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September 30, 2008

Royce Hanson
MNCPPC
8787 Georgia Avenue
Silver Spring, MD 20910

RE: Purple Line

Dear Chairman Hanson:

In response to a recent exchange of reports between The Town of Chevy Chase and its consultants, Sam Schwartz Engineering (SSE), and the Maryland Transit Administration (MTA), and meetings with Secretary Porcari and the Federal Transit Administration (FTA), new information regarding the Purple Line project has come to light which we want to bring to your attention.

- **New BRT Alternatives** – The State has done a preliminary reassessment of the Jones Bridge Road alternative and has “found” 10,000 more riders for the alignment by taking SSE’s recommendations and giving this alternative the same treatments east of Jones Mill Road as all other alternatives under consideration. SSE still notes several irregularities with MTA’s calculations and asserts that that number could and should be even higher, potentially another 6,000 riders. While the price tag goes up, this is still the lowest cost alternative under consideration by MTA -- \$597 million (by MTA estimate) – half the cost of MTA’s Medium-Investment Light Rail Alternative along the Capital Crescent Trail. This new JBR alternative will still receive a highly favorable rating from the FTA. Unfortunately, it is not clear if the State will be including this analysis in the DEIS nor if it plans to share this information with the public.
- **Underestimated Ridership** – SSE continues to find serious deficiencies with the State’s analysis of trips associated with the BRAC relocation of Walter Reed to National Naval Medical Center. Combined with miscalculations of the area MTA asserts will be served by the Master Plan alignment into Bethesda, the Town believes that the State’s analysis of the ridership potential of the Jones Bridge Road alignment to NNMC, north Woodmont, and Bethesda is acutely undervalued. Using MWCOG estimates, the Medical Center and North Woodmont areas will be home to 40,619 jobs in the year 2030 and will be directly served by only the Jones Bridge alignment. By contrast, the portion of Downtown Bethesda within walking distance (1/2 mile) of the Bethesda Purple Line Station will be home to 32,944 jobs.
- **Delay in FTA Approval** – The DEIS process is being delayed in part because the Federal Transit Administration had many comments/questions on the original draft that MTA has not yet satisfactorily addressed (we now hear it may be released at the earliest in mid-October rather than late September as announced by the State last week). We have also raised some of our concerns with FTA. We believe the released document will be a better one for FTA scrutiny.

- **Real Impacts on the Capital Crescent Trail** – In a recent meeting with residents of the Edgevale community, which abuts the Capital Crescent Trail's 66-foot right of way (ROW), MTA representatives acknowledged SSE's assertion that the entire ROW in this area will have to be clear cut of trees to accommodate transit. They have also told representatives of the biking community that, as SSE suggested, the trail through the tunnel option is unsatisfactory and too costly, and the trail will most probably be rerouted on to city streets and an at-grade crossing of Wisconsin Avenue. Yet MTA continues to present misleading artists renderings and videos lush with trees. After spreading a "don't worry" message for almost a year, MTA has lulled many residents into believing that Purple Line on the Trail will be benign.
- **Woodmont Plaza Will Be Bisected by Purple Line CCT Alignments, Whether Light Rail or BRT** – The Woodmont pedestrian plaza is at risk. If bus rapid transit is chosen for the Master Plan alignment, buses will run all day long – every 6 to 10 minutes – through the Woodmont Plaza area in front of the Bethesda Landmark Theaters and Mon Ami Gabi. This will compromise the use of this area as a public meeting and community green space, for which the community fought so hard. Every MTA light rail alternative uses the Capital Crescent Trail alignment, and includes tail tracks extending west of Bethesda Station that will bisect the plaza and be used for the temporary storage of out-of-service trains. We believe trains will be present there much of the time, and will similarly impair the intended public use space.
- **Public Opposition** – Over the last two weekends, volunteers gathered over 2,000 signatures (in 4 days) in support of saving the Trail and moving the Purple Line off this alignment. This, combined with the 15,000 signatures already collected over the last few years, should let you know what a cherished resource the Capital Crescent Trail is to the greater community.

Given our current and projected economic crisis, it is unclear that any transit project will get federal funding. It is also unclear if the State has the money to contribute as a match. Yet, we also know we need to explore transit alternatives for the region. This is a time to be creative and look for solutions. As a county representative you have to ask yourself if there is funding for multiple transit projects and how this money should be allocated. The following are questions that we ask you to consider:

- **BRAC is Coming** – Why miss an opportunity to provide a Purple Line alternative that will provide some relief to the BRAC problem? With the BRAC Action, more traffic is coming to already crowded roads. Current thinking for solutions is focused on the old, failed approaches – widen roadways and intersections to try to handle more traffic. The Jones Bridge Road BRT Purple Line may not be the silver bullet that will solve all BRAC-related traffic problems, but it will help by attracting BRAC employees/visitors to use transit, thereby reducing the number of cars and the need for costly and disruptive road widening. It won't cost taxpayers more for Purple Line to service the Medical Center area. . . it actually costs less. As you know, BRAC did not exist when the Master Plan alignment was developed, but it does today.
- **Funding the Purple Line** – Why would we advocate for an alternative that has a low chance of getting federal funding? The Purple Line is needed. Yet, if the advocates who insist that it be light rail prevail, we may never see it as it is more costly, and has a lower FTA cost-effectiveness score and is, therefore, less likely to obtain FTA funding. After 20 years of contemplation and debate, the State has decided this is the time to move forward. We are setting ourselves up for failure if we proceed with advocating for light rail.
- **Two Transit Lines for the Price of One** – Why should the region place one needed transit project over another? The Purple Line and the Corridor Cities Transitway both have the potential to effectively serve this region by responding to mounting traffic problems. By selecting the Jones Bridge Road alignment for Purple Line, and BRT along the Corridor Cities Transitway, the region could have two needed transit projects for the price of one Purple Line light rail alternative.

In response to the Town's updated Alternatives Analysis of June, 2008, the State issued two white papers and an "internal" report dated August 14, 2008. The Town has recently responded to those white papers and reports, and the full documents are available on-line at www.townofchevy Chase.org under the heading "Purple Line". We encourage you to look at those reports carefully. We ask that you view these reports in light of recent developments relating to the budget and BRAC, as we may be able to find affordable solutions by giving the Jones Bridge Road Bus Rapid Transit alternative a full and fair consideration.

We also ask that you make these reports and this letter available to the Purple Line Advisory committee at the October 1 meeting.

We would appreciate the opportunity to meet with you and to answer any questions you may have. Please do not hesitate to contact us.

Sincerely,

Kathy Strom
Mayor



**Rebuttal to MTA's White Paper Entitled
"Medium Investment BRT Variations Serving Medical Center Purple Line AA/DEIS"**

Executive Summary

The Maryland Transit Administration (MTA) has detailed two new Medium Investment Bus Rapid Transit (BRT) variations in a recently released white paper, stating that it has created these new variations with input from Sam Schwartz Engineering (SSE). This statement, however, implies that there was some type of direct consultation with SSE on the development of these variations, which was not the case. Indeed the Jones Bridge Road (JBR) Medium Investment BRT variation incorporates several of SSE's suggestions, such as Medium Investment treatments east of Jones Mill Road, a new station entrance to link the Purple Line with the Metro Red Line at Medical Center, and an additional BRT station at North Woodmont. Yet, MTA has failed to include some of the most important elements of a BRT system, such as Transit Signal Priority and dedicated BRT lanes on Jones Bridge Road. In addition, MTA has made this variation less effective through poor placement of the Medical Center Station.

MTA has also created a second Medium Investment BRT variation that follows the Capital Crescent Trail to downtown Bethesda before turning north to access the Medical Center area. MTA attributes the inspiration for this variation to SSE; however, SSE has not recommended this as an alternative due to several flaws in its alignment. First, an exit ramp from the Capital Crescent Trail onto Pearl Street would be complicated and costly and its winding path through downtown Bethesda would add excess time and inconvenience to the route. Second, BRT vehicles would have to be routed through Woodmont Plaza because the Pearl Street right of way is too narrow to accommodate BRT vehicles in both directions. Woodmont Plaza is currently an active public space with near-term designs for further improvements. Even with the extensive public safety precautions that would be necessary, this routing would seriously degrade the quality of this public space. Finally, this alignment forces eastbound and westbound buses to stop in completely different locations in downtown Bethesda, a poor design which generally results in decreased ridership.

MTA has estimated ridership for each of these variations but many questions are still outstanding. MTA estimates, for example, attribute 2,000 fewer riders for the JBR Medium Investment BRT variation than for the original Medium Investment BRT alternative that terminates in Bethesda and does not even serve the Medical Center. Also, MTA attributes roughly 8,000 more riders to the second variation even though there should be little difference in running times between the two variations. These logical incongruities need be clarified by MTA.

MTA's assessment of SSE's routing suffers similarly to its evaluation of the original JBR alternative—i.e., its travel times are unrealistically long and unwarranted penalties are imposed. As a result, even though MTA acknowledges an increase of 10,000 riders, JBR BRT is still undervalued. That can and should be corrected.

A larger question remains, now that MTA has affirmed SSE's contention that JBR BRT has greater potential, will the Alternatives Analysis be changed to include the better version of JBR BRT so the public has the opportunity to weigh in on this analysis?

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Introduction

On August 14, 2008, the Maryland Transit Administration (MTA) released a white paper to the Town of Chevy Chase ("the Town") entitled "Medium Investment BRT variations Serving Medical Center Purple Line AA/DEIS." This was in response to continuous calls by the Town, Sam Schwartz Engineering (SSE), and several elected officials to re-evaluate the Jones Bridge Road BRT alignment.

By considering SSE's input in their analysis, the MTA has taken a step towards improving the effectiveness of their alternatives. However, MTA's claim that "the variations tested for the Medium BRT options were developed through input from Sam Schwartz Engineering" suggests a process which did not actually occur—no working meetings were held to exchange specific information. The alternatives created out of this new analysis still disregard several of SSE's concerns to date. Thus we know that these alternatives have not been optimized.

