Technical Memorandum

Assessment of "Analysis of MTA Purple Line Alternatives and Alignments" and Other Documents Prepared by Sam Schwartz Engineering

Maryland Transit Administration
August 14, 2008

DISCUSSION DOCUMENT
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Table of Contents

Executive Summary

The Town of Chevy Chase has hired Sam Schwartz Engineering (SSE) to represent their concerns with the ongoing Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) for the Purple Line. SSE and the Town of Chevy Chase specifically argue against and have indicated their opposition to those Purple Line alternatives that provide the potential for a transitway along Montgomery County's adopted Master Plan alignment. This right-of-way provides a direct connection between Bethesda and Silver Spring on a right of way specifically purchased for that purpose.

The MTA has carefully reviewed the following written materials provided to the MTA by the Town of Chevy Chase that are based on the their consultant's viewpoints and analysis:

- April 17, 2008 letter from Mayor Linna Barnes with attached memorandum to Maryland Secretary of Transportation John Porcari
- April 22, 2008 memorandum to Chevy Chase Town Council from SSE regarding drawings provided by Maryland Department of Transportation Secretary's Office
- April 23, 2008 report prepared by SSE for the Town Council of Chevy Chase titled "Analysis of MTA Purple Line Alternatives and Alignments"
- June 9, 2008 memorandum from SSE to Pat Burda, Chair of the Long Range Planning Committee, Town of Chevy Chase
- July 31, 2008 revised version of "Analysis of MTA Purple Line Alternatives and Alignments"
- Undated slides titled "Jones Bridge Road BRT Treatments – Concepts for Further Analysis"

SSE has presented various analyses and derived information to the Town of Chevy Chase - and in various public settings – presenting it as engineering fact. The MTA stands behind the findings and analysis of the ongoing planning process for the Purple Line, and has issued this report in response. The purpose of this MTA report is to identify the key inaccuracies, assumptions and misleading conclusions presented by SSE and as a way to add clarity to ongoing discussions. The MTA also feels that it is important to defend the validity and soundness in both the information and process developed as part of the AA/DEIS for the proposed Purple Line.

Findings

The MTA has reviewed the various reports and has concluded that the issue of connectivity between the Silver Spring CBD, the Bethesda CBD and the government agencies near the Medical Center Metro Station – National Institutes of Health and the National Naval Medical Center – is the primary focus of attention from their analysis.

It has been observed that the SSE reports rely on aggressive advocacy for an alignment away from the Master Plan alignment and presents incomplete or unrealistic descriptions

of options, utilization of incorrect or poorly applied engineering practices, and inclusion of explanations of the FTA New Starts process that were not comprehensive enough to provide the reader with a strong understanding of the alternative selection process.

In general, the methodologies applied by SSE often do not conform to best practices in transit planning and engineering, and instead rely upon assumptions and accusations that would be found unacceptable by the Federal Transit Administration (FTA). The SSE reports also present issues based on research conducted outside of the MTA planning process and provides generalized impacts to MTA's plans for the alternatives along the Master Plan alignment that are based on broad speculative planning assumptions and an inaccurately defined project right-of-way.

New Starts Process

SSE asserts in their report that a lowest cost option may be the only way to receive Federal approval for the project. The reality is that the project must receive support from local stakeholders, meet cost-effectiveness criteria, and be an effective transit route. A route that has higher costs could provide more effective travel and therefore be preferred by all local stakeholders. The impact of travel time delays on ridership for those traveling to the Bethesda CBD by way of Jones Bridge Road would also be one of the criteria considered in the State of Maryland's decision making process.

Project Segmentation

SSE begins their analysis from a fundamentally invalid basis in that they were tasked to evaluate and consider only the Bethesda to Silver Spring portion of the 16-mile Purple Line corridor. Bethesda to Silver Spring certainly represents a critical section of the corridor and the largest travel market of the Purple Line. However, the project is much more than this 4.5-mile corridor addressed in this discussion and to consider solely this piece of the corridor ignores the needs, impacts and benefits that the remaining 11.5 miles of the corridor has in terms of addressing the transportation problems of the 16-mile Purple Line. Alternatives evaluated for and decisions made relative to the segment between Bethesda and Silver Spring will clearly have substantial implications for the entire length of the corridor.

The portion of the project east of Silver Spring includes two additional critical links to Metrorail, two MARC lines and AMTRAK, extensive connecting bus services, the activity and employment centers at Takoma/Langley Park, College Park and the University of Maryland, and New Carrollton. This short-sighted perspective also disregards the benefit of connecting two of the most heavily developed counties in the State of Maryland. Key factors such as travel time, transit mode, and accessibility must be considered from a corridor-wide perspective. Further, to assess and consider alternatives only on the basis of one part of a larger corridor is not consistent with the Federal Transit Administration (FTA) planning and environmental documentation requirements.

Market Priority

SSE claims that the National Institutes of Health/National Naval Medical Center (NIH/NNMC) employment center is a market of such priority that the Purple Line alignment along Jones Bridge Road should be the one of highest value. SSE further supports this conclusion by pointing to the impacts to travel in the Bethesda area that would result from the Base Realignment and Closure (BRAC) plans. However, what this analysis ignores is the effect a Jones Bridge Road alignment would have on potential Purple Line trips to the Bethesda CBD. MTA analysis confirms that downtown Bethesda is, and will be, the primary transit market with its mix of employment, residential, government, entertainment and retail uses. Transit travel using a Jones Bridge Road alignment option will have a substantial negative effect on Purple Line travelers to Bethesda.

MTA analysis has shown that travel times to the NIH/NNMC complex, via the Purple Line Master Plan alignment and a transfer to the Red Line are comparable or better than possible travel times to the identified NIH/NNMC station at the intersection of Jones Bridge Road and Rockville Pike. In short, the travel time to NIH/NNMC is comparable (and less for a surface connection to the North Woodmont area) – even *after* the connection to the Bethesda CBD has already been made using an alternative along the Master Plan alignment. Employees or those with other trip purposes (entertainment, shopping, government, etc.) to the Bethesda CBD (or from Bethesda to the Silver Spring CBD) would be inconvenienced by travel along a Jones Bridge Road alignment.

Fare Policy

SSE uses existing Bus to Rail transfers in the Washington area as its basis for determining travel cost comparisons for travel between Silver Spring and NIH/NNMC. This assumption is inconsistent with the goals of the MTA on the Purple Line to create a transit system which is seamless for regional travel. These assumptions are also premature and speculative in that the Washington Metropolitan Area Transit Authority (WMATA) has yet to determine how it will integrate LRT or BRT system into the region. Their findings are without merit.

Jones Bridge Road Traffic

SSE asserts that Jones Bridge Road traffic could be decreased and ridership increased using a Jones Bridge Road alignment – noting that BRAC is expected to increase traffic on Jones Bridge Road. This analysis ignores the potential travel time impacts to the BRT vehicles that would result due to increasing traffic (including turning vehicles) along the corridor as compared to travel along a dedicated right of way using the Master Plan alignment. Only dedicated travel lanes and TSM implementation along Jones Bridge Road at Connecticut Avenue and Rockville Pike (both of which are unlikely to gain approval from either SHA or Montgomery County) can make the Jones Bridge Road alternatives competitive with other alternatives.

The only way to reduce the number of person trips made along Jones Bridge Road would be to provide transit along the Master Plan alignment to a transfer with the Metrorail Red Line providing a preferred travel option to Jones Bridge Road.

Travel Times

In their analysis, SSE identifies various travel times for the BRT option – including a 6 mph average travel time (April, 2008) for end to end travel (New Carrolton to Bethesda) on the MTA Low-Investment BRT Alternative. This calculation was determined through a fundamental error, and in fact the estimated travel speed for the Low-Investment BRT is approximately 10 mph. This travel speed is directly comparable to BRT systems around the world and the United States.

The Medium and High BRT options using the Master Plan alignment have average travel speeds of 13 mph and 16 mph – which are comparable or better than speeds obtained on well known BRT systems.

Travel Speeds

SSE uses early morning (pre 7 a.m.) current year transit travel times as its method of estimating possible BRT travel speeds (approximately 15.6 mph in their April report and 14.4 mph in the July memo - utilizing the same methodology) along the Jones Bridge Road alignment. This assumption is incorrect since it ignores the realities of travel speeds in the peak periods, intersection delay, minimal lane widths, AND future year conditions along Jones Bridge Road with employment growth expected in the Medical Center area and in the Bethesda CBD. Achieving travel speeds claimed by SSE would require dedicated BRT lanes and signal prioritization on Jones Bridge Road intersections at Connecticut Avenue and Rockville Pike. Roadway widening would be needed to accommodate dedicated lanes at intersections (a concept not explored by SSE), which would cause greater property impacts to homes, parks and schools than under the MTA's Low Investment BRT Alternative. This roadway widening need does not take into account Maryland State Highway Administration's ongoing study to improve Jones Bridge Road at the two intersections which would result in a cumulative impact to properties at these locations.

Emissions

SSE uses a source for its emissions discussion, a report (Breakthrough Technologies) issued by an advocacy group (The Bus Rapid Transit Policy Center) that was discredited and refuted through work completed for the Transportation Research Board (TRB). The TRB report notes that light rail emissions (calculated regionally) would be expected to be better than BRT for VOC, NO_x and CO. Looking forward sources of power for both are improving which will result in a clean transportation alternative when the Locally Preferred Alternative is implemented regardless of the mode chosen.

