GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. Policy Planning and Sustainability Administration

MEMORANDUM

TO: Lloyd Jordan
Chairperson
DC Board of Zoning Adjustment

FROM: Samuel Zimbabwe
Associate Director

DATE: February 21, 2014

SUBJECT: **BZA Case No. 18715** - The Maret School, 3000 Cathedral Avenue, NW

APPLICATION

The Maret School (the "Applicant"), pursuant to 11 DCMR §3104.1, is seeking a special exception to allow a building addition to accommodate classrooms, a computer lab, music rooms, a restroom, offices, a small conference room, and a workout room and to increase the student limit from 635 to 650 students and faculty limit from 129 to 135 faculty at 3000 Cathedral Avenue, NW (Square 2113, Lot 843).

SUMMARY AND RECOMMENDATION

In 2008, as part of BZA 17826, the Applicant requested a special exception to increase the student and faculty limit from 600 to 635 students and from 125 to 129 faculty. At the time, the school was operating with 611 students and generating 590 vehicle trips during the AM peak hour. The existing trip generation rate was applied to the proposed enrollment increase resulting in an expected increase of 27 vehicle trips during the AM peak hour for a total of 617 vehicle trips during the AM peak hour. The BZA approved the action conditioned upon several Transportation Demand Management (TDM) measures, which included a bi-annual monitoring report to be submitted to DDOT and the ANC.

According to the Applicant's traffic impact study submitted in December 2013, the school is currently generating 772 vehicle trips during the AM peak hour with 644 students and 129 faculty. This represents a total increase of 182 vehicle trips during the AM peak hour since 2008 and 155 vehicle trips over what had been projected during the AM peak hour, approximately seven times the projected growth.

Typically, a modest increase in student and faculty enrollment, such as currently proposed by the Maret School, leads to minimal impacts on the transportation network. However, in light of the significant under prediction of vehicle trips following from the previously approved BZA action, DDOT is concerned that vehicle trips resulting from the approval of the proposed action may exceed projections and finds that:

- An unusually high percentage of students and faculty, as compared to other area private schools, are using vehicles to access the school, particularly since the facility is located in close proximity to a Metro station (0.5 mile) and several bus stops.
- The Applicant's projected rate of vehicle trip generation is not consistent with previous growth rates. This may underestimate vehicle trip generation leading to unexpected impacts on the transportation network.
- Level of service analysis was not initially requested as part of the Transportation Impact Study due to the relatively small increase in students and faculty requested. However, given the increase in the school's trip generation since the 2008 BZA action, DDOT suspects that impacts are occurring on our transportation network as a result of the previously approved action.
- The TDM program from the previous BZA action has proven to be minimally effective at limiting vehicle trips to the level projected in the previous BZA action.

To address the concerns raised with the Application, DDOT recommends that:

- The BZA establish a vehicle trip generation cap during the AM peak hour. DDOT recommends a cap of 631 vehicle trips during the AM peak hour. This cap is calculated using the proposed growth for the facility and based on the 2008 vehicle trip rate of 0.97 vehicle trips per student.
- An appropriate TDM and monitoring program should be developed to support and implement the trip cap.

TRANSPORTATION ANALYSIS

DDOT is committed to achieving an exceptional quality of life in the nation's capital by encouraging sustainable travel practices, constructing safer streets and providing 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 and ultimately discourage single occupancy vehicle trips. As part of a Transportation Impact Study (TIS), 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.

Vehicle Trip Generation and Mode Split

In order to determine the vehicle trip generation of the proposed increase in student and faculty enrollment, the Applicant conducted traffic counts at the three entrances and exits to the site and surveys of pedestrians and bicyclists entering the site. These surveys and counts were used to determine the existing mode split and vehicle trip generation rate. Subsequently, student vehicle trip rates were applied to the proposed increased in enrollment in order to estimate new vehicle trips resulting from the increase in enrollment.

The existing mode split (see Table 1) and vehicle trip generation (see Table 2) indicate an unusually high percentage of students and faculty using vehicles to access the school (91.3% during the AM peak hour) and number of vehicle trips for a school this size (772 vehicle trips during the AM peak hour), particularly since it is located in close proximity to a Metro station (0.5 mile) and several bus stops. Compared to similar private schools (see Table 3), the rate of 1.2 vehicle trips per student is high. In contrast, the Field School, which is located 2.7 miles from the nearest Metro station, has much more aggressive TDM strategies resulting in 0.38 vehicle trips per student during the AM peak hour.