It is unclear whether these analyses have been included in any form in the Alternatives Analysis MTA submitted to the Federal Transit Administration or included in the Draft Environmental Impact Statement (DEIS). If these improved alternatives were not incorporated into the DEIS, then MTA has failed to optimize all DEIS alternatives. The FTA cost effectiveness ratings for these two alternatives are better than their predecessors. Further, if they are not in the DEIS, then the FTA, the public, and the area legislators will be denied the best information in making their decisions on a preferred alternative and its funding.

Medium BRT – Jones Bridge Road Variation (Variation 1)

For this alternative, the MTA has addressed SSE's concern that all but the Jones Bridge Road (JBR) alternative follow private right of way east of Jones Mill Road. They have now provided equity in routing among alternatives from Jones Mill Road to New Carrollton resulting in a ridership increase of 10,000. However, standard transit planning practice dictates that BRT at any level of investment will receive priority and private right of way, *wherever possible*. This was not done for the MTA's Low Investment BRT alternative and nowhere in the white paper does the MTA claim that they have done it for the new Medium BRT – JBR variation west of Jones Mill Road. While the MTA contends that most portions of Jones Bridge Road would preclude BRT from receiving priority treatments, no true analysis has been released as evidence of this claim. In fact, SSE has created a series of conceptual designs for bus lanes on Jones Bridge Road, all of which have been dismissed by the MTA. In their place, MTA has released cross section drawings detailing unreasonable lane width standards and a 31-foot expansion of the roadway, indicating that BRT lanes on Jones Bridge Road are impossible.

SSE has proposed treatments for Jones Bridge Road that require no widening, as well as some that require only a seven-foot expansion of the roadway (3½ feet on each side). The latter would accommodate the four existing 10-foot-wide car travel lanes, plus two 12-foot-wide bus lanes, and maintain the current sidewalk conditions. This would allow medium-investment BRT to be implemented on an exclusive runningway along Jones Bridge Road with minimal impacts. While MTA's cross section drawings of Jones Bridge Road conform to suggested standards for new construction, these are known within the industry to be guidelines for ideal conditions, such as where cost is no object or through undeveloped land. Where these conditions do not exist, it is still the responsibility of the project engineer to determine if any design could be implemented safely and still yield positive results. SSE believes that its designs for Jones Bridge Road would be effective even if they do not meet the ideal standards for new construction, as they are consistent with the designs of

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many roadways that are currently operating safely throughout the United States. But MTA has chosen to consider only total reconstruction of JBR, and then applied an all-or-nothing approach to standards, leading to a quick dismissal of bus priority treatments based on the impact their designs would have on surrounding properties.

Further, while MTA argues that Transit Signal Priority (TSP) cannot be implemented at some of the more congested intersections along Jones Bridge Road, SSE notes that TSP has, in fact, been successfully implemented at many intersections around the United States in which cross-street delay was significant and for which post-implementation delay was minimal and unnoticeable to drivers. In Los Angeles, BRT vehicles are able to "borrow" up to 6-9 seconds of green time from the opposing direction of traffic. This does not happen on every cycle. Sometimes there is no bus present and other times bus priority is less. This and other BRT features resulted in a decrease in passenger travel time of 24-29 percent with an average delay to car drivers of only 1 second per traffic signal. MTA maintains that the State of Maryland does not support TSP, even though it has never been fully studied along this segment. It is SSE's understanding that all traffic signals in Montgomery County are exclusively controlled by the County. But MTA has never approached Montgomery County with a proposal to implement TSP and the County has not weighed-in on the concept. MTA statements that there is no support for TSP or that TSP would be too difficult to implement on Jones Bridge Road are not supported by the experience of other cities or by formal analysis and conclusion of Montgomery County.

In their white paper, the MTA states that "estimates for the Medium BRT – JBR variation have been determined based on the assumption that a \$60 million dollar investment would be required to provide the connection from the proposed station area at Jones Mill Road and Rockville Pike to the Medical Center Metro platform." This station connection would indeed enhance the attractiveness of this alternative. There is also a \$55 million cost associated with a Bethesda Metro connection for any Purple Line alternative that uses the Capital Crescent Trail but MTA has not included the cost in their cost analysis. They state that this is unnecessary as Montgomery County has already committed to it. There are two problems with that: first, if the County is planning on counting this expense as part of their local match, the cost needs to be added to MTA's cost projections; second, while the County has included this station connection in their capital planning, funding is subject to change. MTA either needs to include the cost of this station connection in their capital cost estimates for Capital Crescent Trail (CCT) alternatives or they need to re-evaluate boardings and alightings at Bethesda Station based on a transfer between Purple Line and Red Line that does not include this direct connection.

The MTA then goes on to state that "for the purposes of this analysis an estimate of user benefit hours has also been presented which assumes that this cost [a Medical Center Metro connection] is not part of this variation for the purposes of providing a point of comparison." However, it is unclear whether this means that only the cost was not included or whether the connection itself was not included. The former would provide a more equitable comparison between the two variations while the latter would cause an unnecessary decrease in ridership, thus skewing the analysis away from a JBR alignment.

MTA's analysis of the Medical Center BRT station stop included in the Medium BRT – JBR variation was based on their speculation of where SSE would locate it. They determined that location to be approximately 800 feet east of Rockville Pike on Jones Bridge Road in the right-hand curb lane, near

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a different entrance to NNMC. They were wrong. This was not the location envisioned by SSE and more open communication would likely have resulted in a more effective placement.

SSE asserts that it may be possible to locate the new station on an island on Jones Bridge Road near Rockville Pike. This location would allow passengers to board and alight near the main entrances to the National Institutes of Health (NIH) and the National Naval Medical Center (NNMC) and still allow BRT vehicles to easily make the left turn onto Rockville Pike. It would also allow for easy connections between the Metro Red Line and Purple Line at Medical Center with new Red Line entrances on the northeast and northwest corners of Rockville Pike and Jones Bridge Road. This is one concept that we believe will create favorable BRT, pedestrian and traffic conditions. SSE has not done an in-depth study of the feasibility of locating the station in this location; however MTA should consider SSE's suggested location as it may positively affect ridership forecasts for this variation.

By contrast, MTA's station location provides direct access to one entrance for the Walter Reed National Military Medical Center but this entrance is one of the most lightly used entrances in the complex and would not optimize access to the densest part of the Medical Center area. Likewise, it is unnecessarily distant from NIH. Also MTA locates the station on the northern curb of Jones Bridge Road, rather than on an island in the center of the road (as outlined in SSE's suggestion above). This means BRT vehicles are forced to travel across three lanes of traffic in just 800 feet in order to turn left onto Woodmont Avenue. Thus, by placing the Medical Center station at this location, the MTA has created a less effective alternative.

Medium BRT – Medical Center Access (Variation 2)

The white paper states that this alternative was developed "through input from SSE." This is a misleading statement. There was no communication between the parties. SSE has never offered this as an option. And because of serious shortcomings, it would not do so.

While this MTA alignment directly serves the Medical Center area, it does so in a way that includes many drawbacks. First, this option retains the defects of all the other CCT alignments, such as noise and other impacts to the trail, clearing of 15 acres of forest, burial of the north-side stream, and rerouting of the trail onto city streets through Bethesda. Additionally, as in the other CCT BRT alternatives, the right turn of westbound buses from the Capital Crescent Trail onto Pearl Street is extremely sharp. Additional structure will likely be required in order to achieve this turn and the MTA has not acknowledged that this structure has been included in this variation's cost estimates. Structure will also be required to address the approximately 7-foot grade change from the Capital Crescent Trail onto Pearl Street. Further, as vehicles would be forced to cross the trail in order to reach Pearl Street, the MTA needs to provide information to SSE and to the public regarding how the trail will be affected. This transition segment will slow down the services, create substantial new costs, and impact both the trail and surrounding properties.

Continuing in the direction of the Medical Center, the MTA has routed this particular option through a series of turns on city streets and across Wisconsin Avenue. This convoluted routing is considered poor practice in bus operations and subtracts from any benefits gained by routing BRT vehicles along private right of way. Buses will confront congestion without dedicated lanes, traffic signals without priority, and turns that add delay. Average speeds through this area may be as low as 3 mph, far

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worse than the conditions on Jones Bridge Road that MTA is trying to avoid. Reliability and passenger perception will suffer.

In the eastbound direction, MTA routes New Carrollton-bound buses through Woodmont Plaza in order to access the Capital Crescent Trail eastbound. This routing is depicted in Figure 2 of the white paper and shown below. The vision of Woodmont Plaza as a pedestrian oasis—depicted in MTA's own renderings—will be severely impacted by BRT vehicles. As a center of urban activity in Downtown Bethesda slated for further development, the impact of buses traveling through its midst every six minutes raises safety, community, and development issues that have not been detailed by MTA. It is thus imperative that the community be apprised of the plans and impacts of this routing.

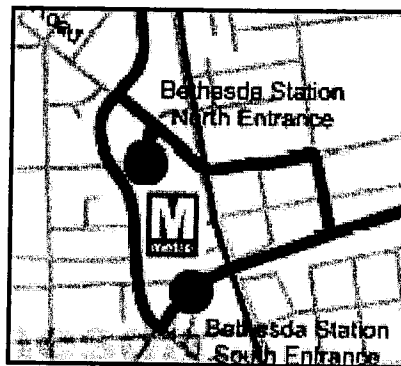


Figure 1: Medium BRT - Medical Center Access - Routing through Woodmont Plaza

Another result of the MTA's Medium BRT – Medical Center Access routing is the need for two stops in Downtown Bethesda: one at the Bethesda Station North Entrance for buses headed in the direction of Medical Center, and one at the Bethesda Station South Entrance for buses headed in the direction of New Carrollton (see figure above). This places the two stops approximately .4 miles apart. Such a split stop configuration is known to decrease ridership as it creates confusion and causes inconvenience to passengers.

