



MEMORANDUM

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From: Daniel B. VanPelt, P.E., PTOE
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Date: June 13, 2011

Subject: Z.C. Case No. 11-02 / 11-02A – UDC Campus Plan
Response to Nelson\Nygaard Draft Report dated June 6, 2011

Gorove/Slade has reviewed the draft report prepared by Nelson\Nygaard and dated June 6, 2011. On behalf of Advisory Neighborhood Commission 3F, the Nelson\Nygaard report reviews the Gorove/Slade Campus Plan Transportation Report dated April 6, 2011 and the Revised Transportation Demand Management Commitments dated May 24, 2011. This memorandum contains responses to the recommendations contained in the Nelson\Nygaard report. Excerpts from the Nelson\Nygaard June 6, 2011 report are presented in red text with responses from Gorove/Slade immediately following in ***bold italics***.

1. Travel Surveys

The campus has extensive transit access and limited vehicular parking, thus the Transportation Plan's assumption that the majority of staff and students walk or ride transit is fair and most likely accurate. However, a travel mode survey of these existing users should be conducted to validate these assumptions, as well as provide a baseline for future changes to the demands on the transportation network. In addition to mode, the survey should also include data on weekly trip patterns (how many days does each University member travel to/from campus and at what times); this data will be used to calculate the total number of UDC-generated peak hour auto trips and can be inform development of additional TDM programs (see "Student SmarTrip Cards" below).

At the May 25, 2011 Zoning Commission Hearing, DDOT reported that they had received a UDC Travel Mode Survey based on 322 participants (the survey was not dated) with the following results:

- Transit = 56%
- Drive/Carpool = 35%
- Walk = 4%
- Bicycle = 2.5%

The May 25, 2011 Proposed Conditions of Approval commits the University to providing “Information of implementation of the transportation demand management plan detailed in condition 13, including mode split data” (Housing.2.c.iii.1). While the above mode split data and on-going commitment is useful, UDC should provide total auto trips generated.

With two-hour parking available on-street at meters and in permit areas, and class durations of one hour and twenty minutes, parking offers a direct opportunity to driving, which should be determined to ensure increases do not occur. To assist in determining transportation trends, UDC should conduct a survey of parkers who currently use the University’s parking facilities and on-street spaces to identify who they are (faculty, staff, employees, residents, others), their specific travel times/days, and their other potential travel modes. This is an item offered by UDC in the May 25, 2011 Proposed Conditions of Approval and should be conducted prior to Plan approval and then annually.

Without definition of these existing travel conditions, the Plan’s assertion that “Over the course of the Campus Plan, it will not generate significant changes to roadway traffic volumes, operations or geometries.” cannot be confirmed. Since the methodology about the traffic operations cannot be confirmed, the Report’s conclusions about specific intersection operations are also each in doubt.

As UDC looks toward a future focused on sustainable practices, the University is committing to implement a comprehensive TDM plan. As part of the TDM plan, UDC is committing to annual monitoring, which is a commitment that goes beyond the “two years, five years and eight years after the Zoning order has been written,” as DDOT is requesting in the April 20, 2011 staff report. UDC is essentially seeking a student enrollment cap that is at a population level the campus has historically supported without a TDM plan. Additionally, there will be no growth in the faculty and staff populations over current levels and therefore we do not believe it is necessary to conduct monitoring prior to the approval of the Campus Plan.

