



Traffic Management Plan

To: Michael Longanecker, AIA
Richardson Independent School District

From: Christy Lambeth, P.E., PTOE
Lambeth Engineering Associates, PLLC
Texas Registered Engineering Firm F-19508

Date: October 29, 2019

Re: Parking Study and TMP for Skyview Elementary School in Dallas, Texas
(Lambeth #012DAL)

Introduction

The services of Lambeth Engineering Associates, PLLC (herein Lambeth) were retained by Richardson Independent School District (RISD) to review the current drop-off and pick-up procedures, and create a traffic management plan (TMP) for Skyview Elementary School (Skyview). Skyview is located at 9229 Meadowknoll Drive, northwest of the Meadowknoll Drive/Whitehurst Drive intersection in the city of Dallas and zoned PD 590.

Skyview currently serves Pre-K through sixth-grade students in the main school building. The Annex Building contained classrooms for the RISD Gifted and Talented (GT) program prior to the 2019-2020 school year; the classrooms will be used for an Early Childhood School for the 2019-2020 school year. On-site parking does not currently satisfy the demand of staff; a new 54-space staff parking lot is planned for construction.

The purpose of the TMP is to ensure safe vehicular and pedestrian circulation during peak morning drop-off and afternoon pick-up periods by reviewing current operations and making recommendations to for both the existing elementary school and the new Early Childhood School families.

The new staff parking lot will relieve the on-street queueing and parking. The TMP is expected to operate well traffic flow well around the school.

School Description

Skyview currently has 806 students in Pre-K through 6th-grade and 127 staff. There are about 767 students dismissed during the afternoon period. No school growth is planned.

School begins at 7:50 AM and classes are dismissed at 3:00 PM. Approximately 23% of the students walk, 13% ride the bus, 10% ride in daycare vans and others are transported by parents. About 8% of the students attend the afterschool program. Approximately 150-200 students stay for tutoring after school on Tuesdays.

The Annex Building, located on Whitehurst Drive, hosted RISD GT students in 3rd – 6th grades prior to the 2019-2020 school year. These students were bused to/from their homeschool sites; therefore, they

do not create additional traffic during Skyview's arrival/dismissal periods. The GT program had eight (8) RISD staff who parked at Skyview.

Beginning in the 2019-2020 school year, the Annex Building classrooms will be used for the Skyview Early Childhood School. The Early Childhood School is planned to have 137 full-day Pre-K students. Two of the Pre-K classes are in the main elementary building. The Early Childhood School is scheduled to begin at 8:00 AM and be dismissed at 3:20 PM.

There are currently two school buses providing service at Skyview Elementary. At this time, bus transportation is not planned to be provided for the Early Childhood School.

Skyview currently has 69 parking spaces on site, which is not enough to accommodate the current Skyview staff. Therefore, a new 54-space parking lot is being constructed. Existing parking supply is described below.

Existing Parking Supply:

- Existing staff lot: 49 spaces
- Annex Parking Lot: 5 spaces
- Front Driveway Visitor Spaces: 15 spaces (available after arrival and before dismissal)

Site Access

The school is bordered by Meadowknoll Drive, Whitehurst Drive, and Briarhurst Drive. The driveways into the school parking lots are located on Meadowknoll Drive and Whitehurst Drive.

Sidewalks are provided on both sides of Meadowknoll Drive, Whitehurst Drive and Briarhurst Drive around the school.

The school zone on Meadowknoll Drive extends from just south of Meadowknoll Drive to Millridge Drive. The school zone on Whitehurst Drive extends from Glen Springs Drive to east of Briarhurst Drive.

A new parking lot is planned to be constructed on the west side of campus to accommodate staff that currently park on street and provide additional on-site queue space for unloading/loading students. The new parking lot will have access on Whitehurst Drive.

Traffic Management Plan

Background

Prior to beginning the project, Lambeth met with the City of Dallas traffic engineering staff¹ to discuss any concerns the City might have with the school. The staff provided Lambeth with a background of the school and recent improvements—including the new all-way STOP and barrier-free ramps—and discussed opportunities to provide more walkable options for the high number of pedestrians. Other than parents blocking the alley north of the school, the staff does not have any specific concerns regarding vehicular queuing.

