

**GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION**



d. Planning and Sustainability Division


MEMORANDUM

TO: Sara Bardin
Director, Office of Zoning

FROM: Jim Sebastian
Acting Associate Director

DATE: May 30, 2017

SUBJECT: ZC Case No. 16-18A –Medstar Georgetown University Hospital Surgical Pavilion



PROJECT SUMMARY

MedStar Georgetown University Hospital (the “Applicant”) seeks Special Exception approval to construct a new surgical pavilion of up to 450,000 square feet. The pavilion is part of the MedStar Georgetown University Hospital (MGUH) and was included in the 2017-2036 Campus Plan for Georgetown University, which received zoning approval as part of ZC 16-18.

SUMMARY OF DDOT REVIEW

DDOT is committed to achieve an exceptional quality of life in the nation’s capital by encouraging sustainable travel practices, safer streets, and outstanding access to goods and services. As one means to achieve this vision, DDOT works through the zoning process to ensure that impacts from new developments are manageable within and take advantage of the District’s multimodal transportation network.

The purpose of DDOT’s review is to assess the potential safety and capacity impacts of the proposed action on the District’s transportation network and, as necessary, propose mitigations that are commensurate with the action. This memo summarizes key findings pertinent to the surgical pavilion from the DDOT report on ZC 16-18, which was submitted to the Office of Zoning on November 21, 2016. DDOT also reviewed the Applicant’s updated transportation memo, dated May 18, 2017, and the Applicant’s prior Comprehensive Transportation Report (CTR), dated October 2016.

Through previous analysis in 2016 and review of the applicant’s filing for the surgical pavilion in 2017, DDOT finds:

Site Design

- The pavilion will be located in the northeast quadrant of the campus, at the location of the current surface parking lot A and south of Gate 1;
- Some adjustment to access points at the north end of campus is proposed. Gate 1 will shift slightly west, while access will be upgraded at Gate 4. New traffic signals are proposed at both locations (one signal at the Gate 1 location to replace or modify the existing signal, and one new signal at the Gate 4 location);
- Access to the new surgical pavilion will be via the modified Gate 1 entrance;
- A new east-west roadway connecting Gate 4 to the north-south campus roadways at the rear of the hospital facilities is proposed;
- The campus is subject to a parking cap of 4,080 spaces, which will remain in place. Of these, 2,700 are for MGUH use; and
- Improvements to bicycle and pedestrian connections are proposed in multiple locations, providing improved non-auto infrastructure.

Travel Assumptions

- While the hospital anticipates growth in travel demand associated with the proposed new facilities, this growth was anticipated within the prior campus plan;
- The background growth, mode splits, and trip generation assumptions proposed by the Applicant at that time are reasonable as supported by appropriate Transportation Demand Management (TDM) measures.

Analysis

- The Applicant utilized sound methodology to perform the analysis;
- Without TDM mitigations to reduce the total number of trips, the surgical pavilion is expected to increase travel delay in several study area locations with significant impacts to operations at seven intersections;
- During construction, the Applicant proposes to temporarily remove approximately 300 MGUH parking spaces and provide 500 offsite spaces near the Rosslyn Metrorail station. MGUH staff are expected to use the GUTS shuttle to travel between the offsite lot and MGUH;
- GUTS transit service currently does not have a stop located close to MGUH, and although a new transit stop is planned as part of the proposed action, it is proposed to be completed well after the surgical pavilion is open;
- The Applicant has proposed several trip reduction measures, including decanting¹ and a TDM program;
- Decanting is expected to account for approximately 42 percent of their overall trip reductions, although the Applicant does not have specific details on the locations or schedule for this trip relocation;
- Georgetown University and MGUH agreed to a TDM program as part of the Campus Plan. TDM measures proposed should be sufficiently robust to support high non-auto mode splits and the vehicular trip generation goals. However, TDM measures are subject to reexamination annually in the context of ongoing performance monitoring;

¹ Decanting means the relocation of departments and services (and associated staff trips) from the development site to a new location (either inside or outside of the District).

