



symmetra design

The Lowell School

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TRAFFIC IMPACT STUDY

June 11, 2010

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INTRODUCTION

The following *revised* Traffic Impact Study (TIS) has been prepared for the Lowell School to identify transportation impacts associated with expanding the current school offering to incorporate a Middle School program (7th & 8th grades). The Lowell School is an independent private school located at 1640 Kalmia Road in Northwest Washington, D.C (see Figure 1 for a site location map). The school currently has 290 students enrolled from pre-primary through sixth grade and 80 faculty and staff. Typical student enrollment over the past two to three years has been between 310 and 320 students. The School is permitted for an enrollment of up to 400 students with faculty and staff not to exceed 60 individuals.

The Lowell School proposes to maintain its current population cap of 400 students and expand its offering to incorporate a middle school component (7th and 8th grades). The staff count is proposed to increase from 60 to 100 at full enrollment. The Middle School expansion is planned in three phases.

- Phase 1 (fall 2011-2013) would increase existing enrollment by 60 students from 290 to 350 over two years. The existing Parkside Building on campus would be renovated to house 6th, 7th and 8th grade students. Detailed Phase 1 plans are included in the Phase 1 section of this report.
- Phase 2 (fall 2013) would include an addition to the Parkside Building plus the development of a new driveway system (on-site infrastructure) to improve pick-up operations. Phase 2 student enrollment is planned for 350 students. Detailed Phase 2 plans are included in the Phase 2 section of this report.
- Phase 3 plans include demolition of the Fraser Building and construction of a new turf field and below-grade parking deck. The parking deck will add a gross total of 64 parking spaces (but a net of 42 spaces since it will eliminate 22 existing surface spaces), which will accommodate the increase in faculty and staff as well as better serve parents and visitors on the campus. Phase 3 plans also include expanding the existing gym to improve its athletic resources, particularly the swimming pool. Detailed Phase 3 plans are included in the Phase 3 section of this report.

Scope of Study

This TIS includes an assessment (Level of Service) of existing and future traffic conditions for AM, commuter PM and School PM peak hours. Future conditions are analyzed for Phases 1, 2 and 3. The study area for this project was confirmed by the District Department of Transportation (DDOT) and includes the following intersections:

- 17th Street / Lowell School Driveway
- Kalmia Road / Lowell School Driveway
- 17th Street / Kalmia Road
- 16th Street / Kalmia Road
- 16th Street / Juniper Street
- 17th Street/ Jonquil Street/ Juniper Street
- Kalmia Road/ Myrtle Avenue¹

¹ The Kalmia Road/Myrtle Avenue intersection has been included in this study at the request of the community.

Additional sections of the report evaluate site circulation and queuing. A Transportation Management Plan (TMP) is also included. As part of the TMP parent surveys were conducted to determine transportation behaviors and conditions. Lowell School also held a Transportation Forum with several area schools to determine best practices and brainstorm strategies to increase use of green travel choices.



Figure 1: Regional site location

Organization of Report

This Transportation Study includes the following report sections:

- **Background** – Provides an overview of Lowell’s programs and offerings, school operations and residential demographic of students.
- **Transportation Network and Site Access** – Provides an overview of vehicular, pedestrian, transit and bicycle access to the site.
- **Existing Operations and Roadway Conditions** – Provides an overview of the school’s transportation operations including modal split, trip generation and distribution, drop-off and pick-up procedures, and queuing. Provides an overview of traffic and pedestrian counts and field observations as well as an assessment (Level of Service) of the existing conditions in the study area.
- **Future Background Conditions** – Provides an assessment (Level of Service) of Future Background traffic conditions excluding traffic associated with Lowell’s student enrollment increases.
- **Future Conditions: PHASE 1** - Provides an overview of projected traffic conditions for Phase 1 of the Lowell School Project
- **Future Conditions: PHASE 2** – Provides an overview of project traffic conditions for Phase 2 including planned improvements to the site circulation and access system.
- **Future Conditions: PHASE 3** – Provides an overview of project traffic conditions for Phase 3 including planned improvements to the site circulation and access system.
- **Transportation Management Plan** - Outlines transportation management strategies the Lowell School will employ to reduce and manage automobile trips to and from the school.
- **Community Concerns** - Outlines transportation-related community concerns that have been expressed throughout the community outreach process.
- **Conclusions** – Provides a bulleted overview of this TIS.

BACKGROUND

The Lowell School offers two programs including: pre-primary and primary grades kindergarten through six. The school offers a dynamic and comprehensive curriculum including Environmental Science, Drama and Spanish.

Official School hours are from 8:15am to 3:15pm except on Wednesdays when school dismissal is at 2:15pm. Lowell offers Before Care daily between 7:30 and 8:15am as well as After School Program (ASP) until 6:00pm. The ASP provides indoor and outdoor games and activities, academic study and special projects. Mini-courses are also offered to children in kindergarten through sixth grade in three sessions during the school year. Approximately 10% of the school’s students participate in the ASP.

Based on current residential zip code data, approximately 49% of Lowell School students live in Maryland, 50% percent in the District of Columbia and 1% reside in Virginia.

The Lowell School is situated on an eight acre campus bordering the Rock Creek Park just south of the District of Columbia – Maryland border. The area is serviced by Metrobus, Metro Extra as well as principal arterials, local streets and sidewalks.

TRANSPORTATION NETWORK AND SITE ACCESS

Regional access to the site is provided by 16th Street, East Beach Drive and West Beach Drive. Access to the school is provided via 17th Street and school egress is provided via Kalmia Road.

