MEMORANDUM

To: Town of Chevy Chase Council

From: Sam Schwartz PLLC

Date: July 7, 2008

Re: MTA Concerns with SSE Analysis

Project Number: CC-08-069

With this memo, we are providing the Town of Chevy Chase (the "Town") with SSE's responses to each concern raised in Secretary Porcari's letter to Mayor Barnes dated May 27, 2008 and the email from Mike Madden to Mayor Strom dated June 20, 2008. We also include a list of additional concerns SSE has with MTA's study to date that remain unaddressed. Each issue raised by the Secretary or his staff is highlighted in bold.

We look forward to a fruitful meeting with Secretary Porcari and his staff in August.

MTA's Concerns with SSE's Analysis to Date:

1. **Ignoring the potential travel delay for travelers to the Bethesda CBD of a Jones Bridge Road BRT alignment, which is by far the larger travel market need**

SSE has produced travel time data for both routings between Silver Spring and Bethesda. These detail significant differences from those produced by the MTA study, the reasons for which are addressed below. To state that SSE is "ignoring" delays to Bethesda travelers is not factual. SSE has reviewed travel times to three destinations (including Bethesda) and provided accurate assessments by industry standards of measurement. SSE's latest refinement is attached. At this time, it is not possible to say how many people are affected because MTA has not provided the requested data. Without that data, and for reasons detailed below, MTA's claim that Bethesda is "by far the larger travel market need" is unsupported at this time.

Four months ago, SSE noted that Bethesda demand had three components:

1) Bethesda itself (as a final destination);
2) Bethesda as a transfer point to other buses;
3) Bethesda as a transfer point to the Red Line.

SSE has requested information on the volume associated with each segment, but never received this information. Items 2 and 3 are not unique to downtown Bethesda, and can occur at Medical Center equally well. Therefore, only Item 1 would be able to establish the unique market size of Bethesda, and whether it is by far, "the larger travel market". Although MTA's concern speaks of "travel market need", the information provided on BRAC/Medical Center assumes auto use as a separate category that cannot be diverted to transit. The MTA study:

1) Deals only with "additional" demand when BRAC opens;
2) Does not account for the almost 22,000 existing medical centers employees, nearly a million visitors per year, and the potential to convert them to transit use if a good transit alternative were available; and
3) Has assessed the BRAC demand only as a function of peak hour ridership, unlike every other element of the study (average daily Purple Line ridership is derived from 24 hours, not a peak hour).

In addition, the MTA study counts as "Bethesda", population and employment that is over ½ mile from the Purple Line station. By every standard, those areas are not eligible for inclusion. Many of those areas, including all of north Woodmont, are actually better served (i.e. shorter effective travel time) by the Jones Bridge Road (JBR) alternative.

Every one of the above factors either skews the results in favor of the Capital Crescent Trail (CCT) alignments or prevents accurate assessment. The Town of Chevy Chase asks only to see a full and fair assessment. SSE requests to see MTA methodology that has incorporated the above for an independent assessment. If the data does not exist, then current study conclusions cannot be supported.

2. Assuming unattainable travel times between Silver Spring and Bethesda along Jones Bridge Road

There are two reasons why MTA might consider these speeds unattainable. One may be a failure to consider results/norms nationwide. The second may be failure to include Bus Rapid Transit (BRT) elements that can make these times attainable. SSE's times are based on a true BRT that retains the "low-investment" status of this alternative.

In line with commonly accepted BRT running time calculations, SSE used the fastest J1 and J2 Metrobus running times to arrive at a conservative estimate of achievable BRT running times along the JBR alignment. The J1 is the route that most closely approximates the JBR BRT route and it achieves its fastest running times in the early morning. The fastest trip from Connecticut Avenue to the Medical Center Metro Station is 5 minutes, running at an average speed of 14.4 miles per hour; the fastest trip between the Medical Center Metro Station and the Bethesda Metro Station is 5 minutes, running at an average speed of 11.5 mph (WMATA, 2008). SSE used these speeds, in combination with the distance of the JBR alignment west of Jones Mill Road, to calculate expected BRT running times along both Jones Bridge Road and Woodmont Avenue. After estimating BRT running times and average speeds, these speeds were verified to ensure that they were attainable, based on SSE experience with BRT planning and speeds that have been achieved in congested urban areas in other parts of the country.

