MCPB
Item No. 3
Date: 11-03-2016

MD 586 / Veirs Mill Road Bus Rapid Transit Study Draft Corridor Report

David Anspacher, Planner/Coordinator, david.anspacher@montgomeryplanning.org, 301-495-2191
Tom Autrey, Thomas.Autrey@montgomeryplanning.org, 301-495-4533
Pam Dunn, Chief, pamela.dunn@montgomeryplanning.org, 301-650-5649

Completed: 10/26/2016

RECOMMENDATION

Transmit the following comments to the Montgomery County Transportation, Energy and Environment (T&E) Committee, Maryland State Highway Administration and the Montgomery County Department of Transportation:

1. Within the next 1 – 2 years, implement a limited stop bus route, as proposed in Alternative 2. This route should be served by higher-quality buses and should run at frequent headways that are easy for users to remember (preferably every 10 minutes during peak periods).

2. Within the next 5 years Montgomery County should update the ridership forecasts in the *Draft Corridor Study Report*:

- Conduct ridership forecasts that evaluate the ridership, person throughput and person travel time benefits of Veirs Mill Road as part of:
    - a single corridor with existing and funded projects
    - a partial network of BRT corridors, including those currently under study (Corridor Cities Transitway, MD 355, and US 29)
    - the full network of BRT corridors.
- Conduct a more rigorous evaluation of Alternatives 4A and 4B to determine how repurposing general purpose travel lanes to bus only lanes would impact person throughput and person travel time benefits for travel by transit and automobile.

3. If the subsequent analysis continues to show low ridership potential on the Veirs Mill Road corridor, in lieu of dedicated bus lane BRT, the corridor should be upgraded with high-quality bus stops, real time information, on-board fare collection, transit signal priority (TSP), queue jumps, and shared use paths on both sides of the street.

4. Furthermore, we recommend resurrecting the goals and objectives developed by the Montgomery County Department of Transportation for evaluating each of the BRT corridor studies.

5. Montgomery Parks staff should be included in any interagency coordination meetings regarding more detailed design of the selected alternative. In addition, any work on parkland will require a park permit.

SUMMARY

The *MD 586 / Veirs Mill Road Bus Rapid Transit Study – Draft Corridor Report* evaluated several alternatives to improve travel along the Veirs Mill Road corridor. This study was funded by Montgomery County and completed by the Maryland State Highway Administration is conjunction with the Montgomery County Department of Transportation. Transit service along this route is currently provided by several WMATA and RideOn bus routes, which are characterized by slow and unreliable service due to traffic congestion, and a large number of bus stops along the corridor.

The County Council T&E Committee is scheduled to review the report on December 1, 2016.

STUDY DESCRIPTION

The *MD 586 / Veirs Mill Road Bus Rapid Transit Study – Draft Corridor Report* is being conducted by the Maryland State Highway Administration. The purpose of the study is to provide new, higher-speed, higher-frequency, premium transit bus service along Veirs Mill Road between the Rockville Metrorail Station and the Wheaton Metrorail Station. The Need of the study is:

1. System Connectivity: A high-quality, east-west transit connection is not currently available between the Rockville Metrorail Station and the Wheaton Metrorail Station.
2. Mobility: The Veirs Mill Road corridor is characterized by traffic congestion that hinders bus mobility (speed and reliability), resulting in unpredictable service and travel times.
3. Transit Demand/Attractiveness: The current transit service does not meet existing demand; this coupled with reliability issues (adherence to schedule, bus bunching, and slow travel times), reduces serviceability for individuals who rely on public transit as their primary mode of transportation. In addition, issues associated with current bus service do not make buses attractive to individuals who have access to alternate modes of transportation.
4. Livability: Transit improvements are needed throughout the Veirs Mill Road corridor to create a more reliable, integrated and accessible transportation network that enhances choices for transportation users; provides easy access to affordable housing, employment, and other destinations; and promotes positive effects on the surrounding community.

The four alternatives are described below and are shown as Attachment A to this memorandum.

<u>Alternative 1: No-Build Alternative</u>

- This alternative would not involve improvements to infrastructure or bus service along the Veirs Mill Road study corridor beyond those improvements already planned and programmed. The existing lane configurations and bus services would remain the same in the 2040 design year. The No-Build Alternative does not address the purpose and need for the project; however, it

serves as a baseline for comparing the impacts and improvements associated with the build alternatives.

