MCPB
Item No. 8
Date: 07-26-2018

Mandatory Referral for the US 29 Bus Rapid Transit Project, MR2018038

DA David Anspacher, Supervisor, david.anspacher@montgomeryplanning.org, 301-495-2191
RB Rebeccah Ballo, Supervisor, rebeccah.ballo@montgomeryplanning.org, 301-563-3404
AL Amy Lindsey, Planner Coordinator, amy.lindsey@montgomeryplanning.org, 301-495-2189
PD Pam Dunn, Chief, pamela.dunn@montgomeryplanning.org, 301-650-5649

Completed: 07/19/2018

DESCRIPTION

This project will implement a 14-mile bus rapid transit (BRT) corridor between the Silver Spring Transit Center and the Burtonsville Park-and-Ride.

- Location: US 29 Corridor, and some local streets, between Burtonsville Park-and-Ride and Silver Spring Transit Center
- Master Plan: 2013 Countywide Transit Corridors Functional Master Plan
- Acceptance Date: June 25, 2018
- Applicant: Montgomery County Department of Transportation
- Review Basis: Mandatory Referral, MD Land Use Code § 20-301

RECOMMENDATIONS

Staff recommends approving this mandatory referral with the following comments:

To improve walking and bicycling access to the US 29 bus rapid transit stations, consider adding four bicycle and pedestrian projects to the capital budget:

- Sidewalks on National Drive between the Burtonsville Park-and-Ride station and Burtonsville Town Center.
- One-way separated bike lanes on Castle Boulevard between Briggs Chaney Road and Castle Ridge Circle.
- A shared use path on Lockwood Drive from US 29 to Northwest Drive.
- A shared use path on the east side of US 29 between Lockwood Drive and the southern entrance to the Burnt Mills Shopping Center (aka Tom's Drive).

In addition, staff has several station-specific comments:

General

- Upgrade the proposed bike rack at each station with weather-protected shelters.

Fenton Street Station

- At the southbound platform, construction of the Fenton Street Station and associated paving, signage and any railings or other alterations will require a Historic Area Work Permit (HAWP) and approval by the Historic Preservation Commission (HPC).
- At the northbound platform, consider whether ADA compliant warning devices or barriers are needed on the south side of the station platform to provide safety for people with vision and mobility challenges.

Four Corners Station

- At the northbound platform, align the ramps to maintain a 10-foot-wide clear space for the planned shared use path.

Oak Leaf Drive Station

- At the southbound platform, show the existing sidewalk connecting Lockwood Drive to the proposed bikeshare station and widen the sidewalk to 5 feet adjacent to the bikeshare dock to enable users to pull bikes from the dock.
- At the southbound platform, consider working with the property owners to straighten out and widen the sidewalk section between the Oak Leaf Drive Station and Oak Leaf Drive.

Stewart Lane

- Consider the use of green paint to denote conflicts areas on the pavement for the separated bike lanes proposed at the Stewart Lane station.

Tech Road Station

- Provide a 10-foot-wide pedestrian refuge in the median with protection from traffic (aka a bull nose).
- At the northbound platform, the buffer between the sidewalk and US 29 should be at least 5 feet wide.
- At the northbound platform, provide a more gradual transition between the curb ramp and the sidewalk to the Tech Road Station.
- At the northbound platform, on the north side of Tech Road between US 29 and Prosperity Drive, shift the sidewalk to the north behind the existing utility pole to create a buffer from traffic.

Castle Boulevard Station

- Provide weather-protected bike racks directly adjacent to the station.

Briggs Chaney Park-and-Ride Station

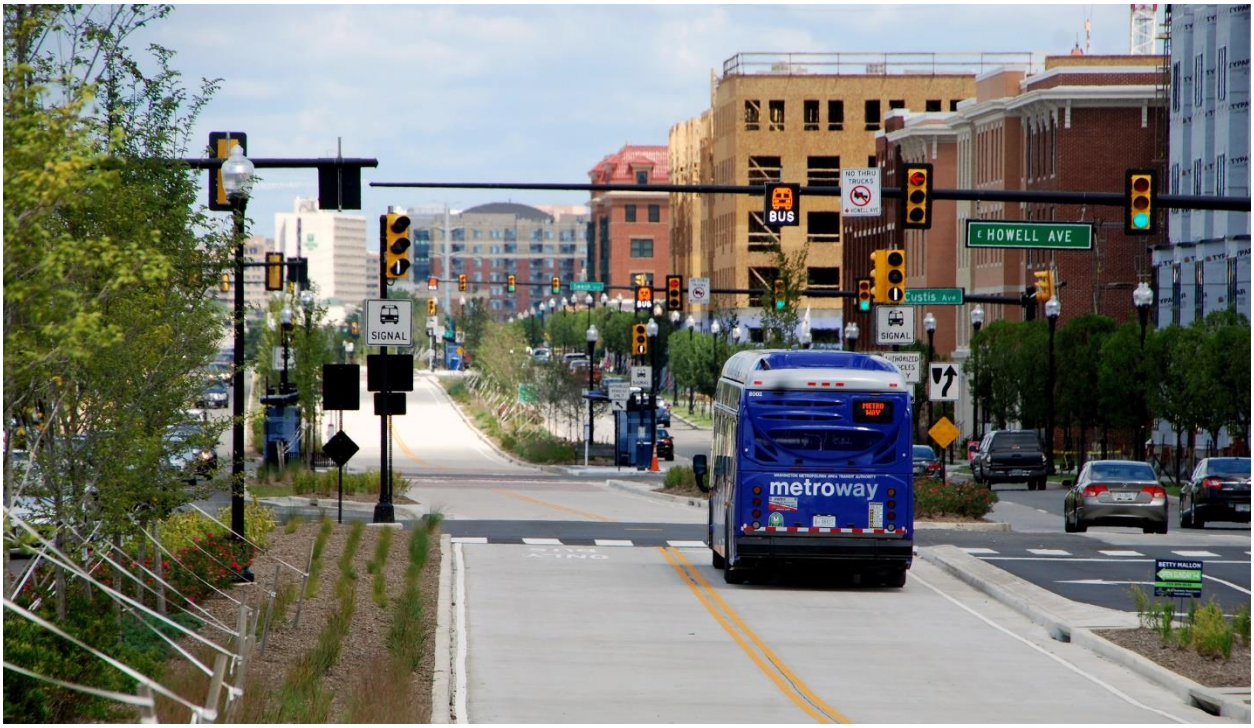
- Provide weather-protected bike racks directly adjacent to the station.

Burtonsville Park-and-Ride Station

- Per zoning regulations, one-way drive aisles adjacent to parking spaces oriented at 60-75 degrees must be 18 feet wide, not 17 feet wide as shown. Revise the parking angle or increase the width of the one-way drive aisle.
- Per zoning regulations, the current parking spaces as dimensioned (60-degree angle, 8.5 feet wide, 21 feet in length) can only be used for compact cars. Label the parking accordingly or update the dimensions for standard vehicles per the zoning code.

BACKGROUND

Bus Rapid Transit (BRT) is a high-quality and high-capacity bus-based transit system that delivers fast, comfortable, reliable and cost-effective transit service. It does this through the provision of dedicated transit lanes, branded stations and buses, off-board fare collection, real time information and fast and frequent operations, among other things. Because BRT contains features similar to a light rail or metro system, it is more reliable, convenient and faster than other bus services. With the right features, BRT can avoid the causes of delay that slow local bus services.



The Metroway in Alexandria, Virginia has dedicated bus lanes in the median (Source: BeyondDC)

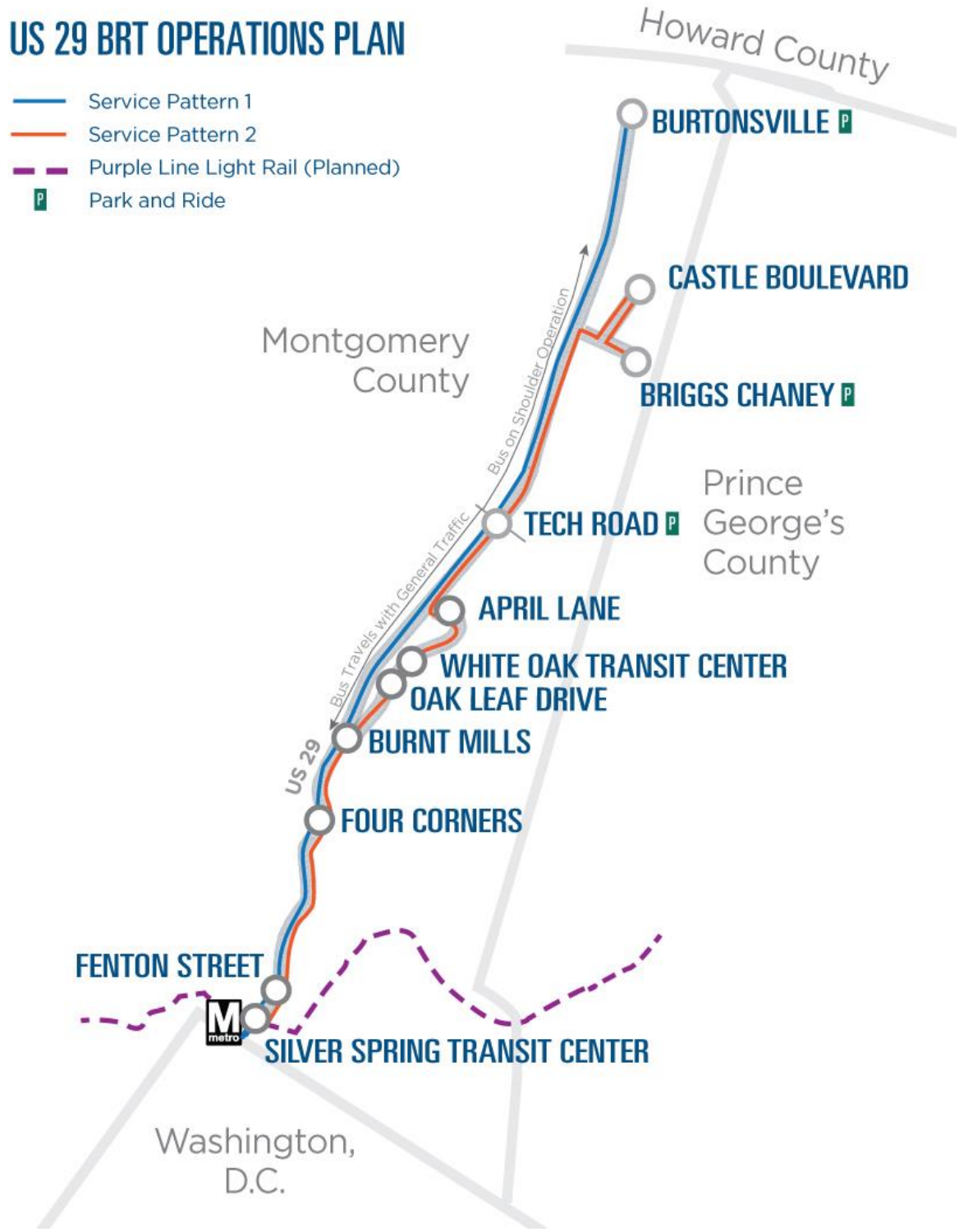
The 2013 Countywide Transit Corridors Functional Master Plan and amendments, including the 2014 White Oak Science Gateway Master Plan, are the guiding policy documents for BRT in Montgomery County along US 29. The functional master plan identifies 10 bus rapid transit corridors and includes recommendations for:

- Master-planned rights-of-way.
- Station locations.
- Recommendations for dedicated transit lanes.
- Number of additional lanes that can be added to the road to provide dedicated bus lanes.

