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Traffic. Transportation Planning. Parking. Design.

Technical Memorandum

To: *Dr. Marco Hinojosa* — Cityscape East Grand Preparatory

From: *David Nevarez, PE, PTOE* — DeShazo Group, Inc.

Date: March 6, 2017

Re: Traffic Management Plan for Cityscape East Grand Preparatory in Dallas, Texas

DeShazo Project Number 16036.02; Z - ( )

INTRODUCTION

DeShazo Group, Inc. (DeShazo) is an engineering consulting firm providing professional service in traffic engineering, transportation planning and related fields. Cityscape East Grand Preparatory (School) retained the services of DeShazo to provide a requisite Traffic Management Plan (TMP) for the school. The school is located at 6211 East Grand Avenue in Dallas, Texas.

The School is undertaking plans to redesign the school building to provide additional student capacity. The school has a current enrollment of 609 students in Pre-Kindergarten through Grade 7. The proposed school expansion will have an anticipated enrollment of 759 students in Pre-Kindergarten through Grade 8. As appropriate, recommendations are listed at the conclusion of this report to modify the previous TMP strategies to improve effectiveness and/or identify action items that the school should consider. A concerted effort and full participation by the school administration, staff, students, and parents are encouraged to provide and maintain safe and efficient traffic operations.

In general, a TMP is important to safely achieve an optimum level of traffic flow and circulation during peak traffic periods associated with student drop-off and pick-up. By properly managing the vehicular traffic generated during the critical periods, the safety and efficiency of other modes of travel – including walking – will also inherently improve, and the operational impact on the public street system should also be minimized. **The TMP should not be considered a comprehensive set of instructions to ensure adequate safety; however, it should be used as a tool to facilitate a safer and more efficient environment.** By consent of the TMP submittal, the School agrees to the strategies presented herein. In addition, the School is held self-accountable to enforce the plan until and unless the City of Dallas deems further mitigation measures are necessary.

NOTE: In this report the term "parent" refers to any parent, family member, legal guardian, or other individual who is involved in the pick-up or drop-off of one or more students at the school.

TRAFFIC MANAGEMENT PLAN

A school TMP is important to safely achieve an optimum level of traffic flow and circulation during peak traffic periods associated with student drop-off and pick-up. By properly managing vehicular traffic generated during the critical periods, the safety and efficiency of other modes of travel – including walking – will also inherently improve, and the operational impact on the public street system should also be minimized.

The analysis summarized below utilizes the proposed school site plan to evaluate aspects such parking and vehicle queuing (i.e., stacking) that occur at the school in order to accommodate the observed peak demands. A concerted effort and full participation by the school administration, staff, students, and parents are essential to maintain safe and efficient traffic operations.

School Operational Characteristics

Table *1* summarizes the current operational characteristics for Cityscape East Grand Preparatory:

Table 1. School Operational Characteristics

	Current Conditions	**Proposed Conditions**
Student Enrollment (*by grade*):	PK – 2nd Grade .....~428 students 3rd – 7th Grade .....~181 students *Total: 609 students*	PK – 1st Grade.....~331 students 2nd – 5th Grade.....~312 students 6rd– 8th Grade .....~116 students *Total: 759 students*
Total Faculty/Staff:	Approx. 70 staff	Same as before
Daily Start/ End Schedule (*by grade*):	PK – 2nd Grade: > 8:00 AM – 3:15 PM 3rd – 7th Grade: > 8:00 AM – 3:30 PM	PK – 1st Grade: > 8:00 AM – 3:15 PM 2nd – 5th Grade: > 8:00 AM – 3:30 PM 6th – 8th Grade: > 8:00 AM – 3:45 PM

Review of Traffic Conditions and previous TMP Strategies

DeShazo observed traffic characteristics on and surrounding the site on Tuesday, December 20, 2016 and Thursday, January 12, 2017 during the student dismissal period. Field observations generally noted an opportunity to manage traffic in accordance with the prior TMP. The following is a list of notable observations:

- Afternoon school traffic starts around 3:00 PM with a couple of parents arriving early for student pick-up and continues through the two student dismissal times for approximately one hour.
- Parking demand observations indicate a total of approximately 70 vehicles for school staff.
- Three driveways on Christler Avenue provide vehicular access to the school lot: one entrance only and one left-turn exit only and a right-turn exit only.
- Up to 25 parents parked on a vacant lot behind the Community Garden, across Christler Avenue.
- Up to 35 parents parked on Christler Avenue (25 on the northbound, ten on the southbound curb).
- There was no evidence of any infringement or traffic code violation during our field observations.
- A total of six school staff wearing bright orange vests coordinate traffic. Two police officers also manage traffic during school peak hours.

