:<br>US 29 Phase 2 | 502201                | Planning, Design<br>and Supervision | \$4,500,000        | Impact Taxes           |
|                                     |                       | Planning, Design<br>and Supervision | <u>\$5,000,000</u> | State Aid              |
|                                     |                       | Total                               | <u>\$9,500,000</u> |                        |

4. This special appropriation is needed to spend previously approved funds in the FY23-28 CIP for US 29 Phase 2 that were not appropriated to advance the project through preliminary engineering. The recommended amendment is for technical reasons which is consistent with the criteria for amending the CIP. The current appropriation is less than the approved funding level, funded planning and analysis of alternatives. Upon selection of a preferred alternative by Council, the project can move into and complete preliminary engineering if these funds are appropriated.
5. The County Executive recommends an amendment to the FY23-28 Capital Improvements Program and a special appropriation in the amount of \$9,500,000 and specifies the source of funds as State aid and impact taxes.
6. *The Transportation and Environment (T&E) Committee recommends the Managed Lane option as the preferred alternative, requiring an appropriation of \$7,700,000.*
- 7.6. Notice of public hearing was given and a public hearing was held.

Action

The County Council for Montgomery County, Maryland, approves the following actions:

1. The FY23-28 Capital Improvements Program of the Montgomery County Government is amended as reflected on the attached project description form and a special appropriation is approved as follows:

| <u>Project Name</u>                 | <u>Project Number</u> | <u>Cost Element</u>                 | <u>Amount</u>                         | <u>Source of Funds</u> |
|-------------------------------------|-----------------------|-------------------------------------|---------------------------------------|------------------------|
| Bus Rapid Transit:<br>US 29 Phase 2 | 502201                | Planning, Design<br>and Supervision | \$4,500,000<br># 2,700,000            | Impact Taxes           |
|                                     |                       | Planning, Design<br>and Supervision | \$5,000,000                           | State Aid              |
|                                     |                       | Total                               | <del>\$9,500,000</del><br># 7,700,000 |                        |

2. The County Council declares that this action is necessary to act without delay in the public interest, and that this appropriation is needed to allow this action to proceed.

This is a correct copy of Council action.

---

Judy Rupp  
Clerk of the Council



# Bus Rapid Transit: US 29-Phase 2 (P502201)

|                      |                                     |                             |                          |
|----------------------|-------------------------------------|-----------------------------|--------------------------|
| <b>Category</b>      | Transportation                      | <b>Date Last Modified</b>   | 05/03/22                 |
| <b>SubCategory</b>   | Mass Transit (MCG)                  | <b>Administering Agency</b> | Transportation           |
| <b>Planning Area</b> | Kemp Mill-Four Corners and Vicinity | <b>Status</b>               | Preliminary Design Stage |

| Total | Thru FY21 | Est FY22 | Total<br>6 Years | FY 23 | FY 24 | FY 25 | FY 26 | FY 27 | FY 28 | Beyond<br>6 Years |
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|

### EXPENDITURE SCHEDULE (\$000s)

|                                  |               |              |          |            |               |              |              |          |          |          |          |          |          |          |
|----------------------------------|---------------|--------------|----------|------------|---------------|--------------|--------------|----------|----------|----------|----------|----------|----------|----------|
| Planning, Design and Supervision | 7,950         | 11,250       | -        | 250        | 770           | 11,000       | 270          | 6,000    | 5,000    | -        | -        | -        | -        | -        |
| <b>TOTAL EXPENDITURES</b>        | <b>11,250</b> | <b>7,950</b> | <b>-</b> | <b>250</b> | <b>11,000</b> | <b>6,000</b> | <b>5,000</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |

### FUNDING SCHEDULE (\$000s)

|                              |              |               |          |            |               |              |              |          |          |          |          |          |          |          |
|------------------------------|--------------|---------------|----------|------------|---------------|--------------|--------------|----------|----------|----------|----------|----------|----------|----------|
| Impact Tax                   | 2,950        | 6,250         | -        | 250        | 270           | 6,000        | 1,200        | 4,600    | 1,500    | -        | -        | -        | -        | -        |
| State Aid                    | -            | 5,000         | -        | -          | 5,000         | 1,500        | 3,500        | -        | -        | -        | -        | -        | -        | -        |
| <b>TOTAL FUNDING SOURCES</b> | <b>2,950</b> | <b>11,250</b> | <b>-</b> | <b>250</b> | <b>11,000</b> | <b>6,000</b> | <b>5,000</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |

