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October 19, 2006

By Hand Delivery

Carol J. Mitten, Chairperson
District of Columbia Zoning Commission
Office of Zoning
441 4th Street, NW, Suite 210
Washington, DC 20001

**Re: Zoning Commission Case Nos. 06-11 and 06-12
The George Washington University Foggy Bottom Campus Plan: 2006 – 2025
and related First-Stage PUD and Map Amendment
Supplemental Traffic Analyses**

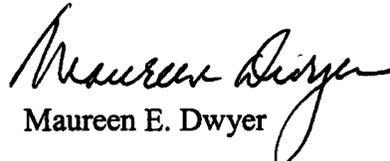
Dear Chairperson Mitten and Members of the Commission:

Enclosed please find two supplemental traffic analyses, which were prepared by the Applicant's traffic expert in response to issues raised by members of the Commission and by the Foggy Bottom Association's traffic consultant. These documents were submitted to the District Department of Transportation (DDOT) on October 4, 2006 in order to assist DDOT in its evaluation of the above-mentioned applications.

Please note that the Applicant intends to submit a revised Foggy Bottom Campus Plan: 2006 2025 Transportation Impact Study by November 15, 2006. Primarily, the revised study will integrate all of the supplemental materials that have been produced by the Applicant into one comprehensive document, including the analysis to the faculty/staff cap that was requested by the Commission. In addition, the updated study will respond to questions raised during the course of the public hearings.

We look forward to discussing these traffic issues on November 30, 2006.

Very truly yours,


Maureen E. Dwyer


David M. Avitabile

ZONING COMMISSION
District of Columbia

CASE NO. 06-11
ZONING COMMISSION
EXHIBIT NO. 227
District of Columbia
CASE NO. 06-11
EXHIBIT NO. 227

October 19, 2006

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Enclosures

**cc: Travis Parker, Office of Planning
David Maloney, Historic Preservation Office
ANC 2A
Cornish F. Hitchcock, Counsel for Foggy Bottom Association and ANC 2A
Barbara Kahlow, West End Citizens Association**

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of this letter and enclosures were hand delivered on
October 19, 2006.

Ellen McCarthy
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David M. Avitabile



October 4, 2006

Mr. Kenneth Laden
Associate Director for Transportation Planning
District Department of Transportation
2000 14th Street, NW
Washington, D.C. 20009

RE: George Washington Campus Plan: 2006-2025
(Case No. 06-11 and 06-12)
Supplemental Traffic Analyses

Dear Mr. Laden:

At the hearing before the Zoning Commission for Case Nos. 06-11 and 06-12 on September 28, 2006, Mr. Mehra provided testimony regarding his review of the Transportation Impact Study conducted by Wells & Associates for the above referenced case. We have included herein our responses to Mr. Mehra's comments.

Existing Conditions

Comment: Truck data was not presented in the report and may not have been observed or collected in the field. This includes truck trips, travel patterns, and percentage of total travel.

Response: A default of 2 percent heavy vehicles was used at every intersection as is standard practice in the District. There is not a specific input in the Highway Capacity Manual (HCM) methodology for blockages associated with deliveries and trash collection. However, each intersection was coded as being in the Central Business District (CBD) area. Doing so essentially reduces the base saturation flow by ten percent to account for characteristics such as "narrow street rights-of-way, frequent parking maneuvers, vehicle blockages, taxi and bus activity, small radius turns, limited use of exclusive turn lanes, high pedestrian activity, dense population, and mid-block curb cuts" (ref. HCM p. 16-12). According to the HCM designation as a CBD is not limited to CBD areas, nor should it necessarily be used for all CBD areas. The CBD designation was selected for this area to account for those characteristics listed above.

Comment: There are no existing queue data at congested intersections.

Response: A detailed queuing analysis was not conducted as part of this Campus Plan. Trips were distributed to all of the potential garage sites since it is not known at this stage exactly which garage sites will be selected and actually developed. Therefore, it would be more appropriate to analyze specific queuing issues during the 2nd Stage PUD process when plans are more certain.

Comment: There are discrepancies between the observed traffic count data and the data used to compute levels of service for the existing conditions.

Response: Traffic counts for 13 of the intersections were taken from the Square 54 Transportation Impact Study and were conducted in May 2005. Peak hour traffic volumes for seven of the intersections were taken from the Square 37 Traffic Study (Published by DDOT), while the remaining 22 intersections and garage counts were conducted in September 2005. Because counts were conducted at three different times, it was necessary to look at the interface between the sets of counts and perform some volume balancing. In some instances, balancing involved decreasing the volume from what was actually observed, however, in other instances, the volume was actually increased from what was actually observed. In order to determine the effect of balancing the volumes, each individual intersection peak was compared to the balanced peak hour volume used in the analyses. Based on this comparison, 21 of the 42 intersections actually were increased above their observed AM peak hour volumes, while 13 of the 43 intersections were decreased below their observed AM peak hour volumes. Eight of the intersections required no adjustment. During the PM peak hour, 21 of the 42 intersections actually were increased above their observed peak hour volumes, while 18 of the 43 intersections were decreased below their observed PM peak hour volumes. Three of the intersections required no adjustment. As a whole, the study intersections were *increased* by over eight percent during the AM peak hour and by over five percent during the PM peak hour. It should be noted that balancing volumes to account for differences that are associated with counts being conducted on different days is a standard traffic engineering practice. Many studies commissioned by DDOT, such as the Connecticut Avenue Transportation Study, the Palisades Traffic Impact Study, the Pennsylvania Avenue, SE Transportation Study, the Takoma Transportation Study, and the Anacostia Gateway Transportation Study utilize balanced volumes.

Peak Hour Determination

Comment: Mr. Mehra contends that the street peak actually occurs earlier than what was reported in the Wells' study and that the GW peaks and the street peaks coincide.