RECOMMENDATIONS

The following recommendations are provided by DeShazo to Cityscape East Grand Preparatory for the management of vehicular traffic generated by the school during afternoon peak traffic conditions.

1. A concerted effort and full participation of all school staff members, students, and parents is crucial for the success of this traffic management plan. Proper training of school staff on the duties and expectations pertaining to the plan is recommended. Sufficient communications at the beginning of each school term (and otherwise, as needed) with students and parents on their duties and expectations is also recommended.

Traffic Queue Operations

2. The School should attempt to minimize the number parents who choose to park during student pick-up time as well as the number of staff needed to control traffic through the active implementation of the TMP as depicted in **Exhibit 1**. This plan was designed with the intent of optimizing the on-site vehicular circulation, retention of vehicle queuing in a manner that promotes safety and operational efficiency, and also inherently reducing queuing length. The illustration also provides an optimized parking lot layout.

3. Parents should immediately proceed to form a queue on site upon arriving at the school during the afternoon pick-up period at the designated student(s) dismissal time. Peak vehicular accumulation for the School is based upon field observations and calculated as a linear ratio of *one vehicle per five students* in the lower grades and *one vehicle per seven students* in the upper grades:

   - PK – 1st Grade *(44% of student population)*:

     The School provides a total capacity of 76 spaces. The total capacity will accommodate a projected peak demand of 66 vehicles and provide a surplus of 10 spaces.
   - 2 – 5th Grade *(41% of student population)*:

     The School provides a total capacity of 76 spaces. This total capacity will accommodate a projected peak demand of 45 vehicles and provide a surplus of 31 spaces.
   - 2nd Grade: (15% parent pick-up)

     The School provides a total capacity of 76 spaces. This total capacity will accommodate a projected peak demand of 17 vehicles and provide a surplus of 59spaces.

4. The School should implement a "Passenger Identification System" during the afternoon pick-up period. The school should issue hangtags to parents with unique identification that pairs them with corresponding student(s) at the beginning of each school term. Hangtags must be on display through the vehicle's windshield while parents arrive at the pick-up areas during pick-up periods. School staff should also be positioned at strategic locations ahead of the loading area and relay the sequence of arrivals via hand radio while students are prepped for pick-up. With the assistance of other school staff stationed at the loading area, several vehicles should be loaded simultaneously. After each loading, vehicles should be cleared by school staff to carefully exit the queue.

5. The school should investigate the use of apps or software (e.g. Driveline Dispatch®) to expedite queue operations. This software efficiently displays family names of upcoming vehicles on indoor screens and provides students and school staff with a chart of vehicles approaching the loading zone.

