

MCPB  
Item No. 4  
9/29/05

September 23, 2005

**MEMORANDUM**

TO: Montgomery County Planning Board

VIA: Jeffrey Zyontz, Chief  
Countywide Planning Division

Richard Hawthorne, Chief  
Transportation Planning

FROM: Tom Autrey: 301-495-4533, Transportation Planning

SUBJECT: Veirs Mill Road Bus Rapid Transit Facility Planning – Phase One

**Briefing Objective**

The purpose of this briefing is to inform the Board about the findings of the Veirs Mill Road Bus Rapid Transit Facility Planning Study – Phase One and provide comments to the Department of Public Works and Transportation (DPWT). The full report is attached only in the Planning Board packet. However, it is available on the DPWT website at: [www.montgomerycountymd.gov/content/dpwt/capital](http://www.montgomerycountymd.gov/content/dpwt/capital) and is also available for review in the Transportation Planning office (Room 103) of the Montgomery County Department of Park and Planning. Park and Planning staff will present a summary of the Veirs Mill Road Bus Rapid Transit (BRT) study at the beginning of the item, and DPWT staff will be available to respond to questions.

**Staff Recommendations**

Staff recommends the Board accept the Phase One Final Report and forward a letter to DPWT endorsing BRT in general, as consistent with stated policies of making trips by transit more attractive and noting that this specific project has the potential of improving east-west trip-making capability, including trips between the two County segments of the Metrorail Red Line. Staff also recommends the letter note the following:

1. Additional project planning by DPWT or other agencies in the near term (prior to July 1, 2006) should focus on the operational aspects of a phased implementation that do not involve additional right of way (ROW) and do not preempt further consideration of either alternative examined in this Phase One study. This would allow buses to begin saving time using near-term improvements while other planning takes place. Examples of aspects of the project that need further refinement include:
  - Nature and scope of the queue jumpers including the appropriate signing and control of current or future bus operations that may use either exclusive right turn lanes or the existing shoulder of the road.
  - Planned improvements to enhance to pedestrian safety and flow.
  - Roadway signing and stripping
  - Station or stop configuration and upkeep.
  - Service period, frequency, and vehicle type
  - Interface with local service and Metrorail stations (bay locations, etc.)
  - Marketing plan
  - Cost and funding
2. Additional project planning for the Veirs Mill BRT should be part of analysis and deliberations on which specific projects to forward in October for recommended inclusion in the Maryland Department of Transportation (MDOT) FY 2006 – FY 2010 Consolidated Transportation Program (CTP) process. Consideration should be given (as noted in the report) to reviewing the feasibility of BRT in the median of Veirs Mill Road, as well as the alternatives currently under review.
3. Public involvement should remain a priority through operational planning related to the phased implementation. The public meetings held as part of the Phase One Study effort were important in identifying both project advocates and residents with concerns about the project.
4. Both near term operational planning and longer term project planning should consider the potential for using alternative sources of energy in bus fueling and solar power collection. The project could be a more completely “green” package by, in addition to recommending an attractive mass transit option, giving thought to use of alternative fuels and solar power sources for lighting and shelter information systems.

## **Project Background**

This briefing presents the results of an 18-month study by the DPWT Division of Capital Development . A technical group of which our staff has been a part has overseen the project, which was primarily conducted by a consultant. Since Veirs Mill Road is a State road, the study was intended in part to examine the overall feasibility of BRT along this route prior to more detailed project planning by MDOT. The study included several

meetings with citizens at locations within the corridor, where the project scope was discussed, and the results of the analysis were presented.

### **BRT Overview**

BRT is a term applied to various combinations of enhancements to bus transit that are designed to improve the efficiency and attractiveness of trip-making by bus, usually in a specific corridor. The improvements can involve the roadway design and travel lane restrictions, frequency of service, higher average operating speed (usually a result of roadway design and increased distance between stops), vehicles, traffic operations to provide priority treatment for buses, station or shelter amenities, pedestrian access, simplified fare payment, and marketing programs. One advantage of BRT is that the improvements can be introduced in increments and enhanced in response to need and available funds. The highest quality BRT systems are almost “rail-like” in their operating characteristics and the amenities provided passengers.

### **Study Area Characteristics**

The study area extends along Veirs Mill Road from the Rockville Metrorail Station to the Wheaton Metrorail Station (see Exhibit 1), a distance of approximately six miles.

Congestion on Veirs Mill Road is significant. There are 15 signalized intersections in the study area and six of those operate at a failing level of service (LOS F) during the afternoon peak hour.

A profile of the study area population is provided below. The percent (16.5) of employed residents taking transit to work exceeds the County average of 12.6 percent.