PROJECT DESCRIPTION

The US 29 Bus Rapid Transit Project proposes a 14-mile Bus Rapid Transit (BRT) line along US 29 and local streets, from the Silver Spring Transit Center (SSTC) to the Burtonsville Park-and-Ride, as shown on in Figure 1 below. The project has evolved from a previous conceptual plan, the US 29 Corridor Planning Study: Corridor Report (Maryland Department of Transportation, April 2017), and is currently being advanced by the Montgomery County Department of Transportation (MCDOT) in cooperation with the Federal Transit Administration. This $31.5 million project is funded through County and federal funds, including a $10 million federal Transportation Investment Generating Economic Recovery (TIGER) grant from the Federal Transit Administration.

Figure 1: US 29 Bus Rapid Transit



The project includes six main components:

- New Limited Stop Transit Service: The project will add new limited stop bus service along US 29, with 11 stops between the Burtonsville Park-and-Ride and the Silver Spring Transit Center. As currently envisioned, there will be two routes (see Figure 1):
    - Service Pattern 1: The Burtonsville Service will operate buses along US 29 from the Burtonsville Park-and-Ride to the Silver Spring Transit Center during weekday peak hours (5 to 9 AM and 3:30 to 7:30 PM) and will stop at these stations: Burtonsville Park-and-Ride, Tech Road, Burnt Mills, Four Corners, Fenton Street and the Silver Spring Transit Center. Buses will run every 15 minutes.
    - Service Pattern 2: The Briggs Chaney Service will operate between the Briggs Chaney Park-and-Ride and the Silver Spring Transit Center from 5 AM to midnight on weekdays and from 7 AM to midnight on weekends and will stop at these locations: Briggs Chaney Park-and-Ride, Castle Boulevard, Tech Road, April Lane, White Oak Transit Center, Oak Leaf Drive, Burnt Mills, Four Corners, Fenton Street and the Silver Spring Transit Center. Buses will run every 15 minutes.

  Buses will run every 7.5 minutes during the peak period at stations shared by both service patterns and every 15 minutes during the off-peak periods.

- Dedicated Transit Lanes: Buses will operate on the existing outside shoulders during congested periods between MD 198 in Burtonsville and Tech Road, a distance of about five miles.

Shoulder busway in the Minneapolis-St Paul area (Source: MetoTransit)

- High-Quality Transit Stations: The project will construct 11 high-quality stations along the corridor that will include weather protection, prepayment stations and real time information about bus arrivals via message boards. See Attachment A for station locations. A prototype of the stations is shown below.

Prototype BRT Station in Montgomery County

- High-Quality Transit Vehicles: The project will purchase articulated low-floor buses (for easy on and off), with multiple doors, WiFi and USB ports and onboard storage for bicycles.
- Transit Signal Priority (TSP): Transit signal priority is a set of operational improvements that use technology to reduce transit vehicle delay at traffic signals by extending green lights or shortening red lights. TSP will be provided at a minimum of 15 of the 31 signalized intersections along the US 29 study corridor.
- Station Access Improvements: The project proposes improvements to the bikeways and sidewalks around several stations. It also will provide 10 Capital Bikeshare stations, with six stations located at the BRT stations and four located in the surrounding areas.

The project schedule includes the following next steps:

- October 2018: Complete 100% design.
- Late October / November 2018: Ceremonial groundbreaking.
- Spring 2019: Full construction underway.
- Early 2020: Project completion.

PREVIOUS STUDIES

There is a long history of planning for BRT and enhanced bus service on the US 29 Corridor, including:

- In April 2017, the Maryland Department of Transportation completed the US 29 Corridor Planning Study: Corridor Report. This study evaluated several alternatives for BRT.
- In 2014, WMATA completed the Metrobus Z Line Study, which evaluated operational improvements on this corridor.
- In November 2013, the County Council approved the Countywide Transit Corridors Functional Master Plan. This plan identified a network of bus rapid transit corridors, identified those corridor segments where lanes would be dedicated for transit, recommended a minimum right-of-way for each road and identified station locations.
- In July 2011, MCDOT completed the Countywide Bus Rapid Transit Study. This study found that a BRT network could operate effectively and substantially increase transit use within the County. The US 29 corridor was identified as one of the corridors in this network.
- US 29 Median Bus Priority Lanes Study (2003).
- US 29 Bus Operations MD 198 to Tech Road (2001).
- Bus Priority Study US 29 Corridor (1999).
- US 29 Busway Feasibility Study (1996).

PREVIOUS PLANNING BOARD ACTIONS

On February 16, 2017, the Planning Board reviewed the draft US 29 Bus Rapid Transit Corridor Study report and provided comments to MCDOT (see Attachment B).

US 29 MOBILITY AND RELIABILITY STUDY

As a separate effort, in early 2018, the Montgomery County Council asked the Montgomery County Department of Transportation to consider ways to improve mobility and reliability along US 29 for all modes of transportation, including the feasibility of a dedicated bus lane in the median of the roadway. The US 29 Mobility and Reliability Study will evaluate the median bus lane option, station access improvements and other improvements along US 29 that could increase the operational efficiency of the roadway and benefit users of the road, including BRT vehicles.

Irrespective of this study, the US 29 BRT project will move ahead on its current schedule with construction scheduled to begin in fall 2018. Any improvements that are found to have merit in the US 29 Mobility and Reliability Study would move forward as separate efforts on their own timeline and with separate funding. Of the 11 stations being constructed for the US 29 BRT project, only two (Four Corners and Burnt Mills) would potentially be impacted by a median bus lane concept that will be considered in the Mobility and Reliability Study. Since the stations are modular by design, most of the station elements could be moved to a new location if needed to accommodate future projects on US 29.

ANALYSIS

The US 29 Bus Rapid Transit project will provide substantial benefits to existing and new transit riders along the US 29 corridor for a modest cost. As the first bus rapid transit project in the County, it represents an important step toward the creation of Montgomery County's planned bus rapid transit network. The provision of limited stop service, dedicated shoulder transit lanes, transit signal priority and low-floor buses with multiple doors and off-board fare collection will reduce travel times between 22 and 35 percent compared with local bus service. Furthermore, the project will increase the convenience of transit by providing weather protected stations, low-floor boarding, onboard WiFi and USB ports and on-board storage for bicycles.

Master Plan Consistency

The US 29 corridor is one of the 10 corridors identified in the 2013 Countywide Transit Corridors Functional Master Plan as a transit corridor (see Attachment C). The plan recommends stations at 11 locations:

1. Burtonsville Park-and-Ride
2. Briggs Chaney Park-and-Ride
3. US 29 and Fairland Road
4. US 29 and Tech Road
5. White Oak Transit Center
6. Lockwood Drive and Oak Leaf Drive
7. US 29 and Hillwood Drive
8. US 29 and MD 193
9. US 29 and Franklin Avenue
10. US 29 and Fenton Street
11. Silver Spring Transit Center

The plan also recommends dedicated transit lanes for the entire length of US 29, from MD 198 to 16th Street. It states that north of Stewart Lane the transitway could be provided by adding up to two additional lanes and that south of Stewart Lane, the transitway would be provided by converting existing general-purpose lanes to BRT lanes. Furthermore, between Georgia Avenue and Sligo Creek Parkway, where the road operates with four lanes in the peak direction and two lanes in the off-peak direction, the plan recommends converting one of the peak direction lanes to a dedicated transit lane. The US 29 BRT transitway is recommended to operate in traffic on Lockwood Drive and Stewart Lane.

The project includes BRT stations at nine of the locations identified in the Countywide Transit Corridors Functional Master Plan but does not include the recommended stations at the US 29 / Fairland Road interchange or at US 29 / Franklin Avenue due to low anticipated demand. The project includes two additional stations not contemplated in the master plan on Castle Boulevard and Stewart Lane. Both stations are in low income areas of the county and therefore improve access for low-income residents.

The master plan recognizes that implementation of many of the recommendations in the plan is likely to be incremental. Page 15 states that: "This Plan does not envision that full-time dedicated bus lanes will be implemented as a first step in most locations…Since a large part of the initial ridership for BRT service will come from existing transit users whose numbers do not warrant a high level of treatment at this time, it is likely that there will be an incremental introduction of priority treatments and features that, with actual operating and ridership experience, ultimately lead to the maximum level of treatment appropriate for the specific corridor in question." Therefore, while the US 29 BRT project does not fully implement the recommendations in the Countywide Transit Corridors Functional Master Plan, it is substantially consistent with the recommendations in the plan. Furthermore, the US 29 Mobility and Reliability Study will consider further enhancements to the operational efficiency of the corridor, including dedicated transit lanes south of Lockwood Road.

Project Benefits, Impacts and Costs

The benefits of the US 29 BRT project are substantial. In 2020, there are anticipated to be 13,000 daily boardings, of which about 4,000 boardings would be new transit riders and about 9,000 boardings would be existing bus riders who would benefit from higher quality transit service. In 2040, there are anticipated to be 20,000 daily boardings, of which 5,700 would be new transit riders and 14,300 would be existing bus riders who would benefit from higher quality transit service.

The project would result in substantial travel time savings for BRT buses compared to local buses:

- Burtonsville Park-and-Ride to Silver Spring: 26% faster
- Briggs Chaney Park-and-Ride to Silver Spring: 22% faster
- White Oak to Silver Spring: 35% faster

The cost to construct this project is $31.5 million.

Pedestrian and Bicycle Improvements

The success of any transit project is related to the quality of the walking and bicycling environment connecting to the transit stations. As with any project that is proposing modest interim improvements, there is a balance to be had between the costs and benefits of expanding the project scope to include access improvements. We appreciate the pedestrian and bicycle access improvements included in this project and note that the US 29 Mobility and Reliability Study and other efforts will explore additional access improvements.