From a broader perspective the implementation of a system that maximizes the effectiveness for travelers and makes transit a preferred mode which is supported by directed land uses as station areas has the potential to change travel behaviors and have emissions benefits in excess of those achieved by mode choice solely.

Woodmont East Plaza

SSE utilizes a graphic of its own creation (not created by the MTA) to depict tail tracks - with varying depictions of an unattractive barrier fence - that extend 400 feet to the curb at Woodmont Avenue and indicates that they will be used to switch direction of Light Rail vehicles, provide peak hour operations, and provide regular maintenance to vehicles.

The reality is that the tail track at Bethesda would be only for temporary use were a train to break down. Track switching in this area would not occur. The Purple Line maintenance facility would be located near the Lyttonsville Station only 3 miles away – making maintenance use of the Woodmont East property redundant. Track switching has at no time has been proposed to take place in this area.

Also, the Montgomery County Planning Board has approved a development at Woodmont East which was coordinated with the MTA and Montgomery County to ensure that it accommodates the Purple Line. SSE's assertion that the plans are in conflict is incorrect. The MTA also never proposed a barrier or fencing in this area as the operation of light rail tracks in mixed pedestrian environments – particularly one with the limited use expected at Woodmont East – is accepted practice worldwide.

Trail Width

SSE analyzed the trail sections presented in early MTA project materials and has concluded that the MTA is conveying an expectation to the public that is not likely to be met. SSE claims that a 10 foot trail width may not be possible in all locations due to constraints and that costs for retaining walls were not calculated. The reality is that the AA/DEIS plans indicate that a 10-foot width is possible and was designed/engineered for the corridor. In addition, retaining walls were part of the cost calculations determined for the Master Plan alignment options. The concepts for the trail have been presented at numerous public meetings and events and many of the revisions to the trail concepts were the direct result of the public input process.

SSE asserts that the MTA drawings showing a typical section along the Master Plan right-of-way are not typical and that this design for the transitway and parallel trail is unlikely along all but about 600 feet or 80% of the trail length (not counting the portion along the Columbia Country Club). Through further analysis, the MTA is able reaffirm that the typical section drawings for the Master Plan right-of-way are possible for the majority of this right-of-way and would in fact be implemented if this alignment is part of the Locally Preferred Alternative selected for the Purple Line project.

Impacts to Trees Along the Master Plan Alignment

SSE uses dated analysis to describe potential impacts to trees along the Master Plan alignment – conditions that have certainly been changed through the natural cycle of a tree lifespan. In order to support their claim, SSE exaggerated the potential impact by showing tree removal outside of the right-of-way or area of need for the transitway that would not be necessary. Further, it should be pointed out that there are trade offs between impacts to trees within a right-of-way purchased and specifically reserved for transportation, as compared to those private property impacts along Jones Bridge Road.

Further SSE has identified that storm water run-off would increase in this area due to Purple Line construction. Stormwater management is an important element of all Federally funded transportation projects. Design alternatives forwarded to date, including grassy areas along light rail alternatives, have been developed to address stormwater issues. Further refinements of management options will be developed as the project progresses.

Introduction

The Town of Chevy Chase has retained Sam Schwartz Engineering (SSE) to provide comment on the analysis presented by the Maryland Transit Administration for the segment of the Purple Line connecting downtown Silver Spring and the Bethesda CBD. SSE issued a number of reports outlined in the list below which criticize some of the assumptions of the planning process to date and concludes that the Jones Bridge Road alignment should be the preferred alignment. That list of documents include:

- April 17, 2008 letter from Mayor Linna Barnes with attached memorandum to Maryland Secretary of Transportation John Porcari
- April 22, 2008 memorandum to Chevy Chase Town Council from SSE regarding drawings provided by Maryland Department of Transportation Secretary's Office
- April 23, 2008 report prepared by SSE for the Town Council of Chevy Chase titled "Analysis of MTA Purple Line Alternatives and Alignments"
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The information presented on the following pages was compiled to refute many of the assertions made by SSE in the documents issued to date.

New Starts Process

It is noted that SSE has ignored the basic fundamentals of the New Starts planning process – which is that the development and assessment of alternatives is to take place in a manner which responds to the project's purpose and need. To summarize some of the key points, the goals for this project are to:

- Reduce travel time between activity centers (Bethesda to Silver Spring, etc.)
- Reduce transit travel times in the corridor
- Increase employers' access to job pools
- Support local, regional and state policies and adopted master plans
- Demonstrate that the overall benefits of the transit improvements warrant their capital and operating costs

SSE describes the New Starts process, the advantages of BRT vs. LRT, costs, environmental impacts, land use considerations and etc. These topics are a part of the decision-making process for New Starts projects and have been included in every step of the project to date.

BRT and LRT options were developed as alternatives for connecting Bethesda and Silver Spring because they are viable options – that is the basis of the New Starts process. It should be clarified that the lowest cost option is not the only factor in determining which alternative is selected for New Starts funding. A project must meet cost effectiveness targets for approval but the effectiveness of the alternatives against transit system improvements (TSM) or no-build, input from all project stakeholders, financial commitment of local and state officials and other factors are all considered as part of the New Starts process. A higher cost alternative that provides more benefits to users would then be seen as a preferable alternative than one of lower cost that provides fewer benefits. Stating that the lowest cost option is the only way to obtain Federal funding is not an appropriate representation of the process.

Project Policy Issues

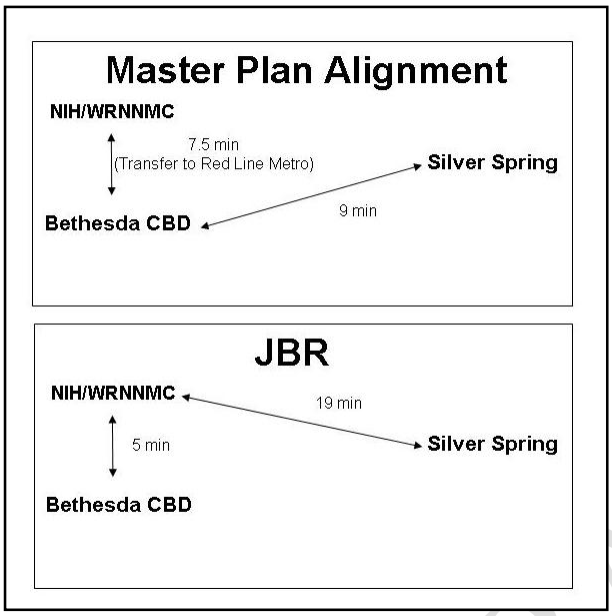
There are also some pertinent policy questions that are not discussed in the SSE report due to its concentration on one segment of the overall project but which warrant consideration as decisions in the Silver Spring to Bethesda segment will have implications the length of the corridor. A discussion of those issues has been included in this report for consideration.

The segment issues identified in the SSE report speak to a number of specific questions for the segment of the Purple Line corridor connecting Silver Spring to Bethesda. There are, however, a number of policy issues that would need to be addressed corridor wide in order to be able to draw conclusions for what has been presented. The project policy issues have been presented below for information provided by both the MTA and SSE analysis to present the decisions at the broader level and without regard for MTA's disagreement with the methodologies used by SSE in their analysis.

These issues include:

Travel Time – Which of the two discussed options is more desirable from a PL corridor-wide perspective?:

- A travel time of 9-10 minutes between the Silver Spring CBD and Bethesda CBD which is provided by a highly reliable exclusive right-of-way - with connecting transit services to the NIH/NNMC area.
- A travel time of 24 minutes between the Silver Spring CBD and Bethesda CBD – along a mixed-travel roadway with delays of varying length caused by crossings of two major regional arterials between the two CBDs – but that provides a one-seat ride to a station in the NIH / NNMC area .



In short – what is the perspective for travelers along the entire corridor for decisions made for connections between Silver Spring and Bethesda?

Mode – A decision on mode (LRT or BRT) impacts not only the citizens of Chevy Chase but also those along the entire length of the corridor. A full LRT option along Jones Bridge Road has not been identified as a viable alternative due to several considerations, including restrictions in available right-of-way. BRT is an option along the Master Plan alignment and in rights of way identified for both modes for the remainder of the corridor. Limited BRT is possible along the JBR alignment.

Environmental Impacts – Decisions in the Purple Line corridor will affect the natural and human environment. Is the desire to create a connection between Purple Line destinations worth the identified impacts to those areas where impacts have been identified? The SSE report focuses extensively on the loss of trees in the County-owned right of-way, as well as impacts to the interim trail, but does not discuss impacts to the neighborhoods along Jones Bridge Road. It should be noted that the MTA's JBR alignment has minimal impact on trees and private property, while the SSE BRT alignment concept results in both the removal of the street trees and the acquisition of property from the front yards of homes on Jones Bridge Road.

Cost - At what value do the stakeholders in the corridor and the citizens of Maryland place on the various alternatives, associated travel times and accessibility? This will be an issue on mode, alignment, station locations, grade separations, etc. And, what are the funding sources by which the selected alternative can be funded.

These are the overarching policy issues that will have to be addressed in the context of the analysis presented in the SSE report and are included in the New Starts process for the project currently underway. It will be important for readers to keep the policy issues in mind as discussions of the technical analysis specifics for this one segment of the 16 mile project are debated.