#### Study Area Demographic Profile – Year 2000 Census Data

Population	104,000
Households	38,000
Transit Work Trips	16.5%

A profile of the transit service in the corridor reflects the significance of Metrobus Route Q2, the only bus route to operate along the entire study corridor and the bus route with the highest ridership of any bus route in the County. In addition to Route Q2, there are four Ride-On routes and one other Metrobus route that operate along segments of Veirs Mill Road within the study area.

#### Study Area Bus Transit Average Weekday Ridership In Study Area – August 2002

Total Ridership In Study Area	14,000
Route Q2 Ridership In Study Area	8,000
Percentage of Route Q2 Boardings at Rockville or Wheaton Metrorail	36%
Percentage of Route Q2 Boardings at Proposed BRT Stops	34%

## **Study Alternatives**

The Phase One Study examined the feasibility of two alternatives for application in the long term (i.e., over five years until implementation).

**The “Service Road Alternative” (Alternative 1)** assumed that the BRT (and local bus service) would operate on the adjacent service road where available and in the right most general travel lane where there is no service road available. In the area between Parkland Drive and Twinbrook Parkway, the BRT would use the existing shoulder lane, exclusive of the general travel lanes. A typical cross section showing BRT use of the service lane is shown in Exhibit 2.

**The “Additional Lane” Alternative (Alternative 2)** assumed a third lane is added in each direction in areas where there are currently only two existing general-purpose lanes. For those contiguous areas where a third lane is added, the lane would be developed as a dedicated “BRT only” lane. In areas where a third lane already exists, the BRT would share the right-most lane with general traffic. A typical cross section showing use of the dedicated BRT lane is also shown in Exhibit 2.

A brief description of other features in one or both alternatives include the following:

- Queue Jumpers – These are designed to allow the bus to bypass queued traffic at intersections, helping insure that wait time at signalized intersections is minimized. There are seven locations along the corridor where queue jumpers are included and the locations are common to both alternatives.
- Pedestrian and Bicycle Improvements – There is a four-foot wide bike lane adjacent to the BRT lane in the Additional Lane Alternative. There are also new five-foot sidewalks with a minimum three-foot offset from the curb as part of the Additional Lane Alternative.
- Access Prohibition – The Service Road Alternative includes the closure of the median between the service road and Veirs Mill Road at five locations where neighborhood streets intersect with the service road. These closures prohibit vehicles from accessing the service road directly from Veirs Mill Road and potentially conflicting with the BRT and local bus traffic.
- BRT service periods and frequencies are approximately the same as Metrorail service under both alternatives.
- BRT stations or stop locations in both alternatives are located at Twinbrook Parkway, Robindale Drive, Randolph Road, Connecticut Avenue, Newport Mill Road, and University Boulevard.

Overall, the two alternatives share common physical and operating characteristics over approximately 75 percent of the corridor.

## Key Findings – Service and Cost

Commuter simulation of the BRT system reflected significant (38-46%) travel time savings for bus trips (compared to the existing service for 2004 and 2025). A summary of the travel time saving and cost estimate for each alternative is provided below.

	<u>Service Road Alternative</u>	<u>Additional Lane Alternative</u>
BRT Average Travel Time Savings (2004)	14 Minutes (41%)	13 Minutes (38%)
BRT Average Travel Time Savings (2025)	17 Minutes (44%)	18 Minutes (46%)
Cost Estimate		
Construction	\$18.9 million	\$33.6 million
Right-Of Way	<u>\$ 6.4 million</u>	<u>\$ 6.2 million</u>
Total Roadway	\$25.3 million	\$39.8 million
Bus Capital	\$ 3.8 million	\$ 3.4 million
Bus Operations (Peak/Off-Peak)		
10/20 min service	\$ 3.3 million	\$ 3.1 million
15/30 min service	\$ 2.4 million	\$ 2.5 million

## Key Findings – Community Impacts

Community impacts include one displacement (the McDonald's at Randolph Road) and over 100,000 square feet (SF) of additional right-of-way (mainly linear along the corridor and including 55,000 SF of parkland). A summary of the property impacts follows:

	<u>Service Road Alternative</u>	<u>Additional Lane Alternative</u>
Residential ROW (SF)	47,005	37,895
Commercial ROW (SF)	13,778	10,889
Parklands ROW (SF)	<u>54,795</u>	<u>54,795</u>
Total ROW	115,578	103,579
Residential Parcels		
Affected	71	123
Commercial Parcels		
Affected	10	10
Business Displacement	<u>1</u>	<u>1</u>
Total Parcels Affected	82	134

The Service Road alternative requires more right-of-way while having an impact on fewer parcels because of the necessity in some areas of the project to extend the service road connections into the mainline, affecting larger parcels.

Since the study area includes Rock Creek and its Turkey Branch tributary, additional environmental study will be required in advance of any permitting by the Corps of Engineers and other agencies with jurisdiction.