Roadway Network

The local roadway network is illustrated in Figure 2 and described below:

- 16th Street is a four-lane north-south principal arterial that extends from the White House in the central downtown area to its intersection with Georgia Avenue in Silver Spring, Maryland. Daily traffic through the study area is 32,800² vehicles per day (vpd). Curbside parking is not permitted along the corridor during peak travel periods. Outside of peak travel periods, curbside parking is permitted however bus loading zones to the south of the 16th Street / Kalmia Road intersection prohibit parking at all times. Right turns on red are also prohibited at all approaches of the intersection. Exclusive left turn lanes are provided along 16th Street at the intersection with Kalmia Road and Juniper Street. The speed limit along 16th Street is 30 miles per hour.
- Kalmia Road is a two lane collector that extends from Georgia Avenue to the East/West Beach Drive junction to the west. Curbside parking is permitted along sections of the roadway. The speed limit is 15 miles per hour along both the eastbound and westbound approaches. Annual daily traffic on Kalmia Road is about 7,200 vpd. Left turns are prohibited along the westbound approach Monday through Friday, 7:00 am to 9:30am and 4:00pm to 6:30pm. No thru trucks over ¼ ton are permitted to travel on Kalmia Road. The Lowell School driveway exits to Kalmia Road. The Lowell School Driveway at Kalmia Road functions as a two-way (inbound and outbound) driveway most of the day. During school drop-off and pick –up operations the driveway functions as an exit only.
- 17th Street is a northwest / southeast local roadway that runs from the Jonquil/ Juniper Street intersection to the y-shaped junction with Kalmia Road. 17th Street serves as the point of ingress to the Lowell School driveway. The posted speed is 15 mph.
- Juniper Street is a local residential roadway connecting Alaska Avenue to the east to the Jonquil/ 17th Street intersection to the west. The posted speed limit is 25 mph.
- Myrtle Street is an east-west local residential roadway that connects from 16th Street to Kalmia Road within close proximity of the Lowell School driveway egress. Parking is permitted on both sides of Myrtle Street.
- Jonquil Street is an east-west local street that connects from 13th Street to the east to 17th Street at the intersection of Juniper Street.

² Represents average annual weekday volumes. Source: DDOT 2008 City-Wide Traffic Volume



Figure 2: Local Roadway Network

EXISTING OPERATIONS AND ROADWAY CONDITIONS

Vehicular Access & Circulation

The school manages a one-way³ two-lane driveway system with access from 17th Street. Vehicles approach the school driveway traveling from either direction along 17th Street (i.e. southeast turning left into the drive or northwest turning right into the driveway). Vehicles exit the school driveway at Kalmia Road.

The driveway services two separate lines: a primary line⁴ and pre-primary line⁵. The driveway has capacity for approximately 38 vehicles, 29 vehicles in the primary line and 9 vehicles in the pre-primary line. The upper portion of the drive provides a one-lane primary queue and the lower portion of the drive provides a two-lane (or double lane) queue with the primary line to the left and the pre-primary to the right curb. Figure 3 illustrates a schematic of access and driveway operations.