¹ On February 28, 2019, Christy Lambeth met with the City of Dallas staff: David Nevarez, Bahman Bahramnejad and Kierra Williams.

Below are notes of observations and recommendations to facilitate traffic flow.

Observations

Traffic observations were conducted at Skyview Elementary School². As expected, the peak queue and on-street parking occurred during the PM dismissal period. A peak queue of 48 vehicles along with 76 parent vehicles parked on the street was observed for a total of 124 vehicles. This equates to a ratio of 5.9 students per vehicle that were picking up students during the PM peak period. Observation notes are provided in the **Appendix**.

Table 1 summarizes the peak observed vehicles—both queued and parked—picking up students.

Table 1. Peak Observed Parent Vehicles

Vehicles Picking Up Students (Excludes Staff On-street Parking)	Peak Vehicles Observed
Queued Vehicles (In School Driveway and on Meadowknoll)	48
Parked On-street in Front of School (On Meadowknoll and Site Streets)	25
Parked On-street Behind/Next to School (On Whitehurst and Briarhurst)	51
Total Vehicles:	124

On-Site Recommendations:

Below is a summary of recommendations on site that are also illustrated in the TMP shown in in **Exhibit 1** and **Exhibit 2**.

Recommendations for Elementary School:

Elementary School Morning Arrival Period:

- All vehicles should pull forward in the lane adjacent to the school to the designated unloading area and students should unload from only one lane.
- School staff should assist students out of vehicles by opening/then closing doors for them.
- Parents should be prohibited from parking in the drop-off lanes; they must remain in their vehicles and continue pulling forward to the unloading area.
- Parents desiring to park on the street and accompany their child(ren) to the school should use either the northern crosswalk on Meadowknoll Drive or the crosswalk at the Meadowknoll Drive/Whitehurst Drive intersection. If pedestrians cross Meadowknoll Drive between these two locations and come to the area adjacent to the unloading area, they should be directed to cross the school's driveway at the northern crosswalk where a crossing guard will assist them. This will enable vehicles to leave the queue line more promptly since they do not have to wait for crossing pedestrians.

² Skyview traffic observations conducted on March 18, 2019 (PM), March 21, 2019 (AM and PM), March 26, 2019 (PM), March 27, 2019 (AM and PM), April 1, 2019 (PM), May 27, 2019 (PM), August 21, 2019 (PM), and September 3, 2019 (PM).

- e. Cones should continue to be placed at the driveway's exit so that motorists turn right out of the school's front driveway.

Elementary School Afternoon Dismissal Period:

Parents Picking Up Students

- a. Parking should be prohibited in the school's driveway from 7:30 AM – 8:30 AM and from 2:00 PM – 4:00 PM. Signs should be posted and the parking lot should be checked at 2:00 PM to ensure that no vehicles are parked in the parallel parking spaces. If there are parked vehicles, they need to be moved.
- b. Currently, K through second grade students (and older siblings) are picked up in the queue lane adjacent to the school, and third- through sixth-grade students are picked up in the queue lane adjacent to the island (located between the school's front driveway and Meadowknoll Drive). After the new parking lot is constructed, it is recommended to consider K through 1st grades be picked up in the front driveway adjacent to the school, 2nd and 3rd grades be picked up in the front driveway adjacent to the island, and 4th through 6th graders be picked up in the new staff parking lot. The distribution of parents should be validated with the parent information cards before the new parking lot opens and redistributed when necessary.
- c. All students should wait at the front of the driveway near the designated loading areas and not be dismissed at different locations along the entire driveway. School staff should wait with the students and help alert them when their parent is arriving.
- d. Staff should guide parents to continually pull forward into the loading area (and not allow students to load into parents' vehicles outside of the loading area).
- e. Parents should be prohibited from parking in the queue lanes; they must remain in their vehicles and continue pulling forward to the loading area.
- f. School staff should assist students into their vehicles.
- g. School staff should continually remind parents to pull forward and proceed to the loading area.
- h. If additional improvements are needed, a "walkie talkie" system could be implemented with a staff member standing at the entrance of the driveway to announce to another staff member at the loading area the parents who have arrived, who would then use a megaphone to announce that information to the students so that they are in the same order as their parents in the queue line. The queue on Meadowknoll Drive did not last more than 10-15 minutes after dismissal. Therefore, the walkie-talkie/megaphone system will likely not need to be implemented, but it is presented as an option.