Response: The street peak hours were selected based on the combined traffic counts at all intersections counted for the GW Campus Plan (i.e. a common peak hour was used). Counts conducted for the Square 54 TIS and counts taken from the Square 37 TIS were not included in determining the common peak hour. As indicated above, the balanced volumes based on the common peak hour were compared with the individual peak hour volumes for each intersection. The comparison indicates that, in total, the adjusted volumes used in the analyses were over eight percent higher than the individual peak hour volumes during the AM peak hour and over five percent higher during the PM peak hour.

Furthermore, the number of trips projected to be generated by the University during the *University* peak hour was applied to the *street* peak hour thereby providing a conservative analysis.

GW Trip Generation

Comment: 25% factoring to account for on-street parking is too low.

Response: Survey data was used to determine the percentage of GW related vehicles that park on-street. According to the survey data, approximately 25 percent of people who drive park on-street. The remaining vehicles park in garages.

Comment: There are discrepancies in the existing AM and PM peak hour trip generation when comparing those based on the parking lot observation data versus the travel survey of students and faculty/staff data versus ITE Trip Generation data.

Response: The trip generation was estimated based on a data from a transportation survey conducted University-wide in October 2005. Data from the survey provided information on mode choices, arrival and departure distributions, and carpooling characteristics.

The mode split data for students and faculty/staff are summarized below in Table I. As shown, approximately 85 percent of students do not use automobiles as their mode choice. Approximately 53 percent of faculty and staff do not use automobiles as their mode choice.

Furthermore, for students who do utilize the automobile, the average vehicle occupancy, as the result of carpooling, is approximately 1.12 students per vehicle. For faculty and staff, the average vehicle occupancy is approximately 1.21 employees per vehicle.

Table I
 Mode Split Data

Mode	Students		Faculty/Staff	
	No.	%	No.	%
Auto				
Drove Alone	202	13%	313	38%
Motorcycle	4	0%	3	1%
2-person Carpool	14	1%	49	6%
3-person Carpool	7	1%	14	2%
4+ person Carpool	0	0%	1	0%
Vanpool	5	0%	2	0%
Sub-total	232	14%	382	47%
Non-auto				
Private Bus	29	2%	5	1%
Public Bus	81	5%	51	6%
Metrorail	589	38%	304	37%
Walked/Jogged	544	35%	54	7%
Bicycle	51	3%	12	1%
Other	26	2%	8	1%
Sub-total	1,320	85%	434	53%
Total¹	1,552	100%	816	100%
¹ The total number presented is the total number of respondents who answered this question. Eighty-nine student respondents and nine faculty/staff respondents did not answer this question.				

The mode split and average vehicle occupancy information was then combined with the arrival and departure distributions to derive vehicle-trip generation rates, as summarized in Table 2.

Table 2
 Derivation of Vehicle Trip Generation Rates

Component	Students		Faculty/Staff	
Auto Mode Split	15%		47 %	
Average Vehicle Occupancy	1.123348		1.210526	
AM Peak Hour				
Percent Arriving/Departing in Peak Hour	9.7%	0.24%	33.6%	0.12%
Trip Generation Rates:				
Inbound	0.0130		0.131	
Outbound	0.0003		0.0005	
PM Peak Hour				
Percent Arriving/Departing in Peak Hour	5.5%	9.7%	0.12%	30.6%
Trip Generation Rates:				
Inbound	0.0073		0.0005	
Outbound	0.0130		0.1192	

The information contained in Table 2 was used to estimate the number of trips generated by the 2005 student population of 18,802 and the 2005 faculty/staff population of 6,054. Based on the rates presented in Table 2, 18,802 students and 6,054 faculty/staff would generate an estimated 1,118 vehicle-trips during the AM peak hour and an estimated 1,106 vehicle-trips during the PM peak hour if all students, faculty and staff arrived on Campus every day (i.e. no absenteeism). Based on the garage counts (factored by 25 percent to account for on-street parking), GW generates 804 AM peak hour vehicle-trips and 909 PM peak hour vehicle-trips. Comparison of the two methods for estimating trips indicates that utilizing garage counts yields 18 to 28 percent fewer trips during the AM and PM peak hours than utilizing the survey data. This difference may be attributable to the fact that the survey data assumes that everyone arrives on Campus every day (i.e. no absenteeism was assumed). Therefore, using the survey data as the basis for estimating trips provides a conservative analysis.

We believe that comparing the GW site-specific trip generation data to the ITE trip generation data is inappropriate since the ITE data regarding "University/College" (Land Use 550) is based on only four (4) studies with seven (7) data points as follows:

1. A 1973 study published by the Delaware Department of Highways and Transportation
2. A 1991-1995 study published by the Sear-Brown Group, Inc., Rochester, NY
3. A 1991-1995 study published by DKS Associates, Portland, OR

4. An undated study published by Associated Transportation Engineers, Santa Barbara, CA

These data have little to no relevance to the GW Campus Plan.

Comment: The number of travel survey responses in Table 3-2 and Table 3-3 of the report do not coincide.

Response: The incorrect sum was provided in Table 3-3. The total number of student responses should have been reported as 1,641 (instead of 1,873) and the total number of faculty/staff responses should have been reported as 825 (instead of 1,207). The correct information is presented above in Table 1.

Comment: Faculty/Staff generates only one trip for 13.6 employees in the PM versus one trip for three employees in the AM.

Response: The trip generation has been revised. As shown in Table 3, the faculty and staff would generate approximately one trip for every eight employees during both the AM and PM peak hours.

Table 3
 Vehicle Trip Generation
 Based on Additional Students, Faculty and Staff

Peak Period	1,198 Students	1,000 Faculty/Staff ¹	Sum of 1,198 Students and 1,000 Faculty/Staff
AM Peak Hour			
Inbound	16	131	147
Outbound	0	0	0
Total	16	131	147
PM Peak Hour			
Inbound	9	0	9
Outbound	16	119	135
Total	25	119	144
¹ Revised trip generation based on corrected mode split data and corrected PM peak hour trip generation data.			

Future Conditions

Comment: The report uses a ½ percent annual growth rate while DDOT used a one percent annual growth rate for a recent traffic study in this area of the District.