The annual monitoring will begin with the fall 2011 semester and the report will be shared with DDOT and ANC 3F no later than one year after the Zoning order is issued. It will be provided to other interested parties on request. The monitoring will include the following:

- ***Mode split surveys of the campus population, broken down by students and employees***
- ***Current parking inventory and occupancy on a typical weekday***
- ***Number of permits sold per year***
- ***Parking availability on surrounding neighborhood streets***
- ***Statistics on the Good Neighbor Program***
- ***Number of registered carpools***
- ***Zipcar and Capital Bikeshare usage data***
- ***Number of people signed up for SmartBenefits***

- ***Inventory and occupancy of bicycle racks***
- ***AM and PM peak hour trip counts***

2. Additional Trip Generation Factors

One of the primary features proposed as part of the UDC Campus Plan is construction of a new Student Center at the intersection of Connecticut Avenue and Van Ness Streets NW. If the Student Center hosts events of interest to the greater Washington DC population, trips should be anticipated from the region, and not necessarily from transit-accessible locations. Therefore, additional auto trips should be expected on the local roadway network and additional parking demand generated. The May 25, 2011 Proposed Conditions of Approval outlines a permitted schedule for events (Transportation and Parking #15) which should be included in the Plan's commitments.

As noted in the Proposed Conditions dated May 25, 2011, UDC is committing that weekday non-University event attendees will be instructed that there is no parking on campus or in the surrounding residential community and the use of alternate modes will be encouraged. The intent is to discourage weekday attendees from driving to the new Student Center. Additionally, the University is committing that no non-University events will begin between the hours of 5 pm and 7pm to eliminate any impact on the PM commuter peak period. The University will also coordinate with other area institutions with regards to scheduling special events.

3. Transit Capacity

The Transportation Plan specifies that "...the Campus Plan will lead to a significant amount of growth in alternate modes of transportation. It is expected that student, faculty and staff use of Metrorail, Metrobus, Capital Bikeshare, and walking and bicycling in general will all increase over the life of the Campus Plan."

Accommodating additional trips via alternate modes is both in line with the District's goals and minimizes impacts to the community. What is unclear is the available capacity of the existing transit system, especially during peak travel periods. The available capacity of the Metrorail Red Line, Van Ness/UDC station capacity, and Metrobus routes should be documented. WMATA should be included in the project planning process to obtain their concurrence on their ability to accommodate the additional ridership.

WMATA's Office of Long-Range Planning was contacted with regard to the capacity of the Van Ness/UDC station. WMATA predicts stable growth for the Van Ness-Tenley area and the 2008 Metro Station Access and Capacity Study indicates the station should have adequate capacity to accommodate present and 2030 projections. The current daily ridership is above 8,000 and projected to be 11,400 in 2030. Due to some operational issues on the Red Line, there could be crowding issues from time to time, especially during the peak of the peak. Recently, Metro has changed run time and headways which has improved service reliability. By 2025, Metro plans to eliminate the turn-back at Grosvenor, operate the entire line at 2.5-minute peak frequency and use only 8-car trains, which will increase the Red Line capacity for the Van Ness segment by 37%.

The WMATA study did not show capacity issues with vertical transportation elements of the station, but there could be issues associated with escalator break down and peak surge. Because Red Line trains can arrive during

peak periods at 1 minute headways and not the scheduled 3 minute headways, this can cause a surge in the station which will cause users to experience delay.

UDC population arrives and departs in the reverse direction of local resident commuters, which diminishes the impact of new UDC riders. Student travel patterns are also dispersed throughout the day and do not follow typical commuter patterns thereby minimizing impact on the peak of the peak periods.

4. Pedestrian Analysis

The unsignalized crossings at Van Ness Street and both the UDC Garage and International Drive operate at Level of Service F for pedestrians. UDC should work with DDOT to conduct warrant analyses to determine whether these unsignalized crossings should be signalized to improve pedestrian crossing conditions.

Traffic signal warrant criteria was reviewed and a signal at this location is not warranted based on existing volumes. The HCM pedestrian LOS is an indication of pedestrian risk taking behavior with respect to taking gaps in traffic to cross. However, according to DC Law, motorists must stop for a pedestrian in a crosswalk. This is not considered in the LOS analysis. UDC will interact with DDOT regarding the implementation of "Stop for Pedestrians in Crosswalk" signage and/or pavement marking improvements at the crossing.

5. Roadway Analysis

Beyond the earlier questions about the roadway analysis assumptions, there are additional questions about Plan's conclusions.