Purple Line Markets

The question of markets and the priority of those markets are important to this discussion, as the selected alternative, whether the Master Plan or Jones Bridge Road, will have real and noticeable differences in travel times and accessibility to the Bethesda CBD.

An understanding of a travel market includes looking at who works in an area, who lives there, and what other destinations are there (e.g. government, retail, entertainment). The comparison of which market is greater, the NIH/NNMC or downtown Bethesda, must consider all of these. The SSE report only considers employment, and while NIH/NNMC is a major employer; downtown Bethesda has not only a larger employment base, but a substantially larger residential population, as well as considerable retail and entertainment activity which will generate transit ridership. This clarification is important, and has been ignored in the SSE report.

Market Priority

In its most basic sense this is a discussion about which travel market should be considered the primary market, thereby having precedence over the other. Whichever alignment is selected, one group of passengers will be inconvenienced by delay in arriving at their destination, or the need to transfer to another transit line.

SSE claims that the National Institutes of Health/National Naval Medical Center (NIH/NNMC) employment center is a market of such priority that the Purple Line alignment providing service along Jones Bridge Road should be the one of highest value. SSE further supports this conclusion by pointing to the impacts to travel in the Bethesda area that would result from the Base Realignment and Closure (BRAC) plans. However, what this analysis ignores is the effect a Jones Bridge Road alignment would have on potential Purple Line trips to the Bethesda CBD. MTA analysis confirms that downtown Bethesda is, and will be in the future, the primary transit market with its mix of employment, residential, government, entertainment and retail uses. Transit travel using a Jones Bridge Road alignment option will have a substantial negative effect on Purple Line travelers to Bethesda.

It seems obvious that based solely on speed of service, the larger market should receive preferential treatment and the more direct alignment should be selected. However, the speed of service is just one factor in the evaluation of alternatives; and environmental impacts, impacts to the larger transportation system, and cost must be considered.

In an effort to further define the market for transit trips an analysis was performed on the demand forecasting data to determine - by TAZ in the Bethesda area – the total number trips expected to be produced and attracted to each of the zones in the Bethesda market. The Bethesda CBD is defined by two zones (344, 345) while the Medical Center area is defined by two other zones (346, 347). The total number of all daily trips expected to start or end in the Bethesda CBD is approximately 260,000 while the number of trips expected to start or end in the Medical Center are is approximately 110,000.

It is important to note that trips on the Purple Line expected to start or end at the Bethesda CBD would be negatively influenced by the travel delay associated with the Jones Bridge Road alignment resulting in less ridership and less travel time savings for trips to the CBD.

The build alternatives for this project were developed to provide modal and cost options for serving that market. The Jones Bridge alignment was included as a low cost - albeit less effective - alternative to provide a mixed-traffic routing for serving the Bethesda terminus of the corridor. This alternative was not designed to serve the Medical Center area as a different priority for the western terminus – one that carries precedence over the CBD. All build alternatives along the Master Plan alignment do include improved service to the Medical Center area by means of enhanced bus service between Silver Spring and the Medical Center area along Jones Bridge Road as well as offering improved travel time using a combination of the Purple Line and the Metrorail Red Line to make that connection. Shifting the focus of the BRT alternative along Jones Bridge Road to principally serve the Medical Center area and incorporating the additional lanes and other features discussed in the SSE report have the effects of diminishing the transit service effectiveness and benefits to the much larger downtown Bethesda market. This approach appears to be done for the primary purpose of shifting away from the Town of Chevy Chase what are seen as the adverse effects of using the Master Plan alignment - for the explicit purpose it was purchased - over to communities along Jones Bridge Road.

Fare Policy

SSE bases its findings for the fare analysis on an assessment of existing Metro Bus operations and Metro transfers in current conditions to derive cost factors for various trip origins and destinations. It states that BRAC actions will result in more customers who have to pay a higher fare to travel between Medical Center and points along the Purple Line.

The MTA has maintained throughout the planning process that the Purple Line will be an integrated part of the regional transit system and fare policies are expected to reflect that goal. Assuming other conditions is not appropriate. In addition, it is important to note that the travel conditions for those accessing NIH and NNMC will be improved over existing conditions for all Purple Line alternatives.

The Washington Area Metropolitan Area Transit Authority (WMATA) has not yet issued a policy statement on the integration of BRT/LRT systems with the system operated by

the authority. Until that policy statement is issued, and until the MTA negotiates the fare policy for the Purple Line, conclusions on the fare policy are speculative at best.

Technical Analysis

SSE presents technical analysis at a very broad and undefined level in many of its conclusions to make the point that the JBR alignment should be the preferred alignment for the Purple Line alternatives. In order to respond to this analysis the MTA had to make assumptions in many places in an attempt to replicate the findings of SSE in its derivation of recommendations and in many places this was not possible. The sections below outline the conclusions of the SSE report, a listing of considerations, and the MTA analysis conclusion.

Low BRT Defined

In an effort to provide further clarity to the discussion of how the low BRT alternative was developed and what routing and infrastructure recommendations are included, the definition of the alternative has been included below.

> The Low Investment BRT Alternative would primarily use existing streets to avoid the cost of grade separation and extensive reconstruction of existing streets. It would incorporate signal, signage, and lane improvements in certain places. This alternative would operate mostly in mixed lanes with at-grade crossings of all intersections and queue jump lanes at some intersections. This is the only alternative that would operate on Jones Bridge Road, directly serving the National Institutes of Health and the National Naval Medical Center near Wisconsin Avenue and Jones Bridge Road. It is also the only alternative that would use the bus portion of the new Silver Spring Transit Center.
>
> From the western terminus in Bethesda, Low Investment BRT would originate at the Bethesda Metro Station bus terminal. The alignment would operate on Woodmont Avenue within the existing curb. At the Bethesda Station, the buses would enter the station via Edgemoor Road and exit onto Old Georgetown Road.
>
> At Wisconsin Avenue, just south of Jones Bridge Road, the transitway would remain on the west side of the road in exclusive lanes. Low Investment BRT would turn onto Jones Bridge Road where the transit would operate in shared lanes with queue jump lanes westbound at the intersection with Wisconsin Avenue and westbound for the intersection at Connecticut Avenue. Some widening would be required at North Chevy Chase Elementary School.
>
> The alignment would continue along Jones Bridge Road to Jones Mill Road where it would turn right (south) onto Jones Mill Road. Eastbound on Jones Bridge Road would be a queue jump lane at the intersection. From Jones Mill Road the alignment would turn east onto the Georgetown Branch right-of-way,

where a new exclusive roadway would be constructed, with an adjacent trail on the south side.

Low Investment BRT would continue on the Georgetown Branch right-of-way, crossing Rock Creek Park on a new bridge, replacing the existing pedestrian bridge. The trail would be on an adjacent bridge. A trail connection to the Rock Creek Trail would be provided east of the bridge. The alignment would continue on the Georgetown Branch right-of-way until the CSX corridor at approximately Kansas Avenue.

At this point the alignment would turn southeast to run parallel and immediately adjacent to the CSX tracks on a new exclusive right-of-way. The trail would parallel the transitway, crossing the transitway and the CSX right-of-way east of Talbot Avenue on a new structure and continuing on the north side of the CSX right-of-way. The transitway would continue on a new roadway between the CSX tracks and Rosemary Hills Elementary School, and continue past the school. The transitway would cross 16th Street at grade, where a station would be located. The transitway would continue parallel to the CSX tracks to Spring Street, at which point it would connect to Spring Street and turn to cross over the CSX tracks on Spring Street. The alignment would continue on Spring Street to 2nd Avenue where it would turn east. BRT would operate in shared lanes on Spring Street and Second Avenue.

Low Investment BRT would cross Colesville Road at grade and continue up Wayne Avenue to Ramsey Street, where the BRT would turn right to enter the Silver Spring Transit Center at the second level.

SSE BRT Concepts

SSE makes a point that travel along JBR could be improved with the application of all BRT principals – specifically "the MTA should consider implementing exclusive bus lanes to speed BRT travel". The specifics of that potential are further defined in later project documents when BRT strategies for Jones Bridge Road are presented.

All of the SSE alternatives shown rely on utilization of a very limited right of way and result in sub-standard conditions for all roadway users – including BRT vehicles. A 10 foot lane is recommended only in limited situations and not in areas with speeds similar to those obtained on Jones Bridge Road in off-peak periods – particularly in adjacent lanes where bus swerving could result in sideswipes. Lane width is an issue which would impact both SSE recommendations and the Low Investment BRT alternative.

Figures 2 and 3 below depicts the conditions that would be recommended for the main line (not station areas or at intersections) segments of the JBR alignment between Connecticut Avenue and Rockville Pike were the road to be built to standards for BRT vehicles on dedicated lanes, automobiles and bicycles (as JBR is a identified bicycle way in the Montgomery County Master Plan). This configuration would yield the highest two-directional travel times for the corridor for BRT.