Based on these SSE calculations, the MTA is likely overestimating travel time for the JBR BRT alternative between Silver Spring and downtown Bethesda by more than seven minutes. In an MTA document entitled "Implications of the Defense Base Realignment and Closure (BRAC) Process," the MTA stated that "the congested traffic conditions expected along Jones Bridge Road contribute travel delay to trips arriving from the east." This statement, however, conflicts with previous MTA statements citing that the reason for running BRT in mixed traffic along Jones Bridge Road and Woodmont Avenue is that traffic is expected to be light enough along these roads that exclusive bus lanes would not significantly reduce travel times. If traffic estimates along this corridor have been increased since the alternatives were originally

conceived, the MTA should consider implementing exclusive bus lanes to speed BRT travel times.

Another difference is MTA's choice to remove only JBR BRT, of all alternatives, from the CSX viaduct in Silver Spring. In doing so, MTA would build a very expensive, slow speed ramp to deposit BRT into downtown Silver Spring, encountering congestion and four un-prioritized traffic signals. Because the cost savings are marginal and the impacts so negative, SSE could find no justification, and routed JBR over the same viaduct as all other options.

Estimating BRT travel time based on existing local bus service creates a BRT travel time standard to work towards when planning the treatments that will be selected for use on the BRT route. If BRT travel times cannot match the fastest local bus travel time as planned, then more priority treatments are needed, such as dedicated bus lanes and Transit Signal Priority (TSP).

Further, the average speed estimated by the MTA along the 16-mile route from New Carrollton to Bethesda is 10 miles per hour. This speed falls below the standard speed for BRT, and is more in line with the average speeds of local buses operating in mixed traffic (TRB, 2004). The travel times currently estimated by MTA along Jones Bridge Road and Woodmont Avenue are also slower than the fastest current local bus times. If more reasonable speeds cannot be achieved with current treatments, then the capital plan for this alternative needs to be revisited.

3. Utilizing travel time analysis for the Low-Investment BRT alternative that does not reflect information provided by the MTA

As stated above, SSE used a method for estimating BRT travel time that is in line with BRT planning practice. MTA has not released information about its running time calculations so SSE is not able to comment on the appropriateness of these methods. However, as the purpose of BRT is to decrease bus travel time, any method that yields a running time that is longer than that of local buses is questionable. If traffic problems pose an obstacle to achieving this, additional treatments must be added so that passengers will experience a significant travel time benefit. Why would Maryland invest $500 million into an alternative that operates at a slow speed that existing buses can deliver for free? It is counter-intuitive that performance cannot be improved. Because of that, SSE questions and rejects information that cannot be supported.

4. Assertions that a Jones Bridge Road alignment could improve traffic conditions along Jones Bridge Road

It is documented that BRT service can attract people from their cars. Los Angeles, the ultimate car-oriented environment, has accomplished this with one-third of their new BRT passengers…and that was before $4/gallon gas. The concern is why MTA feels this is impossible, and how that is impacting their study findings.

The increase in traffic along Jones Bridge Road is forecast by the BRAC DEIS, and is due to the BRAC action and the additional employees and visitors that will be traveling to the new Walter Reed facility. The National Institutes of Health (NIH) is also a large employment center and significant source of traffic. If a rapid transit option was available to employees and visitors of these facilities that offered a one-seat ride and attractive travel times, it could lessen the traffic impact of both the BRAC action and background travel growth on Jones Bridge Road. The CCT alignment of the Purple Line would require a transfer to the Metro Red Line for service to the

Medical Center area, would cost more, and bb less convenient and take much longer. It is understandable that the CCT option will be unattractive to those Medical Center travelers with a car option. The more direct one-seat, one-fare JBR alignment is free of those drawbacks. Therefore, the JBR alignment is more likely to reduce traffic on Jones Bridge Road than the CCT alignment because it can draw people from their cars.

5. Not presenting the impact to the residential properties along Jones Bridge Road from the roadway widening suggested as a way to improve BRT operating speeds for a JBR alignment

SSE's analysis has been very forthright in identifying impacts on JBR, and the Town has been doing outreach to assure that those residents are informed. SSE has developed a number of possible bus priority configurations for Jones Bridge Road. None of these were considered by the MTA's study for their potential to improve BRT operating speeds on the JBR alignment.

Despite these alternatives, MTA has depicted limits of disturbance which have some JBR residents believing their property will be taken. Some of SSE's configurations involve roadway widening and some do not. The configurations that involve roadway widening do, in fact, show the adjacent properties that would be affected. The widenings are minimal and are recommended largely on the north side, in part on the Medical Center itself; moreover, none of these bus lane configurations expand the roadway beyond the existing right-of-way (ROW) and, therefore, they do not involve the taking of any private property. Large portions of the widening could take place adjacent to the new Walter Reed facility and the Columbia Country Club, minimizing the impact to residential properties.