The Transportation Report identifies Level of Service E or better on each approach as the minimum desirable and specifies that "All intersections operate at acceptable conditions." The intersection of Connecticut Avenue and Tilden Street is reported to currently operate at LOS F in the AM Peak Hour with 100.4 seconds of delay; this would not be considered acceptable. East-and westbound approaches each operate at LOS F in both hours with between 110 and 303 seconds of delay. While these approaches are noted as operating under unacceptable conditions, the calculation of over 5 minutes of delays Westbound in the AM peak hour; a queue analysis at this location should be conducted.

In addition, overall delay at Connecticut Avenue and Van Ness Street during the AM peak hour is projected to increase from 29.2 seconds (LOS C) to 79.8 seconds (LOS E). Southbound delay at this intersection will increase from 24.8 seconds (LOS C) to 115.0 seconds (LOS F). If the Campus Plan is not increasing driving rates, these conditions may stem from regional growth, though additional analysis necessary to confirm that. If not, mitigations to these conditions should be identified.

The traffic signals and reversible lane configuration on Connecticut Avenue are set up by DDOT to process mainline volumes, which are much heavier than the side street volumes. This bias toward the mainline penalizes the side street approaches and as a result the side streets experience high delay. This is not uncommon on major commuter corridors in the District and DDOT will not seek to improve the side street delays and therefore no mitigations measures would be sought. Doing so would impact the mainline which could potentially have significant implications on the Connecticut Avenue regional corridor. The heaviest movements operate at

acceptable levels of delay. The delay at Tilden westbound at Connecticut was revisited and found to be correct in the analysis. It is attributable to the mainline biased signal timings.

The increases in future delays noted by Nelson\Nygaard are not generated by regional growth, and are due to proposed changes in intersection operations from the CAPA and RCW2 Livability studies. The recommendations, including installing Leasing Pedestrian Intervals (LPIs) and lengthening east-west crossing times, have a negative impact on vehicular levels of service.

6. Establish a Peak Hour Auto Trip Generation Cap

DDOT has recommended that UDC conduct transportation performance monitoring studies at two years, five years, and eight years after the Zoning order has been written. To maximize the benefit of the survey and ensure UDC is achieving its objectives, the University should go beyond a monitoring program and commit to a maximum auto trip generation goal. This would guide the need for TDM programs based on a quantifiable measure. Since the Transportation Report (and hence any approvals of the Plan) builds on the assumption that UDC's expansion will not generate significant changes to roadway volumes, the recommended maximum should match the University's existing total auto trip generation rates, even with the additional development. This should be confirmed by annual surveys, with data submitted to the District for confirmation and available to the public for review. This is an approach pioneered by Stanford University which would offer UDC to be the model for sustainability in Washington DC.

The University should also commit to a process for increasing TDM activities should the mode share goal not be achieved. Tracking the actual auto trips generated and the TDM measures implemented will provide the District, the neighborhood, and the University with clear information on the results of the Campus Plan and transportation commitments.

One opportunity to confirm the auto trip cap is working is to phase in the University's proposed "Population increases in students, faculty, and staff that support the change to a selective admissions flagship institution." Phasing will allow each new class of students and hires to utilize the TDM programs provided by the University, and provide the University time to adjust those programs based on response rates.

UDC is committing to a TDM plan with annual monitoring that goes beyond the DDOT staff report recommendation and that will be shared publically. As previously stated above, a component of this monitoring will be trips generated by UDC. Since UDC is essentially seeking a student enrollment cap that is at a level previously supported on campus without a TDM plan and there will be no growth in the faculty and staff populations over current levels, we do not believe a trip cap is necessary. The annual monitoring will be used to seek positive transportation trends and adjust the TDM practices and policies accordingly.