Alternative 2: Transportation System Management (TSM) with Intersection Queue Jumps and Enhanced Bus Service

- Alignment: This alterative would consist of infrastructure improvements at select intersections and the implementation of a limited-stop, enhanced bus service, similar to the proposed Washington Metropolitan Area Transit Authority (WMATA) Q9 route. The infrastructure improvements would include enhanced bus stops with features such as shelters, real time information, or off-board fare collection, installation of transit signal priority (TSP), and widening for the installation of queue jumps.
- Frequency: Between Wheaton and Rockville buses would operate every 12 minutes during peak periods and every 15 minutes during off-peak periods. A supplemental service would travel from Wheaton to the Montgomery College Rockville campus and would operate every 36 minutes during peak periods and every 45 minutes during off-peak periods.
- Span of Service: 6:00 am to 12:00 pm (Wheaton to Rockville) and 8:00 AM to 10:00 PM (Wheaton to Montgomery College).

Alternative 3: New Bus Rapid Transit Service in Dedicated Curb Lanes (where feasible)

- Alignment: This alternative would consist of widening or repurposing the existing travel lanes and shoulders along Veirs Mill Road to provide dedicated, curb-running bus lanes and a new BRT service. The dedicated lanes would be provided for the BRT service in areas where the improvements would result in minor right-of-way impacts and where doing so would improve bus service by increasing the travel speeds.
- Frequency: Between Wheaton and Rockville buses would operate every 6 minutes during peak periods and every 10 minutes during off-peak periods. A supplemental service would travel from Wheaton to the Montgomery College Rockville campus and would operate every 18 minutes during peak periods and every 30 minutes during off-peak periods.
- Span of Service: 6:00 am to 12:00 pm (Wheaton to Rockville) and 8:00 AM to 10:00 PM (Wheaton to Montgomery College).

Alternative 5B: New Bus Rapid Transit Service in the Median, via One Dedicated Bidirectional Lane or in Two Lanes (where feasible)

- Alignment: This alterative would implement new BRT service with a combination of two dedicated lanes and bi-directional lanes in the median lanes from MD 28 to Newport Mill Road. In the bi-directional median lane segments, BRT buses would operate in both directions in a single-lane operation. Eastbound and westbound vehicles would alternate when using the lane. Transit vehicles traveling in opposite directions would pass each other at stations where the bi-directional travel lanes would widen to two lanes. A two-lane, dedicated median section would be provided, where feasible. Generally, the dedicated lanes would be created by pavement

widening to the outside and shifting the existing vehicular travel lanes out to allow the BRT to fit within the median. The number of existing travel lanes would be maintained.

- Frequency: Between Wheaton and Rockville buses would operate every 6 minutes during peak periods and every 10 minutes during off-peak periods. A supplemental service would travel from Wheaton to the Montgomery College Rockville campus and would operate every 18 minutes during peak periods and every 30 minutes during off-peak periods.
- Span of Service: 6:00 am to 12:00 pm (Wheaton to Rockville) and 8:00 AM to 10:00 PM (Wheaton to Montgomery College).

PREVIOUS STUDIES

Bus Rapid Transit (BRT) has been under study on Veirs Mill Road for nearly two decades:

- BRT on MD 586/Veirs Mill Road was first studied and formally endorsed by Montgomery County and the City of Rockville in 1999, in conjunction with an application to become part of the Federal Transit Administration's BRT Demonstration Program.
- In 2002, the County's Go Montgomery! program specifically adopted the MD 586/Veirs Mill Road BRT Corridor Study, which resulted in its incorporation into the County Council's 10-Year Transportation Plan.
- The WMATA Regional Bus Study – Final Report (September 2003) recommended BRT on MD 586/ Veirs Mill Road.
- In August 2005, the Montgomery County Department of Transportation (MCDOT) completed its Veirs Mill Road Bus Rapid Transit Facility Planning – Phase 1 Report that addressed project purpose and need, consideration of alternatives, costs and benefits, and public relations.
- WMATA conducted the Metrobus Q Line Study in 2009, which identified key corridor issues requiring improvement: passenger crowding, bus bunching, poor schedule adherence, and long travel times. The study also proposed implementation of the Q9 limited stop service to speed up travel times. The Q9 bus would operate every 15 minutes between 7:00 am and 8:00 pm and would require four new buses.
- 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 Veirs Mill Road corridor was identified as one of the corridors in this network.
- 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 January 2016, Maryland State Highway Administration completed the *MD 586 / Veirs Mill Road Bus Rapid Transit Study – Alternatives Retained for Detailed Study Report.* This study evaluated several alternatives and recommended more detailed study of the four alternatives included in the Draft Corridor Study Report.