Figure 2 - BRT Dedicated Lanes Cross-Section for Jones Bridge Road – Connecticut Ave to Rockville Pike – Built to Standards

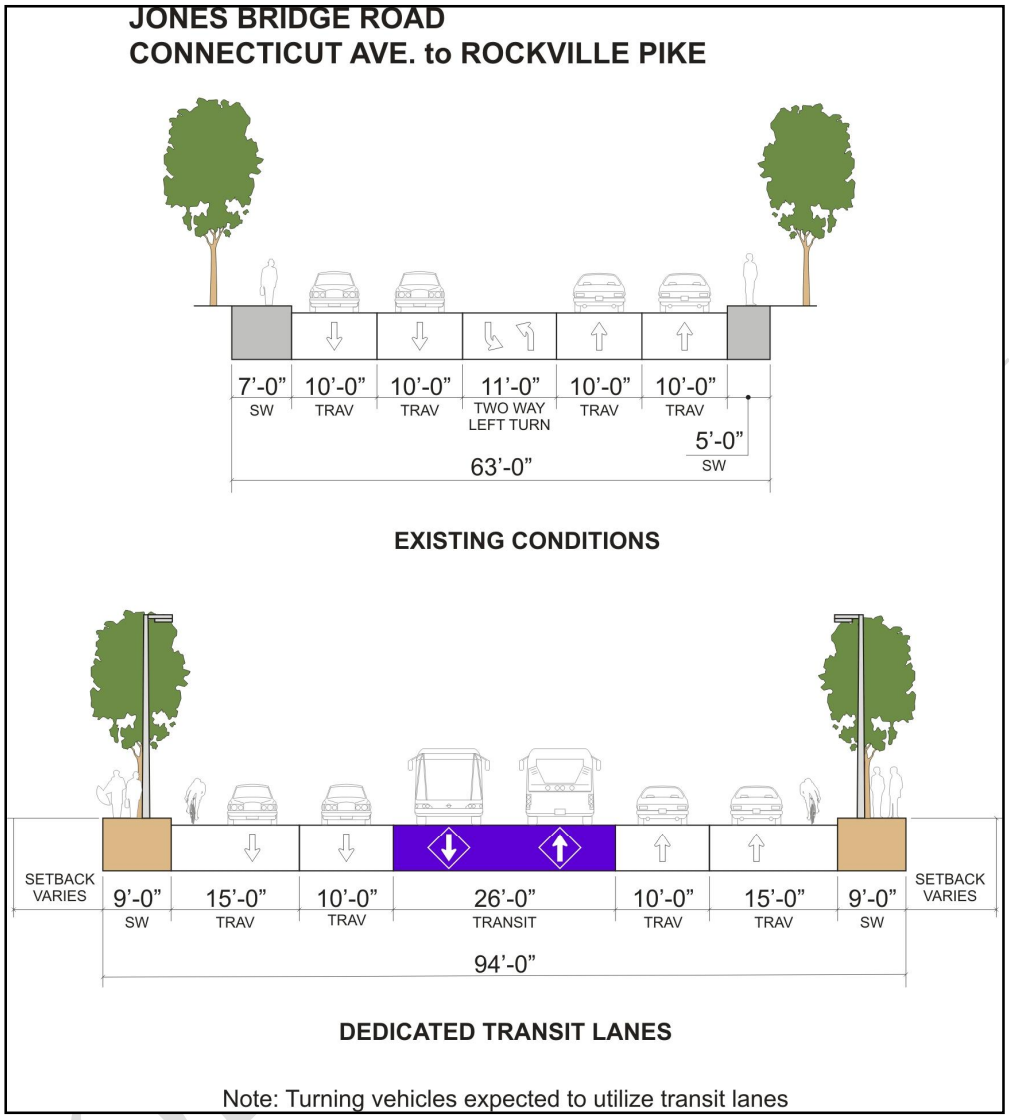
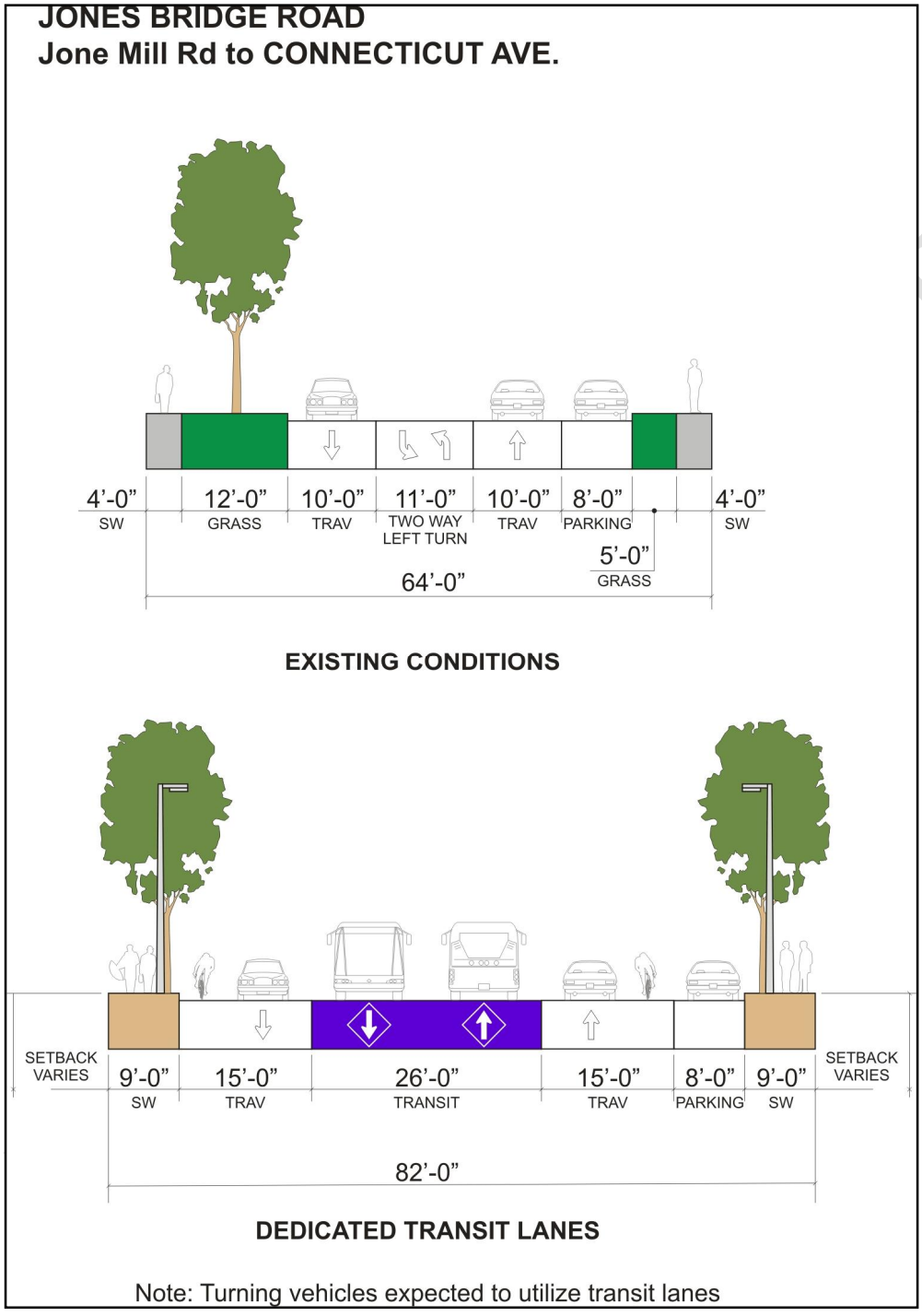


Figure 3 - BRT Dedicated Lanes Cross-Section for Jones Bridge Road – Jones Mill Road to Connecticut Ave – Built to Standards



As noted – the BRT right-of-way needs to meet various standards is 82-94 feet for areas between stations and of approximately 110+ feet or greater at the station location. The existing width of Jones Bridge Road in parts of this segment is approximately 39-50' in from curb face to curb face in many sections and available right of way is insufficient to place the station location assumed by recommendations. The implementation of properly designed concepts would result in additional right-of-way needs along the length of the corridor – an action assessed previously by MNCPPC and the MTA and dismissed due to impacts to private property along the corridor including parks, schools and homes.