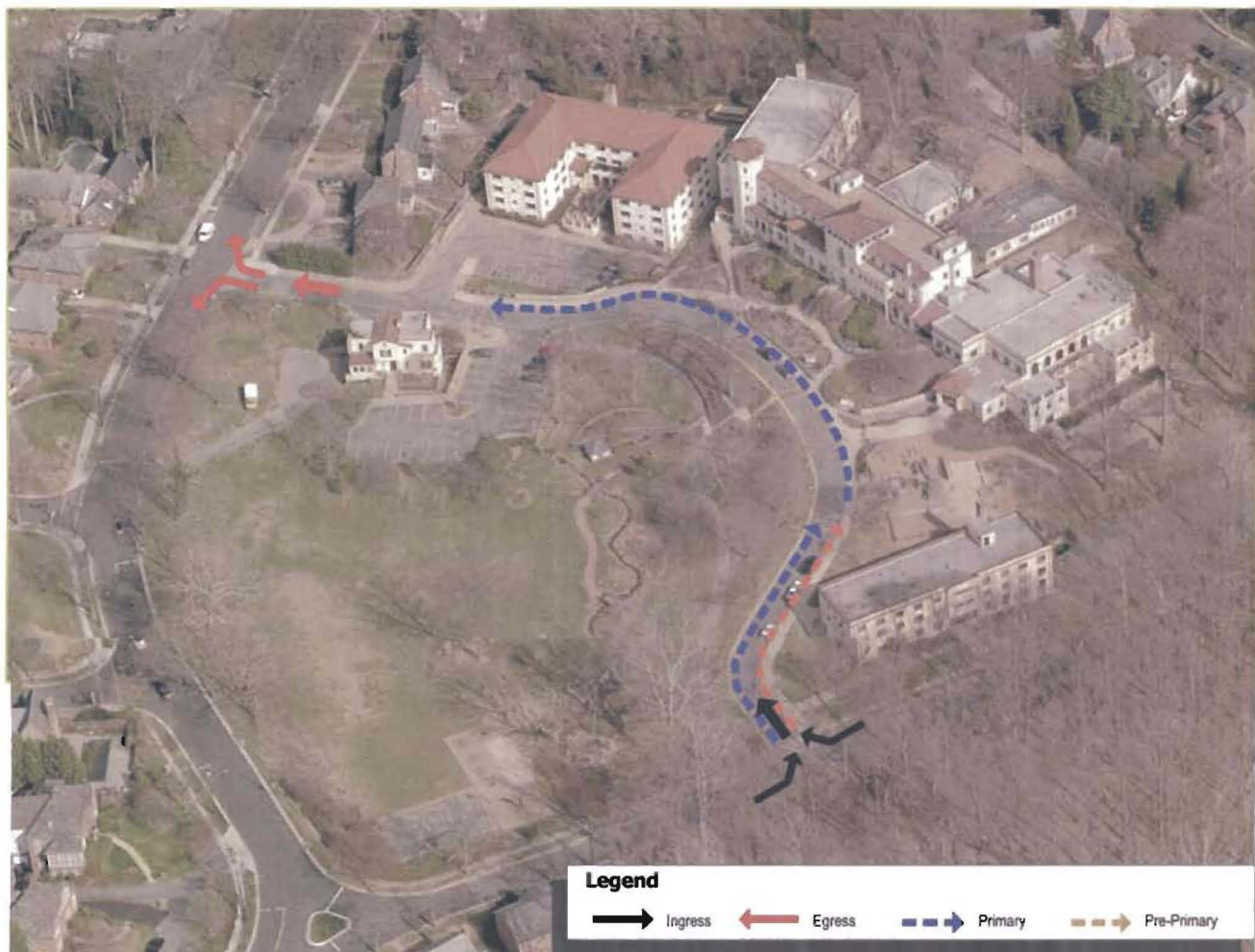


Figure 3: Schematic of the driveway operation.

³ The Lowell School Driveway at Kalmia Road functions as a two-way (inbound and outbound) driveway most of the day. During school drop-off and pick-up operations the driveway functions as an exit only.

⁴ Includes children in grades one through six.

⁵ Includes children in both the Pre-Kindergarten and Kindergarten programs.

Pedestrian and Bicycle Access and Circulation

Sidewalks are provided along 16th Street and along sections of Kalmia Road. Sidewalks are provided along the east-side (or school side) of 17th Street. Sidewalks on Kalmia are typically 12 feet and 16 feet wide along 16th Street with the effective width reducing to four feet and six feet, respectively along sections with planter boxes.

Crosswalks are provided at the 16th Street/ Kalmia Road intersection as well as pedestrian phase signals. Figure 4 shows primary pedestrian walkways to and from the school



Figure 4: Existing Sidewalks

Bicycle racks are provided on school grounds. There are no signed bicycle routes in the study area. The 2006 District of Columbia Bicycle Plan rates traffic conditions for bicycling on 16th Street as poor.

Transit

The study area is served by several of the 16th Street Lines (S2, S4) and the 16th Street –Potomac Park Line (S1). Bus stops are provided on both the northbound and southbound approach of 16th Street at Kalmia Road and Juniper Street. The Silver Spring Metrorail station is located approximately 1.7 miles from Lowell School.

Transportation Modal Split

A parent transportation survey was conducted to determine the travel mode choice for students (number and percentage) arriving to the school and is summarized in Table 1. The survey was conducted in 2008 when the

student enrollment was slightly higher than it is today. Table 1 has been adjusted to reflect the percentages determined in the 2008 survey applied to 2009 student enrollment figures.

Table 1- Existing Student Transportation Mode Choice

	AM		PM	
	Mode Split	Student	Mode Split	Student
Ride Alone	27%	79	34%	99
Carpool - two children	39%	112	36%	105
Carpool - three children	17%	49	20%	58
Carpool - four children	11%	33	2%	5
Metrobus	1%	2	1%	2
Walk/Bike	2%	5	4%	10
Absent	4%	10	34%	11
Total	100%	290	100%	290

As shown in Table 1, the vast majority (67% during the AM and 58% during the PM) of students participate in carpools with two or more children. A small percentage of students walk or ride their bicycle to school.

Approximately 10% of the staff members typically travel by public transportation, bike and/or walk to the Lowell School. The remaining staff members typically drive to work.

Drop-off Operations and Vehicle Queuing

School drop-off operations were observed on September 24, 2009 from 7:45 am to 8:45 am.

Carpool greeters are on duty beginning at 7:45am. Approximately two to eight carpool greeters are on-hand to assist children exiting vehicles. Children arriving prior to 7:45 am wait in parent vehicles along the school driveway until school greeters arrive. Once carpool greeters are present, children are able to exit vehicles and parents proceed without experiencing any delay. Parents must abide by the No Idling policy and turn engines off while waiting.

The carpool drop-off period⁶ (7:45am to 8:20pm) lasts approximately 35 minutes. For approximately 12 minutes during the drop-off period the vehicle queue extends beyond the school driveway onto 17th Street. The average queue⁷ on 17th Street is four vehicles. The maximum queue on 17th Street is a total of 11 vehicles, eight vehicles along the southbound leg and three vehicles along the northbound leg. Two Lowell School personnel direct traffic at the entrance on 17th Street to help manage the queue and aid in directing traffic along 17th Street. Still the situation is undesirable during that 12 minute peak drop-off period (8:02 to 8:14am) as vehicles queuing along 17th Street, on each side of the school driveway allow for only one single remaining lane⁸ used for both directions on 17th Street. Also the restricted sight distance for southbound traffic (due to a small hill) makes it difficult to see opposing northbound traffic.

⁶ Carpool period is the total time to complete morning drop-off from the time the first vehicle arrives on campus to the time the last vehicle departs the site.

⁷ Average queue recorded in two minute intervals during twelve minute peak period

⁸ The single lane can accommodate vehicle passing in both directions at one-time while vehicles are queued although the spacing for this movement is very tight.