Response: A comparison of counts conducted on the GW Foggy Bottom Campus in 1998 and 1999 to counts conducted on the GW Campus in 2005 revealed that traffic volumes have actually decreased on campus over the six to seven year period. Therefore, the ½ percent per year across a 20-year planning horizon was thought to be conservative. It

also should be noted that this growth rate was used to account for development outside the immediate study area that was not explicitly accounted for in the future traffic forecasts. In addition to this growth rate, six pipeline developments (2425 L Street, Columbia House I, Columbia House II, USIP, Allstate Hotel, and IMF 2 HQ) were included explicitly in the future traffic forecasts. As a result of the combined effect of both the growth rate and the traffic associated with the pipeline developments, the increase in traffic at individual intersections approaches one percent per year at several intersections and, in fact, exceeds one percent per year at a few intersections.

Comment: The GWU growth in vehicle trips does not include travel that may occur from other campuses in private vehicles or non-GWU buses.

Response: Trip generation estimates for GW Foggy Bottom Campus were based on the projected increases in students, faculty and staff at the Foggy Bottom Campus. The projected number of vehicle-trips generated by GW assumes that all students arrive on campus every day and does not take into account absenteeism. Therefore, we believe the trip generation estimates to be conservative. Growth associated with other campuses was not taken explicitly into consideration. The background growth rate of ½ percent per year accounts for growth outside of the immediate study area. Therefore, growth in traffic associated with growth occurring at other GW campuses would be included in this growth rate.

Levels of Service

Comment: Under existing conditions, nine (9) of the 37 study intersections have at least one (1) failing approach (LOS E or F), and under future conditions, 16 intersections will have at least one (1) failing approach. After mitigation, there will be a loss in curbside parking, yet 15 of the intersections will still contain failing approaches.

Response: In order to determine the impact attributable to just the GW Campus Plan, future conditions with the GW Campus Plan should be compared to future conditions without the GW Campus Plan, not to existing conditions. Under conditions with the additional 6,475 faculty/staff, there are only two intersections where a lane group would operate at a level of service E or F that would not operate at a LOS E or F under future conditions without the Campus Plan. By comparing future conditions with the GW Campus Plan to existing conditions, Mr. Mehra is attributing the impact of normal growth, which would occur even without the Campus Plan to GW.

Transportation Management Plan

Comment: The transportation management plan is “very generic”, i.e., it does not include any specifics, there are no binding actions included in it, and it may not result in any vehicle trip reductions.

Response: GW is seeking DDOT's input on additional TMP measures that may be appropriate over the term of the Campus Plan.

Mr. Kenneth Laden
October 4, 2006
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We trust the information provided herein adequately addresses the issues raised by Mr. Mehra. Please do not hesitate to contact me at 724-933-9010 or jlmilanovich@mjwell.com should you have any questions on the enclosed.

Sincerely,

A handwritten signature in black ink, reading "Jami L. Milanovich". The signature is written in a cursive style with a large, stylized initial "J".

Jami L. Milanovich, P.E.
Senior Associate



October 4, 2006

Mr. Kenneth Laden
Associate Director for Transportation Planning
District Department of Transportation
2000 14th Street, NW
Washington, D.C. 20009

RE: George Washington Campus Plan: 2006-2025
(Case No. 06-11 and 06-12)
Supplemental Traffic Analyses

Dear Mr. Laden:

As requested by the Zoning Commission at the hearing for Case Nos. 06-11 and 06-12 on September 14, 2006, Wells & Associates has conducted a supplemental analysis to determine the traffic impacts associated with the potential increase in George Washington University's faculty/staff to its current cap of 12,529 (an increase of 6,475). Previous analyses analyzed the impact increasing the faculty/staff cap to 7,054. The results of the supplemental analysis are summarized herein. Information provided in our letter addressing Mr. Mehra's comments (dated October 4, 2006) is incorporated where appropriate.

Trip Generation

The number of trips generated by 1,198 additional students and 6,475 additional faculty and staff (an increase from 6,054 to the cap of 12,529) was estimated based on a data from a transportation survey conducted University-wide in October 2005. Data from the survey provided information on mode choices, arrival and departure distributions, and carpooling characteristics.

The mode split data for students and faculty/staff are summarized below in Table I. As shown, approximately 85 percent of students do not use automobiles as their mode choice. Approximately 53 percent of faculty and staff do not use automobiles as their mode choice.

Furthermore, for students who do utilize the automobile, the average vehicle occupancy, as the result of carpooling, is approximately 1.12 students per vehicle. For faculty and staff, the average vehicle occupancy is approximately 1.21 employees per vehicle.

Table 1
 Mode Split Data

Mode	Students		Faculty/Staff	
	No.	%	No.	%
Auto				
Drove Alone	202	13%	313	38%
Motorcycle	4	0%	3	1%
2-person Carpool	14	1%	49	6%
3-person Carpool	7	1%	14	2%
4+ person Carpool	0	0%	1	0%
Vanpool	5	0%	2	0%
Sub-total	232	14%	382	47%
Non-auto				
Private Bus	29	2%	5	1%
Public Bus	81	5%	51	6%
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Other	26	2%	8	1%
Sub-total	1,320	85%	434	53%
Total¹	1,552	100%	816	100%

¹ The total number presented is the total number of respondents who answered this question. Eighty-nine student respondents and nine faculty/staff respondents did not answer this question.

The mode split and average vehicle occupancy information was then combined with the arrival and departure distributions to derive vehicle-trip generation rates, as summarized in Table 2.