Table 1: Mode Split

Mode	AM Peak Hour (7:30-8:30)			School Peak Hour (2:45-3:45)			PM Peak Hour (5:15-6:15)		
	In	Out	Total	In	Out	Total	In	Out	Total
Vehicle	49.8%	41.5%	91.3%	42.0%	49.7%	91.7%	39.2%	51.0%	90.1%
Bus	0.4%	0.0%	0.4%	0.0%	0.8%	0.8%	0.0%	1.3%	1.3%
Metro	0.8%	0.0%	0.8%	0.0%	0.8%	0.8%	0.0%	1.0%	1.0%
Walk	7.0%	0.1%	7.1%	0.5%	5.8%	6.3%	1.3%	5.4%	6.7%
Bike	0.47%	0.0%	0.5%	0.0%	0.5%	0.5%	1.0%	0.0%	1.0%
			100.0%			100.0%			100.0%

Provided by Wells & Associates, Inc. on 12/6/13.

Table 2: Increase in Student Enrollment, Vehicle Trip Generation, and Vehicle Trip Rate

		Population				Vehicle Trip Generation AM Peak Hour		Vehicle Trip Generation Rate Change	
		Type	Total	Change from 2008 Existing	Change from 2013 Existing	Total	Rate per Student	2008 Existing	2013 Existing
2008	*Existing Enrollment*	*Student*	*611*	*NA*	*NA*	*590*	*0.97*		
		Staff	*125*						
		Total	*736*						
	Applicant Projected	Student	635	3.8%	NA	616	0.97	0%	
		Staff	129						
		Total	764						
2013	*Existing Enrollment*	*Student*	*644*	*5.0%*	*NA*	*772*	*1.20*	*24%*	
		Staff	*129*						
		Total	*773*						
	Applicant Projected	Student	650	6.7%	1.6%	780	1.20	24%	0%
		Staff	135						
		Total	785						
	DDOT Projection	Student	650	6.7%	1.6%	969	1.49	54%	24%
		Staff	135						
		Total	785						
	DDOT Projection based on 2008 trip rates	Student	650	6.7%	1.6%	631	0.97	0%	NA
		Staff	135						
		Total	785						

Table 3: Trip Rate Comparison

School	Distance to Nearest Metro Station	Student Enrollment	Vehicle Trip Generation AM Peak Hour	Vehicle Trip Rate per Student
Maret School	0.5 mile	644	772	1.2
Field School	2.7 miles	323	123	0.38
St. Patrick's Episcopal Day School	3.3 miles	452	264	0.58
Lab School of Washington	3.5 miles	267	241	0.9

In 2008, the Applicant estimated that an increased enrollment from 611 students and 125 faculty to 635 students and 129 faculty (28 net new people) would generate 26 new vehicle trips during the AM peak hour. The estimated number of new vehicle trips was based on the vehicle trip rate of 0.97 vehicle trips per student. According to the most recent survey and counts conducted by the Applicant, the actual increase produced 182 new vehicle trips, seven times the projected growth. The 5% increase in student and faculty enrollment led to a 31% increase in vehicle trips, or a 24% rate change in vehicle trips per student, during the AM peak hour. If the vehicle trip rate again grows by 24%, the proposed student and faculty increase would result in 197 new vehicle trips for a total of 969 vehicle trips during the AM peak hour. This would represent a 54% growth in the vehicle trip rate since 2008 and an additional 379 vehicle trips since 2008.

In communication subsequent to the TIS, the Applicant indicated that the majority of the new vehicle trips since 2008 are attributable to the new on-street parking restrictions, which has led to more students being dropped off by parents rather than driving and parking in the adjacent neighborhood. The Applicant indicated that vehicle trips related to parking on residential streets were not included in the 2008 TIS, leading to an unreliably low trip generation base count in 2008. The Applicant's justification for the increased vehicle trips since 2008 does not seem reasonable. Since only a small percentage of students would have been eligible to drive, a change in parking restrictions is not likely to account for a significant increase in vehicle trips generated.

A level of service analysis was not initially requested as part of the Transportation Impact Study due to the relatively small increase in students and faculty requested. Nonetheless, the area intersections, particularly the streets intersecting Connecticut Avenue, are at or near capacity. Given the significant increase in the school's trip generation since the 2008 BZA action, DDOT suspects that new impacts are occurring on our transportation network as a result of the 2008 action.

In light of the high vehicle trip generation and the Applicant exceeding previous projections of vehicle trips, DDOT requests that the BZA set a vehicle trip generation cap based on 2008 vehicle trip rates subject to regular monitoring intervals. Adherence to this cap would be a condition of BZA approval and would require the Applicant to return to the BZA if the Applicant fails to adhere to this cap. Details of a trip cap and a monitoring are discussed in a subsequent section.