Figures 5 and 6 illustrate the restricted sight distance for both southbound and opposing northbound traffic.



Figure 5: Sight Distance looking south on 17th St



Figure 6: Sight Distance looking north on 17th St

Pick-up Operations and Vehicle Queuing

School pick-up operations were observed on September 24, 2009 from 2:30 pm to 3:45 pm. Field observations were also conducted on March 11, 2010 and on April 22, 2010 from 2:30 pm to 3:30 pm. Conditions and impacts varied on a day to day basis as a result of after school activities and Mini-Course sessions. Analysis outlined in this report represents the worst case scenario.

In General, children are dismissed at 3:00pm and organized via a number system for pick-up. Older children with younger siblings, in either pre-kindergarten or kindergarten, are instructed to wait with younger siblings in the pre-primary line.

Parents typically arrive early and wait in their vehicles for dismissal. As with the arrival procedures, parents are required to abide by the No Idling policy and turn engines off while waiting. Lowell personnel direct traffic onto the school driveway and along 17th Street and a staff member has recently been assigned at the Kalmia Road egress during the afternoon pick-up. As the vehicles pull into the driveway designated staff members assist students with boarding and then the vehicles exit the driveway to allow other vehicles waiting to enter.

The carpool pick-up period⁹ (2:30pm to 3:25pm) lasts approximately 55 minutes. For approximately 22 minutes during the pick-up period the vehicle queue extends beyond the school driveway onto 17th Street. The average queue¹⁰ on 17th Street is 12 vehicles. The maximum queue on 17th Street is 23 vehicles, eight on the northbound leg and 15 along the southbound leg (three vehicles extend beyond 17th Street onto Kalmia Road). Similar to the morning drop-off period, two Lowell School personnel direct traffic at the entrance on 17th Street to help manage the queue. The situation is also undesirable during that 22 minute peak pick-up period as two-way operations for both directions are reduced to a very tight space for passing vehicles and also due to the restricted sight distance.

Existing Trip Generation and Distribution

Existing traffic volumes were counted at the school driveway on Thursday, September 24, 2009 during the morning and afternoon/evening peak periods from 7:00am to 9:00am and from 2:30pm to 6:00pm. Traffic counts indicated the AM peak hour occurred from 7:30am to 8:30am and the school PM peak hour occurred from

⁹ Carpool period is the total time to complete afternoon pick-up from the time the first vehicle arrives on campus to the time the last vehicle that departs the site.

¹⁰ Average queue recorded in two minute intervals during the 22 minute peak period

3:15pm to 4:15pm. The school AM peak hour coincides with the commuter AM peak hour. The school PM peak hour occurs much earlier than the commuter PM peak hour of 4:45pm to 5:45pm.

Table 2 below provides peak hour trip generation for AM, School PM and the Commuter PM peak hours.

Table 2- *Lowell School Peak Hour Trip Generation*

	AM Peak			PM Commuter Peak			School PM Peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Existing Peak Hour Trip Generation	190	166	356	18	47	65	68	107	175

Source: 2009 Field Observations and Traffic Counts

As Table 2 indicates, the school currently generates 356 total AM trips and 65 PM Commuter Peak trips and 175 School PM Peak trips.

Existing traffic data and zip code data was used to determine the percentage directional distribution for Lowell School traffic. The directional distribution is illustrated in Figure 7.