Pedestrians

- i. School staff should continue to help students to cross at the crosswalk in the northern portion of the school's driveway as well as ensure that parents are not parking, and students are not loading into vehicles outside of the designated loading area.
- j. Parents who want to park and pick up their student(s) should park on Whitehurst Drive, Briarhurst Drive or Meadowknoll Drive and walk to the area behind the school (by the playground) to pick up their student(s).

- k. Students should not be permitted to walk by themselves to/from vehicles parked on the street. Parents should walk up to their student(s) rather than honk to announce their arrival.
- l. Parents who park on Meadowknoll Drive should cross the school's driveway at the northern crosswalk area where a crossing guard will assist them or utilize the crosswalks at the Meadowknoll Drive/Whitehurst Drive intersection. Pedestrians should not be permitted to cross the school's driveway at the loading area. This will enable vehicles to leave the queue line more promptly since they do not have to wait for crossing pedestrians.

School Traffic Control

- m. Cones should continue to be placed at the driveway's exit so that motorists are forced to turn right out of the school's driveway on Meadowknoll Drive.
- n. Parents should be reminded not to park within 20 feet of a driveway opening of where No Parking signs are posted so that visibility is not blocked for parents leaving the driveways.

City Traffic Control

- o. Parking should be prohibited during school arrival and dismissal on the west side of Meadowknoll Drive between the alley and Heatherdale Drive so that the queued vehicles can form a line on Meadowknoll Drive without blocking through traffic if/when the vehicular queue extends past school driveway.
- p. Parking should be prohibited during school arrival and dismissal hours on the east side of Meadowknoll Drive between Atherton Drive and the alley so that through traffic can continue to navigate along Meadowknoll Drive while vehicles are waiting to turn left into the site. (No Parking Anytime sign is in place, if residences wanted, could be changed to during school hours.)
- q. Parking should be prohibited around the new parking lot entrance as noted on the TMP. If needed in the future and the queue from the new parking lot extends out into the street, with review and recommendation by RISD traffic engineer and approval by City Staff, the No Parking just east of the new parking lot entrance may be used for a westbound, single line queue into the new staff parking lot.
- r. Parents and staff should not park on Branch Hollow Drive, Atherton Drive, Heatherdale Drive or in alleys.

Other

- s. Continue to dismiss students in a manner that separates queued vehicles, parents parking, and students walking home.
- t. Continue to have designated loading areas for buses and daycare vans separated from the queue of parents.

Recommendations for Early Childhood School:

- 1. Early Childhood Students should be dropped-off/picked up in the new parking lot for students located in the annex building and in the front driveway for students located in the main building.
- 2. The loading area should be a single queue line. The same drop-off/pick-up procedures should be used for the Early Childhood parents – all parents should pull forward to a designated unloading/loading area and staff should assist students exiting/entering vehicles.

3. The Early Childhood School should be dismissed staggered from the elementary school with a minimum of 20 minutes apart so that the new parking lot can also be used for parents picking up both Elementary and Early Childhood students.

Other Recommendations:

1. Three school buses can be accommodated in the driveway in front of the Annex Building. Even though the Early Childhood School will not provide bus transportation in the 2019-2020 school year, it is recommended that the site continue to be able to accommodate three buses so that an additional bus can be added if/when needed in the future.
2. Daycare vans currently drop off and pick up students in the existing staff parking lot. It is recommended that they continue to utilize this area.

Summary

This study evaluated Skyview Elementary School's traffic flow and provided recommendations to accommodate the new Early Childhood School, which will be located in the Annex Building that hosted GT classrooms in prior years.

Overall, traffic flows relatively smoothly other than during the first few minutes of the dismissal period when the queue is extended onto Meadowknoll Drive and vehicles are parked on both sides of the street—sometimes blocking through movements for a short time. School is released at 3:00 PM, the on-street queue was dispersed by 3:10 PM and the on-site queue was dispersed by 3:15-3:20 PM.