The US 29 BRT project proposes several bicycle and pedestrian station access improvements, including new sidewalks and curb ramps, new bikeways and bikeshare stations and improved crossings at intersections. In addition, pedestrian-scale lighting enhancements are proposed at most stations. Perhaps the most beneficial improvement is the proposed addition of a traffic signal at the intersection of US 29 and Lanark Way. This signal would not only improve connections to the bus rapid transit stations but would also improve access to Blair High School. Table 1 summarizes the planned access improvements at each BRT station.

Table 1: Planned Access Improvements by Station

Station	Sidewalk / Curb Ramps	Bikeway	Bikeshare Station[1]	Crossings
Silver Spring Transit Center			Existing	
Fenton Street			Existing	
Four Corners	ADA ramps			Proposed signal at Lanark Way[2]
Burnt Mills			Northbound side	
Oak Leaf Drive	ADA ramps	200' shared use path	Southbound side	New striped crosswalks at Northwest Drive, Arrington Drive, and Oak Leaf Drive
White Oak Transit Center	ADA ramps		Northbound side	New striped crossing of Lockwood Drive
Stewart Lane	ADA ramps	350' sidewalk, 300' separated bike lanes	Southbound side	New striped crosswalks and median refuge at Stewart Lane
Tech Road	ADA ramps	200' sidewalk		Addition of curb to median crossing of US 29
Castle Boulevard	ADA ramps	350' shared use path	Yes	
Briggs Chaney Park-and-Ride	ADA ramps	325' sidewalk	Yes	
Burtonsville Park-and-Ride				

In general, pedestrian connections are good at most of the planned stations, and planned

[1] To create a network of bikeshare stations, additional docks are planned to be located at Castle Boulevard near the Briggs Chaney Marketplace, Stewart Lane near Old Columbia Pike, Lockwood Drive near the Enclave and the White Oak Recreational Center.

[2] MCDOT conducted a signal warrant study for the intersection of US 29 and Lanark Way and found that a full signal is warranted. MCDOT has submitted the warrant analysis and traffic control device design request to SHA District 3 for review. It is currently being reviewed.

improvements, as well as the potential for redevelopment at several stations, will further improve pedestrian connectivity. In contrast, bicycle connections to the BRT stations, as in most of the county, are limited and disconnected. Table 2 includes a review and evaluation of the pedestrian accommodations around each station. Of the 11 stations, staff's assessment is that three need additional improvements. The Four Corners and Burnt Mills stations need improvement due to the lack of a buffer between the sidewalk and US 29, which has a 40-mph posted speed limit. The Burtonsville Park-and-Ride Station needs improvement because there is no sidewalk connection between the station and the Burtonsville Town Center. Pedestrian improvements at these stations will likely require a mix of capital projects and redevelopment.

Table 2: Pedestrian Access by Station

Station	**Posted Speed Limit**	**Buffer from Traffic?**	**Sidewalks**	**Walking Access**
Silver Spring Transit Center	30 mph (US 29) 30 mph (Wayne Ave)	Yes	Yes	Good
Fenton Street	35 mph (US 29)	Yes	Yes	Good
Four Corners	40 mph (US 29)	Some	Yes	Needs Improvement
Burnt Mills	40 mph (US 29)	Some	Yes	Needs Improvement
Oak Leaf Drive	30 mph (Lockwood Dr)	Yes	Missing sidewalk on one side of Lockwood Dr	Adequate
White Oak Transit Center	30 mph (Lockwood Dr)	Some	Yes	Good
Stewart Lane	30 mph (Stewart Ln)	Some	Yes	Good
Tech Road	50 mph (US 29)	Yes	Yes	Adequate
Castle Boulevard	30 mph (Castle Blvd)	Yes	Yes	Good
Briggs Chaney Park-and-Ride	25 mph (Gateshead Manor Way)	Yes	Yes	Good
Burtonsville Park-and-Ride	25 mph (National Dr)	Yes	No sidewalk on National Dr	Needs Improvement

STAFF COMMENTS

Transportation

To improve walking and bicycling access to the stations we recommend adding four bicycle and pedestrian projects to the capital budget:

- Burtonsville Park-and-Ride: National Drive provides a direct connection between the Burtonsville Park-and-Ride station to Burtonsville Town Center but currently lacks sidewalks. Since this road is on private property, MCDOT should work with the property owner to add a sidewalk along National Drive.

View of National Drive looking east

- Castle Boulevard Station: There is limited bicycle access on Castle Boulevard. Therefore, construct one-way separated bike lanes between Briggs Chaney Road and Castle Ridge Circle. This is a four-lane road that has been reduced to two lanes with traffic calming and there is sufficient space to accommodate a bikeway along most of the alignment.

View of Castle Boulevard looking north

- Burnt Mills Station: There is limited bicycle access along US 29 to the Burnt Mills Station. Therefore, consider upgrading the sidewalk to a shared use path on the east side of US 29 between Lockwood Drive and the southern entrance to the Burnt Mills Shopping Center (aka Tom's Drive) where right-of-way is available. This will also improve access to the Burnt Mills Shopping Center.

View of US 29 looking north at Burnt Mills

- Oak Leaf Drive Station: There is limited pedestrian and bicycle access along Lockwood Drive to the Oak Leaf Drive Station. Therefore, complete the shared use path on Lockwood Drive from US 29 to Northwest Drive. This will also improve access to the White Oak Shopping Center and to the Burnt Mills Shopping Center.

View of Lockwood Drive looking north

In addition, staff has several station-specific comments:

General

- Upgrade the proposed bike rack at each station with weather-protected shelters.

Fenton Street Station

- At the southbound platform, construction of the Fenton Street Station and associated paving, signage and any railings or other alterations will require a Historic Area Work Permit (HAWP) and approval by the Historic Preservation Commission (HPC).
- At the northbound platform, the platform is elevated above sidewalk level, but there is no railing to alert waiting passengers to the drop-off. Consider whether ADA accessible warning devices or barriers are needed on the south side of the station platform for the benefit of people with vision or mobility challenges.

Four Corners Station

- At the northbound platform, align the ramps to maintain a 10-foot-wide clear space for the planned shared use path.

Oak Leaf Drive Station

- At the southbound platform, show the existing sidewalk connecting Lockwood Drive to the proposed bikeshare station and widen the sidewalk to 5 feet adjacent to the bikeshare dock to enable users to pull bikes from the dock.
- At the southbound platform, consider working with the property owners to straighten out and widen the sidewalk section between the Oak Leaf Drive station and Oak Leaf Drive.
- At the southbound platform, the existing sidewalk on the south side of Lockwood Drive should be shown on the plans.

Stewart Lane

- Show how the proposed curb ramps connect to existing sidewalks.
- Consider the use of green paint to denote conflicts areas on the pavement for the separated bike lanes proposed at the Stewart Lane station.

Tech Road Station

- Provide a 10-foot-wide pedestrian refuge in the median with protection from traffic (aka a bull nose).
- At the northbound platform, the buffer between the sidewalk and US 29 should be at least 5 feet wide.
- At the northbound platform, provide a more gradual transition between the curb ramp and the sidewalk to the Tech Road Station.
- At the northbound platform, on the north side of Tech Road between US 29 and Prosperity Drive, shift the sidewalk to the north behind the existing utility pole to create a buffer from traffic.

Castle Boulevard Station

- No bike racks are shown on the station plans. Therefore, provide weather-protected bike racks directly adjacent to the platform.

Briggs Chaney Park-and-Ride Station

- No bike racks are shown on the station plans. Therefore, provide weather-protected bike racks directly adjacent to the platform.

Burtonsville Park-and-Ride Station

- Per zoning regulations, one-way drive aisles adjacent to parking spaces oriented at 60-75 degrees must be 18 feet wide, not 17 feet wide as shown. Please revise the parking angle or increase the width of the one-way drive aisle.

- Per zoning regulations, the current parking spaces as dimensioned (60-degree angle, 8.5 feet wide, 21 feet in length) can only be used for compact cars. Please label the parking accordingly or update the dimensions for standard vehicles per the zoning code.

Historic Preservation

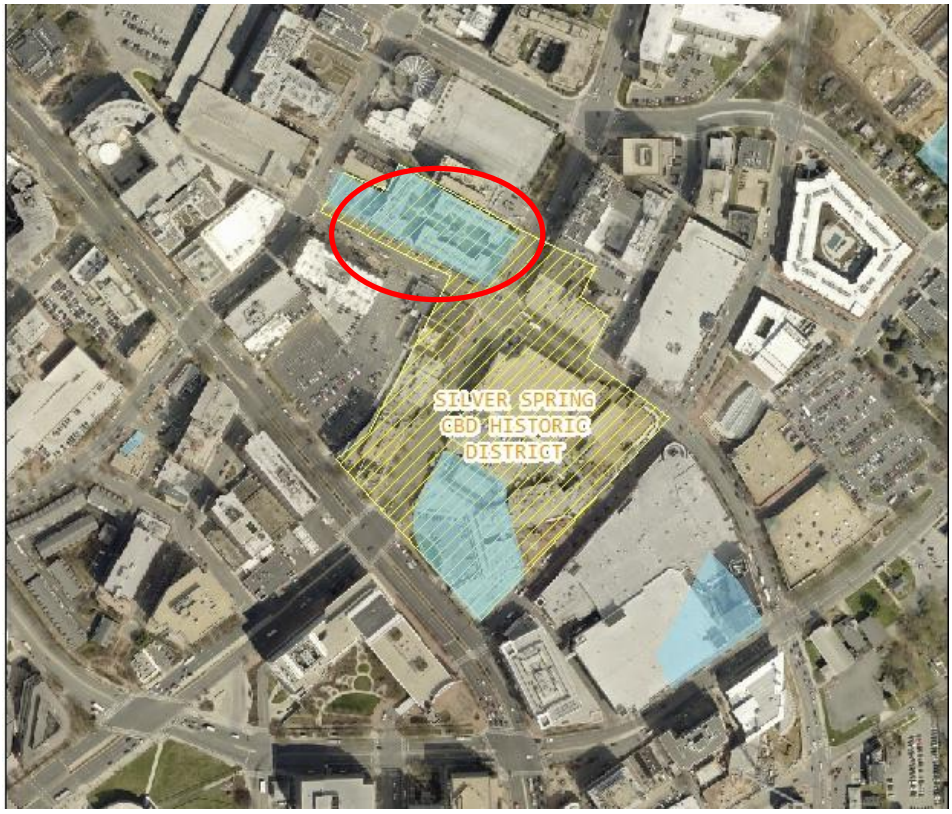
The Fenton Street station consists of two platforms located near the intersection of Fenton Street and US 29. One platform measuring approximately 20' by 10' is located on the southern side of US 29, near the southeast corner of the US 29 / Fenton Street intersection. A second platform measuring approximately 65' x 16.2' is located on the northern side of US 29, near the northwest corner of the US29 / Fenton Street intersection.