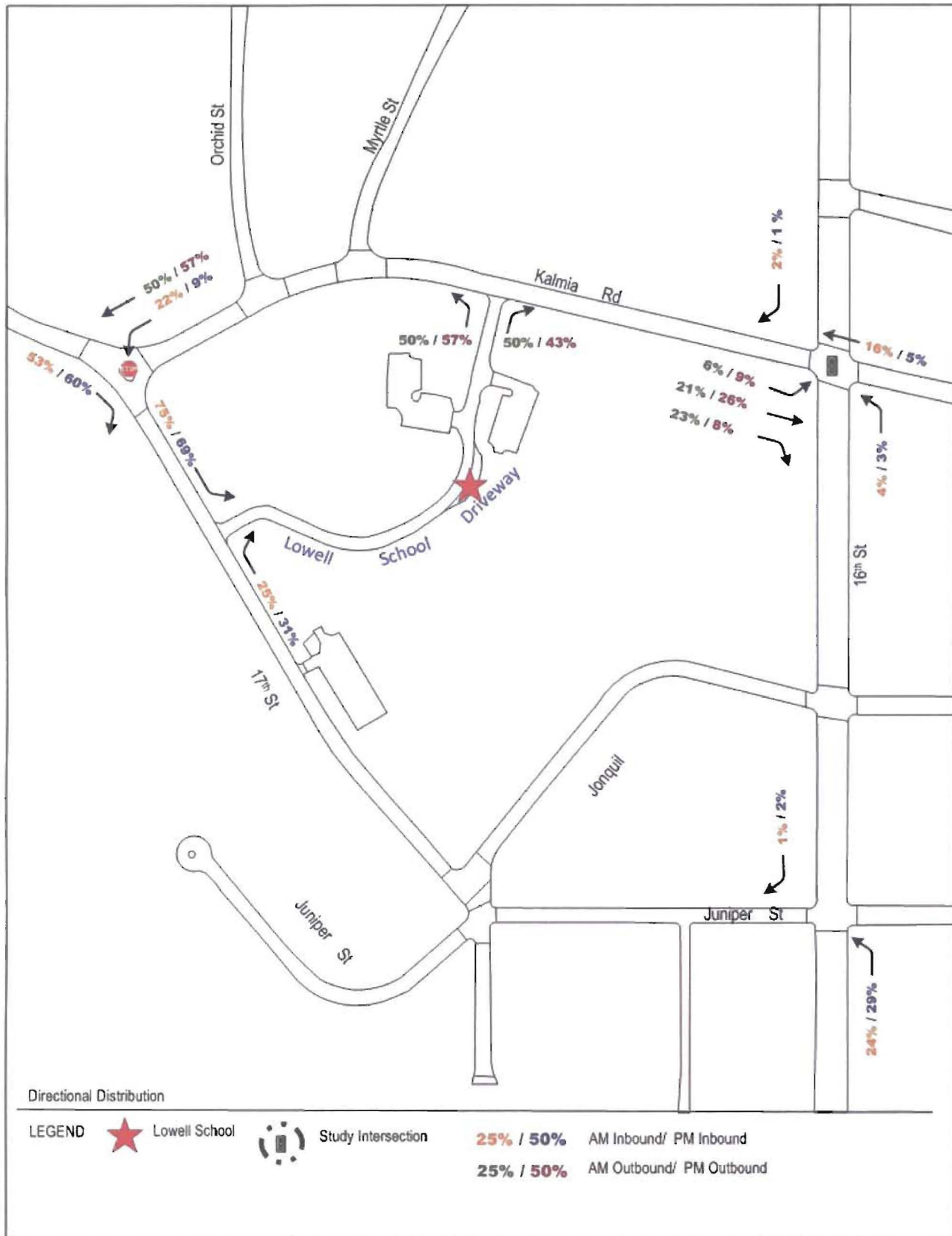


Figure 7: AM / PM Peak Directional Distribution

Traffic and Pedestrian Counts with Field Observations

Traffic data (turning movement counts), pedestrian counts, and field observations were conducted on Tuesday, December 9, 2008 and on Tuesday, December 16, 2008¹¹ between 7:00 am to 9:00 am and 2:45 pm to 6:00 pm at the following study area intersections:

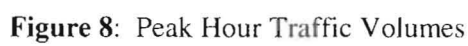
- 16th Street/ Kalmia Road
- 17th Street/ School Driveway (ingress)
- Kalmia Road/ School Driveway (egress)
- 17th Street/ Kalmia Road
- 16th Street/ Juniper Street

Traffic data (turning movement counts), pedestrian counts, and field observations were updated on Thursday, September 24, 2009 at the 17th Street/ School Driveway (ingress) and Kalmia Road/ School Driveway (egress) intersections. Traffic data collected in 2008 was comparable with 2009 traffic data. Based on data collected during these time periods, the system peak hours were determined to be 7:30 AM to 8:30 AM and 4:45 PM to 5:45 PM. The School PM peak hour was 3:15 PM to 4:15 PM. Peak hour traffic data is shown in Figure 8.

Traffic data (turn movement counts), pedestrian counts, and field observations were conducted for the following two additional intersections on March 11, 2010 and on April 27, 2010 , respectively, during the system AM peak hour 7:30 AM to 8:30 AM and during the School PM peak hour from 3:15 PM to 4:15 PM.

- 17th Street/ Jonquil Street/Juniper Street
- Kalmia Road/ Myrtle Avenue

¹¹ It should be noted that the student enrollment was 312 when the December 2008 traffic counts were conducted.



The following was observed during field reconnaissance:

- All of the study area intersections seemed to operate with minimal delay during the AM and PM peak periods.
- Vehicle queues extended beyond the school driveway onto 17th Street for approximately 12 minutes during the AM peak hour and 22 minutes during the School PM peak hour.
- Vehicles queuing along 17th Street on each side of the school driveway allow for only one single remaining lane used for both directions on 17th Street. This creates an undesirable situation that lasts for approximately 15 minutes during the AM peak hour and 22 minutes during the school PM peak hour. Also the restricted sight distance for southbound traffic (due to a small hill) makes it difficult to see opposing northbound traffic. Lowell School personnel direct traffic at the 17th Street/Lowell School Driveway and at the Kalmia Road/ Lowell Egress intersection to help direct traffic and manage the vehicle queue.
- The awkward design of the 17th Street/Kalmia Road intersection is confusing for drivers. It is not clear if drivers traveling westbound on Kalmia Road should turn left onto 17th Street before or after the island. This "Y" intersection currently operates as a three way stop. See Figure 9 for a photograph of the current design.



Figure 9: Photograph of 17th Street/ Kalmia Road "Y" Intersection Design

Existing Conditions Analysis

Existing traffic volumes shown in Figure 10 were analyzed using SYNCHRO 6 software based on the Highway Capacity Manual, to determine the Level of Service (LOS). Level of Service Capacity analysis results can range from LOS "A" (best) to LOS "F" (worst) based on the average delay experienced by motorists. LOS "D" and "E" are typically accepted by DDOT as the minimum delay threshold limit for intersections. Analysis results are summarized in Table 3 below.