Table 2
 Derivation of Vehicle Trip Generation Rates

Component	Students		Faculty/Staff	
Auto Mode Split	15%		47%	
Average Vehicle Occupancy	1.123348		1.210526	
AM Peak Hour				
Percent Arriving/Departing in Peak Hour	9.7%	0.24%	33.6%	0.12%
Trip Generation Rates:				
Inbound	0.0130		0.131	
Outbound	0.0003		0.0005	
PM Peak Hour				
Percent Arriving/Departing in Peak Hour	5.5%	9.7%	0.12%	30.6%
Trip Generation Rates:				
Inbound	0.0073		0.0005	
Outbound	0.0130		0.1192	

The information contained in Table 2 was then used to estimate the number of trips that would be generated by a potential increase in number of students and number of faculty and staff. The number of students potentially could increase to the current cap of 20,000 over the life of the Campus Plan, resulting in an additional 1,198 students. Faculty and staff are projected potentially to increase by 1,000 over the life of the Campus Plan; however, under the current cap of 12,529, faculty/staff levels could increase by 6,475. The number of trips generated by the potential increase in students and by both faculty/staff scenarios is presented in Table 3.

Table 3
 Vehicle Trip Generation
 Based on Additional Students, Faculty and Staff

Peak Period	1,198 Students	1,000 Faculty/Staff ¹	6,475 Faculty/Staff	Sum of 1,198 Students and 1,000 Faculty/Staff	Sum of 1,198 Students and 6,475 Faculty/Staff
AM Peak Hour					
Inbound	16	131	848	147	864
Outbound	0	0	3	0	3
Total	16	131	851	147	867
PM Peak Hour					
Inbound	9	0	3	9	12
Outbound	16	119	772	135	788
Total	25	119	775	144	800

¹ Revised trip generation based on corrected mode split data and corrected PM peak hour trip generation data.

Operational Analysis

The site trips generated by the additional 1,198 students and 6,475 faculty/staff were distributed and assigned to the roadway network based on the methodology detailed in the original traffic impact study. A level of service/capacity analysis was then conducted to determine the impact of the additional trips. Table 4 summarizes the results.

The levels of service with 1,198 additional students and 1,000 additional faculty and staff include the following improvements, as recommended in the original traffic impact study:

- Adjust signal timings and phasing (i.e. to include a southbound advance phase and a westbound right-turn overlap phase) at the 23rd Street/Eye Street intersection.
- Adjust signal timings at the 23rd Street/G Street intersection.
- Adjust traffic signal timings at the 23rd Street/F Street/Virginia Avenue (WB) intersection.
- Adjust traffic signal timings at the 24th Street/Pennsylvania Avenue intersection.
- Adjust traffic signal timings at the 20th Street/H Street intersection.
- Adjust traffic signal timings at the 20th Street/ F Street intersection.
- Install a traffic signal at the 22nd Street/Eye Street intersection.

- Restrict curb parking during the peak hours along the south side of Eye Street on the eastbound approach of the 22nd/Eye Street intersection (#15) to provide an eastbound left turn lane.
- Restrict curb parking during the peak hours along the south side of Eye Street on the eastbound approach of the 21st Street/Eye Street intersection to provide separate eastbound through and right turn lanes.
- Restrict curb parking during the peak hours along the east side of 23rd Street on the northbound approach of the 23rd Street/Eye Street intersection to provide a northbound right turn lane.
- Restrict curb parking during the peak hours along the north side of Eye Street on the westbound approach of the 23rd Street/Eye Street intersection to provide a westbound right turn lane.

Levels of service with 1,198 additional students and 6,475 additional faculty and staff include the following improvements, in addition to those listed above:

- Adjust signal timings at the 22nd Street/Pennsylvania Avenue intersection.
- Adjust signal timings at the 23rd Street/H Street intersection.
- Adjust signal timings at the 21st Street/H Street intersection.
- Adjust signal timings at the 21st Street/G Street intersection.
- Restrict curb parking during the peak hours along the north side of G Street on the westbound approach of the 24th Street/G Street intersection to provide a westbound right turn lane.
- Restrict curb parking during the peak hours along the south side of G Street on the westbound approach of the 23rd Street/G Street intersection to provide a westbound left turn lane.
- Restrict curb parking during the peak hours along the south side of G Street on the westbound approach of the 21st Street/G Street intersection to provide a westbound left turn lane.

The recommendation to restrict curb parking at the six intersections listed above would result in an estimated loss of 16 metered parking spaces and 14 Zone 2 parking spaces during the peak hours.

With implementation of the additional improvements listed above, the impact of the additional 6,475 faculty and staff would be mitigated back to levels of service similar to those experienced under conditions with 1,000 additional faculty and staff. That is, locations that are projected to operate at LOS "D" or better with 1,000 additional faculty and staff, would continue to operate at a LOS "D" or better with 6,475 additional faculty and staff (with the aforementioned additional mitigation measures). Locations that are projected to operate at a LOS "E" or LOS "F" with 1,000 additional faculty and staff would continue to operate at a LOS "E" or LOS "F" with 6,475 additional faculty and staff (with the aforementioned additional mitigation measures).

Mr. Kenneth Laden
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The following two exceptions are noted:

1. 23rd Street/Virginia Avenue Eastbound: the eastbound approach would drop to a LOS "F" during the PM peak hour with the additional 6,475 faculty and staff. An additional 6,075 faculty and staff could be accommodated without impacting this intersection.
2. 22nd Street/F Street: the eastbound approach would drop to a LOS "F" with the additional 6,475 faculty and staff. A signal at this location would mitigate the impact, if warranted and approved by DDOT.

Please do not hesitate to contact me at 724-933-9010 or jlmilanovich@mjwell.com should you have any questions on the enclosed.