Recommendations to improve the morning drop-off and afternoon pick-up procedures are provided in this memo. Even with maximizing the queuing process and providing an additional parking lot, parents will still need to be able to park on the street to pick up students. It is recommended that these parents continue to park and walk up to the school to pick up their student(s); students should not be permitted to walk to vehicles parked on the street.

Early Childhood School students should be dismissed at least 20 minutes apart from the Elementary School so that the new parking lot may be used to pick up both the Early Childhood and Elementary students. Providing this queue space will significantly reduce on-street parking during the PM dismissal periods if the queue lines are operated efficiently.

It is recommended that staff assist students exiting/entering their vehicles during arrival and dismissal periods, that parents pull forward to the loading/unloading area, students be unloaded/loaded at one location near the front of the driveway instead of locations along the queue, and that parents not be permitted to park in queue lines during arrival/dismissal times. It is recommended that pedestrians do not cross the queue lines where parents are loading/unloading students.

The new parking lot will relieve both staff on-street parking and parents parking on-street to pick up students. Since the Early Childhood students are being dismissed at a separate time from the Elementary School students, they are not expected to have a significant impact to school traffic once the new parking lot is in place.

After updating the traffic procedures in accordance with these recommendations, the plan should be reviewed and updated promptly if traffic congestion or unsafe movements are present.

Table 2. Queue Summary

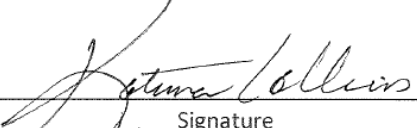
Grade	School Times	Students
Early Childhood	7:50 AM - 3:00 PM	110
K - 6th:	8:00 AM - 3:20 PM	767
Total:		877
TRAVEL MODES:		
Buses, Daycare Vans	~23%	
Parents	~46%	
Walkers	~23%	
After School Program	~8%	
QUEUE SPACE:		
	Veh	Feet
Projected Parent Vehicles:	124	2914
Provided On-Site Queue:	57	1348
On-Street Parking:	69	1611
Surplus Parent Space:	2	45

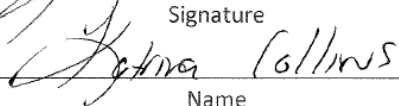
REVIEW AND COMMITMENT

The school traffic management plan for Skyview Elementary School was developed with the intent of optimizing safety and accommodating vehicular traffic queues generated during school peak hours. A concerted effort and full participation by the school administration are essential to maintain safe and efficient traffic operations.

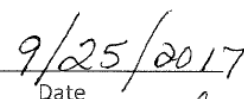
By consent of this TMP submittal, the school administration agrees to the strategies presented herein for which the school is held responsible unless the City of Dallas deems further measures are appropriate.

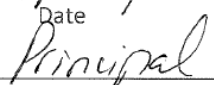
The school is also committed to continually review and assess the effectiveness of this plan and if warranted, implement changes in the interest of increasing safety and minimizing impacts on the surrounding community.



Signature


Name



Date


Title

END

Exhibit 2

Traffic Management Plan - Afternoon Dismissal

Elementary School
Afternoon :
 Pick up students in the designated area for each grade - some in the front driveway and some in the staff parking lot. If parents desire to park and walk student into school, park on Meadowknoll Drive and following pedestrian routes (do not cross island in front of school's main entrance).

Early Childhood School:
Afternoon:
 Pick up students in the new staff parking lot with staff assisting children into parents vehicles. If parents desire to park and walk to pick up students, park on Whitehurst Drive or adjacent to the school on Briarhurst Drive.