Table 3- Existing Conditions Level of Service

PHASE 1	AM Peak		School PM Peak	
	LOS	Delay (sec/vehicles)	LOS	Delay (sec/vehicles)
17 th Street/ Lowell School Entrance*	A	5.0	A	3.7
Kalmia Road / Lowell School Exit*	B	14.2	B	10.5
17 th Street/ Kalmia Road*	B	10.9	A	9.3
16 th Street / Kalmia Road	B	15.1	B	11.8
16 th Street / Juniper*	E	48.0	B	13.1
Kalmia Road / Myrtle Street/New Entrance*	A	9.8	A	8.0
17 th Street/ Juniper Street/ Jonquil Street*	A	7.8	A	8.0

* Unsignalized intersection - LOS reflects worst minor approach

As Table 3 indicates all of the study area intersections currently operate at LOS "C" or better during the AM, School PM, and Commuter PM Peak hours except for the 16th Street/Juniper Street intersection which is unsignalized. The vast majority of motorists (approximately 98%) at this intersection experience no delay at all. Only the very small percentage of motorists on Juniper Street (the minor approach of the intersection) experience delay. Also the traffic signal at the adjacent 16th Street/Kalmia Road intersection does provide gaps in traffic to improve accessibility at the 16th Street/Juniper Street intersection.

FUTURE BACKGROUND CONDITIONS

Future Background traffic conditions were projected to determine traffic conditions in the future excluding the Lowell Middle School Expansion Project. Future Background conditions serve as the baseline scenario for measuring Lowell School impacts in the future. Future Background traffic conditions were projected by considering traffic associated with the following:

- Planned pipeline projects – Wonders Child Care Center proposes to relocate its childhood learning center to the Washington Ethical Society (WES) building situated in the 7700 Block of Sixteenth Street, NW (between Kalmia Road and Jonquil Street), in the Shepherds Park area of Northwest Washington, D.C. (Figure 10 shows the location). The Center is planned to serve 35 to 40 children between the ages of two and a half and five years. Its hours of operation would be 7:30am to 6:00pm. Traffic data from the planned WES project was obtained from the O.R. George and Associates March 2009 Traffic Impact Study. The study notes the Wonders Child Care facility will generate 25 AM peak hour trips and 34 PM peak hour trips and will attribute minimal impact since significant percent of their clientele is likely to be from the immediate area.
- Regional growth - A conservative growth rate of one percent (1%) per year was applied to through traffic volumes on 16th Street to account for regional increases in traffic. However it should be noted that national and regional trends have indicated that Vehicle Miles Traveled (VMT) and traffic volumes have recently decreased over the past several years.

Traffic analysis for Future Background Conditions is summarized in Table 4 below.



Figure 10: Proposed Location for Wonders Child Facility at Washington Ethical Society

Table 4 -Future Background Conditions Level of Service (Excluding Lowell School Middle School Expansion)

	AM Peak		School PM Peak		PM Peak	
	LOS	Delay (sec/vehicles)	LOS	Delay (sec/vehicles)	LOS	Delay (sec/vehicles)
17 th Street/ Lowell School Entrance*	A	5.0	A	3.7	A	3.1
Kalmia Road / Lowell School Entrance*	B	14.5	B	10.5	A	10.1
17 th Street/ Kalmia Road*	B	11.1	A	9.3	B	10.2
16 th Street / Kalmia Road	B	15.4	B	12.0	B	13.0
16 th Street/ Juniper Street *	F	51.3	D	29.9	B	14.6
Kalmia Road / Myrtle Street/New Entrance*	A	10.0	A	8.1	A	8.0
17 th Street/ Juniper Street/ Jonquil Street*	A	7.8	A	7.9	----	----

* Unsignalized intersection - LOS reflects worst minor approach

Note: The PM Peak Hour was not analyzed for the Kalmia Road/Myrtle Avenue intersection or at the 17th Street/ Juniper Street/ Jonquil intersection.

As Table 4 indicates, traffic conditions will generally continue to operate at LOS “D” or better in the future with the addition of regional traffic increases and the WES project. There is a slight increase in delay for eastbound traffic on Juniper Street at the 16th Street intersection. The traffic signal at the adjacent 16th Street/Kalmia Road intersection will continue to provide gaps in traffic to improve accessibility at the 16th Street/Juniper Street intersection.

FUTURE CONDITIONS: PHASE 1

The Lowell School Phase 1 plans include the following:

- Increasing the current student enrollment by 21%¹² from 290 students to 350 students as shown in Table 5 below.
- Expanding current pre-primary and primary grade levels to include 32 to 36 seventh and eighth grade students
- Minor renovations to the exiting Parkside Building located along 17th Street, NW to accommodate the Middle School Program¹³
- Initiate a Bus Program (40 passenger bus)

Site Circulation and Queuing

Under Phase 1, the Lowell School would continue to operate the driveway as existing conditions. The main driveway will continue to function as a one-way two-lane driveway system with ingress from 17th Street and egress to Kalmia Road.

A summary of vehicle queuing analysis assessment for Phase 1 is as follows:

Drop-off

- The maximum vehicle queue is projected to increase from 49 vehicle to 53 vehicles (same as Phase 1) thereby increasing the total number of queued vehicles on 17th Street from 15 to 19 vehicles.

Pick-Up

- The existing maximum queue length of 61 cars is projected to **decrease** to 59 cars thereby decreasing queued vehicles on 17th Street from 23 to 21. This reduction is due to the planned school bus and the Middle School student participation in extracurricular activities.

Phase 1 Traffic Projections

Peak hour trip generation (see Table 5) was calculated based on population growth percentages and expected reduction considering bus program participation and participation in Middle School Extra Curricular Activities.

Table 5- Peak Hour Trip Generation

	AM Peak			Commuter PM Peak			School PM Peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Existing	190	166	356	18	47	65	68	107	175
Phase 1 add'l trips (w/ Bus Reduction and Extra Curricular Activity Participation)	15	15	30	11	11	22	-3	-3	-6
Phase 1 Total	205	181	386	29	58	87	65	104	171

¹² NOTE: The Lowell School plans to increase student enrollment by approximately 13% compared to typical enrollment figures of 310 to 320 students. However a 21% growth rate was used for the Phase 1 analysis since only 290 students were enrolled at the time of the September 2009 Lowell School driveway counts.