Sincerely,



Jami L. Milanovich, P.E.
Senior Associate

Table 4
 Level of Service Summary

Intersection/ Lane Group	Existing Conditions		2025 Conditions without Campus Plan		2025 Conditions with 1,198 Students and 1,000 Faculty/Staff		2025 Conditions with 1,198 Students and 6,475 Faculty/Staff	
	AM	PM	AM	PM	AM	PM	AM	PM
1. Washington Circle/23rd Street								
EBTR	A (0.3)	A (0.3)	A (0.3)	A (0.3)	A (0.3)	A (0.3)	A (0.2)	A (0.3)
EBR	A (1.1)	A (1.5)	A (1.1)	A (1.8)	A (1.0)	A (2.3)	A (0.7)	A (2.3)
NBR	A (4.9)	A (3.8)	A (4.9)	A (3.7)	A (0.4)	C (22.2)	A (4.8)	C (23.0)
Overall	A (1.4)	A (1.2)	A (1.4)	A (1.3)	A (0.4)	A (4.5)	A (1.1)	A (4.9)
2. Washington Circle/New Hampshire Avenue								
SBL	B (13.9)	A (6.5)	B (17.9)	A (7.4)	C (24.5)	A (8.1)	D (46.0)	A (8.1)
SBR	A (2.6)	A (3.6)	A (2.6)	A (3.8)	A (2.6)	A (3.7)	A (2.6)	A (3.7)
NER	B (18.8)	B (11.7)	B (19.6)	B (12.1)	C (20.4)	B (12.4)	C (20.4)	B (12.4)
Overall	B (13.7)	A (6.4)	B (17.3)	A (7.1)	C (23.3)	A (7.7)	D (42.5)	A (7.7)
3. Washington Circle/K Street Eastbound								
EBR	F [230.5]	D [27.9]	F [392.6]	E [37.7]	F [513.3]	E [48.4]	F [672.5]	E [48.7]
5. Washington Circle/23rd Street Southbound								
WBT	A (0.0)	A (0.1)	A (0.0)	A (0.1)	A (0.0)	A (0.1)	A (0.0)	A (0.1)
SBR	A (4.0)	A (4.5)	A (4.2)	A (5.1)	A (4.4)	A (5.4)	A (4.6)	A (5.5)
Overall	A (2.3)	A (2.4)	A (2.3)	A (2.8)	A (2.5)	A (2.8)	A (2.7)	A (2.8)
6. Washington Circle/New Hampshire Avenue								
WBTR	A (9.0)	A (4.7)	A (9.9)	A (5.1)	B (10.8)	A (4.7)	A (9.0)	A (5.0)
WBR	A (6.2)	A (3.8)	A (7.2)	A (4.3)	A (7.5)	A (5.0)	A (8.6)	A (5.6)
Overall	A (8.1)	A (4.5)	A (9.0)	A (4.9)	A (9.8)	A (4.8)	A (8.8)	A (5.2)
7. Washington Circle/K Street Westbound								
WBR	C [16.2]	C [16.8]	C [17.7]	C [19.2]	C [19.0]	D [26.1]	C [19.0]	D [29.7]
9. 23rd Street/Eye Street								
WBL	C (34.6)	F (306.5)	D (36.1)	F (368.6)	D (36.9)	E (57.5)	D (35.3)	F (83.8)
WBR					C (31.2)	A (9.1)	C (31.8)	C (27.5)
NBT	A (4.6)	B (11.4)	A (4.9)	B (10.9)	B (13.9)	D (44.1)	B (12.7)	D (41.5)
NBR					D (50.1)	D (36.6)	B (14.0)	C (29.9)
SBLT	A (9.6)	B (15.8)	B (11.8)	B (19.2)	C (20.9)	D (48.7)	C (29.2)	D (49.6)
Overall	A (7.8)	E (58.7)	A (8.9)	E (69.4)	C (24.1)	D (47.8)	C (21.0)	D (51.7)
(23.3) = Signalized intersection delay (sec/veh)								
[23.3] = Unsignalized intersection delay (sec/veh)								

Intersection/ Lane Group	Existing Conditions		2025 Conditions without Campus Plan		2025 Conditions with 1,198 Students and 1,000 Faculty/Staff		2025 Conditions with 1,198 Students and 6,475 Faculty/Staff	
	AM	PM	AM	PM	AM	PM	AM	PM
10. 23rd Street/F Street/Virginia Avenue Westbound								
NBLTR	C (24.0)	A (5.6)	E (65.0)	A (7.4)	E (62.8)	A (8.1)	E (65.3)	A (6.8)
SBTR	A (4.2)	C (32.3)	A (5.2)	F (81.6)	A (5.9)	F (87.6)	A (7.2)	F (85.6)
NWLTR	C (24.2)	C (24.2)	C (24.5)	C (24.5)	C (27.7)	C (25.3)	C (35.0)	C (28.7)
NWR	C (21.8)	C (22.0)	C (21.8)	C (22.0)	C (24.6)	C (22.7)	C (29.7)	C (25.5)
Overall	B (18.9)	C (25.7)	D (47.0)	E (61.2)	D (46.1)	E (64.5)	D (48.9)	E (64.1)
11. 23rd Street/Virginia Avenue Eastbound								
EBLTR	C (26.4)	D (48.0)	C (27.6)	E (60.2)	C (31.0)	E (66.5)	D (40.3)	F (106.8)
NBT	C (20.7)	B (11.5)	C (25.4)	B (12.2)	C (21.2)	B (12.0)	B (17.0)	A (9.8)
NBR	A (9.3)		A (9.4)		A (7.7)		A (5.2)	
SBLT	A (2.0)	A (1.3)	A (2.4)	A (1.6)	A (2.1)	A (1.4)	A (1.9)	A (1.3)
Overall	B (16.7)	B (10.8)	B (19.6)	B (12.8)	B (17.3)	B (13.5)	B (15.4)	B (17.9)
12. 22nd Street/K Street Westbound								
WBTR	C (34.5)	D (44.8)	C (35.0)	D (49.0)	C (35.0)	D (48.7)	C (35.0)	D (48.7)
NBLT	A (0.2)	A (0.2)	A (0.6)	A (0.4)	A (0.6)	A (0.5)	A (0.6)	A (0.5)
Overall	A (8.6)	C (20.9)	A (9.0)	C (23.1)	A (8.6)	B (19.7)	A (8.6)	B (18.9)
13. 22nd Street/K Street Eastbound								
EBLT	A (1.9)	A (9.3)	A (2.1)	A (9.5)	A (2.1)	B (10.3)	A (2.5)	B (10.2)
NBTR	A (5.8)	A (5.4)	A (5.7)	A (5.4)	A (8.5)	A (5.5)	A (8.5)	A (4.5)
Overall	A (4.4)	A (7.0)	A (4.4)	A (7.1)	A (6.2)	A (7.1)	A (6.4)	A (6.3)
14. 22nd Street/Pennsylvania Avenue								
EBLT	A (2.2)	B (11.2)	A (2.2)	B (11.1)	A (2.0)	B (13.6)	A (3.6)	B (13.0)
WBTR	C (23.0)	F (95.8)	C (24.2)	F (157.8)	C (24.2)	F (162.2)	C (24.2)	F (147.0)
NBLTR	C (34.9)	C (22.0)	D (36.4)	C (22.3)	D (48.2)	C (23.8)	D (46.4)	C (27.7)
Overall	B (16.3)	D (53.5)	B (16.7)	F (83.9)	C (21.4)	E (76.2)	C (21.2)	E (70.1)
(23.3) = Signalized intersection delay (sec/veh)								
[23.3] = Unsignalized intersection delay (sec/veh)								