### **Key Findings – Short Term Phased Implementation**

Certain key aspects of a BRT system can be introduced in the short term with no or little impact on adjacent parcels, relatively little expense when compared to the costs of project build-out, and without jeopardizing future consideration of either of the two alternatives developed for long range consideration. A summary of these features and the estimated cost associated with each is provided below:

<u>Location</u>	<u>Estimated Cost (\$000)</u>	<u>Note</u>
Queue Jumper University Blvd	\$ 150	Eastbound Only
Queue Jumper Atlantic Ave.	\$ 150	Eastbound Only
Signing/Striping Entire Corridor	\$ 400	
Stations/Stops 12 Along Corridor	\$ 360	
Re-routing South Stonestreet	\$ 0	At Rockville Metro
New Buses Entire Corridor	<u>\$3,600</u>	
Total Capital Costs	\$4,660	

### **BRT Annual Operating Costs (peak/off-peak)**

10/20 min service	\$3,300
15/30 min service	\$2,400

The Phase One study does not identify funding sources for either the phased implementation or the longer term Service Road or Additional Lane Alternatives.

### **General Plan and Master Plan Conformance**

The consideration of BRT is consistent with the *General Plan (December 1993)* objectives and more specifically, the adopted strategies to “give priority to improving east-west travel” and “make transit use more price and time competitive with auto use.”

The *Aspen Hill Master Plan (April 1994)* includes a recommendation for a transitway on Georgia Avenue designed within the “green corridor concept for Georgia Avenue and other elements that are important to efficiency.” The plan recommends widening Veirs Mill Road to six lanes between Twinbrook Parkway and Randolph Road “within the context of the green corridor” but includes no specific mention of priority treatment for transit (for Veirs Mill Road).

The *Master Plan For The Communities of Kensington-Wheaton (May 1989)* also includes a recommendation for a six-lane divided cross-section for Veirs Mill Road. In addition, the Plan recommends a policy to “supplement the transit feeder system with the provision of park-and-ride facilities”. One of the recommended locations is at Colonial Plaza at the intersection of Veirs Mill and Randolph Roads and there is specific reference to providing bus service from the park and ride lot to and from the “Shady Grove and Wheaton arms of Metro.”

The *Transportation Policy Report (January 2002)* includes a bus system recommendation to “pursue opportunities to construct queue jumpers and to allow real time adjustments to traffic signals in order to provide buses a time advantage over general-purpose traffic.”

Community Based Planning staff was represented on the study team and has forwarded a memo noting that the overall BRT facilities’ objectives are consistent with the relevant area master plans and the findings of this Phase One Study are also consistent with the master plans.

### **Related Past and Current Studies and Programmed Improvements**

As noted in the study, the Veirs Mill BRT project has been previously examined or programmed in a number of different formats:

- 1999 Federal Transit Administration BRT Consortium
- County Executive’s *Go Montgomery!* Transportation Initiative
- 2003 WMATA *Regional Bus Study*
- 2003 *Veirs Mill Road BRT Study Final Report*

## **Conclusion**

The Veirs Mill Road Bus Rapid Transit Study – Phase One is a very useful examination of how an enhanced level of bus service might work in one of the County's more congested corridors. The potential for short term phased implementation of certain key features would appear to offer the particular advantage of bus travel time savings at costs and impacts of significantly less scope than the long term alternatives under consideration.

## **Attachments**

Veirs Mill Road Bus Rapid Transit Facility Planning – Phase One  
Montgomery County Department of Public Works & Transportation – Division of  
Capital Development  
Project Prospectus (CIP 509337)