ANALYSIS

Master Plan Consistency

The 2013 *Countywide Transit Corridors Functional Master Plan* (Attachment B) recommends dedicated bus lanes on Veirs Mill Road. For most of the corridor, the plan recommends a maximum of one additional lane for transit, though between Parkland Drive and Twinbrook Parkway a maximum of two additional lanes for transit is recommended. In addition, 11 stations are recommended at Rockville Metrorail Station, Norbeck Road, Broadwood Drive, Twinbrook Parkway, Aspen Hill Road, Parkland Drive, Randolph Road, MD 185 (Connecticut Avenue), Newport Mill Road, MD 193 (University Blvd), and Wheaton Metrorail Station.

While none of the alternatives includes dedicated lanes along the entire alignment, Alternative 3 and Alternative 5B are substantially consistent with the master plan. Alternative 3 provides dedicated lanes for 72% of the corridor. Alternative 5B provides dedicated lanes for 83% of the corridor. Alternative 2 is not consistent with the master plan because it does not include dedicated lanes.

Each of the alternatives includes the 11 stations recommended in the master plan.

Furthermore, the *Countywide Transit Corridors Functional Master Plan* recommends two metrics (person throughput and person travel time savings) for evaluating where it is appropriate to repurpose existing travel lanes as bus-only lanes. This is documented in the *Montgomery County Transit Lane Repurposing Study*, described in the Analysis section of this memorandum.

The person throughput and person travel time savings analyses conducted in the *Alternatives Retained for Detailed Study Report*, which recommended eliminating the two lane repurposing alternatives, are inconsistent with the *Countywide Transit Corridors Functional Master Plan* as they did not forecast transit ridership when space for dedicated bus lanes is provided by removing general purpose lanes. If this analysis was completed as recommended in the master plan it is likely that transit ridership would grow substantially, though traffic congestion would likely degrade.

Comparison of Alternatives

In June 2015, the County convened a workshop to review the draft goals and objectives for the bus rapid transit corridor studies. The study provided a clear framework for analyzing the advantages and disadvantages of each BRT alternative, but was not completed. We strongly recommend resurrecting the goals and objectives developed at this workshop and evaluating them for each of the BRT corridor studies.

While several metrics were evaluated as part of the Draft Corridor Study Report (see pages S-4 to S-6 in Attachment A) for each of the alternatives, the following metrics provide meaningful differentiation among the alternatives:

- Ridership
- Travel Time

- Properties Impacted
- Public Park Impacts
- Stream Impacts
- Costs

These metrics are discussed below.

Ridership Forecasts

Overall, the report forecasts a limited increase in transit ridership along the Veirs Mill Road corridor (Table 1). The 2040 BRT / enhanced bus ridership forecasts for the Build alternatives range from 2,600 riders (Alternative 2) to 7,300 (Alternative 5B) per day. Of this between 1,200 (Alternative 2) and 3,000 (Alternative 5B) riders are new transit passengers and between 1,400 (Alternative 2) and 4,300 (Alternative 5B) are existing transit passengers who would benefit from faster and more convenient and more reliable bus service.

Table 1: Total Daily Ridership Forecasts (2040)

Factor	**Alternative 1 (No Build)**	**Alternative 2 (Build)**	**Alternative 3 (Build)**	**Alternative 5B (Build)**
BRT / Enhanced Bus	n/a	2,600	6,400	7,300
- New BRT / Enhanced Bus Riders	n/a	1,100	2,700	3,000
- Existing BRT / Enhanced Bus Riders	n/a	1,500	3,700	4,300
Local Buses that Travel Entire Corridor	13,800	12,400	10,300	9,800
Local Buses that Travel Portion of Corridor	18,500	18,400	18,300	18,200
Total Daily Transit Boardings	32,300	33,400	35,000	35,300

Staff have several concerns with the ridership forecasts used in the Draft Corridor Study Report:

- The recommendations in the 2011 *Countywide Bus Rapid Transit Study* and the 2013 *Countywide Transit Corridors Functional Master Plan* were developed based on ridership forecasts for a network of bus rapid transit corridors. As a route that is the critical links between several other routes, the ridership forecasts on this corridor would likely be higher if a network of BRT corridors was evaluated.
- The evaluation of person throughput that lead to the elimination of Alternative 4A and Alternative 4B in the *Alternatives Retained for Detailed Study Report* did not evaluate how removing a general purpose lane would increase transit ridership.
- The travel forecasts assume that existing local bus service would remain unchanged over a 30-year period, except for any local bus changes included in the Constrained Long Range Plan (CLRP).
- It is not intuitive why the reduction in bus travel times in the westbound direction are lower for Alternative 3 and 5B (where the bus travels in dedicated lanes) compared to Alternative 2 (where the bus travels in mixed traffic). In discussions with the consultants to this study it appears that travel time for Alternative 5B are negatively affected by closing unsignalized

median breaks along the corridor, requiring longer traffic signal cycles to accommodate traffic. However, Alternative 3 also has greater travel time than Alternative 2 in the westbound direction during both the AM and PM peak hour and in the eastbound direction during the PM peak hour.