Intersection/ Lane Group	Existing Conditions		2025 Conditions without Campus Plan		2025 Conditions with 1,198 Students and 1,000 Faculty/Staff		2025 Conditions with 1,198 Students and 6,475 Faculty/Staff	
	AM	PM	AM	PM	AM	PM	AM	PM
15. 22nd Street/Eye Street								
EBL	C [17.2]	B [10.0]	C [17.2]	B [10.0]	D (42.2)	B (17.0)	D (47.9)	C (22.1)
EBT					B (14.7)	A (7.3)	B (10.9)	A (7.6)
WBTR	A [9.8]	B [13.3]	A [9.8]	B [13.3]	D (40.8)	C (29.8)	D (45.4)	D (52.1)
NBLTR	B [13.3]	B [10.3]	B [13.3]	B [10.5]	D (40.7)	D (34.6)	D (43.5)	D (35.8)
Overall	B [14.4]	B [11.5]	B [14.4]	B [11.5]	D (38.0)	C (27.4)	D (40.3)	D (36.8)
17. 24th Street/K Street Westbound								
WBLTR	A (0.9)	A (6.0)	A (0.9)	A (6.5)	A (0.9)	A (7.0)	A (1.0)	A (7.2)
NBLT	B (17.1)	B (18.0)	B (17.4)	C (21.1)	B (17.3)	C (21.8)	B (16.7)	C (21.7)
SBTR	A (4.7)	E (72.6)	A (7.9)	F (164.4)	A (8.1)	F (165.6)	B (13.9)	F (164.9)
Overall	B (10.4)	C (31.4)	B (11.3)	E (65.2)	B (11.1)	E (64.2)	B (12.1)	E (61.1)
18. 24th Street/K Street Eastbound								
EBLTR	C (20.6)	B (15.1)	C (22.2)	B (15.5)	C (23.4)	B (15.8)	C (26.1)	B (15.7)
NBTR	C (34.0)	C (27.7)	D (39.0)	C (30.8)	D (38.3)	C (31.8)	D (38.3)	D (45.6)
SBLT	A (2.5)	A (3.1)	A (3.6)	A (3.4)	A (3.5)	A (3.4)	A (4.2)	A (3.4)
Overall	C (22.5)	B (13.8)	C (24.7)	B (15.2)	C (25.1)	B (15.8)	C (26.3)	C (22.6)
19. 23rd Street/H Street								
EBLTR	C (32.8)	D (35.2)	D (36.3)	D (40.5)	D (37.5)	D (41.2)	D (53.4)	D (46.0)
WBLTR	C (25.1)	D (35.1)	C (25.2)	D (35.7)	C (25.0)	C (33.4)	C (22.2)	D (54.5)
NBLTR	A (2.5)	A (7.4)	A (2.7)	A (9.9)	A (4.9)	B (10.5)	B (11.7)	A (8.7)
SBLTR	B (11.2)	A (4.7)	B (10.6)	A (5.3)	B (14.0)	A (6.5)	C (21.2)	A (7.4)
Overall	A (8.5)	B (10.7)	A (9.2)	B (12.0)	B (11.5)	B (12.3)	C (20.6)	B (16.4)
25. K Street Eastbound/Pennsylvania Avenue								
EBT	B (13.7)	C (25.0)	B (15.6)	C (25.4)	B (16.3)	B (18.6)	C (21.5)	B (18.1)
NWT	A (4.6)	A (1.0)	A (4.3)	A (1.0)	A (4.6)	A (1.4)	A (4.6)	A (2.0)
Overall	A (9.6)	A (8.0)	B (10.7)	A (8.2)	B (11.1)	A (6.0)	B (13.9)	A (5.9)
(23.3) = Signalized intersection delay (sec/veh)								
[23.3] = Unsignalized intersection delay (sec/veh)								