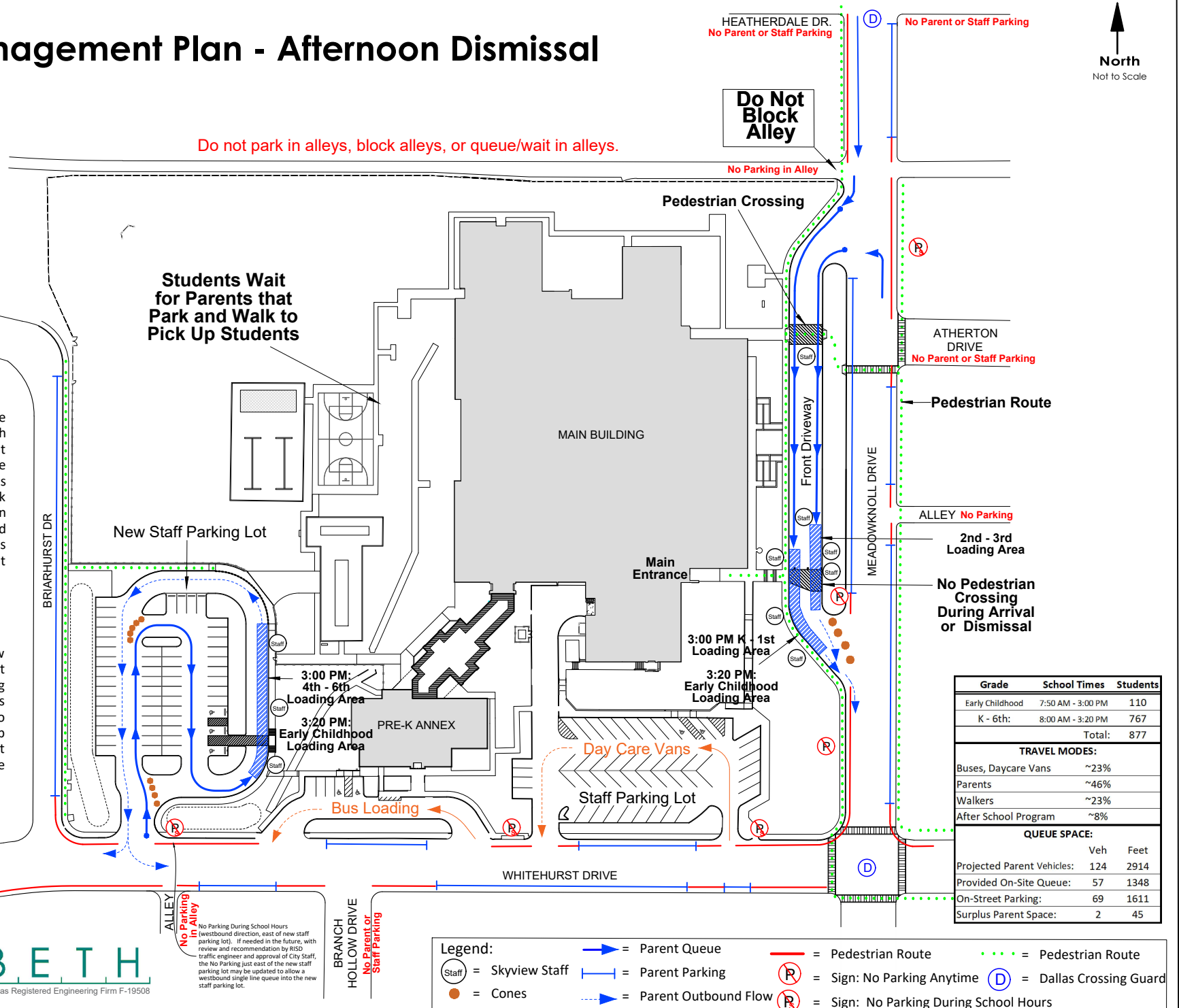
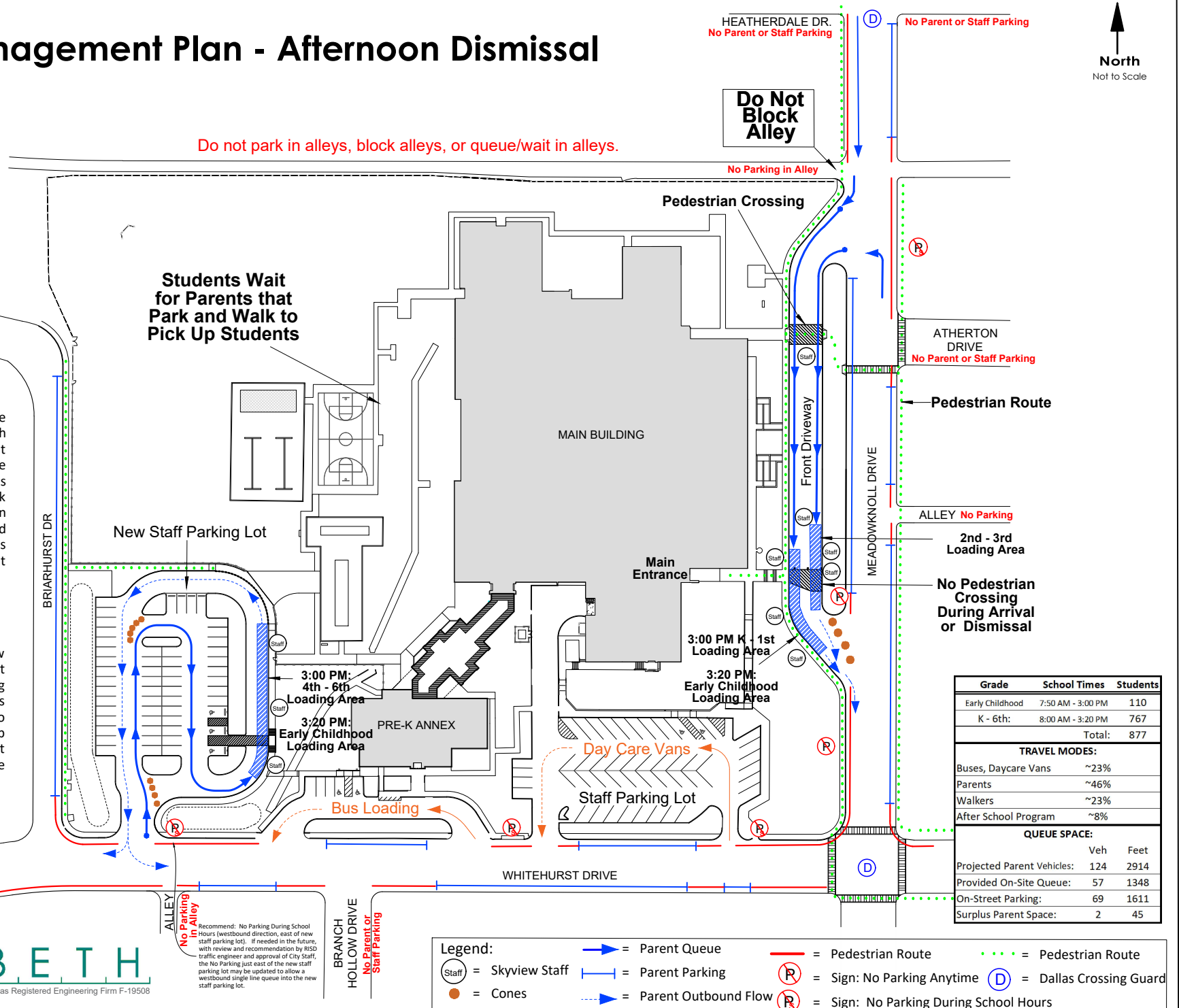


