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SUPPLEMENTAL REPORT OF JOE MEHRA, P.E.,
ON BEHALF OF THE FOGGY BOTTOM ASSOCIATION
IN OPPOSITION TO THE GEORGE WASHINGTON UNIVERSITY
APPLICATIONS
November 27, 2006

This statement is being submitted in response to questions raised at the October 11th hearing regarding the analysis by the District of Columbia Department of Transportation (DDOT) of supplemental materials submitted on behalf of the applicant by Wells & Associates.

The supplemental Wells Report addresses some of the concerns cited in my earlier testimony. However, some discrepancies remain unresolved. I will address these matters below.

Before doing so, I note that Wells has now submitted a total of five separate reports in this Campus Plan case and in the related Square 54 case between February and November of this year. I will focus on the Wells reports submitted in this Campus Plan case (dated Feb. 16, 2006, revised Aug. 24, 2006, and second revision dated Nov. 2006) and the letter from Wells to DDOT's Ken Laden dated Oct. 4, 2006. To the extent relevant, I will note discrepancies identified in the Square 54 studies (dated May 24, 2006 and revised Oct. 2006) that call into question the validity of the applicant's conclusions with respect to the traffic impacts of the proposed new Campus Plan.

There remain significant differences and discrepancies between these reports, although they are analyzing the same intersections. Some of these discrepancies are presented below along with their impacts.

EXISTING CONDITIONS

Wells collected an extensive set of traffic data to do the traffic analysis. However, some critical data elements were not presented in the three Campus Plan reports and may have not been observed or collected in the field. These data items include truck trips, their travel patterns and their percentage of total travel.

Truck trips to GWU include deliveries as well as trash pick-up. The higher the truck proportion, the lower the levels of service. In a letter to DDOT's Ken Laden dated Oct. 4, 2006, Wells stated: "A default of 2 percent heavy vehicles was used at every intersection as is standard practice in the District". However, in its Square 54 traffic study revision (dated October 2006), Wells used observed truck percentages. The truck percentages on this second test were 16 percent or so at some locations and even as high as 48 percent (See page 11 of Appendix C, Existing Intersection Levels of Service) for some low volume movements. Obviously, the default 2 percent

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assumption in the Campus Plan Study is invalid and results in better levels of service than using observed truck volumes.

Another missing data item is the existing queues at congested intersections and the spillback onto adjacent intersections. This shortcoming is in all five reports. Pennsylvania Avenue and K Street are congested during peak hours, and queues extend back in to the adjacent intersections. Due to this queuing, the observed volumes during the peak hour are undercounted. In other words, due to congested conditions, the traffic demand is not being met by the available capacity. The data collectors are counting the traffic that passes through the intersection in one hour, which is significantly less than the volumes that want to pass through the intersection. This is critical to the analysis and impacts the levels of service. Failure to take congested conditions in to account can result in an artificially inflated better levels of service using the traditional data collection and analysis techniques. Under congested conditions other techniques such as "saturation flow" or "loaded cycles" should be used.

The observed traffic counts data summarized in the Wells revised Report (See Appendix A, Existing Peak Hour Traffic Counts) were compared with the data used to compute levels of service for the existing conditions (in Figure 2-2 Foldout). There were significant differences in these data. For example, the southbound observed traffic counts on 21st Street at Eye Street were 634 vehicles in the PM peak hour. However, the number used to compute levels of service is 434. This is almost a 50% difference and impacts the levels of service. Wells has justified this difference to "volume balancing" (due to data being collected on different days and due to human error, traffic volumes at one intersection may not equal the volumes at the adjacent intersection and these are balanced before analysis) in its October 4 letter to Mr. Laden. This is not true. 21st Street is sending 524 vehicles from Eye Street to H Street whereas H Street is shown to receive 825 vehicles in the PM peak hour. If volume balancing was conducted before analysis, then the southbound volumes on 21st Street at Eye Street should be 735 vehicles instead of 434 vehicles. Similar discrepancies were also noted at other intersections.

DETERMINATION of peak hours for the street and GW is critical to the analysis.

Wells states that the street peak hours are 8:30 to 9:30 AM and 5:30 to 6:30 PM. Further, the report states that the GWU peaks hours are 8:00 to 9:00 AM and 5:00 to 6:00 PM. This suggests that the GWU peak traffic only overlaps the street peak traffic for one half hour in the morning and evening. I have reviewed the data for the 31 intersections that were included in the Wells Report. Using Wells data and their summaries, the data shows that 23 out of 31 intersections have street peaks that are earlier than 8:30 to 9:30 AM. Further, Wells data shows that 21 out of 31 intersections have street peaks that are earlier than 5:30 to 6:30 PM.