The first platform on the south side of US 29 is located within the Silver Spring CBD Locational Atlas Historic District (#36/7), shown in Figure 2 below. Under Section 24A-10 of the Historic Preservation Ordinance, projects located within Locational Atlas Historic Districts must be evaluated to determine if the proposal constitutes either a demolition or a substantial alteration. This platform is being constructed in an area that is already paved and is already used to support mass transit with a bus stop adjacent and near the Fenton Street intersection. The addition of the railing and the change in the paving to support the construction of this platform is not a substantial alteration to the Silver Spring CBD Locational Atlas Historic District and requires no further historic preservation review.

The second platform, located on the northern side of US 29 is located fully within the Silver Spring CBD, but also partially within the boundaries of the Montgomery Arms Apartments Master Plan Historic Site (#36/007-002A). The parcel boundary of Montgomery Arms extends into the sidewalk in this area by approximately 10 feet; more than half of this platform is technically located within the parcel boundary of Montgomery Arms and will require a permanent easement to be constructed. The easement area is noted on the submitted plans and cross-section for this platform. Construction of this platform and associated paving, signage and any railings or other alterations will require a Historic Area Work Permit (HAWP) and approval by the Historic Preservation Commission (HPC). No alterations are currently proposed to the retaining wall, steps or landscaped area of the Montgomery Arms Apartments.

While this platform will technically be located inside the boundaries of the Historic Site, the area is already paved and is a heavily used sidewalk. The construction of the BRT platform itself will not substantially change the character of this location. The HPC will evaluate whether the construction of any signage, railings or appurtenances associated with this platform meet the standards of approval set forth in Section 24A-8 of the Historic Preservation Ordinance.

Figure 2: Location of Historic Sites and Districts. Montgomery Arms Apartments shown in red circle.

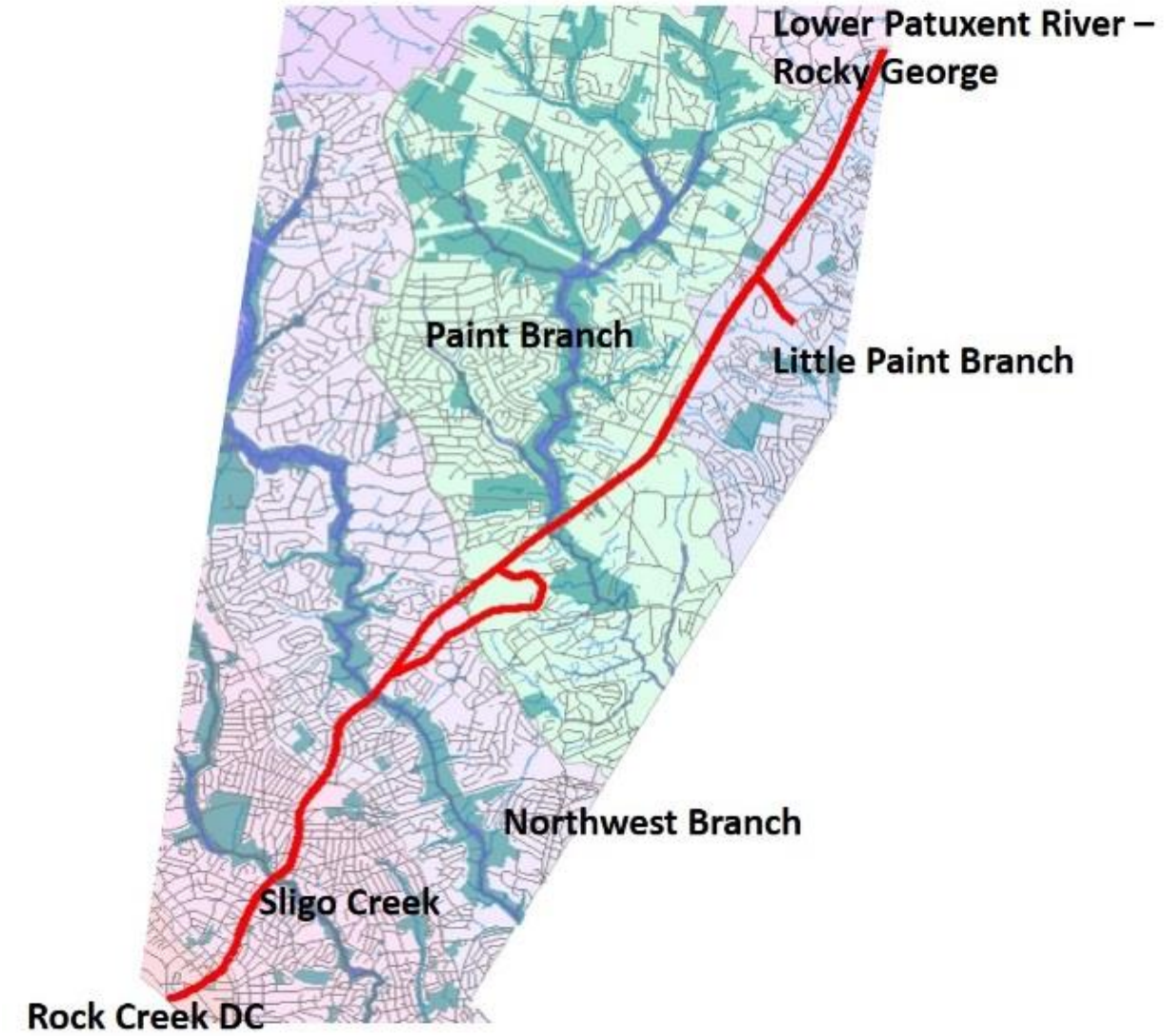


Environmental Analysis

Environmental Guidelines

The US 29 Bus Rapid Transit (BRT) plan crosses six subwatersheds. From south to north, those subwatersheds are Rock Creek DC (Use I), Sligo Creek (Use I), Northwest Branch (Use IV), Paint Branch (Use III), Little Paint Branch (Use I), and Lower Patuxent River - Rocky Gorge (Use I-P). While the plan crosses three streams and their associated stream valley buffers and floodplains - Sligo Creek, Northwest Branch, and Paint Branch, no additional disturbance is proposed in the stream valley buffer or floodplain. Figure 3 shows the six subwatersheds

Figure 3: Subwatersheds



Forest Conservation

The proposed project is subject to the Montgomery County Forest Conservation Law (Chapter 22A of the County Code) but has received an exemption (42018245E) from Article II that require the preparation of a forest conservation plan under Section 22A-5(e). The site is a State or County highway construction activity that is subject to Section 5-103 of the Natural Resources Article of the Maryland Code or Section 22A-9 of the Forest Conservation Law for County Highway Projects, which states;

a) General
   1. This section applies to construction of a highway by the County as part of an approved Capital Improvements Program project.
   2. The construction should minimize forest cutting or clearing and loss of specimen or champion trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a

reasonable effort to minimize the cutting or clearing of trees and other woody plants.

b) If the forest to be cut or cleared for a County highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of reforestation for each acre of forest cleared.
c) Reforestation for County highway projects must meet the standards in subsections 22A-12(e), (g) and (h).
d) Any mitigation requirement for loss of specimen or champion trees must be based on the size and character of the tree.

This plan does not propose to remove over 20,000 square feet of forest and is not subject to reforestation requirements under 22A-9. See Attachment D for the forest conservation exemption.

Proposed Project

The US 29 BRT project will primarily be located within the existing right-of-way (ROW). However, the project's limit of disturbance (LOD) does extend beyond the existing ROW due to the platforms and associated stormwater management. MCDOT has submitted a Tree Save Plan with the Mandatory Referral, showing the impacts of the proposed disturbance on trees and the proposed protection measures. While no forest is impacted by this disturbance, 75 trees with less than 24-inch diameter at breast height (DBH), two trees greater than or equal to 24 inches DBH and less than 30 inches DBH, and one tree greater than or equal 30 inches DBH will need to be removed. The project will include installation of landscaping adjacent to proposed platforms and stormwater management facilities, including planting of replacement street trees within the corridor where feasible. Unfortunately, there is little available room to replace these trees, as the entire disturbed area will be used for construction of BRT station areas and associated stormwater management facilities. The majority of the trees impacted are street trees.

Parks

This project does not impact park resources.

PUBLIC OUTREACH

MCDOT has conducted numerous events and public meetings over the past year in support of this project. Engagement opportunities included community open houses, an online survey and feedback form, attendance at neighborhood festivals, community events, and transit centers and presentations at community and business association meetings. Open houses and opportunities for online engagement were promoted through mailings and online advertisements on both traditional media and social media sites.

Citizens Advisory Committee Meetings:

- A total of 38 individual Corridor Advisory Committee (CAC) meetings have been held since September 2015.

Open Houses:

- April 4, 2018: White Oak Community Center
- April 3, 2018: Montgomery Blair High School
- March 15, 2018: Downtown Silver Spring
- November 20, 2017: Silver Spring Civic Center
- November 16, 2017: Montgomery Blair High School
- November 15, 2017: East County Regional Service Center
- March 15, 2017: White Oak Community Center
- March 13, 2017: Montgomery Blair High School
- March 7, 2017: Silver Spring Civic Center