Travel Time

Figure 1 shows the AM and PM peak hour travel time between Rockville and Wheaton for the three Build alternatives, compared with the local buses (Alternative 1) in 2040. All Build alternatives reduce the travel time along the corridor considerably compared to local bus service (Alternative 1). Another notable result from this analysis is that Alternative 2, in which the bus operates in lanes shared with traffic, provides similar if not greater travel time savings than Alternative 3 and Alternative 5B, which have dedicated bus lanes. The Maryland State Highway Administration will explain this finding in their presentation to the Planning Board.

Figure 1: 2040 Peak Hour Travel Time for Local Bus (Alternative 1) Compared to Build Alternatives

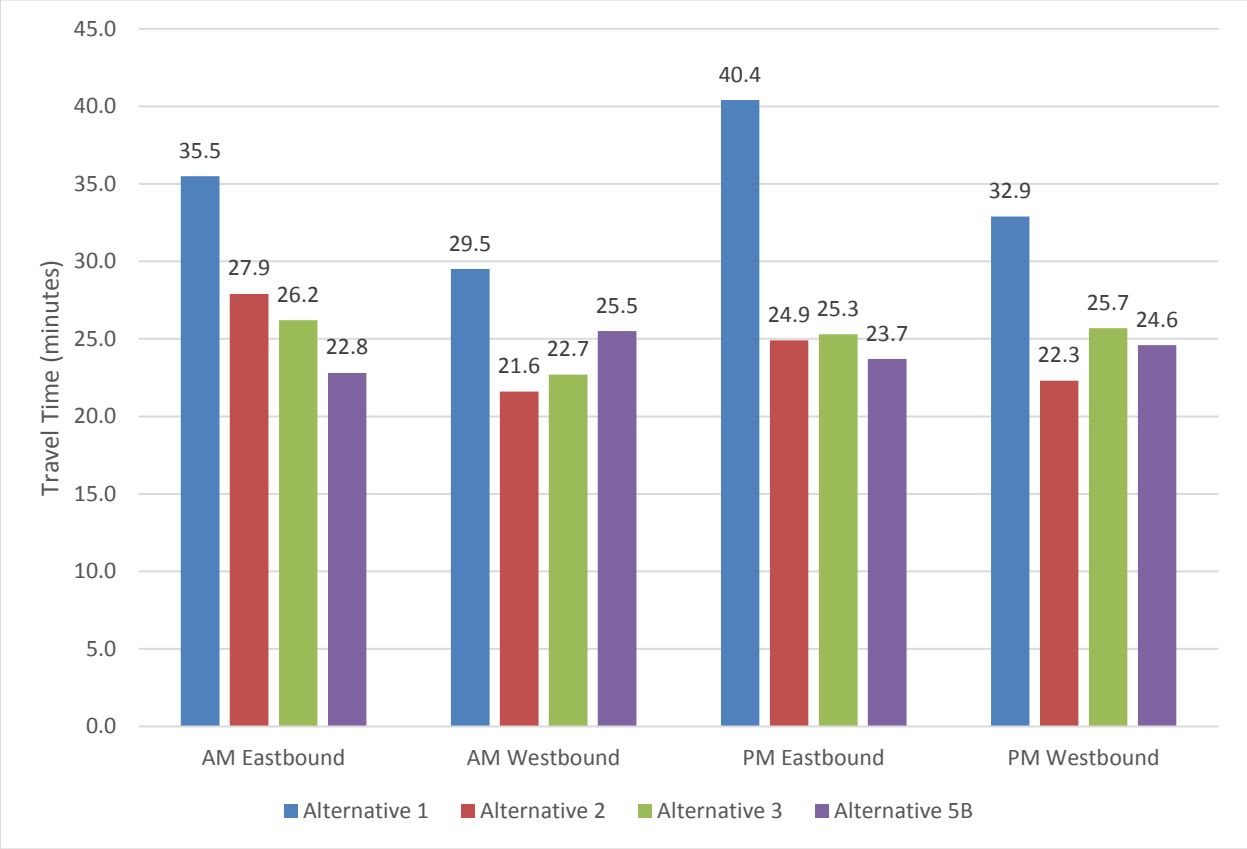
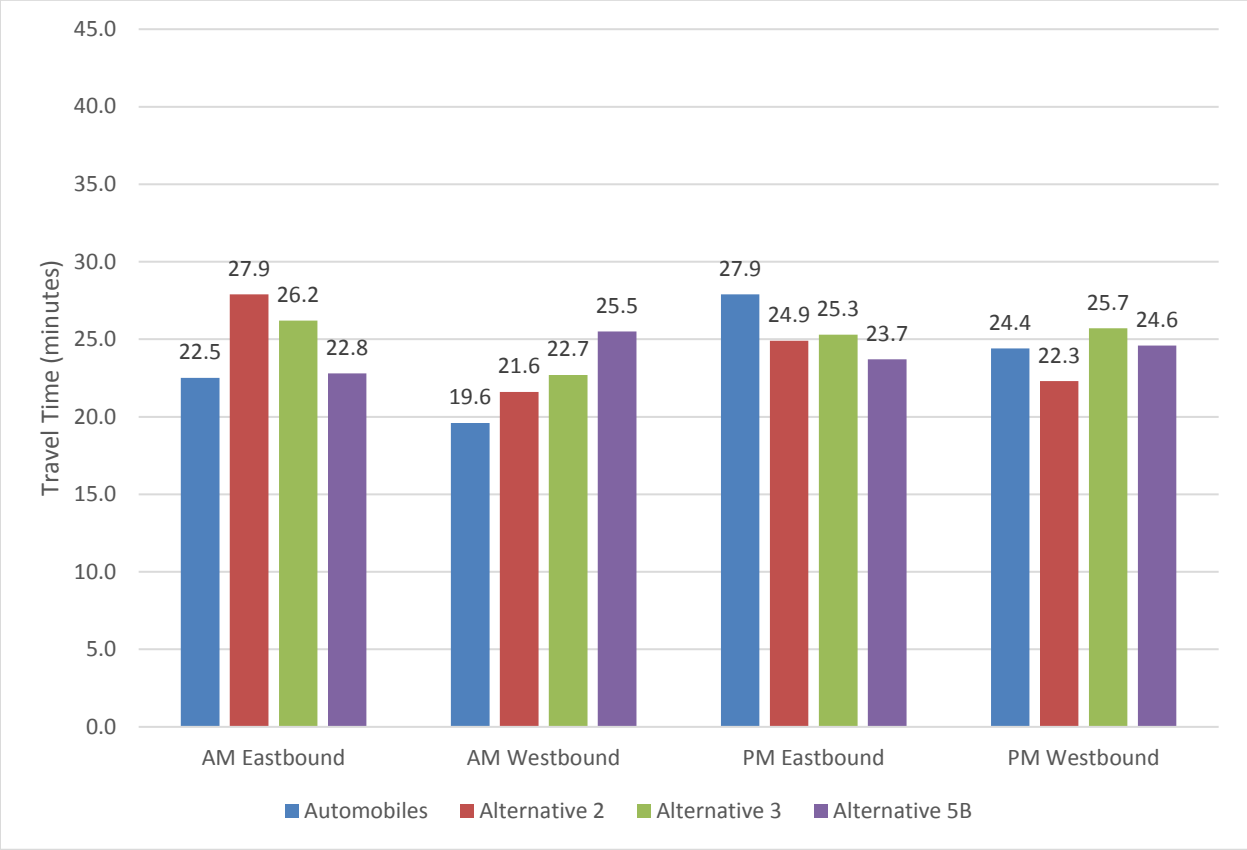


Figure 2 shows the AM and PM peak hour travel time between Rockville and Wheaton for the three Build alternatives compared with automobile travel in 2040. Overall, the three build alternatives provide

comparable travel time to automobile travel in the corridor and in the PM peak hour, the travel time for several of the options is less than by automobile.

Figure 2: 2040 Peak Hour Travel Time for Automobiles Compared to Build Alternatives



Properties Impacted

As Alternative 3 and Alternative 5B involve substantial widening of the road, they would impact a greater number of properties and require the greatest number of residential relocations (Table 2).