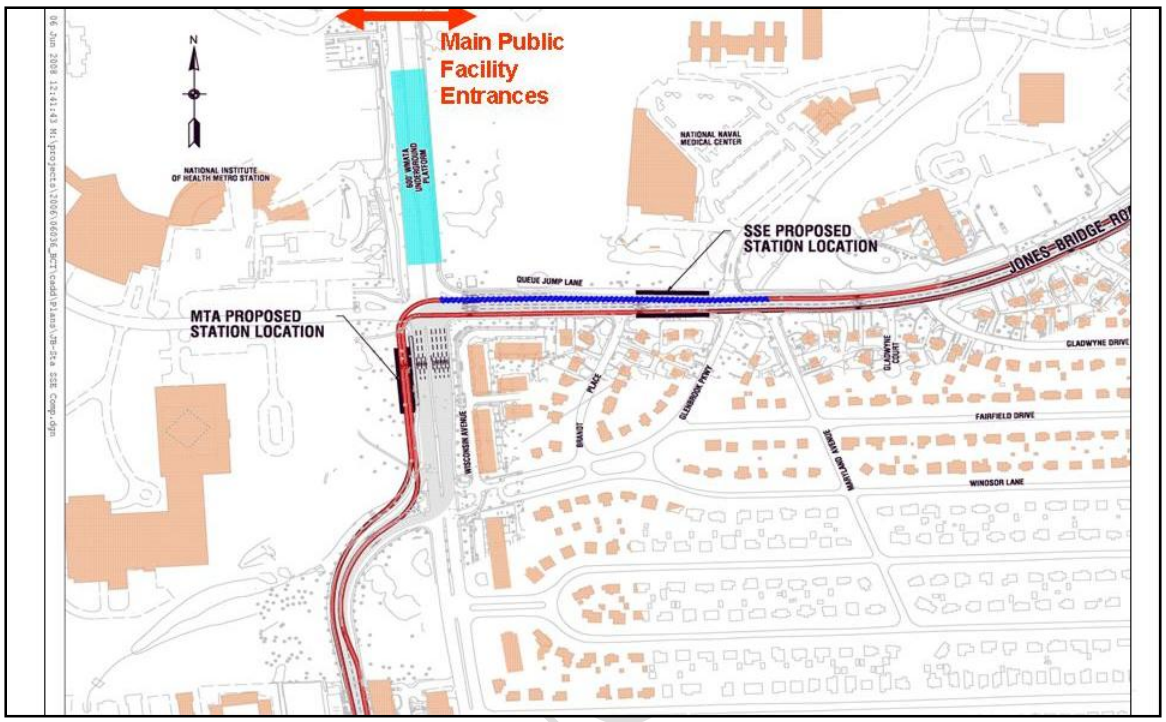
It also should be noted that the Maryland State Highway Administration is currently looking at design options for improving traffic patterns associated with BRAC changes at NNMC. Those recommendations are expected to be released over the next few months. Any property impacts along Jones Bridge Road would most likely be cumulative for BRAC roadway improvements and later Purple Line right of way needs increasing the impact to adjacent properties.

NNMC Station Location

SSE advocates for a station location along JBR providing better service to the NNMC area and resulting in a faster travel time (eliminating the Rockville Pike delay). With the concepts advocated by SSE this station could be located anywhere along the corridor. However, with the existing concept it would be more appropriate to place this station along the curb of the roadway. As noted below in Figure 4 a station location in this area – either for a would result in more impacts to the NNMC property and the property directly across from this station location.

As SSE did not specify a station location for this analysis but left it at the conceptual level – and to reduce corridor length private property impacts - it was assumed that the station location would be located near the JBR entrance to the NNMC property and at a point where access to the planned queue jumper lane would be maintained.

Figure 4 - Assumed Jones Bridge Road Station Location – SSE Recommendation



Some other considerations not spelled out in the SSE analysis include:

- A station near the JBR entrance to NNMC would increase the distance from the NIH campus – increasing overall travel time for those accessing that campus. NIH's employment level is expected to be double that of NNMC by 2030.
- Any future connection to the Red Line in this area would be more difficult with a station location 600-800' (station location estimated as noted) from the Rockville Pike / JBR intersection. Providing the recommended connection to the Red Line and access points to NIH and NNMC would require funding higher than the $55 million specified in the SSE report.
- The main public entrances to the two facilities are located near the existing Medical Center Metro Station and - the location of the noted pedestrian improvement being explored by WMATA.
- The placement of a station at NNMC would decrease the effectiveness of the transit queue jumper lane and would (if the station were to be located along the curb) require weave movements to get back to the jumper lane and through right turning traffic.
- Industry best practice recommends placement of a BRT station on the far side of the intersection to maintain the effectiveness of the queue jumper lanes and Transit Signal Priority systems.

It also should be noted that the $55 million dollars that the SSE report identifies as potential funding for a connection to the Red Line is a Montgomery County planned and funded project to improve station access at the Bethesda Station and is not associated with the Purple Line – though the Purple Line will benefit from its location.

Transit Signal Priority

SSE makes the point that transit signal priority (TSP) could yield additional travel time savings the length of the corridor. It should be noted that transit signal priority was already included in alternatives for Jones Bridge Road (and throughout the Purple Line project) as it can be a time savings when used at appropriate intersections. The travel time estimates derived for the MTA analysis along Jones Bridge Road assumed TSP at its intersections with Glenbrook Parkway, Grier Road and Platt Ridge Drive.

The reality not discussed in the SSE report is that transit signal priority for Jones Bridge Road (20,000+ vehicles per day) is particularly difficult at Connecticut Avenue (70,000+ vehicles per day) and Rockville Pike (45,000 vehicles per day) due to the substantial impacts to the dominant traffic movement – people going into and out of DC or to the beltway - impacts to traffic system controls and the current and expected future condition of these intersections operating in heavily congested conditions. A preliminary analysis of the impacts of implementing Transit Signal Priority is presented in the pages below. The diagram below demonstrates graphically the obstacles to justifying the implementation of priority signaling for Jones Bridge Road at the two intersections.

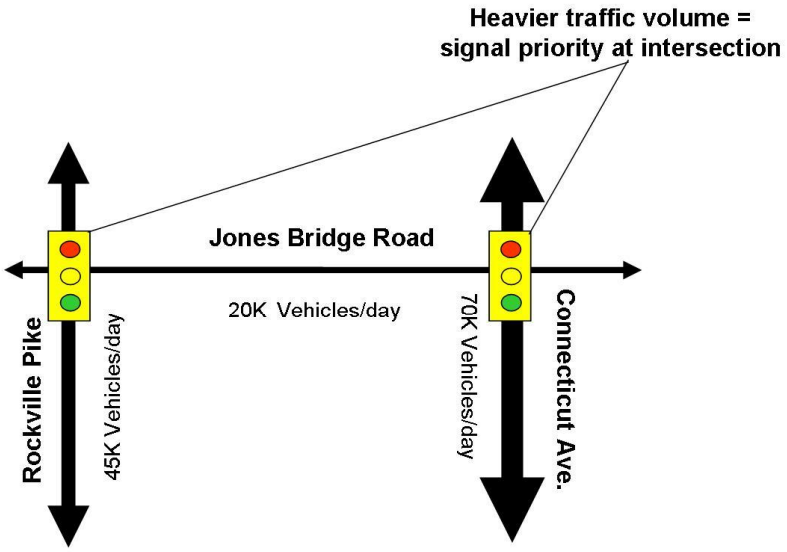


Table 1 – Delay along Rockville Pike

	Average Delay Per Vehicle					New Person-Hours of Delay with TSP
	No Queue Jump Lane	W/ Queue Jump Lane(s)	W/ Queue Jump & TSP	Change with TSP	% Change with TSP	
SB MD 355 AM Peak	44	44	100	56	127%	53
NB MD 355 AM Peak*	29	29	44	16	54%	8
SB MD 355 PM Peak	57	57	89	32	56%	19
NB MD 355 PM Peak*	45	45	52	7	16%	6

*Upstream intersection at Woodmont Avenue is 500' upstream. Northbound delay is based on the segment between the intersections (does not include segment south of Woodmont).

Table 2 – Delay for Eastbound and Westbound BRT Vehicles

	Average Delay Per Vehicle					Reduced Person-Hours of Delay with TSP
	No Queue Jump Lane	W/ Queue Jump Lane	W/ Queue Jump and / or TSP	Change with TSP	% Change with TSP	
EB BRT AM Peak	169		63	-106	-63%	18
WB BRT AM Peak	278	87	22	-65	-75%	11
EB BRT PM Peak	151		44	-107	-71%	18
WB BRT PM Peak	236	96	49	-47	-49%	8

On average, the delay to the BRT vehicles at the Rockville Pike intersection (and the travel time on the Jones Bridge Road portion of the Low BRT Alternative) could be reduced during the peak periods by **1.3 minutes on average**, if this TSP strategy were implemented.

Implementation of TSP at this intersection however; results in a significant increase in vehicle and person delay along Rockville Pike during the peak periods. The total

increase in person-delay along Rockville Pike during the peak periods is 86 hours; the travel time savings from TSP would reduce person-delay on the Purple Line by a total of 55 hours. These results show that providing signal priority treatments for 10 fully loaded BRT vehicles in each direction during the peak hour does not offset the increase in person delay along Rockville Pike.

It should be also noted that the implementation of TSP at this intersection with respect to the Purple Line, significantly reduces the total number of vehicles served at this intersection during the peak hours (from 6,100 to 4,800 during the AM peak and from 5,700 to 5,100 during the PM peak).

Table 3 – Delay along Connecticut Ave.

	Average Delay Per Vehicle					New Person-Hours of Delay with TSP
	No Queue Jump Lane	W/ Queue Jump Lane(s)	W/ Queue Jump & TSP	Change with TSP	% Change with TSP	
SB MD 185 AM Peak	79	79	135	56	71%	59
NB MD 185 AM Peak	15	15	36	21	140%	13
SB MD 185 PM Peak	70	70	230	160	230%	111
NB MD 185 PM Peak	65	65	127	62	95%	52

Table 4 – Delay for Eastbound and Westbound BRT Vehicles

	Average Delay Per Vehicle					Reduced Person-Hours of Delay with TSP
	No Queue Jump Lane	W/ Queue Jump Lane	W/ Queue Jump and / or TSP	Change with TSP	% Change with TSP	
EB BRT AM Peak	47		25	-22	-47%	-4
WB BRT AM Peak	278	133	24	-109	-82%	-18
EB BRT PM Peak	52		33	-19	-37%	-3
WB BRT PM Peak	148	64	28	-36	-56%	-6

On average, the delay to the BRT vehicles at this intersection (and the travel time on the Jones Bridge Road portion of the Low BRT Alternative) could be reduced during the peak periods by **0.8 minutes on average**, if this TSP strategy were implemented.