¹³ The Middle School Program would include 6th, 7th and 8th grade students. The Lowell School currently has a 6th grade class of about 15 students.

As outlined in Table 5, Phase I will generate an additional 30 AM and 22 Commuter PM peak hour trips. During the school PM peak hour the trips are projected to decrease by six trips due to the school bus reduction and Middle School participation in extracurricular activities. The additional Lowell School site trips were distributed throughout the roadway network using the directional distribution shown in Figure 7. Figure 11 shows the traffic changes on 17th Street and Kalmia associated with Phase I.

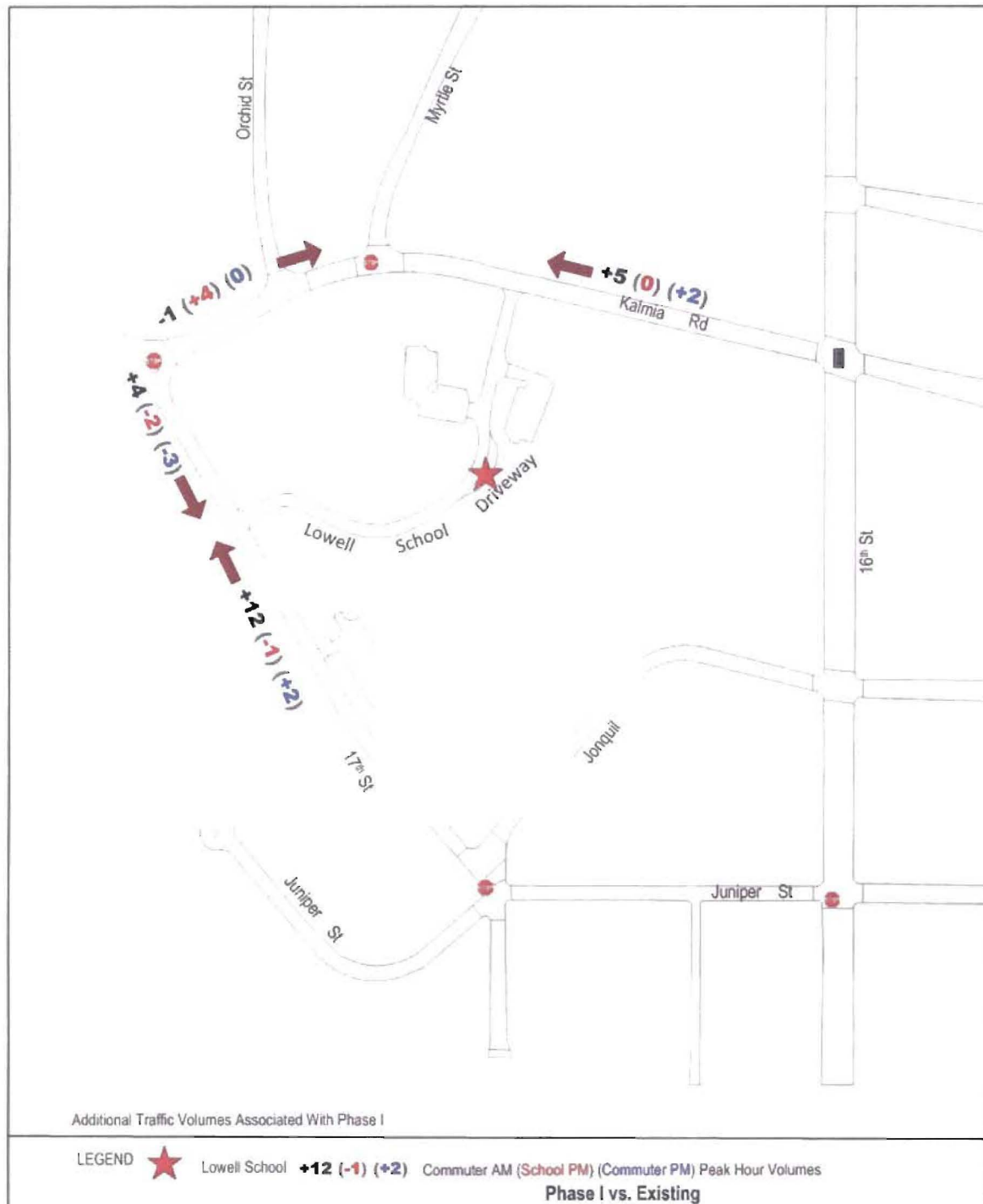


Figure 11: Phase I Site Traffic.

Phase 1 Total Traffic

Phase 1 total traffic projections include regional growth increases in traffic, the Washington Ethical Society project as outlined in Future Background Conditions as well as Lowell School Phase 1 Traffic Projections. Total future traffic volumes projected for Phase 1 are illustrated in Figure 12.