Exhibit 2

Traffic Management Plan - Afternoon Dismissal

Elementary School
Afternoon:
Pick up students in the designated area for each grade - some in the front driveway and some in the staff parking lot. If parents desire to park and walk student into school, park on Meadowknoll Drive and following pedestrian routes (do not cross island in front of school's main entrance).

Early Childhood School:
Afternoon:
Pick up students in the new staff parking lot with staff assisting children into parents vehicles. If parents desire to park and walk to pick up students, park on Whitehurst Drive or adjacent to the school on Briarhurst Drive.



Appendix

Queue Space

Location	Linear Feet	Provided Queue (Vehicles)	On-Street Parking (Vehicles)
Front Driveway			
Outer Lane	340	14	
Inner Lane	436	19	
New Parking Lot			
Inside Parking Lot	572	24	
Meadowknoll Dr.			
W. Side, Adjacent to Front Driveway	287		12
E. Side, South of Heatherdale, North of Alley	103		4
E. Side, South of Atherton and North of Alley	88		4
E. Side, North of Whitehurst Dr., South of Alley	235		10
Whitehurst Dr.			
N. Side, Adjacent to Staff Lot	106		5
N. Side, Adjacent to Annex Lot	90		4
S. Side, West of Meadowknoll, East of Branch Hollow	251		11
S. Side, West of Branch Hollow, East of Alley	69		3
Briarhurst Dr.			
Adjacent to School	382		16
Subtotal:	2,959	57	69
Total:		126	
Projected Queue Demand For Elementary School:		124	
Surplus Queue/On-Street Parking :		2	