CONCLUSION

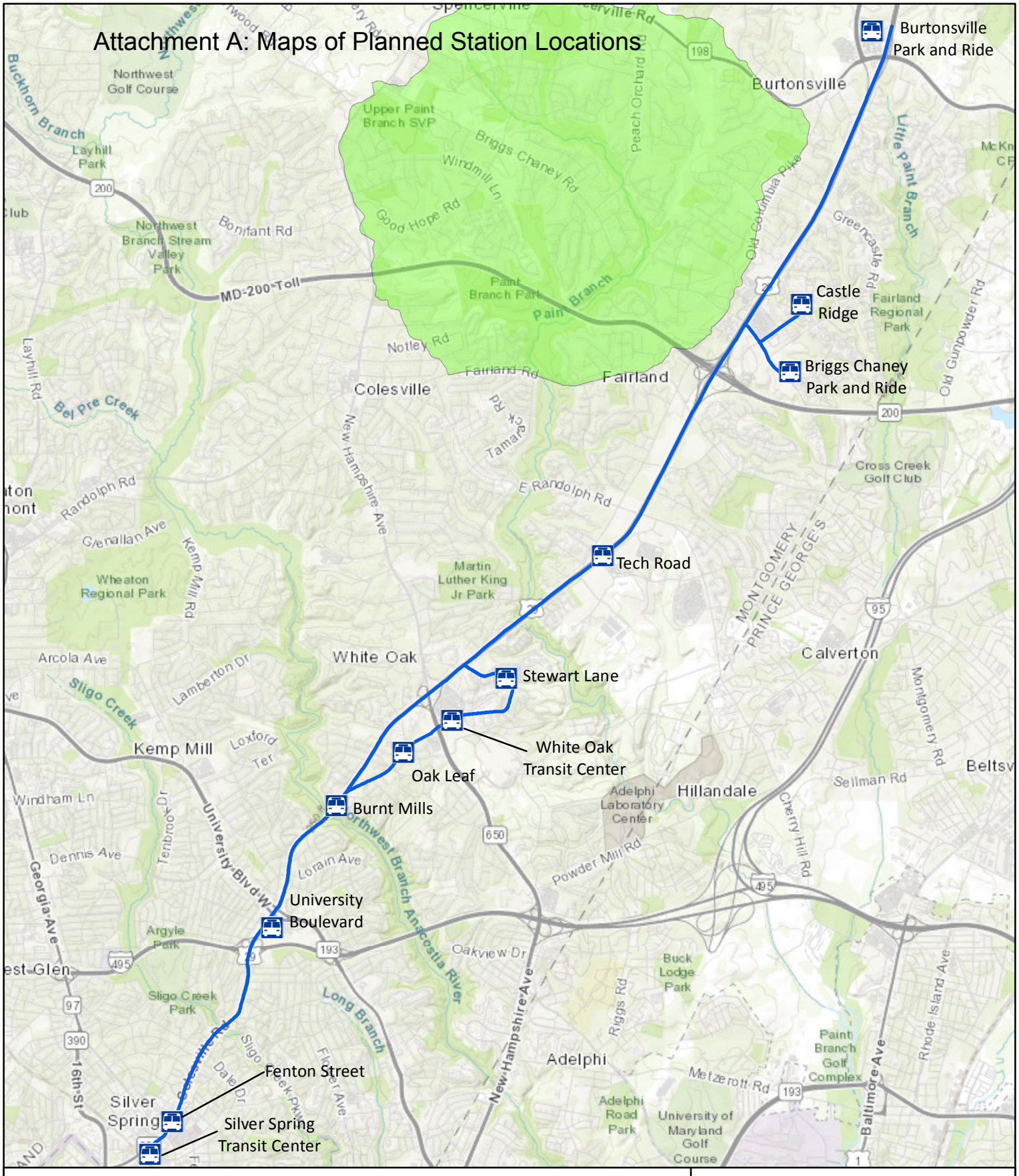
Staff strongly supports the US 29 Bus Rapid Transit project, which will provide substantial benefits to existing and new transit riders along the US 29 corridor for a modest cost. This project is an important step toward the creation of Montgomery County's planned bus rapid transit network.

Staff would also like to commend MCDOT staff and their consultant team on the extensive inter-agency collaboration they have maintained with this project. The project team has conducted numerous meetings with Planning staff over the past year and have been highly responsive to our comments.

ATTACHMENTS

- Attachment A: Maps of Planned Transit Station Locations
- Attachment B: Planning Board Letter to Director Roshdieh 02-22-2017
- Attachment C: Excerpts from 2013 Countywide Transit Corridors Functional Master Plan
- Attachment D: Forest Conservation Exemption

Attachment A: Maps of Planned Station Locations



Station Stops
BRT Route
Upper Paint Branch Special Protection Area

0 2,500 5,000 10,000 Feet

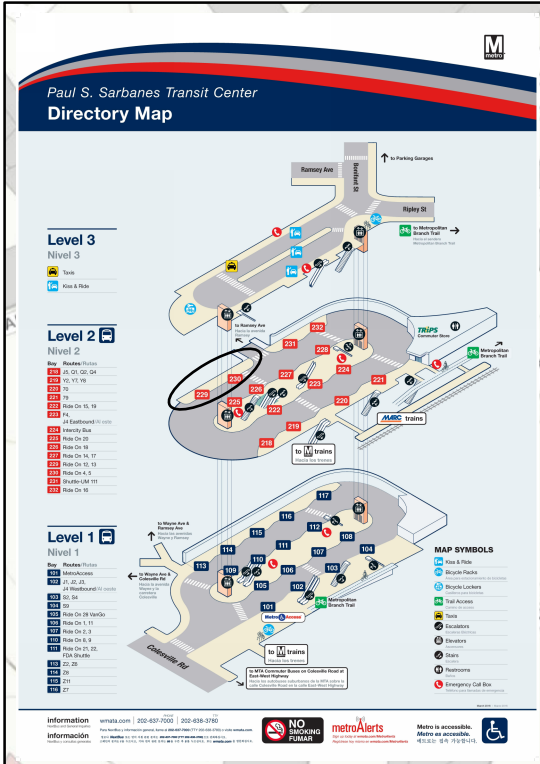
MCDOT
Montgomery County
Department of Transportation

US 29
Bus Rapid Transit

Corridor Map Overview

Page 1 of 1

February 2018



US 29 BRT Platform will be located on Level 2 where existing bus bays 229 and 230 are located (see black circle on SSTC map). Ride On routes currently using these bays will be moved elsewhere in the SSTC.

Platforms

0 100 200 400 Feet

MCDOT Montgomery County Department of Transportation

US 29
Bus Rapid Transit

Station Platform Overview

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Silver Spring Transit Center