- Through the proposed action, MGUH will add approximately 131 AM Peak trips and 58 PM Peak trips, and the Applicant will reduce their trip generation by 101 (AM) and 76 (PM) via TDM reductions, and by 95 (AM) and 31 (PM) via decanting;
- MGUH is committed to a performance target for peak hour vehicle trips that shall not exceed 1,245 trips during the AM peak hour and 939 trips during the PM peak hour;
- With the local trip reduction through TDM and decanting, the action is expected to generate a minimal number of new vehicle, bicycle, pedestrian, and transit trips; and
- The Applicant has committed to a target vehicular trip generation for the hospital. This will be measured annually, in a detailed performance monitoring report.

DDOT has no objection to the Special Exception, conditional on the below mitigations.

Mitigations

The Applicant has proposed inclusion of the following mitigations in their campus plan, which DDOT finds appropriate:

- A TDM plan, along with a robust detailed annual performance monitoring. The monitoring will track progress against the vehicular trip generation commitment as well as for mode splits, parking, and TDM expenditures and effectiveness;
 - Include both a vehicular trip generation (MGUH: 1,245 [AM] and 939 [PM]) and vehicular parking cap (2,700 MGUH vehicular spaces); and
 - Agreement to update the TDM plan as needed if performance targets are not met.
- Extend GUTS service to a new centralized stop at Lombardi Circle just south of the hospital facilities, adding ridership potential;
- Install AVL (automatic vehicle locator) and APC (automated passenger counter) equipment on all GUTS buses to facilitate performance reports;
- Install new internal traffic control gates to channelize vehicular traffic to improve non-auto campus conditions and more effectively manage vehicles on campus;
- Mitigate the traffic impacts along Reservoir Road NW by committing to appropriate signalization of the site intersections at Gate 1 and Gate 4. However, the design and operational changes within public space should be coordinated during the public space permitting process; and
- Provide added bicycle and pedestrian infrastructure on campus, including new dedicated north-south and east-west passages, and at access points to encourage additional non-auto transportation. These infrastructure improvements should be included as early during construction as possible.

DDOT also seeks the following additional mitigations, which should be documented and tracked as part of the Applicant's Performance Monitoring Plan:

- Additional transit subsidies and TDM measures during the construction period, in which 300 parking spaces will be temporarily removed. These measures will include:
 - Through the required performance monitoring and regular GUTS passenger counts and parking counts at the off-site parking lots, a commitment to track employee travel patterns and short-term impacts of construction to ensure that MGUH is providing sufficient GUTS service, transit benefits, and bicycle and pedestrian accommodations to meet demand;
 - Commitment to providing a GUTS bus stop on the north side of campus, adjacent to MGUH, within one month of the completion of the surgical pavilion (this may be a temporary stop while Lombardi Circle is under construction); and

- The Applicant should also consider providing monthly transit subsidies of up to \$80 per employee per month during construction. This benefit should be offered to all employees (beyond the 180 listed in the Revised Transportation Memorandum).
- Install a real-time transit information display that is easily viewable from the main MGUH entrance or lobby and includes GUTS information;
- Include bike routing and wayfinding information on the new proposed campus wayfinding system, to be completed concurrently with the completion of the surgical pavilion.

Continued Coordination

Given the complexity and size of the action, the Applicant is expected to continue to work with DDOT outside of the Zoning process on the following matters:

- Any proposed public space improvements, including curb and gutter, street trees and landscaping, street lights, sidewalks, and other features within the public rights of way, are expected to be designed and built to DDOT standards. Careful attention should be paid to pedestrian and bicycle connections along the site’s perimeter and adjacent infrastructure;
- The design and installation of the signals at Gate 1 and Gate 4 on Reservoir Road;
- Provision of two (2) 240-volt electric car charging stations within the new parking garage;
- Design of bicycle and pedestrian upgrades as committed to and outlined within this report; and
- The location of utility vaults. DDOT expects all vaults to be located on private property.