Implementation of TSP at this intersection however; results in a significant increase in vehicle and person delay along Connecticut Ave. during the peak periods. The total increase in person-delay along Connecticut Ave. during the peak periods is 233 hours; the travel time savings from TSP reduce person-delay on the Purple Line by a total of 31 hours. These results show that providing signal priority treatments for 10 fully loaded BRT vehicles in each direction during the peak hour does not nearly offset the increase in person delay along Connecticut Ave.

It should be also noted that the implementation of TSP at this intersection significantly reduces the total number of vehicles served at this intersection during the peak hours (from 6,900 to 6,000 during the AM peak and from 7,500 to 6,500 during the PM peak), without increasing the overall person throughput since non-TSP options serve the name number of BRT vehicles.

Travel Times

SSE identifies assumptions throughout the document that speak to improved travel times for the Jones Bridge Road alignment and the operation of BRT corridor wide. Much of their analysis is not re-producible using standard transit planning. For example:

1. On page 20 of the document (April, 2008) SSE states that the estimated travel speed for the BRT option (utilizing low-investment BRT travel times) is 6 mph which places it outside of acceptable travel speeds given identified best practices. The 6 mph speed is not correct. The end to end travel time identified for Low Investment BRT is 96 minutes – over a 16 mile corridor. (*Note: only the low investment BRT travel time was shown in the SSE report)* This equates to a running speed of approximately 10 mph. It is hypothesized that the lower figure was incorrectly calculated by dividing the total time by the total length. Given the incorrect assertion of the average operating speed the conclusions in the report based on this erroneous method of calculating operating speed were dismissed.

BRT speeds for the Purple Line alternatives are best for alternatives utilizing the Master Plan alignment.

For comparison:

Low BRT - 96 minutes – 10 mph
Med BRT – 73 minutes – 13 mph
High BRT - 59 minutes – 16 mph

Examples of successful BRT systems from around the world, including the United States show comparable travel speeds:

- Domestic

- Cleveland, Euclid Avenue = 12 mph
- Los Angeles, Wilshire and Venture Boulevards = 14 mph
- Boston, Silver Line = 8 – 13 mph

o International

- Bogota Columbia, TransMilenio = 13 mph
- Curitiba Brazil = 12 mph
- Porto Allegre Brazil = 11 – 14 mph
- Quito Ecuador = 11 – 12 mph
- Sao Paolo Brazil = 12 mph, 14 mph (different lines)

If travel speeds were to be used as the only measure of effectiveness, then the Master Plan BRT alternatives produce better average speeds throughout the length of the corridor.

2. SSE uses (page 19 – April, 2008) a travel-speed based on a bus running time in pre-peak hour conditions (prior to 7 a.m.) for a WMATA bus (J1) in the current year along a segment where a crossing of Connecticut Avenue is not included and fails to account for a free right onto Rockville Pike northbound. This travel speed (15.6 mph in the April report and 14.4 mph in the July memo – using the same methodology) can not be reproduced by MTA staff and consultants as the analysis used for this project is for future conditions in peak hour (congested) conditions which includes:

a) Development associated with BRAC improvements and growth at the NNMC/NIH area.
b) Increases in delay at Rockville Pike and Connecticut Avenue.

As a reference for current peak hours speeds the NNMC Final Environmental Impact Statement found travel speeds on Jones Bridge Road of NNMC EIS Traffic Study:

Westbound (AM Peak) = 10.3 min @ 10.0 mph,
Eastbound (PM Peak) = 7.7 min @ 13.4 mph.

The travel times developed by MTA based on site specific traffic counts and operations simulations are more reflective of expected future conditions in the corridor and include travel time savings for queue jumper lanes and TSP at intersections where the technology can be applied. The average speed assumed by the MTA is 11 mph for this segment. Times utilized by SSE would only be possible if the considerable infrastructure were put in place – resulting in severe right of way requirements, community impacts and the addition of delay to Connecticut Avenue and Rockville Pike.

SSE produced a travel table on page 20 of its April report (Table 2 – April, 2008) and again in later reports using "weighted" travel times for portions of the travel times of the SSE Jones Bridge Road concept and the Purple Line alternatives. The cited TCRP report was written to provide a reference for illustrative weights for various trip components as

used in the mode choice step of the travel forecasting models. The publicly available ridership estimates for the Purple Line alternatives are based on the appropriate and full use of weighting of travel time components within the regional travel forecasting model. The selective use of weighted time to create the SSE Table 2 is an incorrect and inappropriate application of this weighting concept outside the travel forecasting modeling process.

In the FTA recommended state of the practice procedures used to develop the ridership forecasts for the Purple Line alternatives, various time components of trip on an alternative are "weighted" to reflect observed traveler behavioral response – i.e., some types of time are seen as affecting a person's travel choice than others. A minute waiting for a transit vehicle, including at a transfer, is viewed as more onerous than riding in the vehicle. Similarly, travel time on a vehicle while stopped at traffic signal or delayed by traffic congestion, is seen as more onerous than travel time on a transit vehicle operating along a guideway (i.e. busway or rails). Applying these weights to the components of the travel times and then representing them in a table as times travel that would be experienced by a transit rider as shown in the SSE report Table 2 is misleading and inappropriate. These weights are used within the regional travel forecasting model as part of an overall process of comparing the combination of out-of-pocket costs and travel time for a travelers choice. SSE was very selective in their use of these weights, only applying them to transfer and walk times.

The SSE report does not include all the travel time weights, travel time on a vehicle involving waiting at a traffic signal or delayed in traffic as discussed above, as would be experienced by a BRT vehicle operating along Jones Bridge Road, Wisconsin Avenue and Woodmont Avenue. The report also did not recognize that a traveler riding a transit vehicle along the Master Plan alignment would not encounter any of these more heavily weighted "in-vehicle travel time delays" because the Master Plan alignment avoids and minimizes these delays. Also, surveys of travel behavior, including ones for the DC area, show that there is a preference for modes of travel on guideways over non-guideway (street) modes. This preference is reflected in the travel forecasting process as "perceived attributes" beyond just the travel time and out-of-pocket costs that guideway transit modes have over in-street modes, such as reliability and ride quality and comfort, that come from operating in an exclusive guideway environment as opposed to an in-street operating environment. These mode specific attributes are represented in travel forecasting process by the mode specific constant, expressed as travel time saving.

In the case of a LRT or BRT on a guideway such as along the Master Plan alignment versus a largely mixed traffic BRT or bus, the guideway mode can have a perceived travel time saving benefit of 6 to 12 minutes over the in-street or mixed traffic mode. The SSE analysis does not include either the "in-vehicle travel time delay" weighting or the guideway mode specific constant travel saving benefit in their table. The numbers in the table use an incorrect and inappropriate method for showing travel times and ignore and/or leave out a number of other weights that would not support the assertions drawn from the table results. Using a Jones Bridge Road station east of Rockville Pike would lengthen the total perceived trip time for those accessing the NIH complex. Also – the

main entrance for public access to the NIH facility is located near the Red Line Metro station thereby adding additional delay associated with accessing the gate at that location.