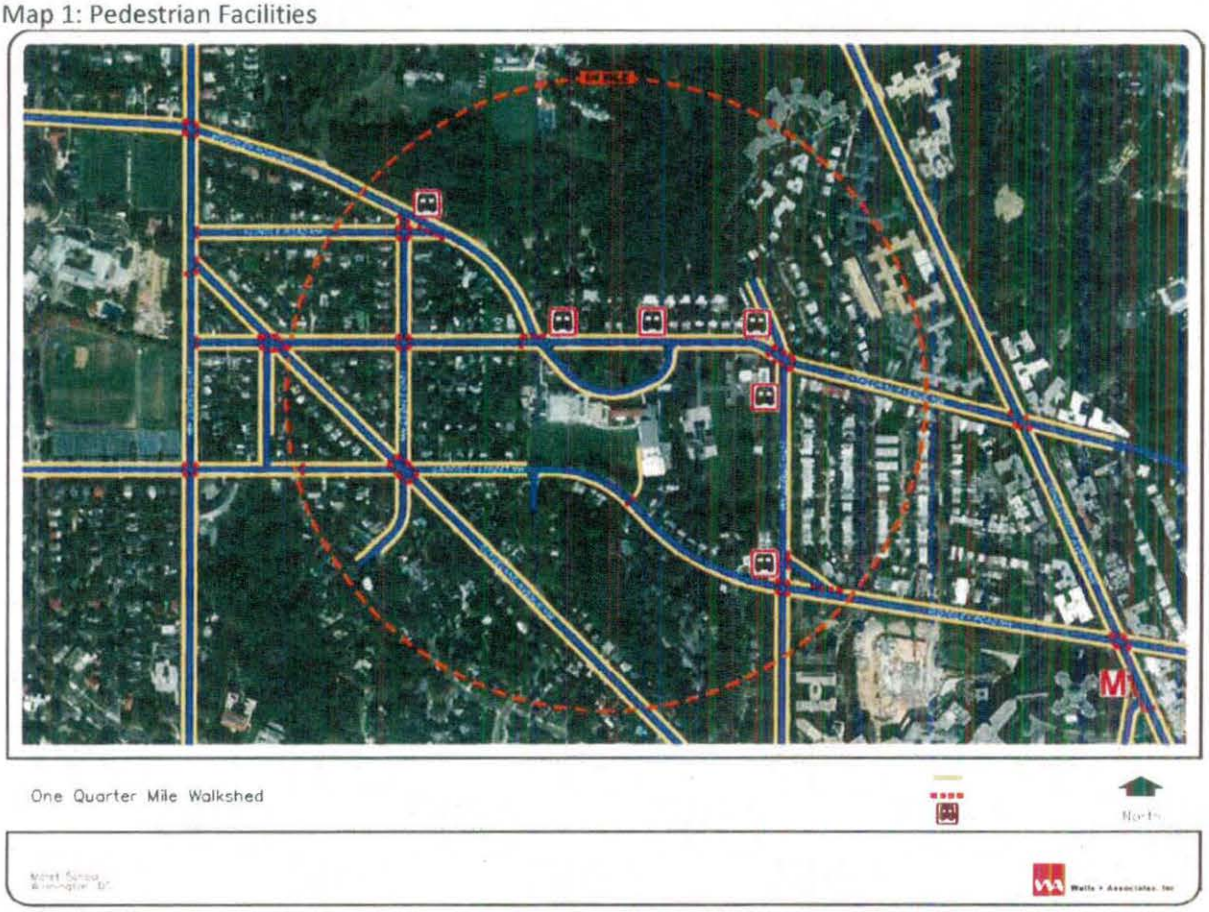
Pedestrian and Bicycle Facilities

Based on the Applicant's field observations and inventory of the pedestrian facilities (i.e., sidewalks, crosswalks) within a one-quarter mile walkshed (see Map 1), it was observed that the network does not provide adequate facilities to promote connectivity between land uses and transit facilities. This may contribute to the high trip generation rate. A gap in the sidewalk exists on the north-side of Garfield Street, adjacent to the school. A sidewalk is also missing along the majority of west-side of 29th Street,

adjacent to the school. DDOT requests the Applicant complete the sidewalk gap on the west-side of 29th Street between Cathedral Avenue and Garfield Street by constructing a sidewalk to DDOT standards in public space on this block.

No long-term bicycle parking spaces are located within the school property. While the Applicant indicated that four short-term bicycle parking racks exist near school entrances, the total number of spaces was not provided. Long-term bicycle parking and increased short-term bicycle parking facilitate non-automobile use among students and staff. The Applicant should work with DDOT to determine an appropriate amount and location of bicycle parking, particularly long-term spaces (i.e., bicycle parking protected from weather elements and kept in a secure location) for staff and student use.

Map 1: Pedestrian Facilities



Transportation Demand Management

As part of all major development review cases, DDOT requires applicants to produce a comprehensive Transportation Demand Management (TDM) plan. 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 public transit, bicycle, and pedestrian facilities, and reduce single occupancy vehicle trips during peak periods.