May 2018

Platforms

0 100 200 400 Feet

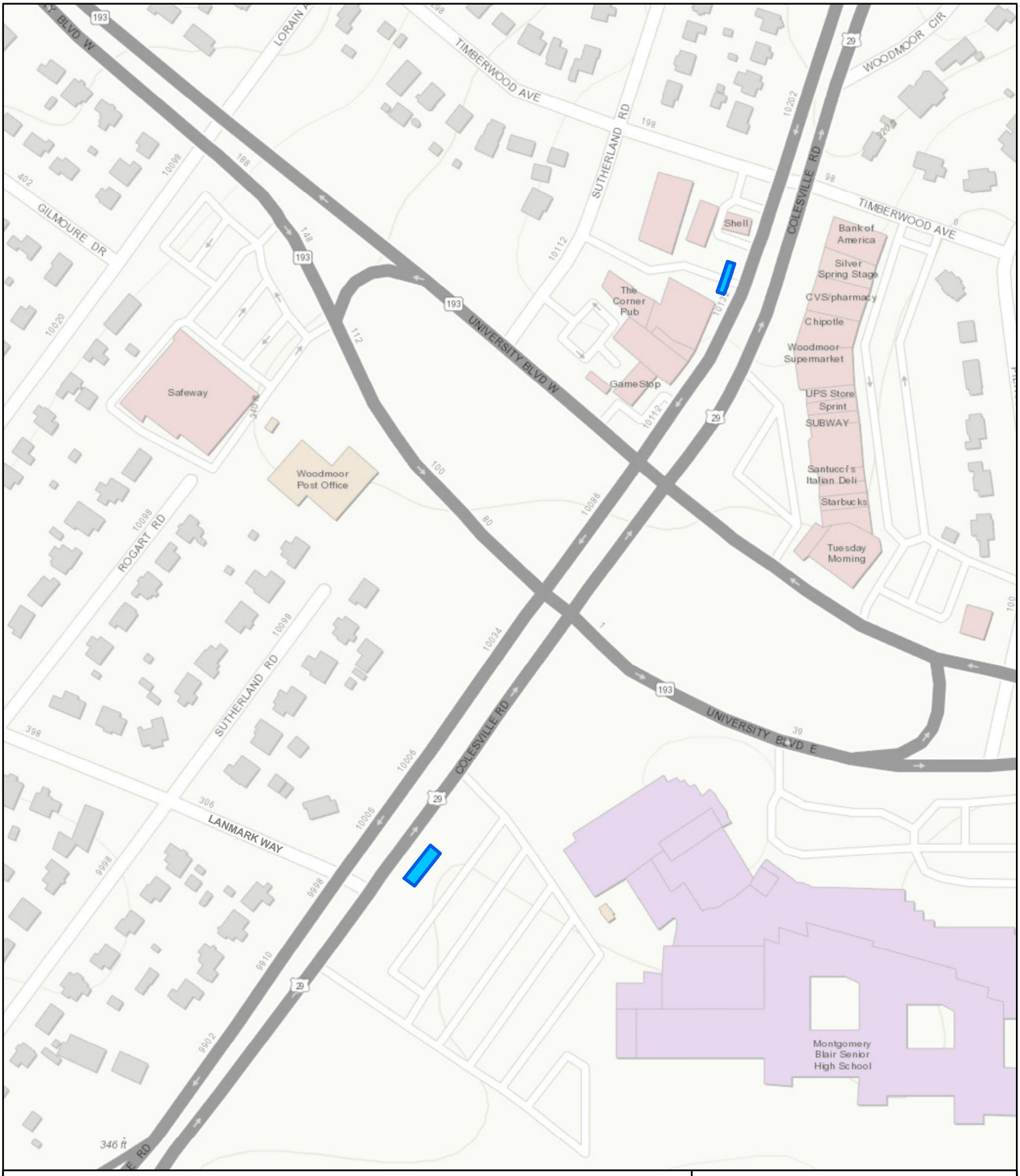
US 29
Bus Rapid Transit

Station Platform Overview

Fenton Street Station

May 2018

MCDOT
Montgomery County
Department of Transportation



Platforms

0 100 200 400 Feet

US 29
Bus Rapid Transit

Station Platform Overview

University Boulevard Station

May 2018

MCDOT
Montgomery County
Department of Transportation

Platforms

0 100 200 400 Feet

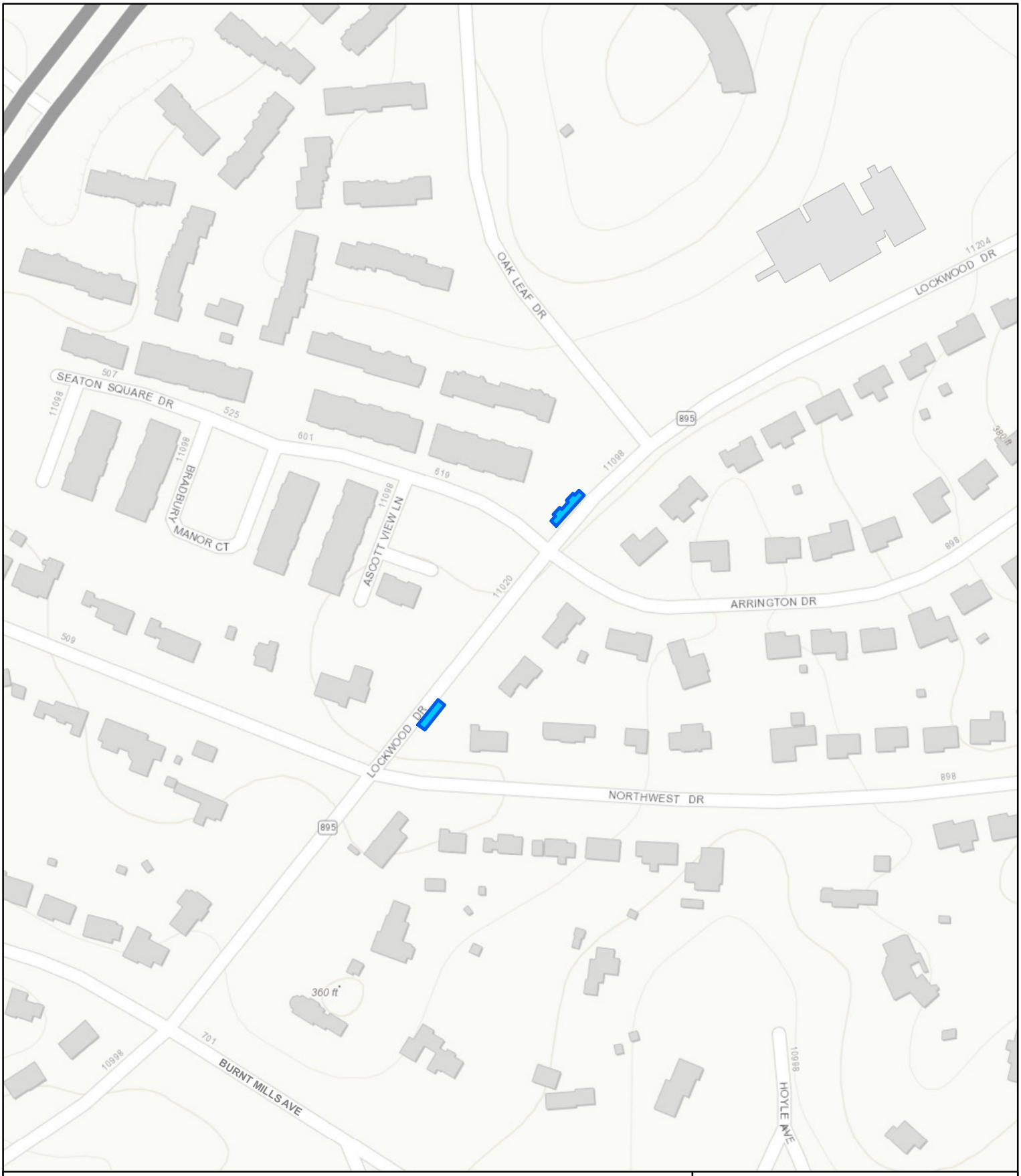
MCDOT
Montgomery County
Department of Transportation

US 29
Bus Rapid Transit

Station Platform Overview

Burnt Mills Station

May 2018



Platforms

0 100 200 400 Feet

Montgomery County Department of Transportation

US 29
Bus Rapid Transit

Station Platform Overview

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Oak Leaf Drive Station

May 2018

Platforms

0 100 200 400 Feet

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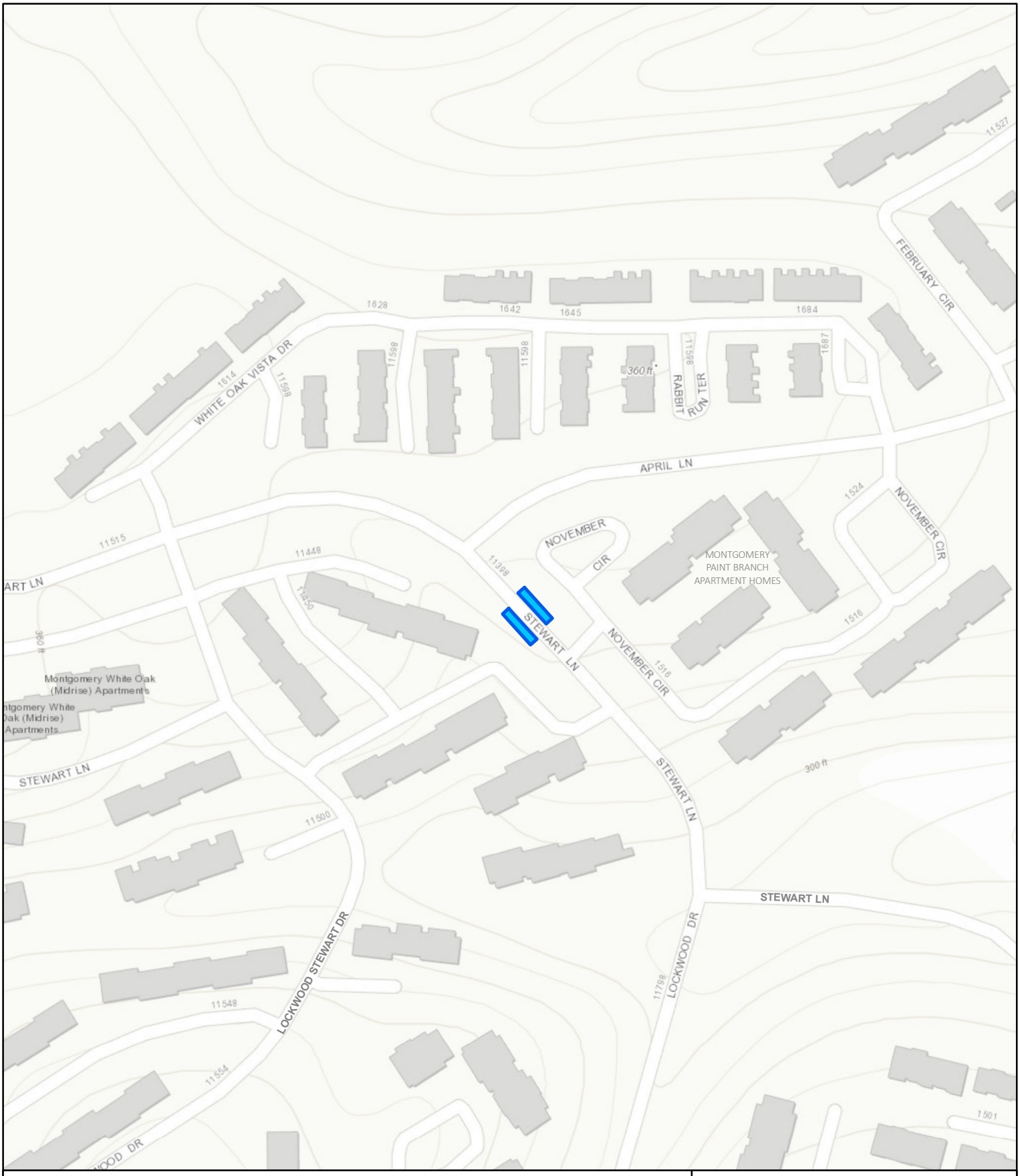
US 29
Bus Rapid Transit

Station Platform Overview

White Oak Transit Center Station

May 2018



Platforms

0 100 200 400 Feet

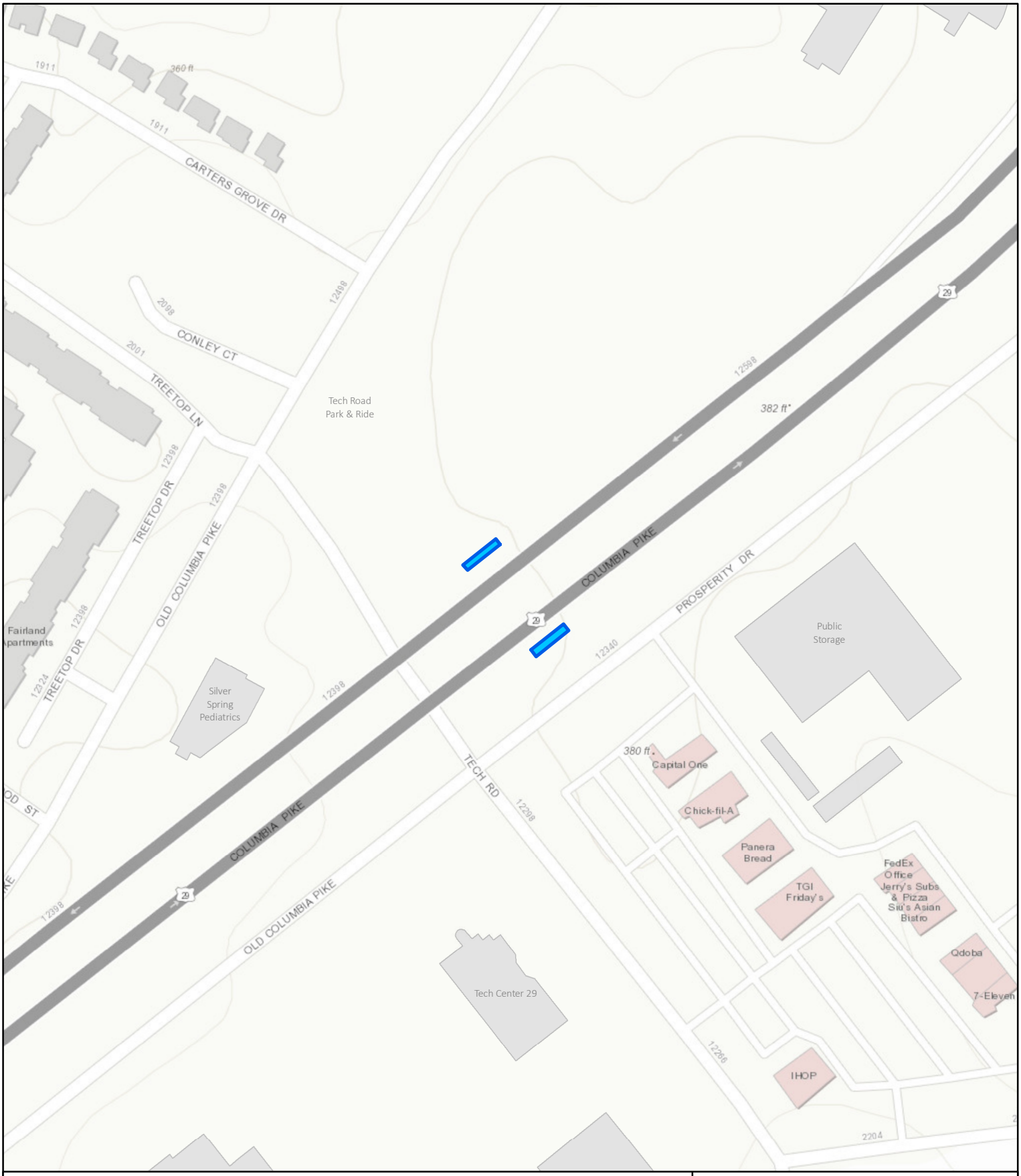
MCDOT
Montgomery County
Department of Transportation