Analysis Results

By providing equity in routing between Jones Mill Road and New Carrollton, the Medium Investment BRT – JBR variation has picked up 10,000 riders above the Low Investment BRT alternative from the DEIS. However, in the MTA's analysis results, the Medium Investment BRT from the DEIS which does not serve the Medical Center area draws 2,000 more riders than the new Medium Investment BRT which runs along Jones Bridge Road and serves the Medical Center area. Even without priority treatments along Jones Bridge Road, the small portion of the route which does run along Jones Bridge Road (approx. 1.76 miles) will certainly not decrease the overall running time enough to result in an estimated ridership *below* that of an alternative that does not serve the Medical Center at all. And if this were the case, then priority treatments would undoubtedly solve the problem.

Another anomaly is the 8,000 fewer trips that MTA's white paper generates for Variation 1 versus Variation 2. Both variations serve the same population with what should be little difference in running time. While the MTA has argued that Bethesda riders will be less likely to use the Purple Line if they must first pass the Medical Center en-route to Bethesda (Variation 1), the same argument could be

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made for Medical Center riders first passing through Bethesda under Variation 2. In addition, Red Line-bound passengers in Variation 1 could transfer at the Medical Center instead of remaining on board until Downtown Bethesda. And the new North Woodmont Station, common to both, is better served by Variation 1. It is questionable that this minor inconvenience to Bethesda passengers would drive 8,000 riders from Variation 1. Without access to the model inputs used by MTA, we can only question the methodology until supporting data is provided. This 8,000 is likely due to a combination of the issues discussed above, including station location for Variation 1, lack of a connection to the Red Line if indeed this was not included in the Variation 1 analysis, and lack of priority treatments in Variation 1.

Conclusion

While the MTA has taken some steps to create new alternatives, adequate communication with SSE and the general public was lacking in the development of these alternatives. Many critical issues were missed, resulting in ridership projections that were drastically underestimated. Further, a major inequity among the alternatives has been introduced by either including the cost of a station connection at the Medical Center but not at Bethesda, or by not including a station connection at the Medical Center at all. Finally, while it is encouraging that the MTA is beginning to improve their alternatives, this is only effective if the new alternatives are to be included in the alternatives analysis and/or the public process.

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**Response to MTA's White Paper Entitled
"Visitor Trips to the Walter Reed National Military Medical Center"**

Introduction

On January 27, 2008, the Maryland Transit Administration (MTA) released to the Town of Chevy Chase a document entitled "An Assessment of the Base Realignment and Closure Activities on AA/DEIS Travel Assumptions for the Purple Line." This document was released as a result of questions raised by Sam Schwartz Engineering (SSE) about the apparent lack of transit ridership being generated to and from the Medical Center area after the Base Realignment and Closure (BRAC) action to be completed in 2011. The BRAC action will merge the functions of the Walter Reed Army Medical Center (WRAMC) in Washington, DC with the National Naval Medical Center (NNMC) in Bethesda, Maryland to create the new Walter Reed National Military Medical Center (WRNMMC) in Bethesda. Only one Purple Line alternative on Jones Bridge Road would provide direct access to the new facility. All other Purple Line alternatives use the Capital Crescent Trail, requiring passengers destined for the Medical Center to transfer to the Metro Red Line in downtown Bethesda to reach their destination.

The MTA document released in January entitled "An Assessment of the Base Realignment and Closure Activities on AA/DEIS Travel Assumptions for the Purple Line," which quantified only ridership derived from WRAMC employees who already live within the Purple Line service area and will be transferred to the new facility. The document neglected analysis of visitors, new employees, or the tendency of people over time to make residential location decisions based on access to their place of employment. The document also overestimated the willingness of riders to transfer in downtown Bethesda to the Metro Red Line to complete their journey, ignoring both the perceived inconvenience of transferring and the additional fare—both of which would discourage transit use for passengers en route to the Medical Center area. SSE outlined these criticisms in a response to MTA on March 28th, 2008.

As a result of SSE criticism, MTA has released an addendum to their first analysis document, which quantifies potential Purple Line ridership from visitors to the newly created Walter Reed facility. Together, the two MTA analyses predict that a maximum of 209 people (visitors and transfer employees) going to the new Walter Reed facility will use the Purple Line each day. While, taken together, these MTA documents present an improved analysis over the original MTA report, SSE still finds MTA's analysis of BRAC to be lacking in several important ways.

While MTA's analysis now considers both WRAMC transfer employees and visitors, it still has not addressed SSE's criticisms of their original WRNMMC employee analysis, including the expectation that commuting employees will be equally willing to transfer to the Metro to complete their journey as to travel to WRNMMC via a one-seat ride. In standard transportation planning, there is a penalty assigned in the ridership formula for such transfers. MTA appears to not be giving these penalties proper weight and refuses to share details with the public. In addition, MTA has not further defined what they call the Purple Line service area, has still not included any analysis of the 450 new employees expected at the WRNMMC facility, and has not taken into account feeder service to the Purple Line as a potential source of ridership.

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Beyond these specific criticisms, however, the biggest deficiency in MTA's analysis is that by so narrowly focusing the discussion of BRAC ridership, MTA manages to downplay the larger role of the Medical Center area as a major employment center. By focusing the impact of BRAC on 60 new riders from transfer employees and 149 new riders from additional visitors, MTA is still not acknowledging that in the year 2030 the Medical Center and north Woodmont area will be home to 40,619 jobs, more than the projected 32,944 for downtown Bethesda.

Finally, MTA's piecemeal analysis suggests that these numbers were calculated separately from the ridership model that has generated all of MTA's running times and that BRAC ridership has never been factored into the official ridership numbers for the Jones Bridge Road (JBR) alignment.

Transfer in Bethesda

The original MTA BRAC analysis dealing with transfer employees included a discussion of travel times for the two proposed Purple Line alignments. The MTA determined that the JBR alignment will be so much slower than any of the Capital Crescent Trail (CCT) alternatives that people destined for the Medical Center area will arrive more quickly by taking the CCT alignment of the Purple Line and transferring to the Metro Red Line for one stop (MTA, 2008). SSE has independently reviewed MTA's JBR Low-Investment running times using existing J-1 bus running times, accepted industry practice, and MTA's own analyses and has concluded that they have been significantly overestimated.

It is an accepted fact that the inconvenience of transferring from one transit line to another may act as a deterrent to many potential riders. In other words, for travel between Points A & B (say, Silver Spring and Medical Center), more people will use transit that is direct than will use transit where they have to change vehicles (transfer). This is recognized in the industry-standard *Transit Capacity and Quality of Service Manual* (2004). Based on extensive studies, it presents average formulas for quantifying the difference. One formula multiplies by 2.5 the time a passenger has to wait for the next connection. Another multiplies by 2.2 the actual walking time between vehicles. Using these multipliers more accurately represents the perceived total travel time to potential transit riders. They demonstrate the inconvenience of transferring and the willingness of a passenger to choose a "one-seat" ride *even if* this direct route is slightly longer than a trip involving a transfer.

MTA is underestimating the effect this will have the willingness of passengers to transfer. As a result, MTA minimizes the impact of the significant walking and waiting time at a Bethesda Metro connection and concludes that few riders will be deterred. At the same time, they impose (unrealistically) long running times along Jones Bridge Road to conclude that few people will want direct, one-vehicle service.

The additional cost involved in a transfer to the Metro Red Line will also discourage passengers from making the transfer. Because the JBR alignment offers a one-seat ride to the Medical Center, the Metro Red Line or Downtown Bethesda, passengers will pay the same fare, regardless of their destination. The CCT alignment, on the other hand, requires a transfer for those passengers traveling to the Medical Center. Under the current WMATA fare policy, those CCT passengers would pay \$5.10 for a round trip fare to the Medical Center, as opposed to

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\$2.70 for Bethesda- and Red Line-bound passengers. The more expensive the trip, the fewer people will use transit. But MTA has not figured in fares, so they overestimate how many people will use a CCT alternative to reach Medical Center.

DESTINATION	FARE	
	CCT	JBR
Silver Spring - Medical Center	\$5.10	\$2.70
Silver Spring - Bethesda	\$2.70	\$2.70
Silver Spring - Red Line	\$2.70	\$2.70

Table 1: Round Trip fare on the CCT and JBR Alignments

These passenger perception-of-time calculations and the additional fare are used to make more realistic and accurate ridership projections. MTA has not accepted or included these factors in their work or in public outreach, despite their being based on standard transportation planning standards. Because of this, it is likely that MTA has overestimated the number of Medical Center employees who would commute to work via the five CCT alternatives, and underestimated the number who would do so via CCT.

Purple Line Service Area

In the original MTA BRAC analysis, MTA derived ridership estimates from the number of current WRAMC employees that currently live in the "Purple Line Service Area," but never defined this term. Nowhere does the MTA ever state which Purple Line alignment is being used to define the service area (JBR or CCT alignment), whether this takes into account distance from station locations or only distance from the Purple Line itself, or what is considered walking distance to the Purple Line. These factors all directly affect the number of people the MTA considers to be living within the Purple Line service area. MTA should clarify its methodology.

As stated earlier, standard transportation planning practice holds that under typical conditions, a transfer is always less desirable than a one-seat ride. And a trip requiring two transfers is unacceptable to most people. Because the JBR routing (alone) serves the Medical Center area *directly*, people who live along transit routes that connect to Purple Line at any of its 21 other stations can have a one-transfer ride to the Medical Center. Because the Medical Center is only accessible by the CCT alignment with a Metro transfer, anyone who takes a feeder bus to the Purple Line anywhere else along the route would have two transfers en route to Medical Center. Very few people would make this journey via transit—most would drive. This greatly increases the transit reach to BRAC with a JBR alignment and decreases it with the CCT alignment. With the JBR alignment, many more people will be able to take transit to BRAC via JBR than the smaller numbers MTA has projected for the CCT alternatives.