TRANSPORTATION ANALYSIS

DDOT requires applicants requesting an action from the Zoning Commission complete a Comprehensive Transportation Review (CTR) in order to determine the action’s impact on the overall transportation network. Accordingly, an applicant is expected to show the existing conditions for each transportation mode affected, the proposed impact on the respective network, and any proposed mitigations, along with the effects of the mitigations on other travel modes. A CTR should be performed according to DDOT direction. The Applicant provided a CTR for the Georgetown Campus Plan in 2016 that was consistent with the scale of the action. The Applicant then provided a Revised Transportation Memorandum in May 2017 that detailed the transportation-related impacts and mitigations specific to the surgical pavilion.

This memorandum reviews DDOT’s previous findings specific to the surgical pavilion and related mitigations agreed upon during zoning approvals for the Campus Plan (ZC 16-18). The following review provided by DDOT evaluates the Applicant’s prior CTR and updated memo to determine its accuracy and assess the action’s consistency with the District’s vision for a cohesive, sustainable transportation system that delivers safe and convenient ways to move people and goods, while protecting and enhancing the natural, environmental, and cultural resources of the District.

Site Design

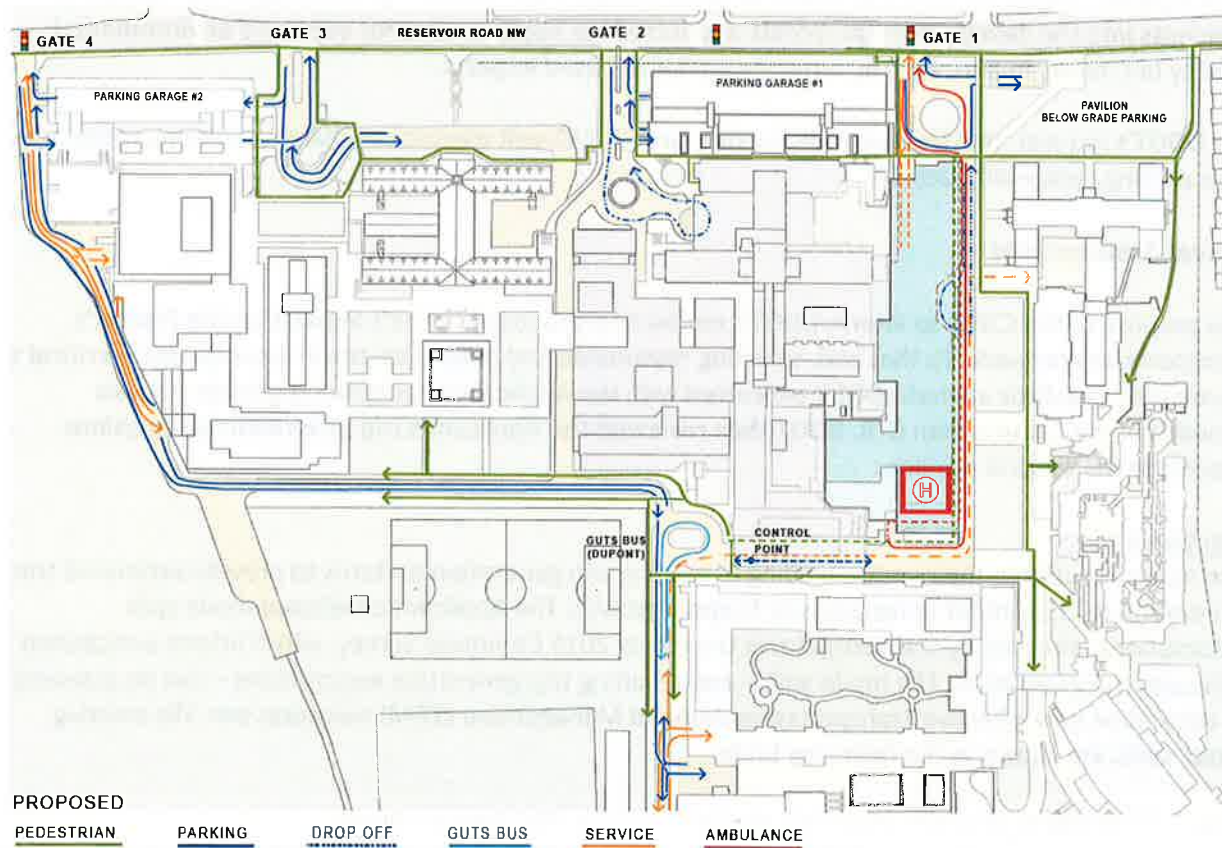
Site design, which includes site access, loading, and public realm design, plays a critical role in determining a proposed action’s impact on the District’s infrastructure. While transportation impacts can change over time, the site design will remain constant throughout the lifespan of the proposed development, making site design a critical aspect of DDOT’s development review process. Accordingly, new developments must provide a safe and welcoming pedestrian experience, enhance the public realm, and serve as positive additions to the community.