US 29
Bus Rapid Transit

Station Platform Overview

Stewart Lane Station

May 2018



Platforms

0 100 200 400 Feet

MONTGOMERY COUNTY MARYLAND

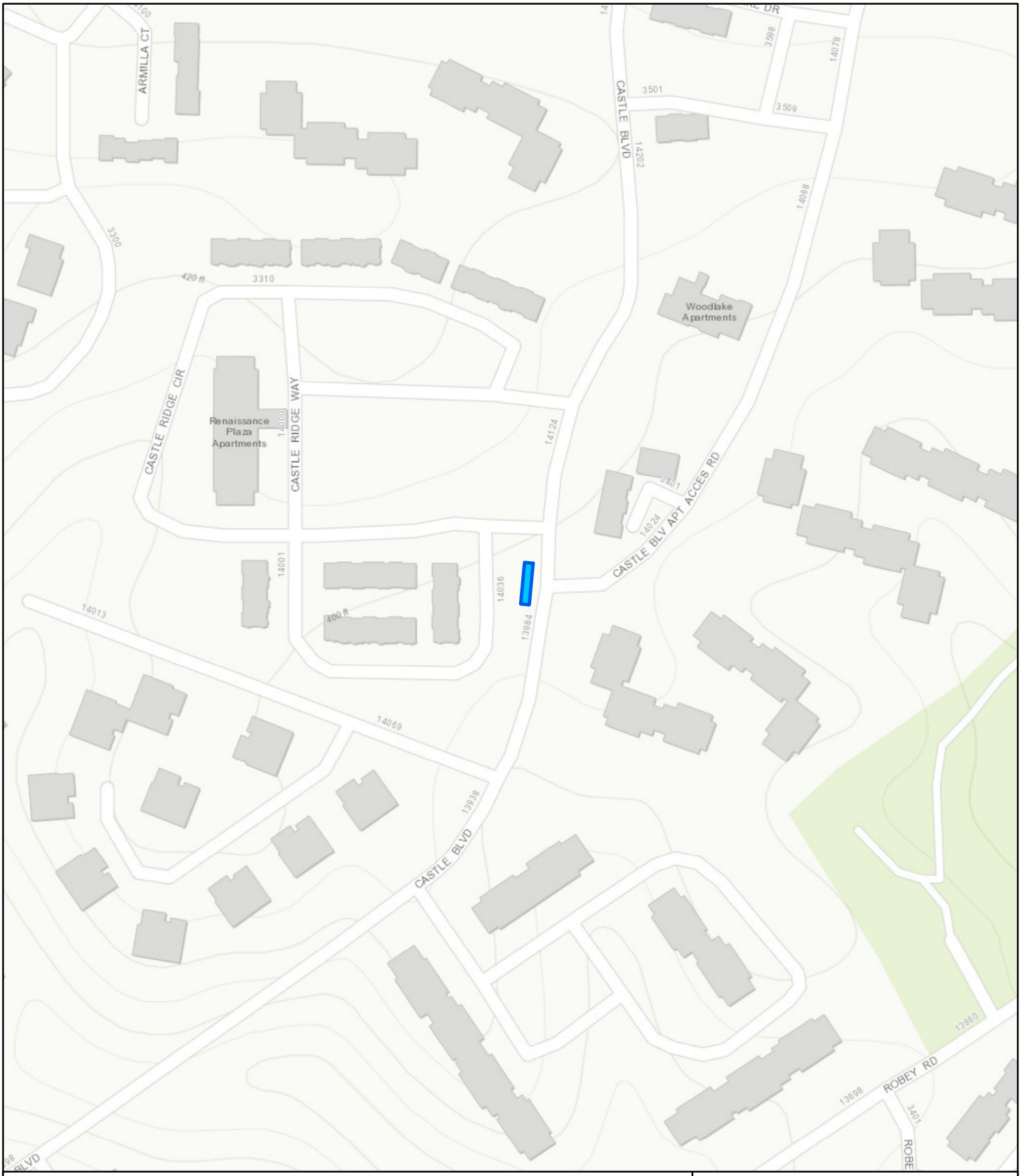
MCDOT
Montgomery County
Department of Transportation

US 29
Bus Rapid Transit

Station Platform Overview

Tech Road Station

May 2018



Platforms

0 100 200 400 Feet

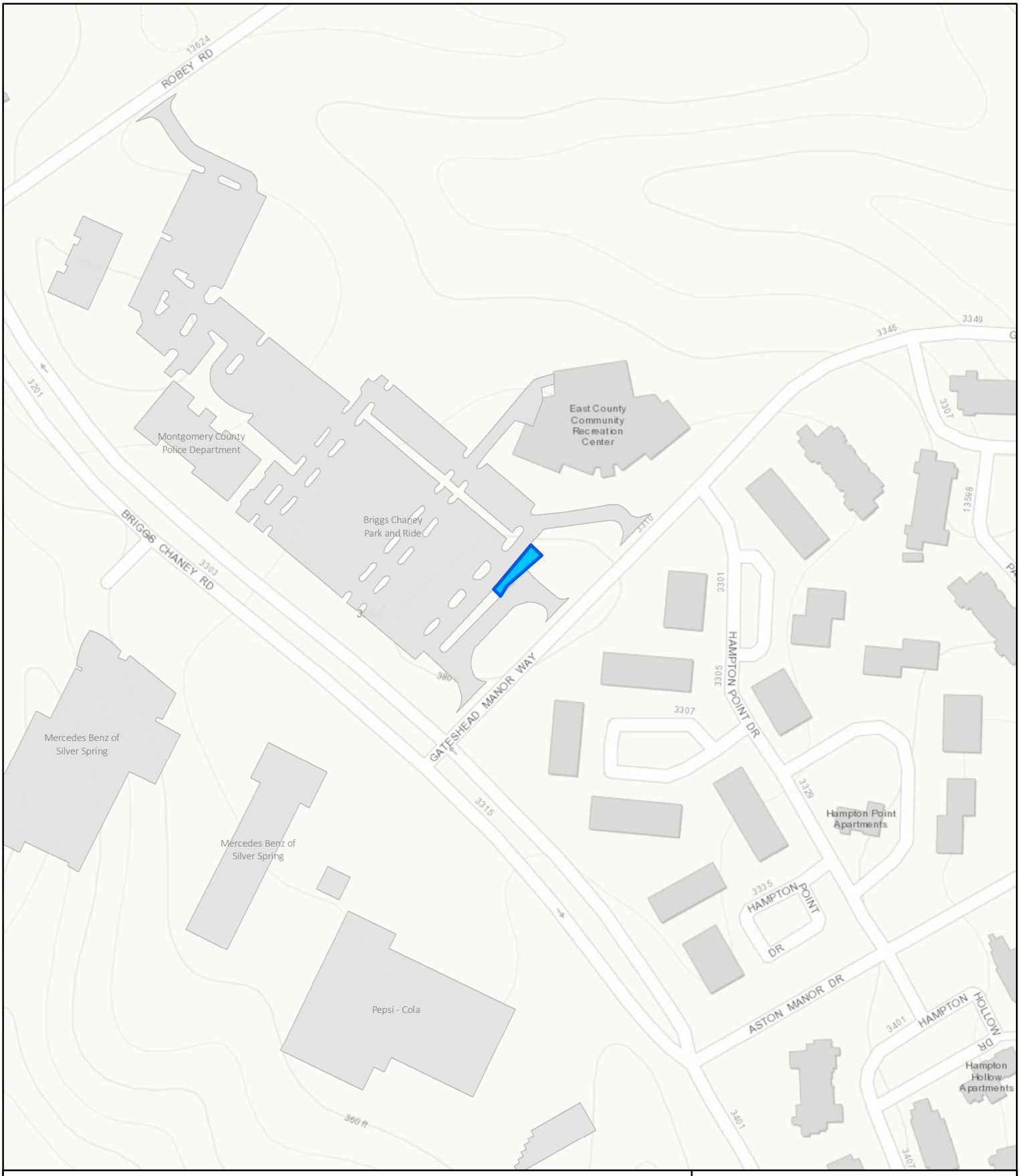
MCDOT
Montgomery County
Department of Transportation

US 29
Bus Rapid Transit

Station Platform Overview

Castle Ridge Station

May 2018



Platforms

0 100 200 400 Feet

MCDOT
Montgomery County
Department of Transportation

US 29
Bus Rapid Transit

Station Platform Overview

Briggs Chaney Park-And-Ride

May 2018

Platforms

0 100 200 400 Feet

US 29
Bus Rapid Transit

Station Platform Overview

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Burtonsville Park-And-Ride

May 2018

MCDOT
Montgomery County
Department of Transportation

MONTGOMERY COUNTY PLANNING BOARD
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

OFFICE OF THE CHAIR

February 22, 2017

Mr. Al Roshdieh
Director
Montgomery County Department of Transportation (MCDOT)
Executive Office Building (EOB)
101 Monroe Street, 10th Floor Conference Room
Rockville, Maryland 20850

Subject: US 29 Bus Rapid Transit Study and Project

Dear Mr. Roshdieh:

The Montgomery County Planning Board was briefed by your staff and the Maryland Transit Administration (MTA) on February 16, 2017. The briefing included a review of the US 29 Bus Rapid Transit (BRT) Draft Corridor Planning Study and the MCDOT US 29 BRT Project planned for implementation in early 2020. The Planning Board is in full support of the Executive's and Council's policy related to the expedited introduction of BRT service on US 29 and see it as a critical first step to attaining the overall vision of the White Oak Science Gateway Plan. The Planning Board also believes it is important to continue to plan for additional enhancements to BRT in the corridor.

One purpose of the briefing was to provide an opportunity for the review and discussion of the Draft Corridor Planning Study, which served a valuable purpose in informing the plans for implementation of BRT in 2020, but will now be placed on hold without proceeding toward the selection of a Locally Preferred Alternative to be advanced into preliminary engineering. The Planning Board's comments on the Draft Study Report are provided below:

1. Note the improvements that are being implemented as part of the County Executive's 2020 BRT Plan.

2. Include narrative on why managed lanes require additional analysis or why the additional analysis cannot be conducted now.

3. Note when MDOT intends to finish the analysis of the managed lanes, choose a preferred alternative, and advance the preferred alternative as originally planned.

4. Provide background on the decision to include HOV-2 as part of two of the build alternatives.

8787 Georgia Avenue, Silver Spring, Maryland 20910 Phone: 301.495.4605 Fax: 301.495.1320
www.montgomeryplanningboard.org E-Mail: mcp-chair@mncppc-mc.org

5. Subsequent analyses should begin to address the potential network effect on forecast ridership so that higher end treatments are not automatically eliminated from consideration as alternatives are refined.

6. The Study has not adequately addressed part of the Purpose and Need for the project. If the existing bus service has poor reliability operating in mixed traffic, the Study should document the extent to which the BRT build alternatives would improve system reliability in 2040.

7. Consider whether VISSIM could be used to evaluate reliability, possibly by breaking out the components of the local bus and BRT trips to compare stopped delay, running time, boarding and alighting time (which should increase with more ridership), and simulation events (having to wait through an entire signal cycle length to proceed).

8. Identify studies of successful BRT systems where pre/post-studies that have been conducted to quantify the effect of reliability on travel time.