The Wells Report dated May 24, 2006 for the Square 54 Traffic Study also states (at page 10) that the street peak hours are 8:00 to 9:00 AM and 5:15 to 6:15

PM. This means that the GWU peaks occur generally at the same time as the street peak, with only a 15-minute differential in the evening. If that is the case, most of the traffic analysis presented for the future conditions with GWU expansion would be unduly optimistic and not valid.

GWU EXISTING TRIP GENERATION

Wells conducted a travel survey of students and faculty/staff to obtain the trip rates and mode of travel to and from the university. Despite the number of studies that Wells has filed on traffic issues, there remain significant unexplained discrepancies in vehicle trip rates for the GWU expansion.

The August 24, 2006 GWU Traffic Study used the following trip rates and trips for the students and staff during the AM peak hour:

Students: 0.023 Trip per student or 28 trips for 1,198 students

Staff: 0.178 Trips per staff or 178 trips for 1,000 staff

The November 2006 traffic study by Wells has used the following trip rates during the AM peak hour:

Students: 0.013 Trip per student or 16 trips for 1,198 students

Staff: 0.13 Trips per staff or 131 trips for 1,000 staff

Similar discrepancies are present for the PM peak hour data also.

August 24, 2006 Study – Students: 0.033 Trip per student or 40 trips for 1,198 students

November 2006 Study – Students: 0.0203 Trip per student or 25 trips for 1,198 students

These discrepancies have not been explained. Lower trip rates result in less vehicle trip generation and subsequently a better level of service. It should be noted that this is a critical discrepancy because the Commission has requested the Applicant to conduct the traffic analysis assuming the faculty and staff population as being 12,529 or an increase of 6,475 over the current levels. The vehicle trip generation for this increase of 6,475 faculty/staff using the two study results is as follows:

Time Period	August 24, 2006 Study	November 2006 study	Difference
AM Peak Hour	1166	851	(315)

The difference is 315 vehicles and this will have a significant effect on the projected levels of service.

FUTURE CONDITIONS

The future conditions analyzed are for the year 2025. Wells assumed 0.5% per year growth for through traffic to obtain background conditions. DDOT's Lower West End Traffic Study, which included part of the GWU study area, was released in July of this year. This study assumed a 1% per year growth for background conditions. Due to the differences in growth rates (0.5% versus 1.0%), the total trips forecasted for some movements by Wells are as much as 400 vehicles per hour less than the use of the DDOT study growth rate of 1% per year.

The GWU growth in vehicle trips does not include vehicular travel that may occur from other campuses in private vehicles or non-GWU buses. Further, the use of travel survey data to project vehicular travel for the GWU expansion (1,000 faculty/staff and 1,198 students) is also suspect, as noted previously. The total trips with the GWU expansion are therefore significantly less than the projections based on DDOT growth rate and corrected GWU trips.

LEVELS OF SERVICE

The Existing Conditions analysis, based on the Wells study (See pages 10 through 12 of October Report), showed that 9 out of 37 intersections analyzed have some approaches failing (they are currently operating at LOS E or LOS F). With the GWU expansion, the future conditions analysis showed that 14 out of 37 intersections (See pages 24 through 29 of October Report) will have some approaches that will fail based on Wells study in spite of the mitigation proposed by Wells. The mitigation will result in loss of curbside parking, but still results in levels of service failure.

If the DDOT growth rates are used and the GWU trips are corrected, then it is conceivable that some or all of the intersections that are projected to operate at LOS D may fail. Wells October Report shows that there are twelve intersections that are projected to operate at LOS D. Therefore, twelve more intersections could potentially fail resulting in a total of 26 out of 37 intersections at failing levels.

CONCLUSIONS

The Wells reports may be extensive in their coverage, but have several technical inconsistencies and deficiencies that impact the study results, including the levels of service. Due to these reasons, the study results are invalid. Even if it is assumed that the studies are correct, it shows that with the GWU expansion and with the proposed mitigation, 14 to 26 intersections out of 37 intersections would fail in comparison to only 9 intersections failing in the existing conditions.

CERTIFICATE OF SERVICE

This will certify that copies of this statement were served electronically this 28th day of November, 2006 upon:

Maureen E. Dwyer, Pillsbury Winthrop Shaw Pittman

Michael Thomas and Vince Micone, ANC 2A

Barbara Kahlow, West End Citizens Association

A handwritten signature in black ink, appearing to read "C. J. Hutchins", is written over a horizontal line.