New Employees

In response to the first MTA BRAC analysis, SSE highlighted the fact that while MTA did a very detailed analysis of employees being transferred from the existing WRAMC facility, there was no mention of the predicted 450 new employees who will be hired to work at the new Bethesda facility. In MTA's recently released BRAC analysis addendum, the new employees are mentioned and described as "additional staff that may locate to the base because of ongoing or

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future on-base projects." There is no further explanation as to why MTA has chosen not to include them. However, the BRAC Draft Environmental Impact Statement (DEIS) includes them in their transportation analysis and SSE maintains that MTA is methodologically negligent to exclude them.

Long-Term Residential Location Decisions

SSE faulted MTA in its first BRAC analysis for taking into account only those WRAMC employees who currently live near the Purple Line. MTA concluded that out of the roughly 6,000 WRAMC employees, only about 650 lived in the Purple Line service area. Based on the percentage of employees that will be transferred to the new Bethesda facility, MTA assumed that about 200 WRAMC employees who lived in the Purple Line service area would be transferred to the new facility. If transit enjoyed a mode share of one-third, then about 60 (out of the 200) WRNNMC employees in the Purple Line service area would use transit—some of them the Purple Line.

By using only a snapshot of current residential locations to predict future Purple Line ridership, MTA's methodology was incompatible with the remainder of the study, which applied growth factors to reach a 2030 horizon. This has particular impact on the data in this case. First, many of the current WRAMC employees and future WRNNMC employees are military personnel who are transferred every 2-3 years. This means that within 2-3 years of the opening of the Bethesda facility, virtually all the WRNNMC military employees will have made their housing location decisions based on the location of the new facility and the Purple Line will play a significant role in those decisions. Employees who are not members of the military will also, over time, make residential location decisions based on their place of employment, though perhaps not as quickly. The essence of MTA's assumptions is that, because only 10% of Walter Reed employees currently live within the service area of a transit line that does not exist but could transport them to a facility where they do not yet work, that this situation will persist after the Purple Line and the new Walter Reed facility are built. This is a serious flaw. MTA should adjust its ridership expectations from BRAC to reflect these considerations.

Medical Center Employment

By issuing two separate reports on Purple Line ridership due specifically to BRAC, one with an estimation of 60 riders and the other estimating an additional 149 riders, MTA has focused the discussion very narrowly. This detracts from the larger point—that the Medical Center and North Woodmont areas will be home to 40,619 jobs in the year 2030 and will be directly served by only the Jones Bridge alignment. For comparison, the portion of Downtown Bethesda within walking distance (1/2 mile) of the Bethesda Purple Line Station will be home to 32,944 jobs. MTA has never issued a report about the larger ridership implications of such a major employment center, including the potential for the JBR alignment to create a more convenient and faster link between the two centers. Such a link could increase economic activity in Bethesda and generate additional Purple Line trips. MTA repeatedly concludes that "Downtown Bethesda remains a much larger travel market for a direct Purple Line transit service than the NNMC area" in lieu of studying and quantifying the potential of the Medical Center area.

The NNMC area has potential for much higher ridership numbers than the MTA is currently projecting. MTA has said that Medical Center will be adequately served by all five CCT

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alternatives by means of a transfer at Bethesda to the Red Line. It then defines the number of Walter Reed employees who are potential users of the Purple Line as the very low number who live within walking distance of other Purple Line stations. It then mistakenly applies this same model to JBR. But this is not correct.

Since the JBR alternative serves the medical centers directly -- without need for transfer -- the Purple Line catchment area for this alignment ONLY, can include a transfer to/from any of the three other Metro Line connections or intersecting bus routes along the 16-mile-length of the Purple Line. In other words, the one-transfer trip to the medical centers has a much larger reach for BRAC (and all medical center) employees on the JBR alternative than on the five CCT alignments. That reach will include all BRAC employees who live within walking distance (1/2 mile) of other Orange, Green, and Red Line stations that feed into the Purple Line JBR alternative. MTA has not allowed for this. They have improperly limited the reach of the JBR alternative, and in so doing undercounted the potential of JBR to attract a greater number of BRAC employees to transit than is possible under the other five CCT alternatives.

Traffic Reduction

MTA has adopted contradictory stances on the ability of the Purple Line to reduce traffic. Traffic reduction has never been a stated goal of MTA's Purple Line planning process and MTA has downplayed the ability of Bus Rapid Transit (BRT) on JBR to reduce the number of cars on the road. MTA has, however, publicized an estimated number of cars that could be taken off the road by each alternative. MTA also maintains that the number of cars taken off the road will be higher for the CCT alternatives. This, however, will do little to mitigate the increase in traffic due to BRAC as trips to the Medical Center will require a Metro transfer, discouraging transit trips to this destination. With a projected increase in traffic of 15% on Jones Bridge Road by 2011, a direct east-west rapid transit connection to the Medical Center will be necessary to mitigate congestion.

MTA Ridership Model

MTA has released piecemeal studies of ridership due to BRAC without including many factors that would be automatically considered in its ridership model. These models are designed to consider such factors as feeder service and long-term population trends that MTA has excluded from its BRAC analysis. The regional transit ridership model is supplied by the Metropolitan Washington Council of Governments (MWCOG). Round 7.0 of the MWCOG forecast was released before the advent of BRAC and Round 7.1 was released to include population and employment changes due to the BRAC action. In the original MTA BRAC analysis in January, 2008, MTA states that "The Purple Line AA/DEIS used the MWCOG Round 7.0 forecasts and later updates will use the Round 7.1 forecasts." MTA is using outdated numbers when more current ones are available and there is no indication of when they will begin using these new numbers.

For this reason, MTA has released microanalyses with BRAC ridership projections in place of updating its ridership model to reflect the most recent population and employment data and there is no indication that MTA has even added its BRAC-specific ridership projections to its public ridership estimates. This not only places a major handicap on the JBR alignment but is professionally poor work.

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Conclusion

By issuing an addendum to their original report on the Purple Line ridership impacts of BRAC employees, MTA has made an effort to address shortcomings in its BRAC analysis. However, MTA's analysis still has major deficiencies. Specifically, MTA has still failed to consider new employees at the new Walter Reed facility, long-term residential location decisions, Purple Line feeder service catchment areas, or the ability of JBR BRT to reduce Medical Center-bound traffic. More importantly, however, MTA is narrowly focusing on only visitors due to BRAC and WRAMC employees who already live within the Purple Line Service area, and omitting the larger role that the Medical Center plays as a trip generator. Rather than downplaying the importance of the Medical Center area, MTA should be using the BRAC action, latest MWCOG data, and thoughtful analysis to accurately dimension Medical Center ridership and incorporate that into its Alternatives Analysis.

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Response to MTA Document Entitled "Assessment of 'Analysis of MTA Purple Line Alternatives and Alignments' and Other Documents Prepared by Sam Schwartz Engineering"

EXECUTIVE SUMMARY

On August 14, 2008, the Maryland Transit Administration (MTA) released a review of Sam Schwartz Engineering (SSE) documents entitled "Assessment of 'Analysis of MTA Purple Line Alternatives and Alignments' and other documents Prepared by Sam Schwarz Engineering." This document criticizes the methodology and validity of SSE's work on behalf of the Town of Chevy Chase (the "Town").

New Starts Process

SSE showed its Purple Line presentation to FTA senior staff, and asked them if there were any concerns with our depiction of the process; the answer was no. That alone is sufficient validation that SSE's understanding of the New Starts process is correct. Maryland legislative documents and discussions with the FTA Administrator also confirm that the lowest cost alternative may, in fact, be the only way to receive federal approval. MTA criticism of SSE on this topic is without merit.

Project Segmentation

MTA claims that it is invalid for SSE to study only a segment of the Purple Line route. SSE notes that this is a commonly-used practice that MTA itself has employed with the University of Maryland, Wayne Avenue and its Medium-Investment BRT variations white paper. In fact, MTA has stated that its preferred alternative will likely be comprised of segments from the various alternatives under study. SSE has also studied other segments of the Purple Line alignments, though it is not currently within our scope.

Market Priority

MTA alleges that since Bethesda employment and population is slightly larger than the Medical Center area and has more varied activities, it must be selected over the Medical Center area as the Purple Line terminal. This "either/or" scenario has consistently biased MTA's conduct of the study. SSE's position is that both markets are so large by themselves—and when compared to the potential at almost every other Purple Line station—that the best solution is to serve them both. While this MTA document continues to argue against SSE, MTA recently issued a separate white paper that, for the first time, considered SSE's approach. The white paper finds that projected ridership increases by 10,000 riders, and the resultant FTA cost-effectiveness outputs are very favorable, when options to serve both western-end markets are modeled. For the record, SSE finds that many of the inputs to the white paper repeat the same flaws that are in the original report. Therefore, SSE disagrees with the specific findings of the white paper – we feel the number of riders should be higher and the cost-effectiveness will be even more favorable. The heart of the JBR BRT alternative issue is this: what is the true potential when the alignments are studied properly?

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Fare Policy

Trip costs are an important input into the model. MTA faults SSE's use of WMATA's existing, integrated fares as speculative. Instead, it imposes a free transfer with no basis. That is speculative, distorts the impact to Medical Center riders, and tilts the model toward the CCT alignment.

Low BRT Defined

SSE fully understands MTA's low-investment alternative used in the study. SSE has two major issues with MTA's concept:

- Low investment does not have to mean low quality.
- For something to be called BRT, it must have characteristics that earn that definition. MTA's version travels slower than the slowest local bus over an almost identical route.