Site Access

Two main access points are being changed to meet hospital needs and accommodate the surrounding residential neighborhoods. First, at Gate 1, the entrance is being proposed to shift slightly to the west. This will improve existing conditions, and will allow improved operations at this intersection. Access to the new surgical pavilion will be via the modified Gate 1 entrance. Second, an improved Gate 4 access is proposed to provide added connection to the proposed east-west roadway within the campus. This new east-west roadway connects Gate 4 to the north-south campus roadways at the rear of the hospital facilities. New traffic signals are proposed at both locations (one signal at the Gate 1 location to replace/modify the existing signal, and one new signal at the Gate 4 location). To further facilitate internal circulation, new traffic control gates will be installed to channelize vehicular traffic to improve non-auto campus conditions and more effectively manage vehicles on campus. Please reference Figure 1 for proposed site circulation.

Additional pedestrian and bicyclist connections are proposed to and through the campus, improving overall accessibility compared to existing conditions.

Figure 1: Site Circulation (Source: Applicant)



Loading

DDOT’s practice is to accommodate vehicle loading in a safe and efficient manner, while at the same time preserving safety across non-vehicle modes and limiting any hindrance to traffic operations. For new developments, DDOT requires that loading take place in private space and that no back-up maneuvers occur in the public realm. This often results in loading being accessed through an alley network or away from the public street network.

Hospital loading will be accommodated through a new below-grade loading dock beneath the new hospital pavilion, accessed directly from Gate 1. All loading will be accommodated off the public street network. The Applicant has made commitments to ensure loading is safely accommodated without impact to the surrounding street network.

Sustainable Transportation Elements

Sustainable transportation measures target promotion of environmentally responsible types of transportation in addition to the transportation mode shift efforts of TDM programs. These measures can range anywhere from practical implementations that would promote use of vehicles powered by alternative fuels to more comprehensive concepts such as improving pedestrian access to transit in order to increase potential use of alternative modes of transportation. Within the context of DDOT’s development review process, the objective to encourage incorporation of sustainable transportation elements into the development proposals is to introduce opportunities for improved environmental quality (air, noise, health, etc.) by targeting emission-based impacts.

Per DDOT’s request, the Applicant will provide two (2) 240-volt electric car charging stations within the new parking garage off Gate 1.

Travel Assumptions

The purpose of the CTR is to inform DDOT’s review of a proposed action’s impacts on the District’s transportation network. To that end, selecting reasonable and defensible travel assumptions is critical to developing a realistic analysis. DDOT concurred with the Applicant’s background growth analysis included in the Campus Plan CTR. DDOT then reviewed the Applicant’s trip generation assumptions specific to the surgical pavilion.