Table 2: Properties Impacted

Factor	**Alternative 1 (No Build)**	**Alternative 2 (Build)**	**Alternative 3 (Build)**	**Alternative 5B (Build)**
Properties Impact	0	27	116	217
Residential Relocations	0	4	7	9 – 17

Park Impacts

The following M-NCPPC parks are located within the project corridor:

- Rock Creek Stream Valley Park Unit #4 (south of Veirs Mill Road @ Turkey Branch Parkway)
- Rock Creek Stream Valley Park unit #6 (south of Veirs Mill Road @ Aspen Hill Road intersection)

- Rock Creek Stream Valley Park Unit #7 (north of Veirs Mill road between Aspen Hill Road and Twinbrook Parkway)
- Matthew Henson State Park, Unit #1 (north of Veirs Mill Road @ Turkey Branch Parkway)
- Parklawn Local Park

In addition, two hard surface park trails cross Veirs Mill Road:

1. Matthew Henson Trail @ Turkey Branch Parkway (At-grade)
2. Rock Creek Trail @ Aspen Hill Road (Bridge)

The following streams on parkland pass under Veirs Mill Road:

1. Rock Creek Main Stem
2. Turkey Branch of Rock Creek

Table 3 summarizes the number of public parks affected by each alternative, as well as the acreage required for each alternative. All alternatives appear to impact at least one of the above parks, most notably Rock Creek Stream Valley Park Unit #7. At the time of more detailed design for the selected alternative, Montgomery Parks will provide detailed comments.

Table 3: Public Park Impacts

Factor	**Alternative 1 (No Build)**	**Alternative 2 (Build)**	**Alternative 3 (Build)**	**Alternative 5B (Build)**
Public Parks Affected	0	1	3	5
Public Park Property Required (acres)	0	0.2	0.6	1.6

Montgomery Parks staff expects to be included in any interagency coordination meetings regarding more detailed design of the selected alternative. In addition, any work on parkland will require a park permit.

<u>Streams Impacted</u>

Alternative 5B has the greatest impacts on streams along the corridor (Table 4)

Table 4: Stream Impacts

Factor	**Alternative 1 (No Build)**	**Alternative 2 (Build)**	**Alternative 3 (Build)**	**Alternative 5B (Build)**
Stream Crossings (number)	0	0	2	10
Steam Impact (linear feet)	0	0	47	864

Capital and Operating Costs

There is a substantial difference in the capital costs of each Build alternative, ranging from $34.9 million (Alternative 2) to $289.4 million (Alternative 5B). Annual operating costs for Alternative 3 and 5B are about 50% greater than Alternative 2. See Table 5.

Table 5: Capital and Operating Costs (millions $)

Factor	**Alternative 1 (No Build)**	**Alternative 2 (Build)**	**Alternative 3 (Build)**	**Alternative 5B (Build)**
Total Capital Costs	0	$34.9	$148.2	$289.4
Annual Operating Costs	0	$3.1	$4.8	$4.6

Historic Preservation

Historic Preservation staff concur with the Draft Corridor Study Report preliminary findings pertaining to historic resources. The draft report identifies one National Register-listed resource (Hammond Wood Historic District, #31-38) and four National Register-eligible resources (Metropolitan Branch of the B&O Railroad, #37-16; Hammond Hill survey district, #31-58; Twinbrook survey district, #26-25; and St. Catherine's Labouré Catholic Church, #31-61) (plus four additional resources within the City of Rockville that these comments do not address). This project will have no impact on any sites or districts listed in the Master Plan for Historic Preservation; one resource identified in the Locational Atlas (Veirs Mill Site, #27-19) was not determined eligible for listing in the National Register.

The report findings indicate that of the alternatives retained for further study only Alternative 3 and 5B would require work that involves historic resources. Revisions to Alternative 3 have reduced the impact such that it is likely to be determined not to have an adverse impact on historic resources. Alternative 5B requires the demolition of a single-family house in Hammond Hill and construction of a 10-foot-tall retaining wall and other alternations at St. Catherine Labouré Catholic Church, both of which would cause adverse impacts to historic resources. If Alternative 5B is selected, appropriate mitigation will be necessary.