Three of the alternatives require no widening; they fit wholly within the existing curb lines with no property or setback impacts. These could improve the JBR BRT performance. It is a mystery why the MTA study is not considering them, particularly because they reflect treatments already in use elsewhere. These configurations were presented as concepts for further study and did not involve a thorough analysis of all potential impacts. We would expect the MTA to be looking at such alternatives in their study.

6. Mis-statements on the Federal project approval process

SSE has clearly stated that the process is complex and that exact ratings only come at the end of a process far beyond the scope of its study. But SSE does state that the lower the cost, the higher the ridership, the higher the rating. We believe the following statements regarding the Federal approval process are correct:

- All things being equal, a lower cost project is more likely to get a higher rating and be funded.
- Alternatives analyses that are flawed may be rejected because of those flaws.
- A market area of higher population and employment is more attractive.
- The local share, a minimum of 50%, will be greater for a higher-priced alternative.
- The localities that offer to fund more than 50% may improve their FTA ratings.
- Annual operating costs going forward, and the ability of the locality to fund them, are a consideration.

- The local match for the JBR BRT will be about $500 million less than the high-investment LRT that most proponents and listeners believe they are getting.

7. Over-representation of environmental impacts associated with the Georgetown Branch Master Plan alternatives as developed by the MTA

To date, MTA has not fully communicated all environmental impacts of the CCT alignments to the public, including the number of trees to be destroyed, the diminished trail experience, and the likely severing of the Capital Crescent Trail into two sections. There is no discussion and no treatment shown for the trailside stream or drainage slough, or for impacts on Coquelin Run. Although MTA states it has complete plans for the Chevy Chase area, they have not been shown, denying the public an opportunity to review ramps and retaining walls and their impacts. Members of the surrounding communities should be fully aware of these impacts before a preferred alternative is selected, and therefore SSE has brought them to the public's attention. SSE focused on the impacts of the CCT alignment because at outreach meetings it found that MTA placed too little focus on the negative impacts of this alignment, and citizens had few or incorrect impressions.

8. Depictions of the Woodmont East design that are not consistent with development plans and information provided by the MTA regarding the operation of the tail tracks at the Bethesda terminal

The illustration produced by Lila Fendrick that SSE used in the illustration of the tail tracks at Woodmont East is the same illustration that County Councilmember Roger Berliner used in his letter to the Planning Board dated November 5, 2007. While that image was not created by the project's developers, the image they used in their revised submittal to the Planning Board (see the project report 920070070, pg. 12) is not substantially different—although the area where the two tail tracks will be is even narrower in the developer's images.

At the initial hearing on the project, the developers pulled their application in response to public demand to do so. The developers then revised the project to allow more public park space in the area (see the page 12 drawing) and that plan was approved in April. In sum, while the Legacy Open Space nomination was rejected, the Planning Board did approve a similar project that calls for more open space at the site and the image used by SSE to portray the impacts of the tail tracks at Woodmont East is still representative of the development that is planned for that site.

SSE maintains that fences will be erected around the tracks because children will ultimately not be allowed to play on, under or around the parked rail cars, nor will direct access to trains be allowed for other security reasons. While the MTA insists that trains will not be parked on the tail tracks "for long", SSE believes from experience that when the project is turned over from the planners to the operators, use of tail tracks will change. On a 16-mile route, a transit operator will use a tail track as storage for a gap train, to help assure service regularity in the event of delay or breakdown along the line—even if the planners (i.e., MTA) did not intend it. This is in addition to its use for laying up disabled trains until they can be repaired or returned to the shop without impacting service. Considering these two uses, it is likely that the tail tracks will be occupied far more frequently than MTA anticipates. The MTA plan appears to accommodate a minimum of four trains, far beyond the need for breakdowns. That extra capacity supports our

position that it will have greater use than claimed. In any event, that space will not be public use space as envisioned by the original Woodmont East drawings.

In the midst of a pedestrian plaza/park that is already heavily used by pedestrians from morning until late evening, unprotected train storage/movement tracks in this area will present:

*a liability risk
*a security risk
*a safety risk

Individually, any of the above is sufficient to warrant a fence; together, they make it improbable that one would *not* be installed. MTA may say there will be no fence. If they prevail, this will likely last only until the first train appears there.