7. Personalized Commute Assistance

Yale University has spearheaded an initiative to provide "commuter counseling." Employees complete a simple form, providing home and work locations, and modes each employee is willing to use. Yale's Sustainable Transportation Systems uses a standard trip matching software to provide commute options personalized to the

employee, including comparisons of travel time and cost. Employees who are aware of their travel options are more likely to travel by alternate modes. UDC should consider implementing a similar system.

UDC's TDM coordinator will provide commuter counseling services.

8. Student SmarTrip Cards

The April 6, 2011 Transportation Report stated:

UDC is exploring the implementation of a Transportation Sustainability Fee subject to Board of Trustees approval. The University is committed to the advancement of sustainable practices. The fee will cover the cost of the following to be provided to each student at the beginning of the academic year or at enrollment:

- Annual Zipcar carsharing membership (or other appropriate carsharing provider)
- Annual Capital Bikeshare membership
- SmarTrip card with at least \$20 preloaded

As written, this commitment is for every student to receive all three elements. However, in the Transportation Demand Management (TDM) Commitments for UDC Campus Plan – Revised (May 24, 2011) and UDC testimony at the May 25, 2011 Zoning Commission hearing, this commitment has been revised to:

UDC will dedicate at least \$25 of the Sustainability Fee paid by students each semester to be used toward any of the following transportation options:

- SmarTrip card with at least \$20 preloaded
- Annual Zipcar carsharing membership (or other appropriate carsharing provider)
- Annual Capital Bikeshare membership

The University should be required to provide all three transportation options as originally documented. In addition, since \$20 will pay for about one week's worth of bus or rail trips, this is not anticipated to be enough to establish a transit mindset. The SmarTrips should instead be preloaded with the equivalent of one month's worth of rides for the average UDC student (calculated based on the results of the travel survey described above).

UDC is committed to a sustainable future and as such is the first University in the District to commit to a Transportation Sustainability Fee. While the University recognizes Nelson\Nygaard would recommend a higher fee, \$25 is the current limit of what can be implemented with a firm commitment at this time. Adjustments to the fee will be evaluated with the annual TDM monitoring.

9. Reduce Long Commutes

"Live Where You Work" programs provide low-interest mortgage loans or a cash payment to be applied at closing to homebuyers working in a certain area and looking to buy a home in that same area. Programs like this result in an increase in residents who work close enough to home to allow for commutes by walking and biking. UDC should

commit to sponsoring such a program, thereby encouraging investment in the local community and reducing the potential for impacts on the transportation network.

UDC will research current programs presently being explored for the District to see if there is an opportunity for the University to participate, however, the University has no such plans to sponsor an independent plan at this time.

10. Bicycle Facilities

Bicycle Parking - The Transportation Report confirms that "Over the course of the Campus Plan, UDC will add short and long-term spaces to enhance supply." The Revised Transportation Commitments state "The utilization of bicycle parking will be evaluated with the TDM monitoring and additional parking will be added when the bike parking is consistently occupied and there is a demonstrated need." The University should commit that this processing be based on peak hour demand for space, identified through surveys of both students and employees (not limited to on-campus students) and coordinated with the recommended transportation performance monitoring studies.

Support Facilities - To encourage bicycling, support facilities are also necessary. The University should commit to providing showers and changing rooms within a short distance of the long-term bicycle spaces. These facilities should be available to all members of the UDC community as part of the Transportation Sustainability Fee.

Bike parking will be monitored for peak occupancy when evaluating the need for additional parking as suggested. Long term bike spaces will also be provided in proximity to shower facilities that will be available to all members of the UDC community.

11. Parking Management

Allow Travelers to Choose their Mode Each Day - UDC currently offers a semester-long parking permit. Students and staff who purchase this permit have invested in a four-month choice to drive and have no incentive to choose a different mode on an individual day. Paying to park each individual day, however, requires drivers to decide each time whether driving is worth the expense. This strategy has been effectively implemented at the University of Wisconsin, University of Oregon, and Utah State University to "help prevent the 'all you can eat' syndrome that is often enabled by long term permits."¹

UDC's semester-long parking permit should therefore be eliminated. Coupled with the University's commitment to adjusting the parking rates to maintain a peak occupancy of 80-90%, plus providing SmarTrip cards that offer a lower-cost alternative to driving, eliminating the semester fee is anticipated to significantly reduce student SOV rates.