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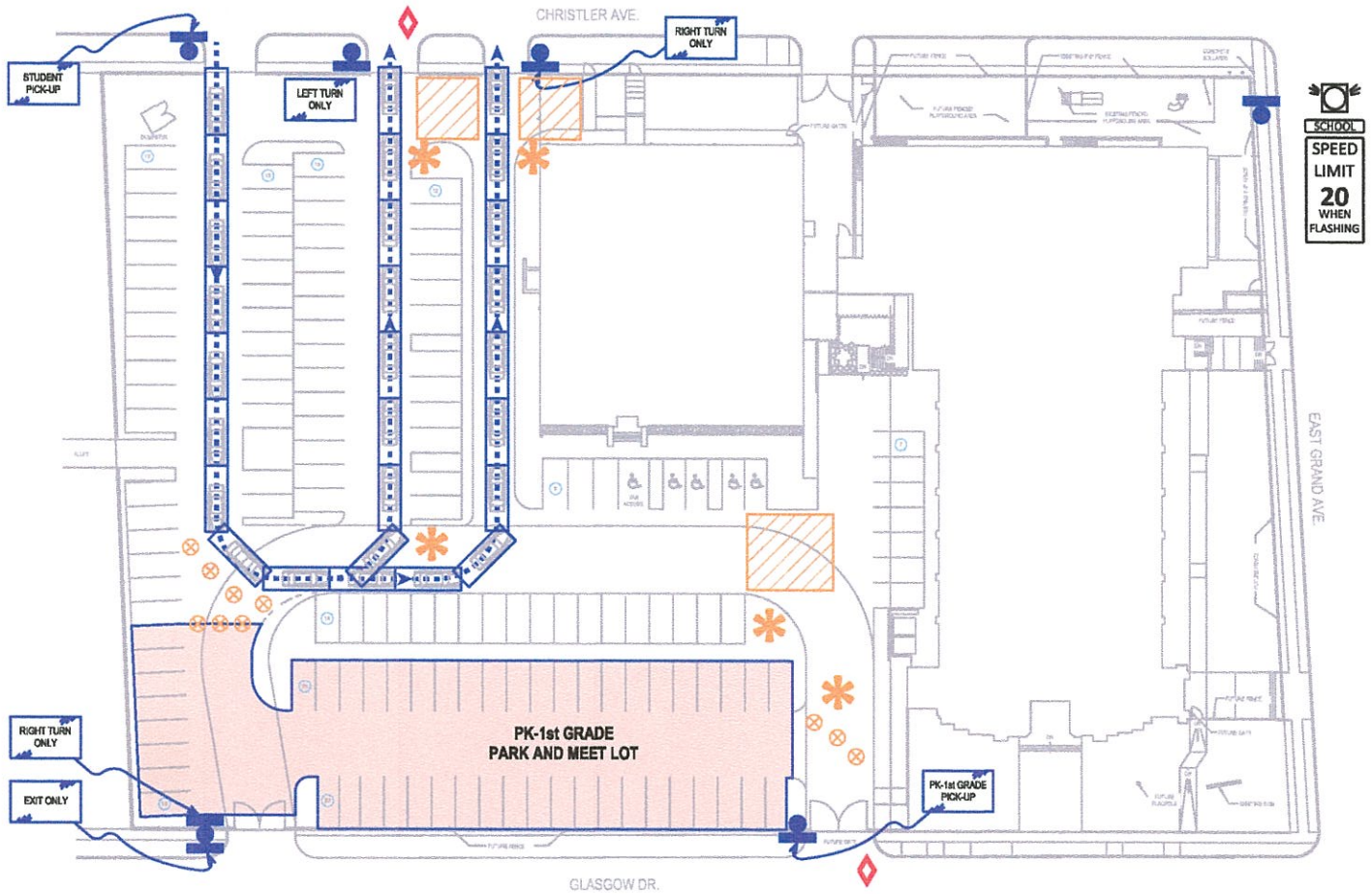

Student Group	Student Enrollment	Dismissal Time	Vehicular Queuing Summary:
			Queue Capacity: 635 LF (27 cars) PkgLot Capacity: 49 pkg stalls **TOTAL CAPACITY: 76 spaces**
PK-1st	331 students	3:15 PM	Peak Demand (1/5 students): 66 cars Surplus: 10 spaces
2-5th	312 students	3:30 PM	Peak Demand (1/7 students): 45 cars Surplus: 31 spaces
6-8th	116 students	3:45 PM	Peak Demand (1/7 students): 17 cars Surplus: 59 spaces

Legend

- School Staff
- Loading Area
- Route/Access
- Off-Duty Police Officer
- Traffic Signs*
- Traffic Cones

*NOTE: signs within driveway visibility triangles must not exceed 2'-6" in height.

The purpose of this TMP is to evaluate school traffic operations that promote safety and an efficient vehicle circulation. It was developed to prevent queuing of drop-off/pick-up related vehicles within public rights-of-way. The school administration should adhere to this TMP. Any deficiency due to spillover of queuing into undesignated areas, including adjacent streets, should be corrected immediately.

I, David Nevarez, P.E. #106200, certify that the results of the queuing analysis–upon complete enforcement of this Traffic Management Plan–indicate that no queuing of vehicles will extend into City of Dallas rights-of-way as a result of internal queuing constraints during the study peak hours of school operation.

EXHIBIT 1

Traffic Management Plan

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