School Times:

Elementary (K- 6th): 7:50 AM – 3:00 PM

Early Childhood (Full Day Pre-K): 8:00 AM – 3:20 PM

Enrollment:

Elementary School: 727 K-6th

Early Childhood School (Pre-K): 137

On-Site Observations/Recommendations:

Below are observations and recommendations directly relating the school's current traffic management.

1. Students were polite and respectful. Students who walked home left the campus walking together—not running or acting disrespectfully. For the most part, the students followed the directions of the crossing guard.
2. The staff carefully watched over and were engaged with the students.
3. The school driveway on Meadowknoll Drive was primarily used for two queue lanes plus a middle “escape” lane. The parallel parking spaces are used for the second queue lane during afternoon pick-up period. A peak of 48 vehicles was observed queued both on the site and waiting to enter the front driveway queue line. Some afternoons it was observed that vehicles were still parked in the parallel parking spaces, creating difficulty maneuvering through the driveway during the pick-up process.
4. Many parents pulled into the driveway, parked their vehicle, and got out to help their student out of/into the vehicle. *TMP recommends staff assist students into/out of vehicles and parents remain in vehicles.*
5. Some grades were dismissed at the northern and middle sections of the driveway causing parents to navigate into/out of the middle lane to reach their destination point and pick up their child(ren). *TMP recommends all students be picked up in designated loading areas.*
6. Two Skyview staff were present in the front driveway during arrival and dismissal periods to primarily facilitate pedestrians crossing the driveway and sometimes control the traffic flow.
7. Students were dismissed at the back of the school for those parents who parked on the street and walked to pick up students. A peak of 76 parked vehicles was observed of parents picking up their student(s) in this manner.
8. Vehicles were parked in front of the school on Meadowknoll Drive and the side streets off of Meadowknoll to pick up students who were waiting in front of the school to be picked up in the carpool line. *New staff parking lot will provide additional on-site queue space. Implementing TMP recommendations to expedite queue lanes will help queue to disperse more quickly. The combination of these items is expected to alleviate parents parking on these side streets.*
9. A peak of 51 vehicles were parked behind/south of school on Whitehurst and Briarhurst.
10. Some parents parked on the west side of Meadowknoll Drive, just north of the front driveway. This makes it difficult to have clear visibility of oncoming traffic for exiting vehicles. *TMP recommends No Parking allowed here, enforce existing signs.*
11. Buses pick up in front of the building on Whitehurst Drive and daycare vans pick up in the staff parking lot on Whitehurst Drive.
12. The queue extended from the front driveway onto Meadowknoll Drive for a short time period. During this time, vehicles blocked the alley north of the school. Vehicles were also parked on Meadowknoll north of the front driveway. *TMP recommends prohibiting parking north of the school's front driveway so that queued vehicles do not block traffic flow.*
13. On-street queue from the front driveway was generally dispersed by 3:10.
14. Queue in front driveway was dispersed by 3:15 - 3:20.

Off-Site Observations/Recommendations³:

Skyview neighbors brought up several traffic and safety concerns. For reference, below are observations and recommendations.

A. Meadowknoll Drive/Whitehurst Intersection:

1. The crossing guard facilitating pedestrians should remain in place at the Whitehurst Drive/Meadowknoll Drive intersection during the arrival and dismissal periods.