Trip Generation

The Applicant utilized their understanding of existing trip generation patterns to provide estimated trip generation to account for university and hospital growth. The Applicant developed mode split assumptions informed by the Georgetown University 2015 Commute Survey, which inform anticipated vehicular trip generation. The mode split – and resulting trip generation assumptions – can be assessed to determine how effective Transportation Demand Management (TDM) measures are. The existing mode splits are shown in the following table:

Table 1: MGUH Existing Mode Split (%) (Source: Applicant, based on 2016 Commute Survey)

	SOV	Walk	GUTS	Metrorail	Metrobus	Bicycle ¹	Carpool ²	Other ³
Hospital Employee	73.1	3.1	3.3	7.1	3.8	1.7	3.7	4.2

¹ Bike percentage includes those who used Capital Bikeshare
² Carpool includes vanpool.
³ Other includes telework, dropped-off/taxi/ride hailing, commuter bus, commuter rail, Circulator, vanpool.

The Applicant has identified 655 new employees to staff the new pavilion, with up to 50 additional employees realized over the 20-year Campus Plan term. Based on Applicant analysis, significant traffic impacts are anticipated if these employees follow the MGUH mode split identified in Table 1. Therefore, they proposed vehicle trip reduction for MGUH, as part of the Campus Plan, which will serve as the basis for their performance target goals. The following figure outlines these commitments:

	AM Peak ¹	PM Peak ¹
Existing Vehicle Volume ²	1,310	988
Projected Site Trips ³	+131	+58
Projected Future Trips with Campus Plan	1,441	1,046
Proposed TDM Reduction ^{4,5}	-101	-76
Proposed Decanting Reduction ^{4,5}	-95	-31
Projected Future Trips with Campus Plan and Reduction	1,245	939

¹ For simplicity, the combined inbound + outbound trips are presented
² From Table 17 of the CTR
³ From Table 21 of the CTR
⁴ TDM Reduction was derived as follows based on the AM peak hour (since the projected number of site trips is higher during the AM peak hour):
 The Hospital is projected to increase AM peak hour trips by 10% (131/1,310=0.10)
 The proposed overall reduction represents a reduction of 15 percentage points overall (and five percent below existing volumes), resulting in a reduction of 196 AM peak hour trips (10-15=-5% decrease from existing volumes; 1,310*(1-0.05) = 1,245 trips or an overall reduction of 196 trips (1,441-1,245=196)
⁵ The PM peak hour reduction was calculated as follows: 988*(1-0.05) = 939 or a reduction of 107 trips (1,046-939 = 107)

Figure 2: MGUH Trip Generation Performance Target (Source: Applicant)

With the proposed trip reductions, the overall trip generation rate is comparable to existing conditions.² As part of the Campus Plan, the Applicant has agreed to robust annual performance monitoring, including parking utilization assessment, to track progress against the vehicular trip generation cap and mode splits, parking, and TDM expenditures and effectiveness. The Applicant will update its TDM plan as needed if performance targets are not met. The Applicant also plans to use decanting, or the relocation of departments and services to another site, as a means to reduce local trip generation. As decanting represents approximately 42 percent of the Applicant’s proposed trip reduction, DDOT will expect the applicant to report on its decanting planning and implementation as part of its performance monitoring.

Off-Street Vehicle Parking

The Campus Plan includes a parking cap of 4,080 vehicle parking spaces across the Georgetown University (GU) campus. Of these, approximately 2,700 are for MGUH use. In existing conditions, several of these spaces are created by stacked parking in the hospital facilities. As part of the new surgical pavilion, a new below-grade parking facility with 644 new spaces is proposed. This will not, however,

² The trip generation target included in Zoning Order 16-18 is 1,379 AM peak hour trips and 1,062 PM peak hour trips. That target assumes that the pavilion is not completed and that MGUH does not have revenue to implement a more robust TDM program. The Applicant states in the updated transportation memo that they will adhere to a more stringent performance target, which is the one listed in Figure 1 and elsewhere in this report. Future performance monitoring will rely on this report’s numbers.

represent an increase in spaces as the facility replaces some surface parking and the Applicant has committed to reducing other stacked parking to maintain the existing parking count.