An "exception" might be cited for the turntables at the termini of the cable car routes in San Francisco. However, in that instancestaff is present at all times, and the "train" is 30' – not 180' – long. It is as unlikely that Woodmont East Plaza will be unfenced as it is that the rest of the right of way will be unfenced. SSE has raised this as an impact that the public should be aware of. Images shown of a broad, open area with pedestrians mingling and traversing throughout is not likely to be the reality.

9. Representations that are inconsistent with the MTA conceptual plans of the transitway/trail for the Georgetown Branch Master Plan alternatives.

SSE based all visual representations on section drawings available on MTA's website (www.purplelinemd.com). SSE welcomes the opportunity to discuss MTA concerns with any specific SSE images. What the MTA has submitted as a "typical" cross-section in Chevy Chase might apply to, at most, 20% of the linear distance of the 66-foot ROW. Because MTA has provided no drawings of the remaining (and more challenging) areas, SSE has produced renderings. MTA release of its detailed drawings for these areas could allow full review and resolution.

SSE's Unaddressed Concerns with MTA Analysis to Date: SSE raised the following issues regarding the MTA analysis to date and has not yet received responses from MTA about these concerns.

1. Lack of Generally Accepted BRT Features for the JBR BRT Alignment

- No proposed conceptual plans, or review of these plans, for priority lane assignments or other BRT priority treatments have been presented.
- Secretary Porcari's letter states that TSP implementation at intersections with heavy cross traffic would be difficult. This may be the case, but TSP implementation and its impact on cross traffic delays have never been quantitatively reviewed. It is generally true that the more difficult the intersection, the greater the benefit. MTA has dismissed those without study.

2. Existing and Future Population and Employment Along JBR is Higher than Along CCT

- Secretary Porcari's letter asserts that Bethesda remains the dominant travel market but that conclusion has not been supported by data that separates pass-through trips

from final destination. The MTA study should model the potential traffic from the Medical Centers for existing and future employees with a true JBR BRT.

- The MTA has not addressed SSE's TAZ analysis which demonstrates that more people and jobs are located within ½ mile of the stations on the JBR alignment than within ½ mile of the stations on the CCT alignment. MTA has not justified its inclusion of areas beyond this in the CCT Purple Line catchment area.

3. Potential for Traffic Reduction on Jones Bridge Road

- MTA has expressed concern with SSE's assertion that JBR BRT can reduce future traffic increases on Jones Bridge Road. However, this assertion is in line with accepted principles of transportation planning and MTA has not provided any explanation to support the contrary conclusion.
- As far as can be determined, MTA has not studied the number of cars the JBR BRT alignment would remove from Jones Bridge Road and the improvement in traffic delays that would result.

4. Inaccurate Operating and Maintenance Cost Estimates

- MTA has estimated that 80 vehicles will be needed to operate each of the BRT alternatives and 40 vehicles will be needed for each of the LRT alternatives. Based on running times and headways provided by the MTA, this is a severe overestimation of the number of BRT vehicles that will be needed and an underestimation of the number of LRT vehicles that will be needed. MTA has not provided supporting calculations for these vehicle estimates. The effect of these estimates is to inflate the capital and operating costs of the BRT alternatives and understate those of the LRT alternatives.

5. Treatment of the CCT through Downtown Bethesda

- MTA has not addressed the potential re-routing of 10,000 - 20,000 weekly pedestrians and bicycle users of the CCT onto narrow streets and forcing them to cross busy, wide intersections.
- No mention has been made on the safety impacts to the pedestrians and bicycle users or on the impact to traffic from the potential increase in pedestrians and cyclists in Downtown Bethesda.
- MTA has not addressed the public's concerns about safety and user-friendliness regarding the High-Investment LRT proposal to hang the CCT from the ceiling of the Air Rights building.
- Design of ADA-required access to the proposed trail elevation has not been addressed.

6. Alignment Discrepancies between the CCT and JBR Alternatives

- In the name of cost savings—sometimes minimal—only the JBR alternative has been routed through congested streets that disproportionately lengthen its running time and reduce reliability. A low-cost alternative that is ineffective is no alternative at all.
- There has been no response from MTA as to why the JBR alternative has been aligned on city streets through Silver Spring, bypassing the Silver Spring Transit Center, as opposed to continuing on a dedicated ROW through Silver Spring as the

proposed CCT alternatives do. The small cost savings do not likely justify the associated Purple Line delays due to traffic.

- The decision to place the CCT alternatives on a dedicated ROW through the center of the University of Maryland and place the JBR alternative on congested Campus Drive in front of the University entrance has not been addressed. This small cost saving also does not likely justify the associated Purple Line delays due to traffic. If the University of Maryland's alternative alignment for the Purple Line is selected, any differences between the alternatives in the University of Maryland area should be addressed.