9. All alternatives appear to have park impacts as well as impacts to the streams. Once more advanced design for the selected alternative is available, Montgomery Parks will provide detailed comments, including opportunities to improve stormwater discharge into streams on parkland. Montgomery Parks staff should be included in interagency coordination meetings regarding more detailed design of the selected alternative. In addition, any work on parkland will require a park permit.

10. The following four cultural resources were identified in the Study: Polychrome Historic District, Robert B. Morse Water Filtration Plant, Silver Theater and Silver Spring Shopping Center, and Montgomery Arms are County designated sites or districts listed in the Master Plan for Historic Preservation:

- Polychrome Historic District
- Robert B. Morse Water Filtration Plant
- Silver Theater and Silver Spring Shopping Center, and Montgomery Arms

Two additional resources (Old Silver Spring Commercial Area and the J.C. Penney Co Building) are identified in the Locational Atlas.

These resources are protected under Chapter 24A of the County Code. The study included no analysis of the potential impact to cultural resources, but acknowledges that future studies will need to assess the project's impact on identified cultural resources consistent with Section 4(f) of the US Department of Transportation Act of 1966, Section 106 of the National Historic Preservation Act and the Maryland Historical Trust Act of 1985 (as amended).

I would like to close by thanking you again for your work and the work of your team and the MTA in advancing the US 29 BRT Corridor planning and implementation. It is a significant first step toward achieving the recommendations first envisioned in the County's 2011 BRT Feasibility Study and the subsequent adoption of the County's 2013 Countywide Transit Corridors Functional Master Plan. Please do not hesitate to contact Tom Autrey (301-495-4533) of our staff with any questions.

Sincerely,

Casey Anderson
Chair

CA:TA:aj

CC: Gwen Wright
Jacquelyn Seneschal - MTA
Chris Conklin - MCDOT
Joanna Conklin - MCDOT
Allison Davis - WMATA
Rose Krasnow
Pam Dunn

Corridor 9: US 29

The US 29 corridor is an express corridor north of New Hampshire Avenue and a commuter corridor south of New Hampshire Avenue, with most traffic flowing southbound in the morning and northbound in the evening. Much of the traffic is long distance trips, passing through the corridor on the way to other places. For many people it is an alternative to I-95, drawing people from northern Montgomery County and Howard County to jobs in the I-270 corridor, the District of Columbia, and Northern Virginia.

US 29 north of the New Hampshire Avenue interchange is classified as a controlled major highway, with interchanges ultimately replacing all existing at-grade intersections. It has a wide median that can accommodate a busway, and the three existing interchanges—at Randolph Road/Cherry Hill Road, Briggs Chaney Road, and Spencerville Road (MD 198)—can all accommodate a median busway. Activity centers in this corridor segment are located in Burtonsville and White Oak.

South of New Hampshire Avenue, US 29 is classified as a major highway and has a very different character, passing through very congested areas in Four Corners and the Silver Spring CBD with very limited opportunities to expand the right-of-way.

Corridor recommendations, from north to south:

- Along US 29 from MD 198 to Stewart Lane, up to two additional dedicated lanes.
- Along Stewart Lane and Lockwood Drive, a mixed traffic operation.
- Along US 29 from Stewart Lane to Sligo Creek Parkway, dedicated lanes.
- Along US 29 from Sligo Creek Parkway to Georgia Avenue, a dedicated lane in the peak-hour peak-direction.
- Along US 29 from Georgia Avenue to Sixteenth Street, dedicated lanes.

Station Locations

Burtonsville park-and-ride
Briggs Chaney park-and-ride
US 29 and Fairland Road
US 29 and Tech Road
White Oak Transit Center
Lockwood Drive and Oak Leaf Drive
US 29 and Hillwood Drive
US 29 and MD 193
US 29 and Franklin Avenue
US 29 and Fenton Street
Silver Spring Transit Center

Map 11 **Corridor 9: US 29**

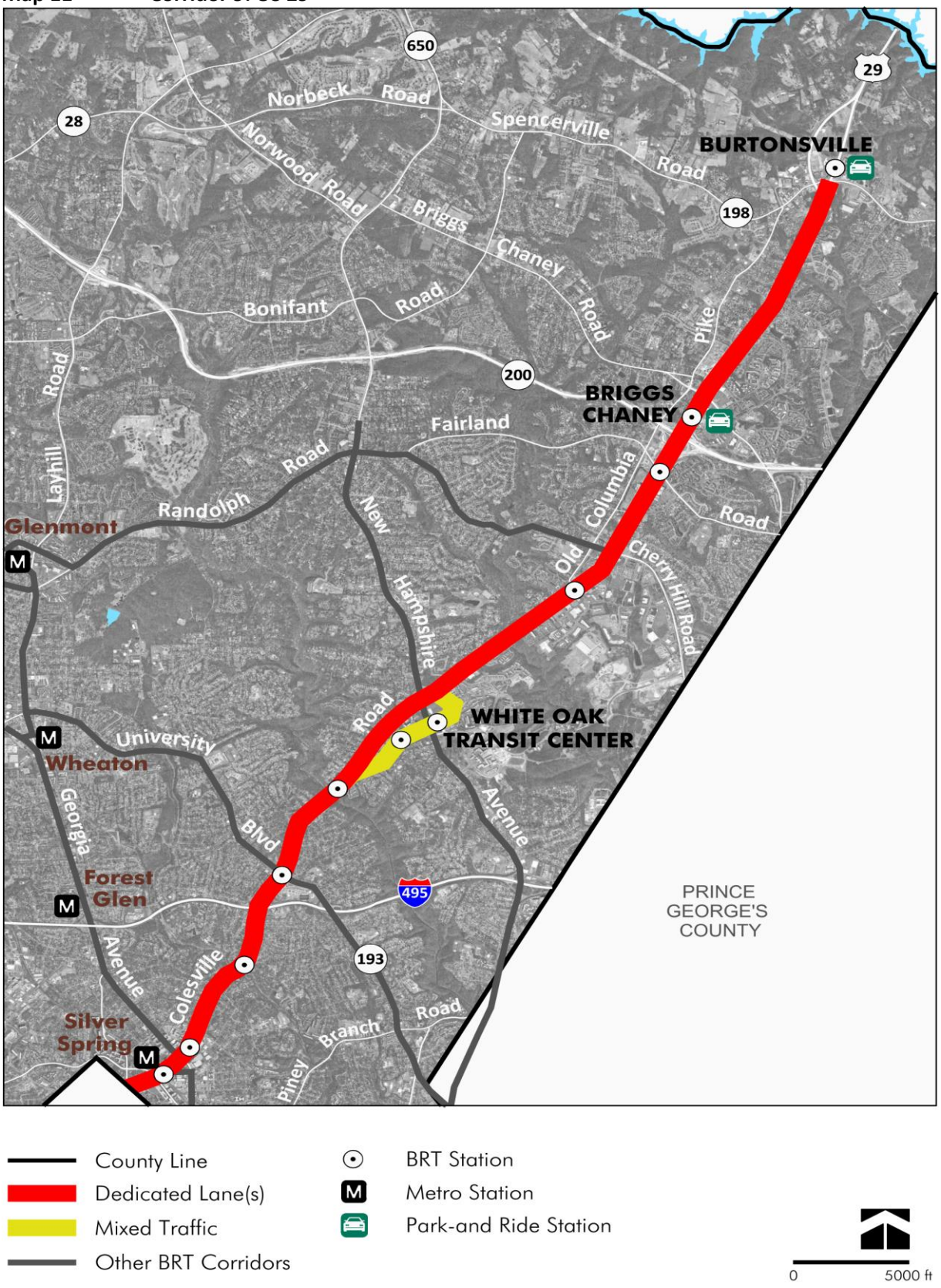

Table 12 Corridor 9 Recommendations, US 29

Road	From	To	Dedicated Lane(s)?	R.O.W.**	Maximum Additional Transit Lanes
US 29	MD 198	Stewart Ln	Yes	200	2
Stewart Lane	US 29	Lockwood Drive	No	80	0
Lockwood Drive	Stewart Ln	New Hampshire Ave		80	0
Lockwood Drive	New Hampshire Ave	US 29		80	0
US 29	Stewart Lane	Lockwood Drive	Yes	122	0
US 29	Lockwood Dr	Southwood Ave	Yes	122	0
US 29	Southwood Ave	Sligo Creek Pkwy	Yes	120	0
US 29	Sligo Creek Pkwy	Fenton St	Yes*	120	0
US 29	Fenton St	Georgia Ave		100	0
Colesville Road	Georgia Ave	East West Hwy	Yes	125	0
Colesville Road	East West Hwy	16th St		125	0

*The six existing general purpose lanes in these segments currently operate during peak hours as four in the peak direction and two in the off-peak direction; in off-peak hours, they operate as three lanes in each direction. This Plan recommends that the operation in peak hours there be a dedicated lane in the peak direction.

**Reflects the minimum right-of-way, and may not include land needed for spot improvements such as turn lanes and stations

ATTACHMENT D: Forest Conservation Exemption

MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

June 20, 2018

Mr. Bruce Johnston
MCDOT
100 Edison Park Drive
Gaithersburg MD, 20850

Re: Forest Conservation Plan Exemption Confirmation
US 29 Bus Rapid Transit (BRT) Improvements
Exemption Plan Number: 42018245E

Dear Mr. Johnston

Based on the review by staff of the Montgomery County Planning Department, the Forest Conservation Plan Exemption Request, submitted on June 14, 2018, and completed on June 20, 2018, for the plan identified above, is confirmed. This project site is exempt from Article II of the Montgomery County Code, Chapter 22A (Forest Conservation Law), per Section 22A-5(e) because the site is a State or County highway construction activity that is subject to Section 5-103 of the Natural Resources Article of the Maryland Code or Section 22A-9 of the Forest Conservation Law for County Highway Projects**,** which states;
(a) General
(1) This section applies to construction of a highway by the County as part of an approved Capital Improvements Program project.
(2) The construction should minimize forest cutting or clearing and loss of specimen or champion trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants.
(b) If the forest to be cut or cleared for a County highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of reforestation for each acre of forest cleared.
(c) Reforestation for County highway projects must meet the standards in subsections 22A-12(e), (g) and (h).
(d) Any mitigation requirement for loss of specimen or champion trees must be based on the size and character of the tree.

This plan does not propose to remove over 20,000 square feet of forest, and is not subject to reforestation requirements under 22A-9.

A pre-construction meeting is required after the limits of disturbance have been staked prior to clearing and grading. The property owner, construction superintendent, forest conservation inspector, and the Montgomery County Department of Permitting Services sediment control inspector shall attend this meeting. If you have any questions regarding these actions, please contact me at amy.lindsey@montgomeryplanning.org.

Sincerely,

Amy Lindsey
Planner Coordinator, Area 2