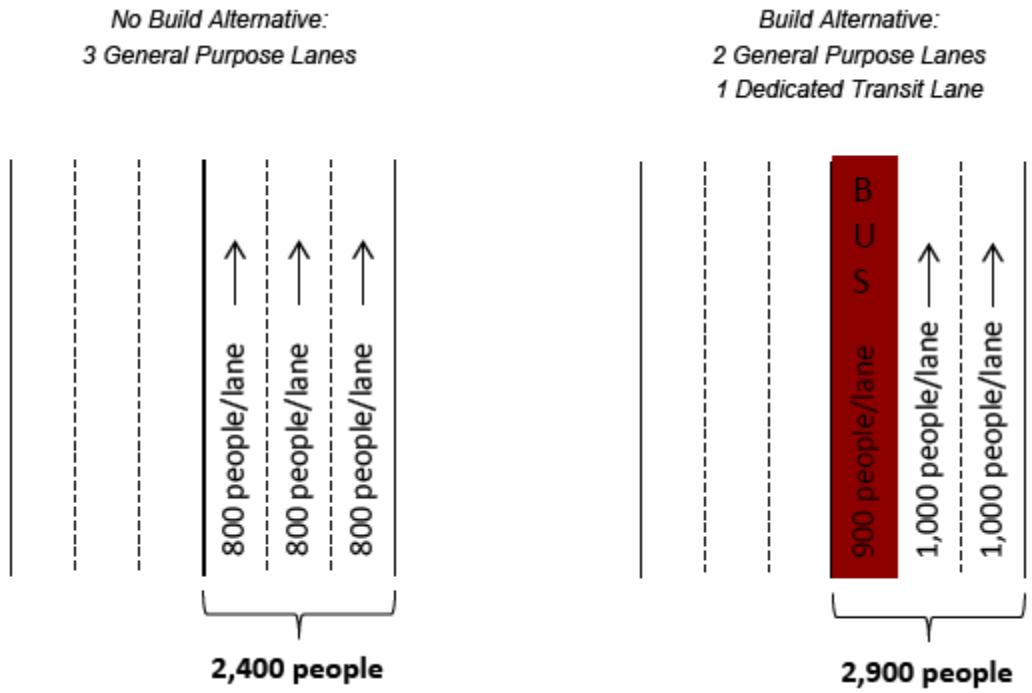
Lane Repurposing Evaluation

The *Countywide Transit Corridors Functional Master Plan* recommends two metrics (person throughput and personal travel time savings) for evaluating locations where it is appropriate to repurpose existing travel lanes as bus-only lanes. In 2014, WMATA convened a group of stakeholders to prepare an analytical framework for evaluating the transportation effects of potential lane repurposing projects in the County. The *Montgomery County Transit Lane Repurposing Study* (Attachment C), completed in April 2015, identified person throughput and person travel time savings as "fundamental" screening metrics for determining when to consider lane repurposing.

Person Throughput

This metric is a measure of the efficient use of roadway space in the corridor, and compares the total number of people using the roadways in the peak direction in the No-Build Alternative (without lane repurposing) and the Build Alternatives (with lane repurposing). In the example calculation in Figure 3, the Build Alternative represents a more efficient and productive use of roadway space than the No-Build Alternative, as it carries 500 more people per hour in the peak direction on the same facility.

Figure 3: Example Person Throughput Comparison



According to the report, the theoretical ideal for this measure under this example would indicate that the roadway being studied was more efficient (i.e. carrying more people) in the Build condition than in the No-Build condition such that:

Ideal Target: Build Peak Direction Person Throughput > No-Build Peak Direction Person Throughput

In our review of the *MD 586 / Veirs Mill Road Bus Rapid Transit Study Alternatives Retained for Detailed Study Report*, we commented that it was premature to eliminate Alternative 4A and Alternative 4B, which consisted of lane repurposing, since this analysis was not conducted. While the final report includes additional analysis of lane repurposing, the transit ridership forecasts did not evaluate the impacts to person throughput and person travel time benefits when dedicated bus lanes are provided by removing general purpose lanes.

Person Travel Time Benefits

This metric evaluates the effects of lane repurposing on traffic and transit users, as measured by changes in travel times. This metric is evaluated in two parts to understand the balance between the costs and benefits of lane repurposing. The first component is travel time savings for transit passengers who experience less delay due to the dedicated transit lane (Table 6, Line 1). The second component is the additional delay to auto users caused by the decrease in vehicle capacity in the corridor (Table 6, Line 2). As shown in Table 6, both components are dependent on the change in travel times as well as the number of people experiencing those travel time changes.