### APPROPRIATION AND EXPENDITURE DATA (\$000s)

|                                    |       |                          |       |
|------------------------------------|-------|--------------------------|-------|
| Appropriation FY 23 Request        | -     | Year First Appropriation | FY22  |
| Appropriation FY 24 Request        | -     | Last FY's Cost Estimate  | 6,250 |
| Supplemental Appropriation Request | 9,500 | 7,700                    |       |
| Cumulative Appropriation           | 250   |                          |       |
| Expenditure / Encumbrances         | -     |                          |       |
| Unencumbered Balance               | 250   |                          |       |

### PROJECT DESCRIPTION

This project will design and implement more dedicated lanes for transit and ~~for~~ High Occupancy Vehicles (HOV) along the US 29 corridor to improve travel time and reliability. The project will also include improvements at identified "hot spot" locations to improve overall traffic operations along the US 29 corridor.  
*An additional lane on the ramp from southbound US 29 to westbound I-495.*

### LOCATION

Master plans: Silver Spring, North and West Silver Spring, Four Corners, White Oak, White Oak Science Gateway, and Fairland. Route US 29 from Burtonsville to downtown Silver Spring.

### ESTIMATED SCHEDULE

Preliminary engineering will begin in FY23 and will be completed in FY24.

### COST CHANGE

Cost increase to address design cost increases anticipated with the additional alternatives being studied. Additional funding will also allow the project to advance further through design and prepare the project for construction.

### PROJECT JUSTIFICATION

This project will complement the investment in US 29 Flash and improve transit, carpool, and overall corridor travel time and reliability, performance, and person throughput from MD 198 to the Silver Spring Transit Center. These efforts will support master plan non-auto-drive mode share (NADMS) goals. The project supports the following countywide vision goals: Easier Commutes and a Growing Economy. Approved land use plans in the corridor recommend the implementation of transit lanes along with US 29 Flash. The project is consistent with the Countywide Transit Corridors Functional Master Plan.

### FISCAL NOTE

State aid reflects State grants for capital projects in Montgomery County programmed or preauthorized during the 2022 State General Assembly Session. FY23 supplemental in Impact Tax for the amount of \$4,500,000, State Aid for the amount of \$5,000,000.

### DISCLOSURES

A pedestrian impact analysis will be performed during design or is in progress. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

### COORDINATION

Maryland Department of Transportation, Washington Metropolitan Area Transit Authority, Maryland-National Capital Park and Planning Commission

Resolution No: \_\_\_\_\_  
Introduced: \_\_\_\_\_  
Adopted: \_\_\_\_\_

COUNTY COUNCIL  
FOR MONTGOMERY COUNTY, MARYLAND

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By: Council President at the Request of the County Executive

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SUBJECT: Amendment to the FY23-28 Capital Improvement Program and Special  
Appropriation #23-53 to the FY23 Capital Budget  
Montgomery County Government  
Department of Transportation  
Bus Rapid Transit: US 29 Phase 2 (CIP No. 502201), \$9,500,000

Background

1. Section 308 of the Montgomery County Charter provides that a special appropriation: (a) may be made at any time after public notice by news release; (b) must state that the special appropriation is necessary to meet an unforeseen disaster or other emergency or to act without delay in the public interest; (c) must specify the revenues necessary to finance it; and (d) must be approved by no fewer than six members of the Council.
2. Section 302 of the Montgomery County Charter provides that the Council may amend an approved capital improvements program at any time by an affirmative vote of no fewer than six members of the Council.
3. The County Executive recommends the following capital project appropriation increases:

| <u>Project Name</u>                 | <u>Project Number</u> | <u>Cost Element</u>                 | <u>Amount</u>      | <u>Source of Funds</u> |
|-------------------------------------|-----------------------|-------------------------------------|--------------------|------------------------|
| Bus Rapid Transit:<br>US 29 Phase 2 | 502201                | Planning, Design<br>and Supervision | \$4,500,000        | Impact Taxes           |
|                                     |                       | Planning, Design<br>and Supervision | <u>\$5,000,000</u> | State Aid              |
|                                     |                       | Total                               | <u>\$9,500,000</u> |                        |



Special Appropriation #23-53 and Amendment to the FY23-28 Capital Improvements Program  
Page Two

4. This special appropriation is needed to spend previously approved funds in the FY23-28 CIP for US 29 Phase 2 that were not appropriated to advance the project through preliminary engineering. The recommended amendment is for technical reasons which is consistent with the criteria for amending the CIP. The current appropriation is less than the approved funding level, funded planning and analysis of alternatives. Upon selection of a preferred alternative by Council, the project can move into and complete preliminary engineering if these funds are appropriated.
5. The County Executive recommends an amendment to the FY23-28 Capital Improvements Program and a special appropriation in the amount of \$9,500,000 and specifies the source of funds as State aid and impact taxes.
6. *The Transportation and Environment (T&E) Committee concurs with the County Executive.*
7. Notice of public hearing was given and a public hearing was held.