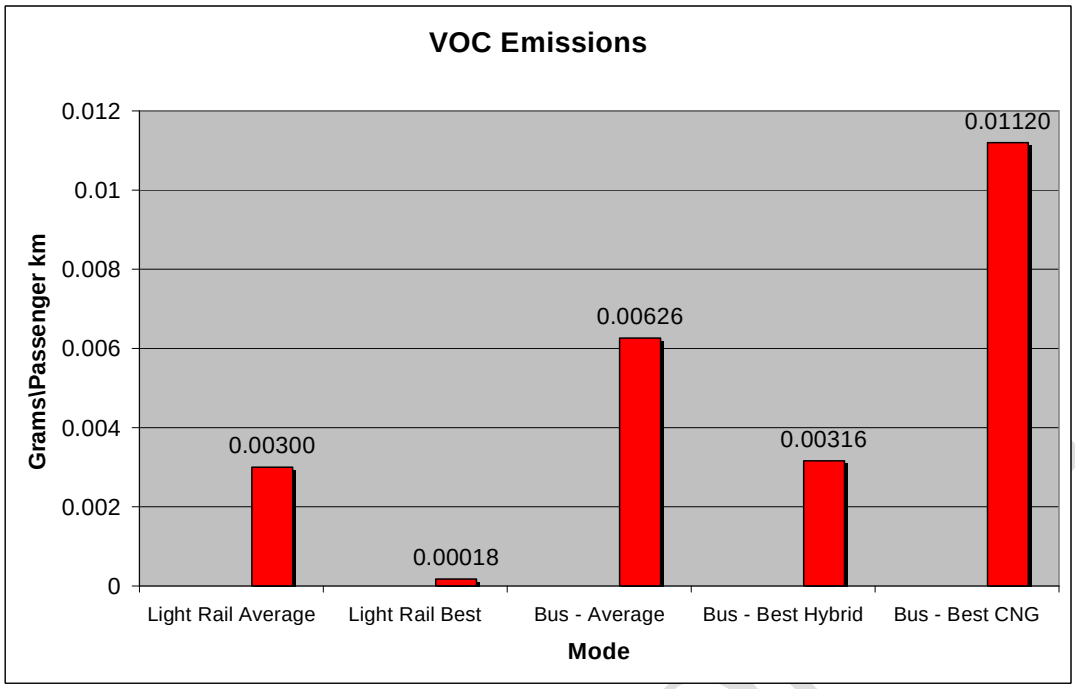
Emissions Analysis

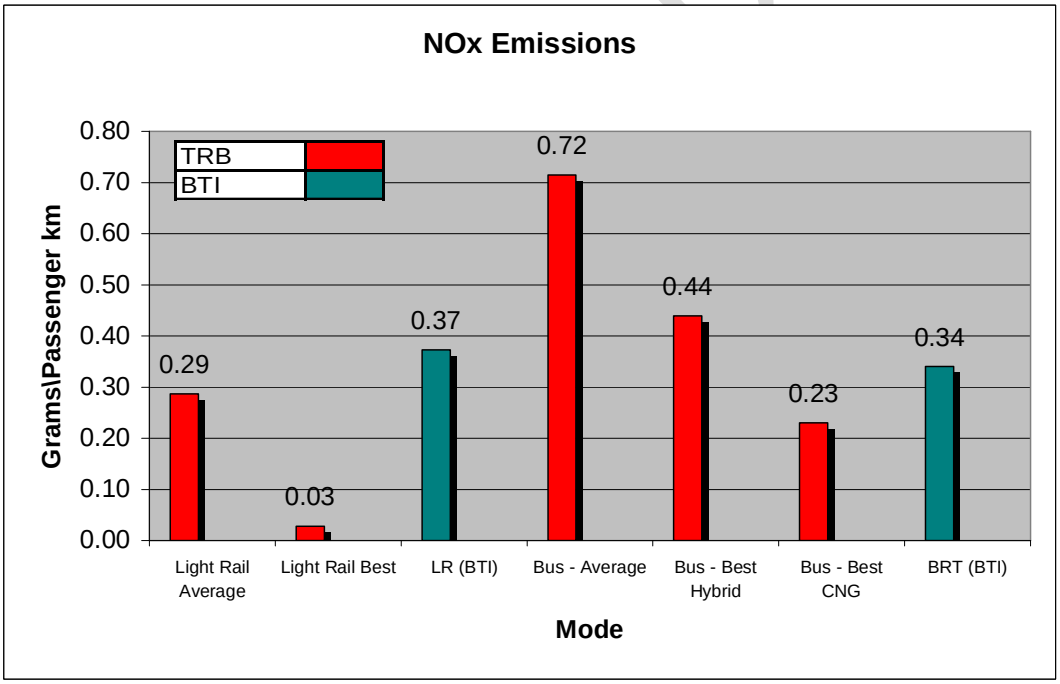
SSE uses as a source (*The Electric Rail Dilemma: Clean Transportation from Dirty Electricity*) for its emissions analysis a report issued by an advocacy group - The Bus Rapid Transit Policy Center. As a public agency, the MTA instead relies on findings from established and accepted research sources from within the transportation industry.

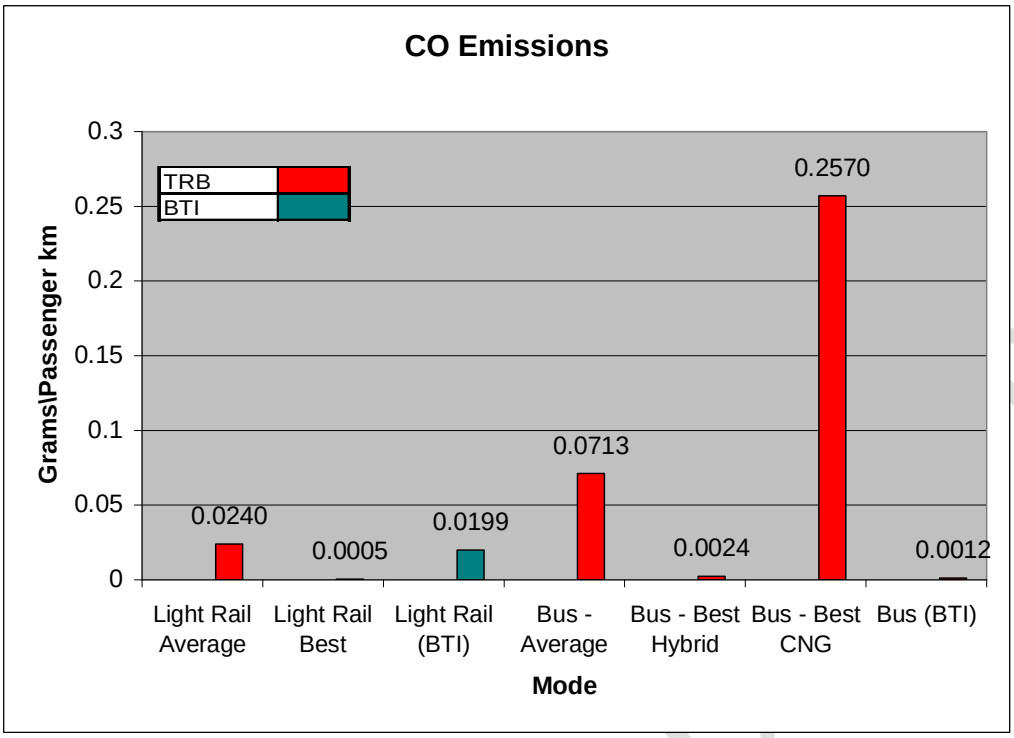
The Transportation Research Board published a report (*Comparison of Emissions from Light Rail Transit and Bus Rapid Transit*) that sought a balanced approach to comparing the resulting emissions from the two transit options. The Transportation Research Record article identified that the BRT Policy Center report contained a few methodology errors which included:

1. "Very clean buses with high occupancy were compared against moderate rail systems from relatively dirty sources."
2. "Very good examples of BRT technology are compared to average or poor examples of electric rail technology."
3. Balanced comparison of the entire generation/refinement and power/fuel delivery process was not completed.

The TRB paper analyzed comparative emissions for NoX, VOC and CO. Results were presented in grams of pollutants per passenger-km which allowed for a direct comparison with the information presented in the report referenced in the SSE report. The results of the analysis for these pollutants are presented in the following graphs. Information presented by SSE is included in blue-green for comparison.


VOC Emissions
Grams\Passenger km
0.012
0.01
0.008
0.006
0.004
0.002
0
0.00300
0.00018
0.00626
0.00316
0.01120
Light Rail Average
Light Rail Best
Bus - Average
Bus - Best Hybrid
Bus - Best CNG
Mode


NOx Emissions
Grams\Passenger km
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
TRB
BTI
0.29
0.03
0.37
0.72
0.44
0.23
0.34
Light Rail Average
Light Rail Best
LR (BTI)
Bus - Average
Bus - Best Hybrid
Bus - Best CNG
BRT (BTI)
Mode



The reality from the emissions perspective is that technology used to derive power for both modes continues to be cleaner and build year emissions would expected to be an improvement over what is shown here for whatever mode is selected. This is analysis of expected conditions in future years. Alternatives that provide the highest number of transit trips would then provide the greatest benefit to the region.

The real potential benefit to emissions from the construction of the Purple Line – for either mode – is contained in the potential for creating mixed use communities at appropriate station locations that both provide for basic needs (grocery, retail, etc.) at station locations and enable direct connections to employment/retail/government/restaurant centers along the corridor. This land use and transportation improvement would provide significant auto travel reductions over peripheral auto-oriented development.

Tail Track

Operation

SSE has represented (in a graphic of its creation) the conditions near Woodmont East showing varying fence treatments and asserts that the presence of transit vehicles in this area is inconsistent with planning initiatives. The representation of the operation in this area and the claim of plan inconsistency are both incorrect. SSE further asserts that the eventual transit operator will need to use the tail tracks extensively. It is suggested by

SSE that the tail tracks will be used to store cars during low traffic periods in preparation for peak traffic periods thereby raising the need for fencing the tail track area for safety.

For the Purple Line light rail alternatives, the primary purpose of the tail track is to provide the transit agencies the capability to manage operational disruptions due to a transit vehicle being taken out of service (for a maintenance issue) or delayed during normal hours of operation. A tail track between the Apex Building and Woodmont Avenue is necessary to allow the transit agency to temporarily park a train/vehicle that may need to be taken out of service. Vehicles taken out of service will be removed from the tail track and taken to the maintenance facility (at Lyttonsville) as soon as operationally possible.

It is important to note that no switching to another track would take place at the tail track. A crossover for light rail vehicles to switch to the track in the opposite direction when returning eastbound after arriving at the station from the westbound direction, and visa-versa, would be located east of Pearl Street well before the tail track. For example, if a train is located on one of the tail tracks, it would continue along that same track until it reaches Pearl Street where the train could then switch to the track in the other direction. After the mode is selected for the Purple Line a more detailed assessment will be made to determine whether or not a tail track is required, and use of the tail track would be defined in more detail. Tail track operations would be much different under the bus rapid transit (BRT) alternatives. For BRT, in the westbound direction the BRT vehicles would leave the Master Plan right-of-way at Pearl Street and travel on existing roadways to access the current Bethesda station. After serving the current Bethesda station, the BRT vehicles would travel south to Woodmont Avenue and enter the right-of-way operating along the tail track's alignment (without the actual tracks being in place) in the eastbound direction. The BRT vehicles would then stop at the new Purple Line station to load/unload passengers and continue eastbound towards Silver Spring.