Some faculty members currently receive a parking permit as part of their employment benefits. "Free" permits further the trend of incentivizing driving. UDC should eliminate the practice of providing this "benefit". One option is to shift from a pre-paid permit to a cash allowance ("cashout"), which allows each traveler to apply the financial benefit to whatever mode they choose (paying to park, paying for a transit fare, or just money they keep if they

walk). If eliminating free parking is not legally permissible for existing faculty members, it should at least not be offered for new hires, especially since additional faculty will be needed to instruct the additional student body.

The primary benefit of parking cash-out programs is their proven effect on reducing parking demand. Figure 2 illustrates the effect of parking cash-out at eight different employers located in and around Los Angeles, with a direct correlation between a greater financial incentive to the employee and a reduction in parking demand. At \$3.00 per day to park in the UDC facility (before increasing rates per UDC's commitment), parking could translate into a \$60 monthly cash-out. Cash-outs of this amount have resulted in a 10% to 25% reduction in parking demand; an equivalent reduction would be a valuable benefit to the community.

UDC is presently evaluating all of its parking policies and pricing structure. The new revenue control system will completely eliminate after hours free parking and will allow much more effective control and management of the main parking garage. The Nelson\Nygaard report presents some interesting strategies for effectuating change that will be considered by the University as it works towards its commitment to discourage auto trips.

12. Assist in Managing the Parking System

Increasing the financial disincentive of driving is only effective when outlets for illegal parking are eliminated. According to DCOP (April 29, 2011), UDC has committed to supporting the District's on-street and residential parking regulations. "To accomplish these purposes, the University shall employ a system of administrative actions, penalties, and fines for violations of this policy." These commitments are very valuable and an excellent approach to minimizing impacts on the local community. UDC should codify this commitment into the academic code and their dorm contracts, expanding on their commitments offered in the May 25, 2011 Proposed Conditions of Approval (Student Conduct, 7 and 8).

Two examples of universities with similar programs for UDC to learn from are American University (private institution in Washington, DC) and Georgia Tech (a public institution in Atlanta, GA).

American University's "Good Neighbor Policy" prohibits University members from parking on the residential streets surrounding the AU's Main Campus, Tenley Campus, and the Washington College of Law. All members of the University community, including students, faculty, staff, visitors and guests, are required to park on campus with a parking permit, purchase hourly/daily parking using the Pay-As-You-Go machines, or to use public transportation. Compliance with the Good Neighbor Policy is a condition of enrollment and/or employment at American University.

Georgia Tech students that receive parking citations for parking on public neighborhood streets are subject "to collection and/or institutional policies" which is then followed by the citation fees added directly to their student account. If these fees are left unpaid, students can be placed on a form of probation. Instead of merely a financial disincentive, students at Georgia Tech must consider their academic standing, a more significant deterrent.

The proposed language in the commitments related to the Good Neighbor Policy is the same as in the American University and George Washington Mt. Vernon Campus approvals. The intent is for UDC to implement the same policy to discourage the University population from parking on residential streets.

13. Guarantee the Commitments

The Transportation Report recommends implementation of a Transportation Sustainability Fee which is an excellent mechanism to both fund TDM commitments and provide incentives for students to utilize the services. However, the Transportation Report conditions this commitment "subject to Board of Trustees approval." DCOP recommended (April 29, 2011) that "UDC provides a more solid commitment to providing any conditioned TDM measures." UDC should offer and the Zoning Commission should require all commitments without conditions, with ongoing confirmation that each commitment has been implemented.

All of the elements in the May 24, 2011 TDM Commitments are firm commitments. There are no longer any commitments conditioned on Board of Trustee approval.