DDOT believes that in order to meet the Applicant’s trip reduction goals, the number of provided spaces is too high. The reduction of parking spaces through reduced stacking will help the Applicant meet its goal. Therefore, DDOT seeks a commitment to eliminate permanently any vehicular parking spaces that are not utilized for two consecutive years, thereby reducing the vehicular parking cap.

Analysis

Roadway Capacity and Operations

DDOT aims to provide a safe and efficient roadway network that provides for the timely movement of people, goods and services. As part of the evaluation of travel demand generated by the site, DDOT requested analysis of traffic conditions for the agreed upon study intersections for the current year and after growth occurs or any transportation changes. DDOT found that the Future Conditions with the new surgical pavilion would generate trips that significantly increase travel delay or exacerbate existing failing conditions at several intersections near the campus:

1. Reservoir Road/Foxhall Road – AM
2. Reservoir Road/37th Street – AM and PM
3. Reservoir Road/Wisconsin Avenue – AM
4. Foxhall Road/Canal Road – PM
5. Canal Road/GU Driveway – PM
6. M Street/Whitehurst Freeway – PM
7. M Street/Key Bridge – AM and PM

Additionally, some lane groups at additional intersections saw impacts. Based on these significant impacts, the Applicant agreed to performance targets that require trip reductions that would be realized due to a comprehensive TDM program. With the trip reductions, the only remaining impact is at the Reservoir Road/Gate 3 intersection, where the outbound hospital traffic would see a level of service drop from LOS D in background conditions to LOS E for the northbound left.

Transit Service

The District and Washington Metropolitan Area Transit Authority (WMATA) have partnered to provide extensive public transit service in the District of Columbia. DDOT’s vision is to leverage this investment to increase the share of non-automotive travel modes so that economic development opportunities increase with minimal infrastructure investment. The main transit service utilized on campus, however, is the Georgetown University Transportation System (GUTS), which provides connections to Metrorail stations.

The nearest Metrorail stations are located at the outer limits of walking distance. The closest station to MGUH is across the Potomac, 1.5 miles away in Rosslyn. GUTS serves both the Rosslyn and Dupont Circle stations, as well as additional destinations including North Arlington, the GU Law Center, and Wisconsin Avenue. (The Site is also served by a high-frequency WMATA bus route, the D6, adjacent to the site on Reservoir Road.)

During construction, the Applicant will provide 500 off-site parking spaces at 1101 Wilson Boulevard near the Rosslyn Metrorail stop and will provide three additional GUTS buses during weekday peak periods to accommodate increased demand. The Applicant will also relocate the Wisconsin Avenue shuttle stop during construction.

DDOT seeks a commitment that the Applicant monitor the demand for the GUTS shuttle monthly during construction through use of the automatic passenger counts (see below), parking counts at the off-site parking lot, and hospital employee surveys. If GUTS buses are frequently over capacity, the Applicant should increase the frequency of their service through the construction period.

Following construction, the Rosslyn and Dupont Circle GUTS routes will use a new bus turnaround at Lombardi Circle, just south of the hospital facilities, which should improve rider accessibility. DDOT requests that the applicant commit to provide GUTS bus service to the north side of campus, adjacent to MGUH, within one month of the completion of the surgical pavilion. The addition of this GUTS stop, which may be temporary in nature while the permanent stop is under construction, in close proximity to the hospital and the pavilion will significantly increase the convenience of using the GUTS shuttle, and establishing the new GUTS stop close to the opening of the new pavilion will encourage more hospital staff to incorporate transit into their daily commute patterns.

DDOT expects an ongoing commitment to the continued improvement of the GUTS bus brand and execution in coordination with DDOT as part of the ongoing annual performance monitoring, based on trends in GUTS usage. This should include the addition of AVL (automatic vehicle locator) and APC (automated passenger counter) equipment on all GUTS buses to facilitate performance monitoring, which should be installed by fall 2017.