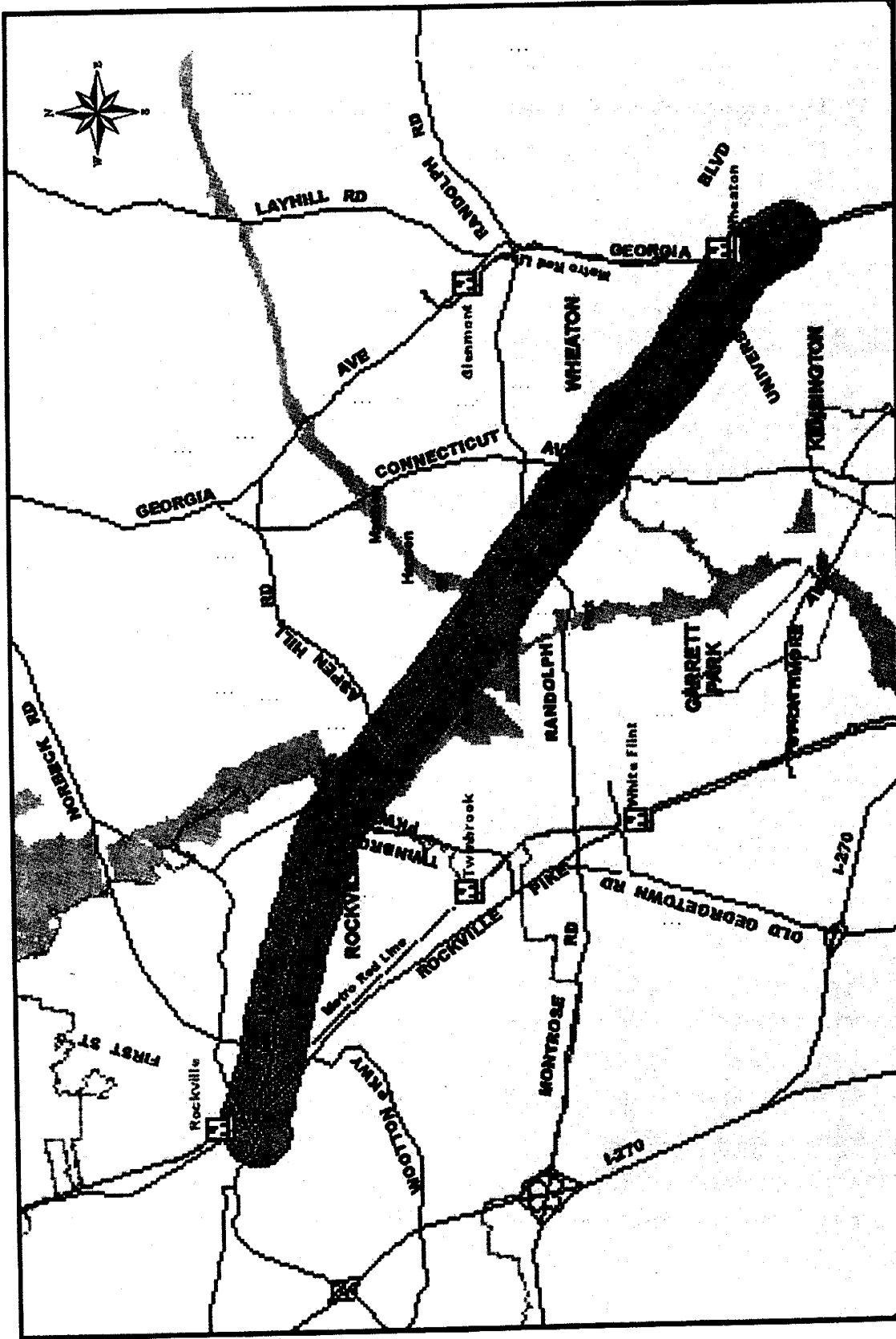
## **Related Web Site Addresses**

[www.montgomerycountymd.gov/content/dpwt/capital](http://www.montgomerycountymd.gov/content/dpwt/capital)

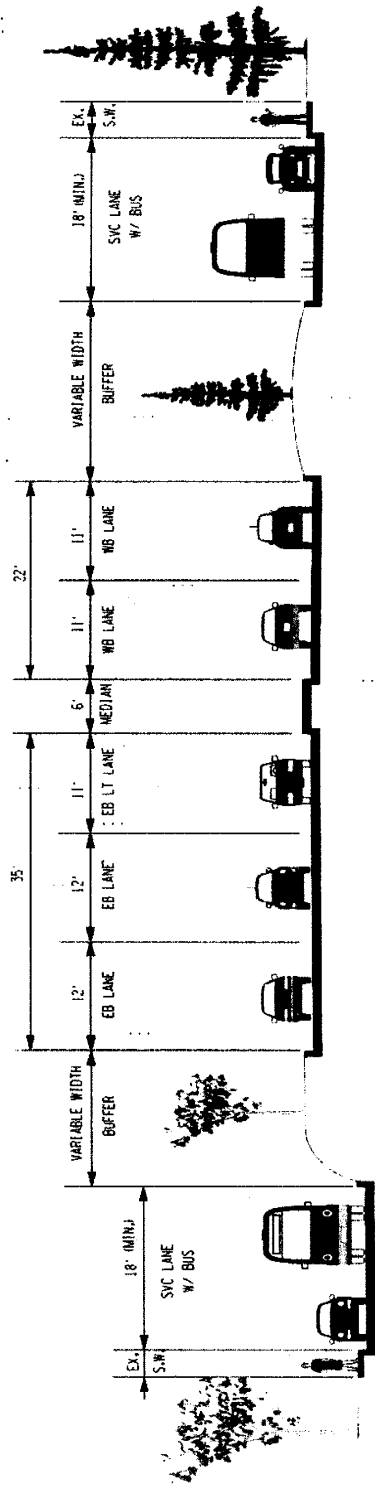
[www.mc-mncppc.org/board/agenda/agenda.pdf](http://www.mc-mncppc.org/board/agenda/agenda.pdf)



# STUDY AREA



# Alternative 1 Typical Cross Section



# Alternative 2 Typical Cross Section