SSE BRT Concepts

SSE has offered several concepts for exclusive BRT lanes on Jones Bridge Road—some that can be implemented within existing curb lines. MTA has never studied these options but should because of their potential to decrease BRT travel times along JBR and minimize these impacts to the surrounding community. Instead, MTA has officially rejected these concepts as not complying with standards for new construction, although its own designs are also non-compliant in other areas. Reality is that BRT can be and is successfully deployed at low cost on existing roadways that do not meet the latest highway design standards. The alternative design that MTA has presented is a good plan for the "ideal," but it should not replace consideration of other real-world, lower-impact concepts.

Medical Center Station Location

SSE proposed a new station location at Medical Center, but when MTA attempted to incorporate this suggestion, it did not consult with us. As a result, the location they studied is wrong. All analysis that flows from MTA's choice is irrelevant.

Transit Signal Priority (TSP)

At SSE's urging, MTA has taken a first look at Transit Signal Priority along this route. Unfortunately, it is not possible to evaluate MTA's work without several essential details that have been left out. From MTA's tables, it appears that a peak direction-only TSP at Rockville Pike could probably be implemented with no net negative impact. Other cities have not shied away from difficult intersections with high volumes and/or levels of service F. We would welcome further detail from MTA for review.

MTA has also stated that the State would be unwilling to consider implementation of TSP. However, it should be noted that permission to implement TSP is at the County level. MTA should submit a best-case proposal for TSP on Jones Bridge Road to Montgomery County.

Emissions

The debate over the validity of the report cited by SSE is rendered moot by MTA's finding that, "sources of power for both are improving which will result in a clean transportation alternative... regardless of the mode chosen". SSE never suggested that BRT should be

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selected because it was cleaner. SSE responded to an avalanche of misinformation that had not been confronted by MTA, from groups characterizing BRT as "dirty, smelly diesels". We concur with MTA's position, and hope that they disseminate it widely.

Travel Times and Speeds

SSE did employ pre-7 AM travel speeds to estimate the potential for BRT. This is a commonly used and accepted technique for estimating the best attainable performance. The best existing travel times should be attainable by a BRT with treatments that can replicate those conditions. MTA said that could not be achieved except by employing the most costly treatments. SSE has experience in getting results with less elaborate approaches.

The important issue is average speed. MTA has still failed to explain how it proposes an average speed *slower* than the slowest scheduled running time on the J1 bus over exactly the same streets. **Using MTA data**, SSE has been able to confirm our original travel time estimates.

In MTA's modeling:

- JBR BRT running time is overstated.
- That overstated time is used to impose extra "penalties" on JBR BRT.
- MTA has provided a large favorable weight to all alternatives **other than JBR**.
- MTA has understated the walk time required to transfer at Bethesda for all the CCT alternatives.
- MTA has failed to add walking time – perhaps as much as 5 minutes (plus associated penalties) – needed to reach the street from the Medical Center Metro Station via the deep escalator.

This distorted mix, when input to the model, results in MTA's CCT alternatives being more favorably treated, and JBR BRT being seriously handicapped. That differential has a negative impact on JBR BRT's cost effectiveness rating, which will weigh heavily in FTA's deliberations. The public and legislators are not being given a true comparison among alternatives in their deliberations on selecting a preferred alternative.

Woodmont Plaza Tail Track Issues

SSE does not claim that switching or maintenance will be performed on the tail tracks proposed by MTA through the Woodmont Pedestrian Plaza. We have said consistently that it will be used for storage of disabled trains, for gap trains, and for making or breaking-up consists. Because these functions are so different from in-service operation, where there is an expectation that all vehicles are staffed, we reaffirm the need for security fencing. There will be no Purple Line staff in the vicinity of the tail tracks to ensure safety and security.

SSE finds that the tail tracks will bisect the pedestrian plaza, impeding circulation and its attractiveness.

Impacts to Trees

The renderings that SSE has produced and shown at public meetings are based on MTA specifications that call for removal of every tree along the right-of-way from Woodmont Avenue

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eastward for about 4,500 feet (the eastern limit of the 66-foot right-of-way). Those trees form a nearly-complete canopy for the Capital Crescent Trail today and influence temperature, ambience, and natural habitat. SSE's aerial illustration of the impact of their removal shows deforestation outside the right-of-way. That is because the spread of mature trees extends far beyond the tree trunk. When a tree is felled, all the branches that are part of it are felled as well. SSE's depiction is accurate, if not understated, since we believe that there are areas where construction will require staging on adjacent private properties and thus result in the removal of trees outside the right-of-way.

SSE's tree data comes from a 1980s county survey. While some trees have died, many more have grown since then. MTA now admits that SSE is correct; all trees will come down in the 66' ROW.

Trail Design

MTA now acknowledges the presence of the north side stream, which has been absent from most MTA drawings and discussions before this. Its effects and the financial cost of accommodating it must now be made public.

MTA refutes SSE's contentions about how or whether the trail can coexist with the Purple Line on the sections where the right of way is 66 feet or less. We now learn that MTA has still not produced designs for this section that meet its claims. MTA's chart on p.31 now confirms that there will be no space for planting for a distance of approximately 2,000 feet. This has not been depicted in any MTA "typical" drawings we have seen. The video simulation shown on August 26th again shows a beautiful trail that is not representative of the section abutting the proposed transitway.

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Detailed Response

This is a response to the document from the Maryland Transportation Administration dated August 14, 2008, titled "Technical Memorandum" (sic) assessing Purple Line documents prepared by Sam Schwartz Engineering (SSE).

Process Issues

The document is stamped "Working Draft – Discussion Document Not For Public Distribution" and it was received by SSE on August 21st. The MTA Project Manager requested that this document not be discussed at the scheduled August 26, 2008 meeting of the Town of Chevy Chase, SSE and Secretary Porcari. SSE honored that request; MTA did not.

On July 31, 2008, MTA made a presentation to Prince George's and Montgomery County Delegates in which it stated "several groups are spreading misleading information", but then proceeded to cite only SSE. MTA then devoted presentation time (Slides 32 and 33) to the conclusions of the above Working Draft, under the heading of "Misinformation". (We note that many sources favoring MTA's LRT alternatives have, for months, been disseminating misinformation that BRT is "dirty and smelly diesels" without evoking any response from MTA). Next, Maryland DOT released it to at least one elected official, just days after providing the working draft to the Town of Chevy Chase.

Finally, on August 26th, SSE completed its presentation to Secretary Porcari, with no reference to the Working Draft, per the project manager's request. The project consultant and manager then took the floor with a Power Point presentation and discussion of their "Working Draft" report, in violation of the professional agreement.

These breaches of protocol and professionalism do not assist the Town's efforts at meaningful dealings with the MTA. The detailed responses below are offered to start the technical review that should have preceded the dissemination of the MTA's Working Draft.

New Starts Process

SSE presented an overview of how a cost-effectiveness rating is determined and how its professional judgment of each of the MTA alternatives would fare vis-à-vis the FTA's rating factors. The MTA draft quotes SSE as saying the "lowest cost option *may* be the only way to receive federal approval". That is correct, as confirmed by 1) MTA's calculations of cost-effectiveness factors for the alternatives (in which JBR BRT—restructured similar to SSE's proposal, but still slower and more costly than SSE's estimate—attains a medium-high classification); 2) Maryland legislative documents citing the limited availability of funding and the competition with other transit projects in the state; and 3) discussions with the FTA Administrator.

MTA's Working Draft alleges that SSE misrepresented the FTA's New Starts process. SSE showed its Purple Line presentation to FTA senior staff, and asked them if there were any

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concerns with our depiction of the process; the answer was no. That alone is sufficient validation.

Project Segmentation

MTA alleges that SSE's analysis is invalid due to the focus placed on the portion of the alignment west of Silver Spring. This claim is unfounded (and baffling) for the following reasons:

- It is common practice.
- MTA has publicly stated that it was always their intent that pieces of its alternatives could be recombined to create new alternatives and that this was a likely outcome in the selection of a preferred alternative.
- MTA itself has studied and modified segments of the route, including the University of Maryland and Wayne Avenue.
- MTA has used exactly this approach in creating and then assessing what it terms "Medium BRT – Medical Center Access" variation on page 4 of its recent Medium BRT white paper.
- The errors and omissions that SSE discovered in this Purple Line segment of the routing apply to all six alternatives and are valid on their own merits.

The objection is written as if SSE has proposed abandoning the Purple Line east of Silver Spring. There is nothing in SSE's documents to support this belief; to the contrary, SSE has considered all issues on the west end in the context of the entire route. Because SSE does not have access to MTA's model, nor all of MTA's data, it cannot carry its observations through to the point of generating new ridership, etc. That is MTA's task.

Market Priority

MTA alleges that since Bethesda employment and population is slightly larger than the Medical Center area and has more varied activities, it must be selected over the Medical Center area as the Purple Line terminal. This "either/or" scenario has consistently biased MTA's conduct of the study. SSE's position is that both markets are so large by themselves—and when compared to the potential at almost every other Purple Line station—that the best solution is to serve them both. While this MTA document continues to argue against SSE, MTA recently issued a separate white paper that, for the first time, considered SSE's approach. For the record, SSE finds that many of the inputs to the white paper repeat the same flaws that are in the original report. Therefore, SSE disagrees with the specific findings of the white paper. However, it is noteworthy that even with that caveat, the white paper finds that projected ridership increases by 10,000 riders and the resultant FTA cost-effectiveness outputs are very favorable when options to serve both western-end markets are modeled. This is at the heart of the JBR BRT alternative issue: what is the true potential when studied properly?

MTA's position is premised on Bethesda attracting more transit trips today, long running times along JBR, free transfers from the Purple Line to the Red Line in Bethesda, low transfer times in Bethesda, and no station for JBR BRT at North Woodmont. With those premises as inputs to the model, MTA reaches a conclusion that few people will ride to Bethesda, and that few trips

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will be generated to the Medical Centers with the JBR alignment. But if those premises are wrong – as SSE has found – the results may change significantly. SSE has requested since February details of the Bethesda trips, which would allow MTA to re-run the model and generate more accurate, real-world results. These have not yet been provided.