Development

As for the findings on planning recommendations - the plan that the Planning Board approved for this area accommodates a Woodmont East project before and after the Purple Line – that is in two phases. The MTA has coordinated with the Woodmont East Developer (JBG), Montgomery County, and the M-NCPPC to ensure that the proposed development and the plans for the Purple Line alignment that use the Master Plan alignment are consistent and compatible. Therefore, it is an incorrect assumption that the plans for use of the Master Plan alignment in this area are inconsistent with approved development plans. The fence (of variable construct in SSE presentations) noted in SSE graphics has never been part of MTA plans.

Renderings

The graphics below depicts a more accurate concept of what is envisioned for the Woodmont East Plaza site both by the current developer (prior to the Purple Line) and through an alternative concept developed by the MTA once the Purple Line is built. It is

important to note that the light rail vehicle would only be in the plaza when maintenance issues require its use as storage until the vehicle can be removed and transported to the Lyttonsville maintenance yard.

Source: MTA

Source: JBG

Impacts to Trees Along the Master Plan Alignment

SSE uses a dated tree survey to describe potential impacts to trees along the Master Plan alignment – a condition that has certainly been changed through the natural cycle of a

trees lifespan. SSE also has created graphics depicting tree removal to support this point. In order to support their claim, SSE exaggerated the potential impact by showing tree removal outside of the right-of-way or area of need for the transitway that would not be necessary.

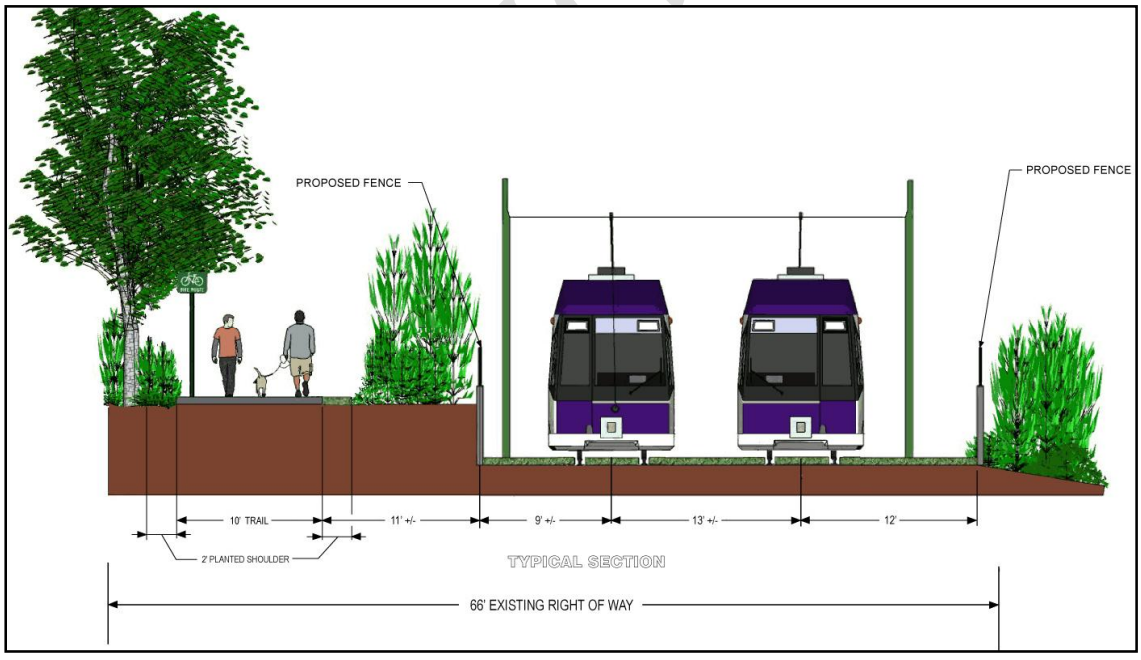
Further, it should be pointed out that there are trade offs between impacts to trees within a right-of-way purchased and specifically reserved for transportation, as compared to those traveler impacts for those that live along Jones Bridge Road.

Also SSE has identified that storm water run-off would increase in this area due to Purple Line construction. Stormwater management is an important element of all transportation projects – design alternatives forwarded to date, including grassy areas along light rail alternatives, have been developed to address stormwater issues.

Trail Design

SSE, in a memo given to the Chevy Chase Town Council on April 22, 2008, titled "Response to Drawings Provided by Maryland Department of Transportation, Secretary's Office, March 11, 2008" outlined some misperceptions about the trail design. The specifics of SSE's criticisms will not be spelled out here but can be summarized as the MTA design is not possible and does not take into consideration all factors.

Figure 5 – Revised typical section for the Purple Line along the Master Plan alignment



The typical section that was included in the memo and analyzed by SSE was never intended to be exactly to scale. The 10'+/- trail has since been clarified to 10' trail with 2' shoulders on either side. This is the Maryland-National Capital Park and Planning's

standard. The 2' shoulder is planned to be an unobstructed area and included in the 11'+/- length segment of the typical. The 11'+/- is intended to be a planted and landscaped buffer area. As stated in previous MTA documents, this is the typical where "feasible". This means that the 10' wide trail with 2' shoulders on both sides will be the standard along the length of the CCT. The trail will never be less than the 10 foot width specified.

The variable dimension will be the 11' between the retaining wall and the edge of the trail closest to the transitway. This width will vary as the horizontal and vertical alignments for both the trail and the transitway are optimized for the width of the ROW, the geometrical constraints of the transitway, the aesthetics of the users, and construction costs. The 11' dimension is the goal of the design.

There aren't any dimensions given from the ROW line to the dimensioned typical. The typical section "floats" within the ROW of way to take advantage of the variations in topography. In some areas, the transitway or trail may be closer to one side of the ROW and closer to the other side in others. This typical section is also valid all along the length of the Master Plan right of way from Pearl Street to Jones Bridge Road with the exception of the ROW dimension. The ROW varies from 66' to 100' in width. The table below identifies the specific width from each segment connecting Connecticut Avenue with Bethesda.

Table 1 - Trail Design Specifics - Woodmont Avenue to Connecticut Avenue

BEGINNING STATION	ENDING STATION	LOCATION	AVAILABLE PLANTING WIDTH (FT)	DISTANCE AT THIS PLANTING WIDTH (FT)	ROW WIDTH (FT)
300+00	302+80	Woodmont Ave to beginning of tunnel - trail not adjacent to track	0	280	66
302+80	313+50	within tunnel - trail is aerial structure when within tunnel	0	1070	32
313+50	315+00	edge of tunnel to Pearl St - trail is aerial structure	0	150	49
315+00	330+00	Pearl St to 500' west of MD 410	0	1500	66
330+00	333+00	500' west of MD 410 to 200' west of MD410	0-10	300	66
333+00	338+00	Vicinity of MD 410 East West Hwy	10-11	500	66
338+00	348+00	300' west of Sleaford Rd crossing to 700' west of Sleaford Rd crossing	9	1000	66
348+00	349+00	200' west of the Columbia Country Club to the beginning of the Country Club	12	100	100
349+00	371+00	Along the Country Club property to 200' west of Connecticut Ave.	12	2200	100
371+00	379+00	aerial structure for station	N/A	800	
379+00	402+00	500' east of Connecticut Ave to 900' west of Jones Mill Rd	12	2300	100
402+00	408+00	overhead pedestrian crossing structure	N/A	600	100

The SSE memo indicates that there will be steep retaining walls per the 1996 plans. The 1996 plans had the trail on the south side of the transitway. In February 2007, the trail was moved to the north side of the transitway to take advantage of the variations in topography. This significantly reduced the amount of retaining walls from the 1996 plans. Contrary to what was stated in the memo, the cost of the retaining walls has been included in the project's cost estimate as a separate line item.

The SSE memo is correct that the impacts to the north side stream are not shown. The Purple Line is currently at the alternatives analysis level of design which is roughly a 10% level of completion. The specific design details for streams, culverts, and stormwater management are addressed at a later stage of design. The SSE memo states that there will be negative effects to the water. By state law, the final design must address water quality issues.

Conclusions

SSE, though use of methods inconsistent with best practice, through analysis that is incorrect, or through over exaggeration of expected conditions has presented information

that is inconsistent with the analysis presented to date by the MTA for this planning study. This effort has been made to over-emphasize the possibilities and benefits of the Jones Bridge Road alignment. SSE's conclusions in general call for transferring the impacts of building in a designated transportation corridor (the master plan alignment) to the users and residents of the Jones Bridge Road community.

SSE also de-emphasizes the dominant travel market in the study area – downtown Bethesda – and the superior travel times afforded through travel on the master plan alignment. Travel times to Bethesda and the surrounding communities are superior through utilization of the master plan alignment and of comparable time to the NIH/NNMC complex by transfer to the Red Line.

The MTA is engaged in an open process which is federally monitored and recognized as the most stringent in all of transportation planning. SSE's assertions have been an attempt to divert attention from the facts stated plainly in all documents issued by MTA to date.