Intersection/ Lane Group	Existing Conditions		2025 Conditions without Campus Plan		2025 Conditions with 1,198 Students and 1,000 Faculty/Staff		2025 Conditions with 1,198 Students and 6,475 Faculty/Staff	
	AM	PM	AM	PM	AM	PM	AM	PM
28. K Street Westbound/Pennsylvania Avenue								
WBT	B (15.5)	B (17.5)	B (16.4)	B (19.2)	B (17.2)	B (19.4)	B (17.6)	C (20.3)
SET	A (0.4)	A (1.6)	A (1.4)	A (3.0)	A (1.7)	A (3.0)	A (1.6)	A (3.2)
Overall	A (2.8)	A (9.4)	A (3.6)	B (10.8)	A (4.0)	B (10.9)	A (3.8)	B (11.5)
37. 24th Street/Pennsylvania Avenue								
EBTR	F (165.5)	F (247.8)	F (242.7)	F (324.0)	F (269.2)	F (330.8)	F (240.3)	F (331.3)
WBLTR	A (9.6)	A (9.4)	A (9.4)	A (9.5)	A (8.8)	A (10.0)	A (8.8)	B (11.4)
NBLT	B (17.2)	B (12.9)	C (23.4)	B (14.2)	C (26.1)	B (14.6)	C (30.3)	B (12.3)
SBLTR	D (36.8)	F (276.2)	E (63.3)	F (456.5)	E (68.2)	F (498.1)	E (68.2)	F (428.5)
Overall	F (92.7)	F (168.8)	F (134.5)	F (236.0)	F (152.2)	F (240.4)	F (143.2)	F (217.0)
50. Eye Street/New Hampshire Avenue								
EBLTR	A [8.5]	A [9.2]	A [8.6]	A [9.5]	A [8.6]	A [9.5]	A [8.6]	A [9.5]
WBLTR	A [8.4]	A [9.3]	A [8.5]	A [9.7]	A [8.6]	A [9.7]	A [8.6]	A [9.7]
NELTR	B [10.5]	A [9.7]	B [10.9]	B [10.4]	B [11.2]	B [10.6]	B [11.2]	B [10.6]
SWLTR	A [8.6]	C [21.8]	A [8.9]	D [33.0]	A [8.9]	D [31.3]	A [8.9]	D [31.3]
Overall	A [9.8]	C [18.3]	B [10.1]	D [26.3]	B [10.3]	C [24.9]	B [10.3]	C [24.9]
51. 24th Street/New Hampshire Avenue								
NBLTR	B [10.6]	A [9.9]	B [12.0]	B [12.0]	B [12.3]	B [12.9]	B [13.4]	C [21.9]
SBLTR	A [9.5]	B [13.4]	B [10.7]	C [20.1]	B [11.0]	C [20.8]	B [14.1]	D [29.4]
NELTR	B [12.3]	B [11.3]	B [14.5]	B [13.7]	B [14.8]	B [14.1]	C [16.8]	C [17.2]
SWLTR	A [9.7]	B [13.8]	B [10.6]	C [18.5]	B [10.6]	C [18.7]	B [11.5]	C [24.9]
Overall	B [10.9]	B [12.8]	B [12.4]	C [17.4]	B [12.7]	C [17.7]	B [14.5]	C [24.3]
52. 24th Street/Eye Street								
EBLR	A [7.5]	A [7.2]	A [7.7]	A [7.5]	A [7.7]	A [7.5]	A [7.9]	A [7.8]
NBLT	A [8.3]	A [7.9]	A [8.7]	A [8.4]	A [8.7]	A [8.5]	A [8.8]	A [10.0]
SBTR	A [7.7]	A [8.1]	A [7.9]	A [8.6]	A [8.0]	A [8.6]	A [8.8]	A [8.8]
Overall	A [8.1]	A [7.9]	A [8.4]	A [8.4]	A [8.4]	A [8.4]	A [8.8]	A [9.4]
(23.3) = Signalized intersection delay (sec/veh)								
[23.3] = Unsignalized intersection delay (sec/veh)								

Intersection/ Lane Group	Existing Conditions		2025 Conditions without Campus Plan		2025 Conditions with 1,198 Students and 1,000 Faculty/Staff		2025 Conditions with 1,198 Students and 6,475 Faculty/Staff	
	AM	PM	AM	PM	AM	PM	AM	PM
53. 24th Street/H Street								
EBLTR	A [8.6]	A [8.4]	A [9.0]	A [8.9]	A [9.1]	A [9.0]	B [10.2]	A [9.7]
WBLTR	A [7.9]	A [9.8]	A [8.2]	B [10.7]	A [8.3]	B [10.8]	A [8.8]	B [14.8]
NBLTR	A [8.7]	A [8.7]	A [9.2]	A [9.7]	A [9.2]	A [9.9]	A [9.8]	B [12.2]
SBLTR	A [8.5]	A [9.7]	A [8.9]	B [10.9]	A [9.0]	B [11.0]	B [10.8]	B [12.5]
Overall	A [8.5]	A [9.4]	A [8.9]	B [10.4]	A [9.0]	B [10.5]	B [10.1]	B [13.1]
54. 24th Street/G Street								
WBLT	B [10.7]	C [20.6]	B [11.0]	D [28.1]	B [11.0]	D [34.3]	B [11.0]	C [24.6]
WBR							B [10.1]	B [11.5]
NBLT	A [0.3]	A [0.8]	A [0.3]	A [0.7]	A [0.3]	A [0.7]	A [0.3]	A [0.7]
55. 23rd Street/G Street								
WBL	C (27.7)	F (170.1)	C (27.1)	F (217.2)	C (29.5)	F (204.2)	C (26.7)	C (30.4)
WBTR							C (23.3)	C (33.2)
NBLT	A (0.3)	A (3.7)	A (0.2)	A (3.9)	A (0.3)	A (5.1)	A (0.8)	A (6.8)
SBTR	B (13.0)	A (9.5)	B (13.9)	B (13.2)	B (12.6)	B (19.6)	B (10.6)	D (52.6)
Overall	A (5.2)	D (40.3)	A (5.5)	D (50.7)	A (5.4)	D (54.3)	A (4.9)	D (39.0)
56. 22nd Street/H Street								
EBLT	B [14.7]	A [9.8]	C [16.6]	B [10.1]	C [19.3]	A [9.6]	D [28.7]	B [10.2]
WBTR	A [9.2]	A [9.8]	A [9.5]	B [10.1]	A [9.9]	B [10.3]	B [10.5]	B [11.4]
NBLTR	B [10.9]	A [8.9]	B [11.6]	A [9.0]	B [13.0]	A [9.2]	B [14.8]	B [10.1]
Overall	B [12.3]	A [9.4]	B [13.5]	A [9.7]	C [15.1]	A [9.7]	C [20.1]	B [10.6]
57. 22nd Street/G Street								
WBTR	A (16.8)	B (14.0)	B (17.3)	B (16.2)	B (18.8)	B (18.1)	C (20.4)	C (20.6)
NBLT	B (17.1)	B (18.8)	B (17.5)	B (18.9)	B (18.1)	B (19.2)	B (18.8)	B (19.2)
Overall	B (17.0)	B (15.1)	B (17.4)	B (16.8)	B (18.3)	B (18.4)	B (19.3)	C (20.3)
58. 22nd Street/F Street								
EBLT	C [21.7]	C [21.1]	C [24.6]	C [22.3]	E [41.1]	C [24.1]	F [136.8]	C [24.2]
(23.3) = Signalized intersection delay (sec/veh) [23.3] = Unsignalized intersection delay (sec/veh)								