Here are some key areas where SSE finds flaws in the MTA's scenario:

- JBR running times are excessive, tilting the model against JBR (detailed in a later section).
- MTA, until recently, improperly assigned some Bethesda areas more than a half-mile from the Purple Line station to its catchment area. Although they have recently removed this from their maps, we see no evidence that the model was re-calibrated to eliminate this TAZ.
- It is not clear whether MTA's outputs reflect a COG model recalibrated for BRAC. MTA's recent micro-analysis of BRAC seems to indicate that the model was not recalibrated.
- An unusual feature of BRAC is that a large proportion of the employees (military personnel) turn over every two to three years. This creates a scenario where location vis-à-vis the Purple Line should have a much stronger relationship to residential location choice than would normally be found.
- The low number of east-west transit trips to the Medical Centers today is partially a function of the absence of adequate public transportation. An infrequent service running only six hours daily is the only direct, east-west connection.
- The MTA's scenario assumes that everyone bound for Bethesda will remain on the JBR BRT all the way to Bethesda and, therefore, experience the longest running time. However, people transferring to the Red Line or other buses can do so at Medical Center with a five to six minute reduction in trip time from the value assigned by MTA. Those who are heading north will enjoy an even greater time savings. MTA has not adjusted for this.
- MTA has assumed free transfers between the Purple and Red Lines in Bethesda. Since the study model is sensitive to customer trip cost, this is artificially generating additional trips to the Medical Centers for the CCT routing alternatives.
- Transfer times and associated penalties at Bethesda are understated by MTA. Due to the first factor, the model inflates projected ridership on all alternatives through Bethesda via CCT. Both factors lead to an unrealistically favorable cost-effectiveness score for all CCT alternatives.
- MTA's model inputs assume a new south entrance (currently not in existence) at Bethesda Metro Station, which would attract riders. Since MTA will not be constructing this, and Montgomery County funds are subject to change, alternate modeling is needed to show the impact on CCT ridership if it is **not** built.
- North Woodmont Station on the JBR alternative will create a shorter running time than assigned by MTA to some Bethesda trips. The model must be adjusted for that.
- While SSE does not concur with MTA's JBR running times, data clearly shows extremely peaked (i.e. short duration) "rush hours" along JBR. Even under MTA's scenario, all of the remaining Purple Line service hours during the rest of the day will encounter little if any traffic along JBR. Therefore, actual running times via JBR will be reduced significantly. MTA has not allowed for this. This adjustment is applicable

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- to only the JBR alternative. All of the CCT alternatives – more extensively using private right-of-way – would have approximately the same running time all day long.
- MTA has imposed a Mode Specific Constant penalty of up to 12 minutes on JBR trip times. This is an extremely high number, is subjective, and is based on inflated running times and part-time conditions. This is a major force in making JBR BRT's cost-effectiveness score less favorable and/or all CCT routings more so. Although not a proper use of the model, MTA implies elsewhere that it has done so, which may explain the questionable conclusion that JBR will generate **8,000-fewer** daily trips just on this western end of the Purple Line.
 - The MTA document states that all CCT alternatives include “enhanced bus service between Silver Spring and the Medical Center area along Jones Bridge Road”. SSE is puzzled that MTA states the Jones Bridge Road alignment via the Medical Centers will not attract significant ridership but is proposing enhanced bus service. If all of MTA's prior assumptions were true – including that very few people would be attracted to BRT along JBR and that the direct trip time via JBR would be **slower** than going through Bethesda – why would there now be a need for more JBR bus service, and what demand would justify this? MTA should detail the projected cost of this bus service and document where it has been added to MTA's projected annual operating cost of the five CCT options. MTA should also specify how this enhanced bus service differs from the proposed Jones Bridge Road alignment of the Purple Line.

Alone, any one of the above factors is sufficient to call into question MTA's conclusions on market priority. Taken together, they mandate discarding any conclusions until this issue is re-studied properly.

Fare Policy

MTA alleges that SSE is wrong and speculative for using today's fare tariff in comparing trip costs. MTA says nothing should be input for fares until the future is known and that current differentials should be discarded.

SSE has used the current and long-standing tariff structure in the DC Metro area as its basis for evaluation. This is akin to MTA's use of current construction costs in estimating capital costs. SSE could be faulted for its choice if there were an adopted, or even a committed fare structure, for a completed Purple Line. There is not! Yet MTA describes SSE's approach as “premature and speculative”, “speculative at best”, and “without merit”.

MTA cites an agency goal of integrated fare policies and seamless travel as a basis for assigning no costs for transferring at Bethesda. Yet there is an integrated fare structure today, one that results in Metrorail charging by “distance” regardless of transfers, and Metrobus offering a \$0.90 round trip discount on trips that involve bus and rail. MTA's most optimistic scenario has the Purple Line generating 20,500 new daily trips. This is about 1.7% of the total 1.2 million daily WMATA riders. SSE contends that absent an agency-committed new fare structure, it is speculative to assume that a 1.7% increase in ridership would stimulate a change

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in the existing integrated fare structure, particularly a change – as proposed by MTA – that would generate revenue losses on an already cash-strapped system.

The question devolves to whether SSE's or MTA's assumption is speculative. MTA answers this question itself:

- MTA: "WMATA has not yet issued a policy statement on the integration of BRT/LRT systems..."
- MTA has also acknowledged that no operator has even been selected yet for the Purple Line.

MTA concludes that if there is a possibility of change, the analysis should ignore the factor of trip cost. SSE contends that trip costs are a significant variable. When the omission of trip costs cancels out what would otherwise be a major differential among the alternatives, the model results are being skewed. And when there is an existing integrated fare policy consistent with operating agency goals, it is both correct and important to use the current fare structure as an input to the model.

By assuming that transfers between the Purple and Red Lines would be free, the model generates for all CCT alternatives a significant number of riders who might otherwise be deterred by the cost of this transfer. This incorrectly increases the number of riders that would travel on any Capital Crescent Trail alternative of the Purple Line for access to the Medical Center and artificially increases the ridership gap between the Capital Crescent Trail and Jones Bridge Road alternatives.

Low BRT Defined

SSE fully understands the alignment and characteristics of the low-investment alternative used in the study. It has two major issues with MTA's concept:

- Low investment does not have to mean low quality. SSE has proposed low-cost enhancements that will significantly improve performance and attractiveness, and still qualify as the low-cost alternative.
- For something to be called BRT, it must have characteristics that earn that definition. A service that travels slower than the slowest local bus over an identical route segment does not qualify.

SSE BRT Concepts

SSE has offered for consideration a selection of potentially implementable bus priority treatments that can improve BRT running time and service regularity along Jones Bridge Road. These treatments fall into two categories: ones that can be implemented within existing curb lines and others that will expand the roadway slightly beyond existing curbs, but remain wholly within the County's right-of-way. SSE has recommended none of these; all require further study, which is beyond its scope of work. Preliminary analysis should have been performed by MTA within the Alternatives Analysis study. Instead, without examination, the Alternatives Analysis excluded priority treatments along Jones Bridge Road, and relegated JBR BRT to operation in mixed traffic.

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With their draft report already submitted to FTA, MTA has now (August '08) formally rejected all of the SSE-offered concepts because they do not meet standards that would be recommended for new construction projects. Construction standards, however, are known within the industry to be guidelines for obtaining the best possible design. Where the highest standard is not reachable, it is still the responsibility of the project engineer to determine if any design could be implemented safely and still yield positive results. SSE believes that its designs for Jones Bridge Road could be effective even if not up to the ideal standards for new construction. But MTA has chosen to consider only total reconstruction of JBR, and then applied an all-or-nothing approach to standards, leading to a quick dismissal of bus priority treatments based on the impact they will have on surrounding properties.

We note further that MTA did not apply this same reasoning to its own designs for the Capital Crescent Trail (CCT) alternatives. As one example, MTA has stated that it would maintain the pedestrian/bicycle trail to a 10-foot width **where feasible**, indicating that they would be willing to accept less than even this low standard when necessary. On Jones Bridge Road, however, MTA maintains that bus lanes cannot be accommodated without reconstruction of the road, to accommodate 28 feet of additional pedestrian and bicycle space. The width of 10 feet or less that MTA will accept in order to fit the Purple Line onto the CCT falls far short of the total width of 28 feet that MTA says cannot be compromised for the same functions along JBR.

Reality is that BRT can be – and is – successfully deployed at low cost in existing roadways that do not meet new highway design standards. SSE is technical lead for New York City's Bus Rapid Transit project. On June 29th, our client implemented BRT on Fordham Road in the Bronx, a heavily used "old" arterial with substandard lane widths. The existing maximum-10-foot wide curb lane was converted into a dedicated bus lane, without widening, and transit signal priority was widely deployed. In just two months, running times were cut by 20% from the times of the limited stop bus it replaced, and ridership increased by almost 25% without reconstructing the road to new construction standards. In the case of JBR, the roadway was designed and built with 10-foot wide lanes as an arterial with bus traffic. By observation, the roadway was built or improved in the recent past without the upgrades that MTA now pre-conditions. It should be noted that the addition of ten buses per hour in the peak period will neither change the use of JBR nor add as much as 1% to existing traffic volumes. The alternative design that MTA has presented is a good plan for the "ideal," but it should not replace consideration of other real-world, lower-impact concepts.

Medical Center Station Location

SSE proposed a new station location at Medical Center but when MTA attempted to incorporate this suggestion, it did not consult with us. As a result, the location is wrong. All analysis that flows from MTA's choice is irrelevant.

Transit Signal Priority (TSP)

This is the first consideration and analysis that MTA has performed of TSP on JBR. Unfortunately, no design parameters have been provided in the white paper for SSE to review.