MGUH should continue exploration of additional Transportation Network Company (TNC) partnerships that could utilize rideshare programs in a car pool service to reduce trip generation and parking demand from employees who would otherwise use single-occupancy vehicles. The Uber Pilot Program is one example of such a partnership. New arrangements to supplement ridesharing options could be utilized by commuters, but should be limited during peak periods to car pool options available from the TNCs in order to reduce the number of single-occupancy vehicles utilized.

Bicycle Facilities

The District is committed to enhancing bicycle access by ensuring consistent investment in bicycle infrastructure on the part of both the public and private sectors. DDOT expects the campus to serve the needs of all trips it generates, including bicycling trips. The Applicant has proposed adding bicycle parking, which should meet DDOT's standards, and adding new dedicated north-south and east-west bicycle passages with improved wayfinding. Additionally, the Applicant should commit to also including bike routing information on the proposed new campus wayfinding system.

Pedestrian Facilities

The District is committed to enhancing the pedestrian accessibility by ensuring consistent investment in pedestrian infrastructure on the part of both the public and private sectors. DDOT expects projects to serve the needs of all trips they generate, including pedestrian trips. Walking is expected to be an important mode of transportation for the campus. Specifically, the Applicant has agreed to provide added pedestrian infrastructure on campus in the form of new north-south pedestrian connection

through campus, allowing passage from Gate 1 to the Canal Road entrance. Additionally, the Applicant proposes east-west sidewalks for improved accessibility. They also plan an improved wayfinding system with campus-wide consistent signage.

Mitigations

As part of all major development review cases, DDOT requires the Applicant to mitigate the impacts of the development in order to positively contribute to the District's transportation network. The mitigations must sufficiently diminish the action's vehicle impact and promote non-auto travel modes. This can be done through Transportation Demand Management (TDM), physical improvements, operations, and performance monitoring.

The mitigations agreed upon during ZC 16-18, as relevant to the surgical pavilion, include:

- A new east-west roadway connecting Gate 4 to the north-south campus roadways behind the hospital facilities is proposed;
- Some adjustment to the access points at the north end of campus is proposed. Gate 1 will shift slightly west, while access will be intensified at Gate 4;
- New traffic signals are proposed at both these locations (DDOT's preference is for one signal at the Gate 1 location to replace/modify the existing signal, and one new signal at the Gate 4 location, both of which will be finalized during the public space permitting process); and
- Added bicycle and pedestrian infrastructure on campus, including new dedicated north-south and east-west passages, and at access points to encourage additional non-auto transportation.

DDOT generally concurs with these as mitigations and will further coordinate with the Applicant on the design and operational changes within public space during the public space permitting process.

The phasing and details of these improvements will be finalized during any necessary public space permitting process. DDOT also seeks the following additional mitigations:

DDOT also seeks the following additional mitigations, which should be documented and tracked as part of the Applicant's Performance Monitoring Plan:

- Additional transit subsidies and TDM measures during the construction period, in which 300 parking spaces will be temporarily removed. These measures will include:
 - Through the required performance monitoring and regular GUTS passenger counts, a commitment to track employee travel patterns and short-term impacts of construction to ensure that MGUH is providing sufficient GUTS service, transit benefits, and bicycle and pedestrian accommodations to meet demand;
 - Commitment to providing a GUTS bus stop on the north side of campus, adjacent to MGUH, within one month of the completion of the surgical pavilion (this may be a temporary stop while Lombardi Circle is under construction); and
 - The Applicant should also consider providing monthly transit subsidies of up to \$80 per employee per month during construction. This benefit should be offered to all employees (beyond the 180 listed in the Revised Transportation Memorandum).
- Install a real-time transit information display that is easily viewable from the main MGUH entrance or lobby, which would include a GUTS schedule and real-time location;
- Include bike routing and wayfinding information on the new proposed campus wayfinding system, to be completed concurrently with the completion of the surgical pavilion.

The Applicant shall design signals to DDOT standards, and signal modifications will be coordinated to optimize performance of the road network while providing ample pedestrian crossing time. Site design and similar elements, in particular where Site streets intersect major surrounding streets, will be further coordinated as part of public space permitting.