B. Meadowknoll Drive/Forest Springs Drive Intersection:

1. Request that the City provide a crossing guard at the Meadowknoll Drive/Forest Springs Drive intersection to guide the 127 students that were observed walking through this intersection—many of which were unaccompanied by an adult.
 - In June 2019, the City of Dallas approved a crossing guard to be provided at the Meadowknoll Drive/Forest Springs intersection and the crossing guard is now in place.
2. Request that the City install a pedestrian crossing sign in advance of the Meadowknoll Drive/Forest Springs intersection to the north (to alert southbound vehicles).
 - City is evaluating.
3. Request that the City extend the Meadowknoll Drive School Zone through Forest Springs Drive due to the high number of pedestrians crossing the street and southbound vehicular speeds. Consideration should also be given to reducing the length of time the school zone is in effect. Lambeth understands that this would create a school zone that is longer than the City's preferred length. However, there were many young students observed crossing the street and southbound vehicles were driving faster than desired for pedestrians crossing (a speed study was not conducted; however, southbound vehicles were observed stopping abruptly to allow pedestrians to cross and upcoming vehicles were not prepared for a prompt stop).
 - City of Dallas will consider evaluating the speed issue on Meadowknoll after the new crossing guards are in place.
 - City is aware of speeds and requested evaluation.
4. Request that the City add a barrier-free ramp on Meadowknoll for pedestrians crossing to/from Forest Spring Drive to accommodate parents with strollers and pedestrians needing a ramp for accessibility.
 - A barrier free ramp is planned to be installed by the City of Dallas.

C. Meadowknoll Drive/Heatherdale Drive Intersection:

1. It is preferable for all students to cross Meadowknoll Drive at one point. However, when a crossing guard is not present at Heatherdale Drive to remind them to continue to Forest Springs Drive, it is natural that they desire to cross beforehand when they think there are appropriate gaps in traffic. Young children, however, are not able to safely make this decision. Therefore, it is recommended that the City provide a crossing guard on Meadowknoll Drive at Heatherdale Drive as well as at the crosswalks and barrier-free ramps.
2. If a crossing guard is provided at only Heatherdale Drive and not at Forest Springs Drive, unaccompanied elementary students will likely cross Meadowknoll Drive prior to reaching

³ Lambeth assisted Ms. Collins, Skyview Elementary Principal, in requesting the City of Dallas to implement the above off-site improvements. Request initially submitted to the City on April 25, 2019.

Heatherdale Drive during the morning period. Therefore, it is recommended that a crossing guard be provided on Meadowknoll Drive at both Heatherdale Drive and Forest Springs Drive.

- In June 2019, the City of Dallas approved a crossing guard to be provided at the Meadowknoll Drive/ Heatherdale Drive and Meadowknoll Drive/Forest Spring Drive intersections. Crossing guards are now in place.

D. Meadowknoll Drive/Millridge Drive Intersection:

1. It was observed during the afternoon period that approximately 74 of the 127 students walking from the school to reach Forest Springs Drive crossed Meadowknoll Drive prior to reaching Forest Springs Drive. Many were also observed crossing near Millridge Drive. Therefore, a crossing guard should be provided at Meadowknoll Drive/Millridge Drive if the City does not provide a crossing guard on Meadowknoll Drive/Heatherdale Drive.
 - In June 2019, the City of Dallas approved a crossing guard to be provided at the Meadowknoll Drive/ Heatherdale Drive intersection and a crossing guard is now in place.

E. Forest Springs/Timberleaf Drive:

1. Request that the City install crosswalks at the following locations.
 - a. Crossing Forest Springs Drive: North of the alley and just south of the pedestrian gate to the apartments
 - b. Crossing Timberleaf Drive: On the east side of Forest Springs Drive
2. Request that the City install barrier-free ramps at the crosswalk locations noted above and at the alley intersecting with Forest Springs Drive in order to accommodate parents walking with strollers and pedestrians needing accessibility.
 - Barrier free ramps are being installed at time of this TMP update (October 28, 2019). Crosswalks should be installed after BFRs are in place.

F. Whitehurst Drive/Arbor Park Drive Intersection:

1. Request that the City evaluate providing a crossing guard for the 40 students that were observed on Whitehurst Drive crossing Arbor Park Drive. The intersection has a four-way STOP and traffic volumes were very low; however, students observed were walking through the intersection without properly watching for vehicles, and many students were unsupervised.
 - In June 2019, the City of Dallas approved a crossing guard to be provided at the Whitehurst Drive/ Arbor Park Drive intersection and the crossing guard is now in place.

G. Meadowknoll/Alley north of School:

1. Request the City install a sign north of the alley prohibiting blocking the alley.
 - Requested in April and July 2019. No Parking signs are in place at this location.