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We do not know the maximum green phase extension employed. We do not know whether borrowed time was returned in the next phase, or not. We do not know if the impact was assessed based on a maximum of ten buses per hour in the peak direction. What we do know is that modifying any of these variables can alter the impact. From MTA's tables, it appears that peak direction-only TSP at Rockville Pike could probably be implemented with no net negative impact. Other cities have not shied away from difficult intersections with high volumes and/or levels of service F. We would welcome further detail from MTA for review.

MTA has also stated that the State would be unwilling to consider implementation of TSP. However, it should be noted that permission to implement TSP is at the county level. MTA should submit a proposal for TSP on Jones Bridge Road to Montgomery County.

Emissions

MTA has challenged SSE's use of an outside study that found BRT to have lower emissions than light rail in the DC area. The debate over the validity of the report cited by SSE is rendered moot by MTA's recent finding that, "sources of power for both are improving which will result in a clean transportation alternative... regardless of the mode chosen". SSE never suggested that BRT should be selected because it was cleaner. We were responding to an avalanche of misinformation that had not been confronted by MTA, from groups characterizing BRT as "dirty, smelly diesels". We concur with MTA's position that either BRT or LRT will generate roughly the same amount of emissions and hope that MTA will disseminate this finding widely.

Travel Times and Speeds

MTA alleges that SSE's determination of running time along JBR is impossibly low. SSE did employ pre-7 AM travel speeds to estimate the potential for BRT. This is a commonly used and accepted technique for estimating the best attainable performance for BRT on streets. Adjustments are made to that, if deemed necessary. SSE made minor adjustments. The theory is a simple one: the best existing travel times should be able to be attained by BRT with treatments that can replicate pre-7 AM conditions. MTA said that could not be achieved except by employing the most costly treatments. SSE has experience in getting results with less elaborate approaches.

MTA is correct that there was a typo in SSE's April report. This did not carry through to any other part of the report or affect any conclusions, was not in SSE's presentations, and was corrected by SSE in its July 31 report, which MTA reviewed as part of this exercise. We fail to see the significance of this, or why it merited such attention.

BRT vs. Local Bus Speeds

The important issue is average speed. MTA has still failed to answer the simple question of how its JBR BRT calculations result in an average speed **slower** than the slowest scheduled running time on the J1 bus over exactly the same streets. We have noted the following bases for our finding:

- JBR BRT will make fewer stops than the J1 bus.

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- JBR BRT running time will benefit from MTA-recommended queue bypasses, which by MTA calculations should shave over 5 minutes from the existing condition during the peak.
- JBR BRT running time will benefit (albeit not to its full potential) from the limited application of transit signal priority that MTA has recommended.
- JBR-BRT will benefit from platform-level loading, off-board fare pre-payment, and additional vehicle entry/exit doors, all features that reduce dwell times vis-à-vis the J1 bus.

In February, 2007, MTA's verbal response to how JBR running times had been calculated was that their consultant had followed some J1 buses one day, and based their estimated running time on that. A one-day, small sample is hardly an accepted methodology (were conditions that day typical?)—especially with no indication of how the observations were adjusted (if at all) to reflect BRT features such as off-board fare collection and queue jumps. The consultant's response was that WMATA was obviously running with outdated, inaccurate schedules and that the consultant's estimates were correct. SSE immediately countered it would not be possible to maintain schedules or service regularity on any bus route if official schedules were as badly flawed as claimed by MTA, particularly over the extended period of time alleged. Nevertheless, SSE followed up with WMATA, and learned that the J1 schedule **had** been field-checked and updated within the past year as part of the agency's Purple line planning process. Therefore, SSE's estimates based on WMATA schedules do, in fact, reflect accurate existing conditions. MTA's methods are questionable.

MTA has offered a small sampling of average speeds from other major BRT systems to support its claim that a 10 mph average speed is reasonable. But we note that seven of the eight cited operations run faster than that, and the eighth ranges from 2 mph slower to 3 mph faster than MTA's JBR alternative average speed. Although MTA's data bolsters SSE's claim, average speed is not the only relevant measure, since traffic and route characteristics are specific to each BRT corridor.

The **improvement** in average speed over the prior service is the real measure of the effectiveness of BRT treatments. Recently, BRT service was instituted on Fordham Road in Bronx, NY, a congested urban arterial. That BRT is attaining a 10 mph average speed. This seems slow, until viewed in the context of being **20% faster** than the **limited stop service** it replaced. For JBR, MTA is stating that BRT will run **9% slower** than the **local bus** it would replace.

MTA also cites the BRAC DEIS document to show that existing speeds along Jones Bridge Road are as low as 10.0 mph, derived from the slowest observed average running time of 10.3 minutes westbound in the morning peak. But just two pages earlier in its Technical Memorandum, MTA calculated that their recommended queue jumps at Connecticut Avenue and at Rockville Pike (by themselves) would cut an average of 3-minutes and 40-seconds from the current running time of buses on JBR. Thus, by MTA's own reckoning, BRT vehicles could traverse this 1.72-mile route segment, without stops, in 6.6 minutes. Adding the 20-second dwell time employed by MTA for each of the two stations would raise the average BRT travel time to 7.3 minutes. That translates into an average speed of 14.1 mph along JBR derived from

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MTA data. The average speed originally estimated by SSE – with additional TSP treatments – was 14.4 mph. At 14.4 mph, SSE's running time assumption is 0.3 mph, or **0.1 minutes**, faster along Jones Bridge Road than the average speed derived from MTA's data. SSE contends that this analysis convincingly debunks MTA's assertion that a 10 mph average speed should be applied to JBR BRT. MTA is criticizing SSE's travel time estimates when MTA's own data support them.

Passenger Perception of Time

MTA objects to SSE's use of weighted (perceived) travel times in its comparison of JBR BRT and LRT for trips between Silver Spring and Medical Centers. We are baffled.

- MTA says SSE used it "selectively". In fact, SSE applied it consistently and objectively in considering travel to the Medical Center. Only the Capital Crescent Trail alignment requires a transfer.
- MTA acknowledges that this weighting is recommended and standard practice.
- MTA states that it applied this weighting in the modeling.

MTA says that SSE should not have presented perceived travel times to the public. We disagree. Perceived travel time is perhaps the strongest factor that shapes a rider's experience. The average person may be more interested in how the Purple Line will serve him or her than in how many daily riders it will attract. TCRP and FTA agree that there is a standard, quantifiable measure for the perceived impacts of walking, transferring, and waiting times. That is what SSE has presented. Why should this not be part of a transparent public process?

MTA objects that SSE did not include other factors, including out-of-pocket costs. We note that SSE included those out-of-pocket costs based on current fares and MTA objected to this as speculative, even though they themselves could only speculate on a future fare alternative. MTA then excluded out-of-pocket costs from the model, without making that public or acknowledging that, were it included, there was no scenario under which its inclusion could be favorable to the CCT alignments.

MTA's objection to doing an analysis based solely on travel time is hypocritical. In January, 2008, MTA issued a BRAC impact white paper in which it calculated and compared travel times to the Medical Centers. By excluding travel time weights it generated a finding that the circuitous trip through downtown Bethesda with geographically challenging transfers was faster than a direct trip to BRAC via JBR. This eye-opening claim is what attracted SSE to examine how travel time was being calculated. SSE's analysis – included in its reports and presentations – was a **response** to an avenue of study initiated by MTA.

MTA reveals on p.23 that it added other weighted inputs to the model based on unidentified "surveys of travel behavior, including ones for the DC area" that show a preference for guideways over non-guideway modes. It appears that MTA translated this into a preference for light rail over BRT, **even when both receive exactly the same preferential treatments**. This may explain some of the projected ridership anomalies between otherwise identical BRT and LRT alignments. We recommend this be reviewed by a third party for appropriateness.

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A perhaps more significant issue is the conversion of this issue of passenger preference into a Mode Specific Constant (MSC). This practice of using MSCs is discretionary, unlike the prescribed application of weighting to walking and waiting times for transfers. MSC's are allowed by FTA, within certain limits, but the weight assigned to an MSC is not prescribed by the Transit Capacity and Quality of Service standards. MSCs should be employed with care and oversight, as increasing or decreasing them can influence the outcome of the entire project.

MTA has credited the CCT option with an additional 6-12 minutes of travel time benefit. It appears that MTA has applied close to the maximum allowable amount of credit to the CCT alternatives over the JBR alternative even though the two alignments have many of the same qualifying characteristics for credit—including frequency and hours of service, branding and “learnability” of the route, and quality of stations/stops. Under FTA rules, the JBR alternative should qualify for credits for these characteristics as well. But MTA appears to have applied none to JBR BRT. MTA then went further, applying additional undisclosed **penalties** to the JBR alignment. To differentiate so extremely between the two alignments is questionable practice and not supported by the actual operating conditions of JBR BRT. MTA should additionally clarify if these credits and penalties were applied along the entire 16 mile alignment or only the 1.7 miles where the alignments differ.

MTA's white paper separately modified the JBR BRT alternative so that the amount of street and right-of-way operation is identical to some CCT alternatives – except for the last 1.7 miles. MTA's application of an MSC resulting in as large as a 12 minute differential for this alignment is even more questionable. MTA bases this on delays from traffic signals or congestion being a significant perception factor. Here, again, we note that MTA has projected that its JBR queue bypasses will reduce delays, and the perceptions of them. The SSE-recommended TSP would do that even more. These priority treatments, even if not completely eliminating delays, might actually qualify as benefit for the JBR alternative in determining an MSC under FTA rules.

For example, when New York's MTA installed E-ZPass beginning in 1995, it did so with queue bypasses and dedicated lanes, priorities not available to cash customers. The perception of privilege and reduced delays, reinforced by gliding past long queues of cash customers, is largely credited with E-ZPass attaining 60% market penetration more than two years sooner than had been projected. When BRT is the only way to cut delays (“bypassing the queues”) for travelers through Connecticut Avenue and Rockville Pike, BRT customers may respond similarly. The success of L.A.'s BRT in attracting auto users may be attributable to this as well. These are all reasons to question why MTA applied a large MSC to JBR BRT and whether the observation of driving past queued automobiles might not justify applying a favorable MSC to JBR BRT. But, even though JBR becomes more like other study options and enjoys reduced delays, MTA still applies heavy penalties to it.