Transportation Demand Management

TDM is a set of strategies, programs, services, and physical elements that influence travel behavior by mode, frequency, time, route, or trip length in order to help achieve highly efficient and sustainable use of transportation facilities. In the District, this typically means implementing infrastructure or programs to maximize the use of mass transit, bicycle and pedestrian facilities, and reduce single occupancy vehicle trips during peak periods. The Applicant's proposed TDM measures play a role in achieving the desired and expected mode split.

In this case, the Applicant has worked closely with DDOT to develop an effective TDM plan, and proposes the following TDM strategies. This TDM program is essential to the Applicant realizing their proposed performance targets. The high level TDM plan elements include:

MGUH General TDM Strategies

- Transportation Infrastructure
 - Build upon and improve existing transportation services on campus
- Education and Support
 - Inform staff of travel options available to the Hospital
- Incentives
 - Establish incentives that will increase the convenience of using alternative forms of transportation

The effectiveness of these TDM measures will be measured as part of ongoing performance monitoring. If implemented as intended, they will encourage the use of alternative modes of transportation and reduce vehicular traffic. DDOT finds the above general TDM measures appropriate and expects ongoing monitoring to determine if they are robust enough to address the impacts expected from the project. Should performance targets not be met, it is expected that significant additional TDM elements will be considered and implemented.

Performance Monitoring

The CTR provides a projection of an action's likely transportation impacts. However, in an urban environment that is rapidly developing and changing, the projections may not provide enough certainty to reveal the true future impacts of an action, particularly at the scale of this one. A performance monitoring plan provides the framework for increasing the level of certainty concerning expected impacts so that DDOT and the public can have a better idea of expected future travel conditions. A performance monitoring plan establishes thresholds for trips an action can generate, defines post-completion evaluation criteria and methodology, and establishes potential remediating measures.

DDOT's goal is to customize the performance monitoring plan to address the potential impacts identified. In this case, there will be separate monitoring programs for the university and hospital, but data collection will be completed concurrently, and the reports will reflect findings from each other as

necessary. The Applicant has thus proposed a comprehensive annual monitoring program including the following elements:

- Measurement of hospital trip generation;
- A comprehensive transportation survey to measure TDM effectiveness, mode split, and other elements;
- Daily GUTS ridership counts;
- A summary report of TDM activities and expenditures; and
- Parking occupancy counts.

The success of the TDM Plan will be measured by reporting the extent to which trip generation performance targets are met. The Applicant has committed to a trip generation target of 1,245 AM peak trips and 939 PM peak trips. The university and hospital will be measured independently versus their individual goals. The initial monitoring will occur during the fall semester. DDOT notes the following adjustments that should be made to the plan:

- Maintain the four-hour count window unless modifications are approved by DDOT;
- Report peak trips in 15-minute increments;
- Report on GUTS ridership and parking utilization each semester during the pavilion construction, and if GUTS is not reaching ridership that seems reasonable considering the level of parking reduction during construction, then the Applicant will commit to reevaluating the GUTS level of service and implementing additional TDM measures;
- Outline detailed analytics utilizing AVL and APC data that will be used to report on transit ridership and trends;
- Define a more stringent set of mitigations necessary following two consecutive years of unacceptable performance;
- Specify when the performance monitoring report should be delivered to DDOT; and
- Document the plan and implementation status of decanting, and how that relates to the reported trip generation rates.

In the event that the Applicant exceeds the projected vehicle trip generation, then the Applicant will be required to adjust the TDM program, in coordination with DDOT and the community. Specifically, DDOT may expect the Applicant to adjust parking fees, remove stacked parking places, or implement other TDM measures or monitoring goals as deemed most appropriate at that time. Additionally, a second report in the same school year, during the spring semester, will also be required to track progress.

With these targets in place, and as well a commitment to make modifications if necessary to meet the goal and make the TDM program effective, DDOT is supportive of the Performance Monitoring Plan.