Intersection/ Lane Group	Existing Conditions		2025 Conditions without Campus Plan		2025 Conditions with 1,198 Students and 1,000 Faculty/Staff		2025 Conditions with 1,198 Students and 6,475 Faculty/Staff	
	AM	PM	AM	PM	AM	PM	AM	PM
59. 21st Street/Eye Street								
EBTR	F [215.4]	F [245.3]	F [300.1]	F [333.9]	F [96.0]	F [192.5]	F [238.5]	F [299.6]
SBLTR	A [1.1]	A [0.8]	A [1.2]	A [2.3]	A [1.2]	A [2.3]	A [1.1]	A [2.3]
60. 21st Street/H Street								
EBTR	B (11.4)	B (13.8)	B (12.3)	B (15.5)	B (12.6)	B (15.0)	C (22.5)	C (20.9)
WBLT	A (7.8)	B (11.4)	A (7.5)	B (12.3)	A (7.7)	B (11.7)	B (11.8)	B (16.5)
SBLTR	B (13.0)	B (14.8)	F (120.9)	F (315.6)	F (149.8)	F (362.9)	F (103.6)	F (321.5)
Overall	B (12.2)	B (14.3)	E (79.4)	F (238.9)	F (95.9)	F (276.5)	E (71.9)	F (238.4)
61. 21st Street/G Street								
WBL	B (10.6)	D (53.6)	B (10.5)	E (78.4)	B (10.4)	E (66.0)	B (11.9)	B (15.7)
WBT							B (11.7)	E (79.9)
SBTR	A (5.8)	A (5.0)	A (9.8)	F (155.7)	B (13.2)	F (194.7)	B (20.0)	F (177.3)
Overall	A (7.0)	C (25.9)	A (10.0)	F (125.2)	B (12.6)	F (143.5)	B (18.3)	F (134.3)
62. 21st Street/F Street								
EBTR	B (10.6)	B (11.6)	B (10.9)	B (11.7)	B (11.3)	B (12.6)	B (13.0)	B (13.0)
SBLT	A (7.7)	A (9.4)	B (10.8)	A (5.6)	B (11.0)	A (5.7)	A (12.1)	A (4.2)
Overall	A (8.7)	A (9.7)	B (10.9)	A (6.5)	B (11.1)	A (7.0)	B (12.5)	A (5.9)
63. 20th Street/Pennsylvania Avenue								
EBLT	C (26.1)	B (17.5)	D (35.7)	B (18.4)	D (37.1)	B (14.4)	C (34.6)	B (14.8)
WBTR	B (12.1)	B (10.9)	B (12.2)	B (11.0)	B (12.2)	B (11.0)	B (12.2)	B (11.0)
NBLTR	F (290.7)	C (32.0)	F (383.7)	C (34.7)	F (378.5)	D (35.5)	F (378.8)	D (40.8)
Overall	F (147.5)	C (20.9)	F (197.4)	C (22.2)	F (195.0)	C (20.2)	F (194.0)	C (22.4)
64. 20th Street/H Street								
EBLT	E (65.4)	B (15.9)	F (82.7)	B (15.5)	F (81.6)	B (16.1)	F (82.9)	B (15.8)
WBTR	C (23.9)	B (15.5)	C (24.4)	B (15.5)	C (24.9)	B (16.2)	C (24.9)	B (16.2)
NBLTR	A (6.8)	B (10.1)	A (7.7)	B (10.6)	A (8.5)	B (11.0)	A (7.3)	B (11.9)
Overall	B (16.6)	B (11.4)	B (19.8)	B (11.6)	C (20.5)	B (12.3)	B (19.6)	B (13.2)
(23.3) = Signalized intersection delay (sec/veh) [23.3] = Unsignalized intersection delay (sec/veh)								

Intersection/ Lane Group	Existing Conditions		2025 Conditions without Campus Plan		2025 Conditions with 1,198 Students and 1,000 Faculty/Staff		2025 Conditions with 1,198 Students and 6,475 Faculty/Staff	
	AM	PM	AM	PM	AM	PM	AM	PM
65. 20th Street/G Street								
WBTR	C (31.4)	C (25.7)	C (32.5)	C (28.4)	C (32.5)	C (28.4)	C (32.5)	C (30.0)
NBLT	A (3.5)	A (4.0)	A (3.7)	A (4.4)	A (4.2)	A (5.3)	A (3.3)	A (7.7)
Overall	A (6.5)	B (14.2)	A (6.7)	B (15.8)	A (7.1)	B (16.1)	A (6.2)	B (17.8)
66. 20th Street/F Street								
EBLT	D (37.6)	B (18.1)	D (37.6)	B (18.4)	D (41.1)	B (18.3)	D (46.4)	B (18.2)
NBT	D (36.2)	C (24.6)	F (82.0)	C (23.7)	E (79.0)	C (23.6)	C (20.4)	B (19.9)
NBR							B (17.2)	C (24.3)
Overall	D (36.4)	C (23.3)	E (77.5)	C (22.5)	E (74.9)	C (22.2)	C (23.8)	C (20.1)
67. Eye Street/Pennsylvania Avenue								
NEL	E [49.8]	D [28.7]	F [66.0]	E [35.4]	F [65.8]	E [35.5]	F [64.4]	E [36.4]
NER	B [13.7]	B [12.2]	B [13.5]	B [12.9]	B [13.3]	B [12.9]	B [12.8]	B [13.9]
(23.3) = Signalized intersection delay (sec/veh) [23.3] = Unsignalized intersection delay (sec/veh)								

Mr. Kenneth Laden
October 2, 2006
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