The weights for perceived travel time, according to the FTA are used to determine “additional user benefits” which factor into the cost-effectiveness formula. However, they should not affect the stated ridership numbers, which are mainly just a function of speed and population served. SSE confirmed this policy with the FTA. In the document released on August 14th, however, MTA writes that “In the FTA state of the practice procedures used to develop the ridership forecasts for the Purple Line alternatives, various time components of trip [time] on an

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alternative are 'weighted' to reflect observed traveler behavioral response." SSE is concerned that MTA has, in fact, used these subjective weighted times to adjust the ridership projections for the various alternatives when the practice violates FTA policy. This would explain the unexpectedly large difference in projected ridership between the two alignments. If this is the case, it is a serious error in MTA analysis. If it is not the case, MTA should explain this statement from their August 14th document.

MTA is criticizing SSE for using only those travel time weights that benefit our argument. But SSE used only mandatory factors with prescribed, standard weights. MTA's use and weighting of MSCs is subjective and questionably applied. MTA questions whether SSE's use of weighted travel times is appropriate for presentation to the public, yet uses subjective versions of them in its own modeling. SSE recommends that MTA make public its use of MSCs for public discussion on the appropriateness of their applications.

Travel Time Summary

In summary, MTA's August 14 Technical Memorandum fails to refute SSE's estimates of JBR BRT travel times. As detailed above, the memorandum actually provides new data that strongly supports SSE's findings of significantly lower travel times than employed by MTA. MTA's erroneous travel time calculations result in the following:

- JBR BRT running time is overstated.
- MTA has applied to all alternatives **other than JBR** a travel time benefit as high as 12 minutes.
- That 12-minute MSC is subjective and unspecified, unlike the weighting factors employed by SSE.
- MTA may have additionally imposed a penalty only against JBR for "in-vehicle travel time delay".
- MTA has understated the walk time required to transfer at Bethesda to the Metro Red Line for all the CCT alternatives (that undercounting is compounded because the weighting factor is not applied to it).
- MTA has failed to add walking time – perhaps as much as 5 minutes (plus associated penalties) – needed to reach the street from the Medical Center Metro Station via the deep escalator.

This distorted mix, when input to the model, results in MTA's CCT alternatives being more favorably treated and JBR BRT being seriously handicapped. According to FTA, these MSCs should not affect the ridership numbers reported by MTA but it appears that this may be the case. That differential, in turn, has a negative impact on JBR BRT's cost-effectiveness rating, which will weigh heavily in FTA's deliberations. It also means that the public and legislators are not being given a true comparison among alternatives in their deliberations on selecting a preferred alternative. It should, finally, be noted, that these errors are carried over into MTA's concurrently-produced white paper examining improvements to JBR BRT that have been recommended by SSE.

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Woodmont Plaza Tail Track Issues

MTA alleges that SSE misstates the purpose and impact of dual tail tracks in Woodmont. SSE does not claim that switching or maintenance will be performed on the tail tracks proposed by MTA through the Woodmont Pedestrian Plaza. We have said consistently that it will be used for storage of disabled trains, for gap trains, and for making or breaking-up consists. Two findings support this:

- The capacity of the proposed tail tracks is sufficient to store four two-car units. If MTA expects that much of the fleet to break down at once (times two for the New Carrollton terminal), then the Purple Line's problems will be far greater than the tail track issue. If mechanical failures approximate industry norms, that additional track capacity is logically for the purposes SSE suggests.
- MTA now states that the tail tracks will also be used for vehicles "that are delayed during normal hours of operation." These are clearly not breakdowns. This is a euphemism for the use that SSE alleges.

Because these functions occurring in Woodmont Plaza are so different from in-service operation (where there is an expectation that all vehicles are staffed), we reaffirm the need for security fencing. There will be no Purple Line staff in the vicinity of the tail tracks. There can be no allowance for people to be playing on, near, or under stored vehicles and there should be concern for the vulnerability of these vehicles to unfriendly acts.

SSE does not contend that the presence of the tail tracks will physically impede development; we have faith in the planning and zoning agencies to make sure that all uses are physically accommodated. SSE's concerns come from the following:

- The tail tracks will bisect the pedestrian plaza. With fencing, this will make it smaller and impede circulation and its attractiveness.
- Surrounding uses may suffer. The movie theater, ice cream parlor, and outdoor café will face the prospect of large, long vehicles creating a barrier as little as ten feet away. Vehicles in storage only detract from surrounding uses.
- The developer's rendering shows an open plaza without light rail vehicles, overhead wires, or even tracks – the view if the Purple Line is not constructed through the plaza. MTA's rendering is from a different perspective, with a wide expanse in the foreground, and no hint of the imposition of stored vehicles on the above-mentioned storefronts. MTA's rendering should be from the same perspective as the developers, so that the impact can be fully seen.
- In the MTA presentation on July 31st to area legislators, a rendering of Purple Line vehicles stored on the plaza was not shown. Only the rendering without tail tracks and rail vehicles was shown as the final design.

Impacts to Trees

The renderings that SSE has produced and shown at public meetings are based on MTA specifications that call for removal of every tree along the right-of-way from Woodmont Avenue eastward for about 4,500 feet (the eastern limit of the 66-foot right-of-way). Those trees form a nearly-complete canopy for the CCT today and influence temperature, ambience, and natural

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habitat. SSE's aerial illustration of the impact of their removal shows deforestation outside the right-of-way. That is because the spread of mature trees extends far beyond the tree-trunk. When a tree is felled, all the branches that are part of it are felled as well. SSE's depiction is accurate, if not understated, since we believe that there are areas where construction will require staging on adjacent private properties and thus result in the removal of trees outside the right-of-way.

SSE's data on the number of trees to be felled comes from a survey done in the 1980's. We concur that some trees have died since that time, but there is no evidence to support that being a high number. On the other hand, using the study's definition of a mature tree, many trees that were saplings at the time would now be defined as mature.

Subsequent to MTA submitting this Working Draft, it has publicly acknowledged that all of the trees in the 66-foot right-of-way will be removed. The impact to trail users and surrounding properties should have been a prominent part of MTA's public information effort. There should also be a determination of whether the magnitude of the impact subjects it to environmental review.

Trail Design

SSE notes that the MTA Working Draft acknowledges the presence of the north side stream, which has been absent from most MTA drawings and discussions before this. We do not question that MTA would ultimately comply with laws governing water resources. But MTA has confirmed that a conforming design for this segment of the Purple Line has not yet been devised or produced even though a draft report has been submitted to FTA. That means that an area of potential cost and public interest has not been addressed.

MTA refutes SSE's contentions about how or whether the trail can coexist with the Purple Line on the sections where the right of way is 66 feet or less. SSE has been requesting drawings of these areas since February, 2008. Bits and pieces from MTA have been inconsistent—for example, ramps shown in one drawing, are absent in plan view. We now learn that these sections are still in design. Based on this, the discussion in MTA's Working Draft has neither context nor documentation. MTA's chart on p.31 appears to confirm that there will be no space for planting for a distance of approximately 2,000 feet. This has not been depicted in any MTA "typical" drawings we have seen. The video simulation shown on August 26th showed mature trees and plantings, not depicting the reality now acknowledged by MTA in the area along the trail where the right-of-way is 66 feet or less.

A discussion of whether or how a ped-bike trail can co-exist with Purple Line, and what impacts will be to trail users, surrounding properties, and project costs cannot occur without these drawings. Submitting a draft final report and conducting public outreach with such a major issue unresolved for a critical section of the alignment is a questionable practice.

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Conclusion

MTA has produced a technical memorandum dissecting portions of documents produced for the Town of Chevy Chase by Sam Schwartz Engineering since November, 2007. After close examination of the MTA report, we conclude that none of the findings or key elements of SSE's work are invalidated. SSE-raised issues of inaccurate statements, omission, methodology, subjectivity, and lack of documentation that relate to MTA's conclusions on running times, ridership projections, costs, fares, constructability, and trail impacts, are unaddressed or uncorrected by MTA's memorandum. These factors, when corrected, will modify the findings of the Alternatives Analysis, including the cost-effectiveness rating that is so critical to FTA funding. These corrections will permit fair assessment by the public, by the legislators who will have a say in selection of the Purple Line Preferred Alternative, and by FTA. However, in its current form, the document is flawed.

New data in the MTA's memorandum and contemporary documents confirm a number of SSE's findings:

- MTA's JBR running times are too slow.
- MTA has undervalued the negative impact of the Bethesda transfer.
- Co-existence of transit and trail in the 66-foot-wide (or less) right-of-way is either not possible, possible in ways different than told to the public, or as yet unsolved.
- JBR is capable of better performance, higher ridership, and very favorable FTA ratings within a "low-investment" framework.
- All trees will be removed in the sections that are 66-feet-wide or less.
- There are CCT segments where there will be no landscape buffer, and where the trail will be separated from adjacent property by only a fence.
- There are issues with the CCT alternatives that remain unresolved after six years of study, including the north-side stream and watershed issues, feasibility of ped/bike use of the Air Rights building tunnel, use and operation of tail tracks, and workable designs, costs, and impacts of the Purple Line on the CCT from Pearl Street eastward for almost a mile.

New questions have also emerged in the following areas:

- Application of subjective weighting that may not be justified
- Content or re-calibration of the model
- Absence of detailed drawings for the section of trail through Chevy Chase (How can MTA produce cost estimates, trail treatments, environmental impacts, etc. when it has no workable plan?)
- Parameters used in MTA's TSP analysis, whether it was optimized for local conditions, and why MTA is discussing this with the State instead of the County, which has jurisdiction

The breadth, potential impact, and sheer number of open issues are not compatible with a final document that MTA says will be ready for release on September 29th.

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