Since 2008, the Applicant has implemented the following TDM measures:

- Provides a "Carpool Finder" link on its website;
- Provides all 15 eligible Virginia and Maryland financial aid students a $100 monthly Metrocheck;
- Provides 25 faculty member who choose not drive a $100 monthly Metrocheck;
- Provides $240 annually to three faculty members who bicycle to campus the majority of the time; and
- Prohibits left-hand turns from Cathedral Avenue onto campus during school drop-off and pick-up times by providing a traffic control officer. Although limited, during the morning drop-off, 10% of vehicles entering the campus from Cathedral Avenue continue to make left-hand, and during the afternoon pick-up, 14% of vehicles make left-hand turns.

While the increase in student and faculty enrollment has been modest since 2008, vehicle trip generation has increased substantially, as described above. Thus, the 2008 imposed TDM measures have not effectively limited vehicle trips, and we expect the Applicant to consider new TDM measures. There are many opportunities to reduce vehicle trips, particularly since the site is located 0.5 mile northwest from the Woodley Park Metro Station.

In contrast with their TDM goals, the Applicant provides a map of streets within a 10-15 minute walking distance for "ticket-free" parking on their website. This further encourages students and staff without access to the school parking lot to drive to school and park in the neighborhood.

DDOT expects the Applicant to propose a TDM program to minimize potential vehicle trips to support and implement the trip cap. The following TDM strategies have been an effective means for reducing vehicle trips at other private schools. This list is by no means inclusive of all TDM strategies, nor is DDOT requesting that the Applicant implement all of these strategies. Instead, DDOT requests the Applicant work with DDOT to find site appropriate TDM measures to implement by this coming fall school year.

- Provide free daytime shuttle bus service between the school and nearby Metro stations in the District and Arlington and Alexandria, Virginia, as well as other key locations with large parking lots in the District, Virginia, and Maryland for faculty and students.
- Survey faculty, staff, parents, and transportation suppliers to evaluate shuttle service routes and stops in order to make shuttles efficient and convenient.
- Coordinate with neighboring schools and institutions who already utilize an existing shuttle bus service.
- Offer guaranteed rides home to transit users and those who carpool or bike in case of an emergency.
- Facilitate forming additional carpools by providing complete zip code lists of faculty and staff and reserved parking for registered carpools.
- Designate a full-time Transportation Director to coordinate the TDM measures, encourage transit ridership and carpooling, and provide information on transit options to faculty and staff.
- Provide all faculty who bike $40 per month towards repairs or purchase of a new bike.
- Provide a school bike for faculty and staff to run errands during the school day.
- Add new bicycle racks.
- Encourage visitors to campus to schedule meetings during off-peak vehicle trip generation (i.e., midday).
- Provide the maximum allowable amount of Metro subsidy not subject to income tax (as of the date of this memo, $120 per month) to all students and faculty who commit to riding Metro to get to and from the school.

- Participate in the Safe Routes to School program, including conducting an evaluation of existing conditions, identifying strategies to improve safety and promote non-auto modes of travel, and creating an implementation plan.

Trip Cap and Monitoring Program

Due to the growth in vehicle trip generation that exceeded the Applicant's projections related to the 2008 BZA action, DDOT is concerned that the approved 2008 BZA action may be leading to unforeseen impacts to the transportation network. These impacts could be exacerbated and new impacts realized as a result of approval of the current application. Accordingly, DDOT recommends a vehicle trip generation cap during the AM peak hour of the generator commensurate with their 2008 vehicle trip generation rate and a robust monitoring program designed to verify adherence to this cap. In 2008, the Applicant projected 616 vehicle trips during the AM peak hour at full enrollment of 635 students and 129 faculty based on a trip rate of 0.97 vehicles trips per student. With the Applicant's proposed enrollment increase to 650 students and 135 faculty, DDOT recommends a vehicle trip generation cap of 631 vehicle trips during the AM peak hour. Vehicle trip generation shall include all vehicle trips to the site, inclusive of vehicles traveling to the site but not entering the driveway.

DDOT requests that the performance monitoring program consist of annual monitoring reports, conducted at the beginning of each fall semester, until the Applicant has met the proposed cap for two consecutive monitoring periods. DDOT recommends the following parameters for performance monitoring:

- The Applicant shall document all current TDM measures;
- Collect mode split data and vehicle trip generation rates during the AM peak hour;
- Include any proposed updates to the TDM plan;
- Submit report to DDOT's Development Review Program within the Policy, Planning, and Sustainability Administration;
- Implement additional TDM measures by the beginning of the following semester in the event that the Applicant surpasses the threshold in a single monitoring period; and
- The Applicant shall return to the BZA to seek relief, lower their student and faculty enrollment, or provide additional and more aggressive TDM measures should vehicle trips generated exceed the 631 vehicle trips during the AM peak hour for two consecutive monitoring periods.

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