Table 6: Example Person Travel Time Benefits Calculation

	Component	No-Build Alternative	Build Alternative	Difference in Travel Time	Cost of Benefit
1	Transit Travel Time	100 people * 30 mins = 3,000 mins	120 people * 20 mins = 2,400 mins	600 minutes travel time savings	BENEFIT
2	Auto Travel Time	200 people * 15 mins = 3,000 mins	180 people * 18 mins = 3,240 mins	240 minutes travel time savings	COST
3	Net Person Travel Time Benefts	6,000 total minutes of person-travel time	5,640 total minutes of person-travel time	360 minutes travel time savings	BENEFIT

The Person Travel Time Benefit calculation compares the total transit passenger travel time savings against the total auto passenger travel time increase (Table 6, Line 3). As a theoretical ideal, the total person-time saved by transit passengers should be greater than the person-time increase for auto passengers, for a Net Person Travel Time Benefit greater than zero.

Net Person Travel Time Benefit =

Total Project Area Transit Passenger Travel Time Savings -

Total Project Area Auto Passenger Travel Time Increase

Ideal Target = Net Person Travel Time Benefit > 0

The ideal target as described above describes a situation in which transit and auto travel times are weighted equally and there is a decrease in the total amount of time spent traveling. According to the report, the appropriateness of this ideal as a target may be dependent on other County goals, as a certain amount of inconvenience to auto users may be deemed acceptable in order to encourage increased transit use.

As with the person throughput analysis, the transit ridership forecasts in the *MD 586 / Veirs Mill Road Bus Rapid Transit Study Alternatives Retained for Detail Study Report* did not evaluate the impacts to

person throughput and person travel time benefits when dedicated bus lanes are provided by removing general purpose lanes (Alternatives 4A and 4B).

STAFF RECOMMENDATIONS

As discussed above, staff is concerned about the travel forecasts that were prepared for the *MD 586 / Veirs Mill Road Bus Rapid Transit Study*:

- The recommendations in the *Countywide Transit Corridors Functional Master Plan* were developed based on ridership forecasts for a network of bus rapid transit corridors. As a route that is the critical link between several other routes, the ridership forecasts on this corridor would likely be higher if a network of BRT corridors was evaluated.
- The evaluation of person throughput that lead to the elimination of Alternative 4A and Alternative 4B in the *Alternatives Retained for Detailed Study Report* did not evaluate how removing a general purpose lane would increase transit ridership.
- The travel forecasts assume that existing local bus service would remain unchanged over a 30-year period. It is unclear if this is a reasonable assumption. If not, the ridership forecasts likely underestimate BRT ridership and overestimate local bus ridership.
- It is not intuitive why the reduction in bus travel times in the westbound direction are lower for Alternative 3 and 5B (where the bus travels in dedicated lanes) compared to Alternative 2 (where the bus travels in mixed traffic).

We therefore recommend a two-tiered approach to bus rapid transit in this corridor.

Within the next 1 – 2 years, fund the proposed Q9 supplemental limited stop bus service, as previously recommended by WMATA. Frequent stops are the greatest contributor to travel time for most local bus routes. This supplemental service should be provided by new BRT-quality buses and should run at frequent headways that are easy for users to remember (preferably every 10 minutes during peak periods).

Within the next 5 years Montgomery County should redo the ridership forecasts in the *Draft Corridor Study Report* to address the above concerns. The study should:

- Conduct network analyses that evaluate the ridership, person throughput and person travel time benefits of Veirs Mill Road as part of:
    - a single corridor with existing and funded projects
    - a partial network of BRT corridors, including those currently understudy (Corridor Cities Transitway, MD 355, and US 29)
    - the full network of BRT corridors.
- Conduct a more rigorous evaluation of Alternatives 4A and 4B to determine how repurposing general purpose travel lanes to bus only lanes would impact person throughput and person travel time benefits for travel by transit and automobile.

If the subsequent analysis continues to show low ridership potential on the Veirs Mill Road corridor, in lieu of dedicated transit lanes, the corridor should be upgraded with high-quality bus stops, real time

information, off-board fare collection, transit signal priority (TSP), queue jumps, and shared use paths on both sides of the street.

PUBLIC OUTREACH

The public outreach program for this study consisted of two main approaches, including public meetings and the formation of a stakeholder group called the Corridor Advisory Committee.

Public meetings were held on May 23, 2012 and November 21, 2013 and were attended by 80 and 100 people, respectively. A public meeting for the Draft Corridor Study Report was held in September 2016. In addition, a survey was conducted in May 2012 with responses from 1,000 property owners.

The Corridor Advisory Committee met seven times between February 2015 and April 2016.

ATTACHMENTS

Attachment A – Draft Corridor Study Report

Attachment B – Relevant pages from the Countywide Transit Corridors Functional Master Plan

Attachment C – Montgomery County Transit Lane Repurposing Study

Attachment D – Technical comments transmitted to Maryland State Highway Administration