Action

The County Council for Montgomery County, Maryland, approves the following actions:

1. The FY23-28 Capital Improvements Program of the Montgomery County Government is amended as reflected on the attached project description form and a special appropriation is approved as follows:

| <u>Project Name</u>                 | <u>Project Number</u> | <u>Cost Element</u>                 | <u>Amount</u>      | <u>Source of Funds</u> |
|-------------------------------------|-----------------------|-------------------------------------|--------------------|------------------------|
| Bus Rapid Transit:<br>US 29 Phase 2 | 502201                | Planning, Design<br>and Supervision | \$4,500,000        | Impact Taxes           |
|                                     |                       | Planning, Design<br>and Supervision | <u>\$5,000,000</u> | State Aid              |
|                                     |                       | Total                               | <u>\$9,500,000</u> |                        |

2. The County Council declares that this action is necessary to act without delay in the public interest, and that this appropriation is needed to allow this action to proceed.

This is a correct copy of Council action.

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Judy Rupp  
Clerk of the Council



# Bus Rapid Transit: US 29-Phase 2 (P502201)

|                      |                                     |                             |                          |
|----------------------|-------------------------------------|-----------------------------|--------------------------|
| <b>Category</b>      | Transportation                      | <b>Date Last Modified</b>   | 05/03/22                 |
| <b>SubCategory</b>   | Mass Transit (MCG)                  | <b>Administering Agency</b> | Transportation           |
| <b>Planning Area</b> | Kemp Mill-Four Corners and Vicinity | <b>Status</b>               | Preliminary Design Stage |

| Total | Thru FY21 | Est FY22 | Total<br>6 Years | FY 23 | FY 24 | FY 25 | FY 26 | FY 27 | FY 28 | Beyond<br>6 Years |
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|

### EXPENDITURE SCHEDULE (\$000s)

|                                  |               |          |            |               |              |              |          |          |          |          |          |
|----------------------------------|---------------|----------|------------|---------------|--------------|--------------|----------|----------|----------|----------|----------|
| Planning, Design and Supervision | 11,250        | -        | 250        | 11,000        | 4,500        | 6,000        | 5,000    | -        | -        | -        | -        |
| <b>TOTAL EXPENDITURES</b>        | <b>11,250</b> | <b>-</b> | <b>250</b> | <b>11,000</b> | <b>6,000</b> | <b>5,000</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |

### FUNDING SCHEDULE (\$000s)

|                              |               |          |            |               |              |              |          |          |          |          |   |
|------------------------------|---------------|----------|------------|---------------|--------------|--------------|----------|----------|----------|----------|---|
| Impact Tax                   | 4,750         | 6,250    | -          | 250           | 4,500        | 6,000        | 3,000    | 4,600    | 1,500    | -        | - |
| State Aid                    | 5,000         | -        | -          | 5,000         | 1,500        | 3,500        | -        | -        | -        | -        |   |
| <b>TOTAL FUNDING SOURCES</b> | <b>11,250</b> | <b>-</b> | <b>250</b> | <b>11,000</b> | <b>6,000</b> | <b>5,000</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> |   |

### APPROPRIATION AND EXPENDITURE DATA (\$000s)

|                                    |       |                          |       |
|------------------------------------|-------|--------------------------|-------|
| Appropriation FY 23 Request        | -     | Year First Appropriation | FY22  |
| Appropriation FY 24 Request        | -     | Last FY's Cost Estimate  | 6,250 |
| Supplemental Appropriation Request | 9,500 |                          |       |
| Cumulative Appropriation           | 250   |                          |       |
| Expenditure / Encumbrances         | -     |                          |       |
| Unencumbered Balance               | 250   |                          |       |

### PROJECT DESCRIPTION

This project will design and implement <sup>a</sup> more dedicated lanes for transit and/or High Occupancy Vehicles (HOV) along the US 29 corridor to improve travel time and reliability. The project will also include improvements at identified "hot spot" locations to improve overall traffic operations along the US 29 corridor.   
*an additional lane on the ramp from southbound US 29 to westbound I-495.*

### LOCATION

Master plans: Silver Spring, North and West Silver Spring, Four Corners, White Oak, White Oak Science Gateway, and Fairland. Route US 29 from Burtonsville to downtown Silver Spring.

### ESTIMATED SCHEDULE

Preliminary engineering will begin in FY23 and will be completed in FY24.

### COST CHANGE

Cost increase to address design cost increases anticipated with the additional alternatives being studied. Additional funding will also allow the project to advance further through design and prepare the project for construction.

### PROJECT JUSTIFICATION

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