7. Capital Crescent Trail "Typical" Cross Section Inaccuracies

- Less than 20% of the 66-foot ROW could be constructed as depicted in the "typical" cross section drawing provided by the MTA. A response from MTA or a more representative cross section drawing is needed.
- In the cross section drawing, the trail is labeled as 10 feet wide while the actual width is 50% wider when the dimensions are scaled. This gives the public the impression that 10 feet will provide more room for pedestrians and cyclists than will actually be the case.
- No retaining walls are shown even though they will be needed on most of the proposed alignment due to topography. MTA should clarify where along the trail retaining walls are being planned and incorporate them into their typical cross section drawings.
- No depictions of required ADA trail access or overpass structures are shown. As these will be prominent features along the trail, they should be depicted in future cross section drawings.

SSE has also updated travel time calculations to reflect differences by time of day (below). These differences are due to variable headways for both the Metro Red Line and the Purple Line. SSE used Purple Line headways of 6 minutes during the peak and 12 minutes off-peak, based on MTA statements in August, 2007. Red line headways are 5 minutes during the peak, 6 minutes mid-day, and 13 minutes (on average) in the evening. SSE calculations are based on running times for the J1 bus, as outlined above. These travel times include passenger perception of time multipliers, as outlined in the *Transit Capacity and Quality of Service Manual* and include time for walking and transfer delays where appropriate. It appears that this approach is not being used for inputs to the MTA model. That is skewing the results.

SSE calculations also assume a Medical Center island station for the Jones Bridge Road BRT alternative on the northeast corner of Jones Bridge Road and Wisconsin Avenue and a new Metro Red Line entrance to the Medical Center Station at this same corner. This will allow Purple Line passengers to transfer directly to the Red Line at the Medical Center, rather than remaining on-board until the Bethesda Station and facilitate a shorter walk from the station to the new Walter Reed facility. MTA calculations assume that the new Metro entrance will be on the southwest corner of Elm Street and Wisconsin Avenue to facilitate transfers to the Red Line in Bethesda. MTA calculations also assume that the Purple Line Medical Center Station will be located on the southwest corner of Jones Bridge Road and Wisconsin Avenue, resulting in a longer walk for passengers destined for the new Walter Reed facility.

SSE calculations that include walking time from the Purple Line Medical Center Station to the new Walter Reed facility, where applicable, are as follows.

AM Peak Hour Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	32.4	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

AM Peak Hour Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	33.6	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

Mid-Day Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	33.6	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

Mid-Day Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	41.1	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

PM Peak Hour Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	37.9	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

PM Peak Hour Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	33.6	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

Evening Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	42.4	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

Evening Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	41.1	33.2	21.3
Silver Spring-Bethesda	8.8	24.5	17.0
Silver Spring-Red Line	8.8	24.5	12.5

SSE calculations that include walking time from the Purple Line Medical Center Station to the new Walter Reed facility where applicable, and also include initial wait time, are as follows.

AM Peak Hour Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	39.9	40.7	28.8
Silver Spring-Bethesda	16.3	32.0	24.5
Silver Spring-Red Line	16.3	32.0	20.0

AM Peak Hour Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	39.9	39.5	27.6
Silver Spring-Bethesda	15.1	30.8	23.3
Silver Spring-Red Line	15.1	30.8	18.8

Mid-Day Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	48.6	48.2	36.3
Silver Spring-Bethesda	23.8	39.5	32.0
Silver Spring-Red Line	23.8	39.5	27.5

Mid-Day Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	48.6	40.7	28.8
Silver Spring-Bethesda	16.3	32.0	24.5
Silver Spring-Red Line	16.3	32.0	20.0

PM Peak Hour Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	45.4	40.7	28.8
Silver Spring-Bethesda	16.3	32.0	24.5
Silver Spring-Red Line	16.3	32.0	20.0

PM Peak Hour Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	39.9	39.5	27.6
Silver Spring-Bethesda	15.1	30.8	23.3
Silver Spring-Red Line	15.1	30.8	18.8

Evening Westbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	57.4	48.2	36.3
Silver Spring-Bethesda	23.8	39.5	32.0
Silver Spring-Red Line	23.8	39.5	27.5

Evening Eastbound	MTA		SSE
	LRT	JBR	JBR
Silver Spring-Walter Reed	57.4	49.5	37.6
Silver Spring-Bethesda	25.1	40.8	33.3
Silver Spring-Red Line	25.1	40.8	28.8

SSE looks forward to meeting with MTA to discuss the above concerns and welcomes any further comments on the analysis to date.