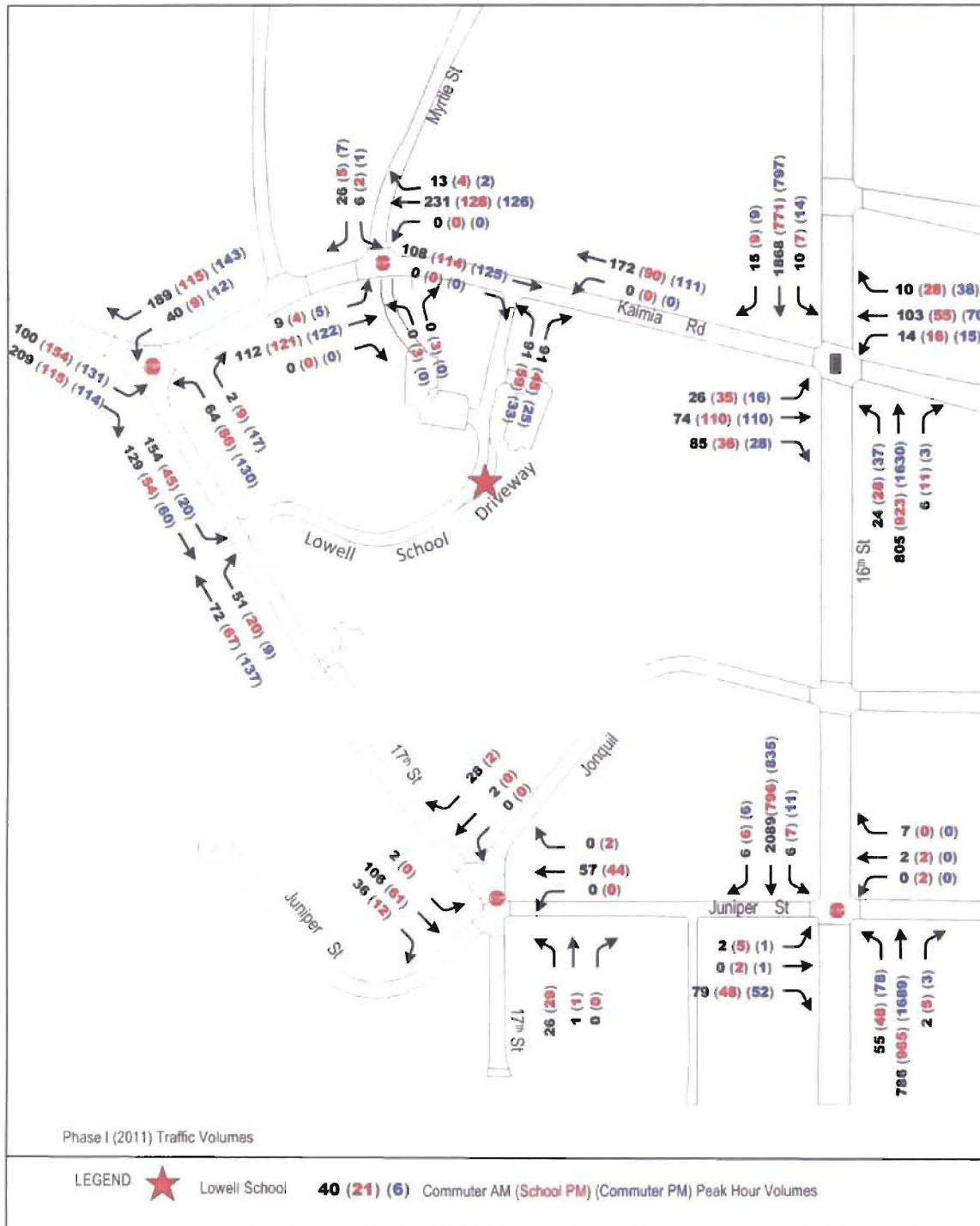


Figure 12: Phase 1 Future Total Traffic Volumes

Phase 1 Traffic Analysis

Phase 1 traffic volumes shown in Figure 12 were analyzed using capacity analysis methodology as outlined in the Existing Conditions section of this report. Phase 1 future total traffic analysis results are summarized in Table 6 below.

Table 6 - Phase 1 Future Total Conditions Level of Service

PHASE 1	AM Peak		School PM Peak	
	LOS	Delay (sec/vehicles)	LOS	Delay (sec/vehicles)
17 th Street/ Lowell School Entrance*	A	5.1	A	3.6
Kalmia Road / Lowell School Exit*	B	14.7	B	10.6
17 th Street/ Kalmia Road*	B	10.5	B	10.6
16 th Street / Kalmia Road	B	15.5	B	12.0
16 th Street / Juniper*	F	57.5	D	29.8
Kalmia Road / Myrtle Street/New Entrance*	A	9.8	A	9.7
17 th Street/ Juniper Street/ Jonquil Street*	A	7.8	A	8.0

* Unsignalized intersection - LOS reflects worst minor approach

FUTURE CONDITIONS: PHASE 2

The Lowell School Phase 2 plans include the following:

- Addition to Parkside Building for Middle School program
- Development of a new driveway system with access from Kalmia Road
- Maintain student enrollment at approximately 350 students

Phase 2 Site Access

The Lowell School proposes to implement a site driveway from Kalmia Road (see Figure 13) to accommodate on-site vehicle queuing capacity during the afternoon pick-up and to remove stacking from 17th Street. The driveway ingress would be aligned across the existing 3-way stop at Myrtle Street and Kalmia Road and would connect through the existing parking lot adjacent to the Marjorie Webster building. Vehicles would enter from Kalmia Road, turning either left or right to access the campus, proceed through the existing Marjorie Webster parking lot and continue south towards the Lowell School Driveway circulating in a counter-clockwise direction towards the on-campus mountable turnaround near the current 17th Street main Lowell School driveway.

All vehicles accessing the campus during afternoon pick-up would be required to approach via this proposed driveway from Kalmia Road. The driveway would function in two-directions from the Marjorie Webster parking lot to the turnaround area near the 17th Street driveway. The driveway includes a lay by area near the pre-primary building and an additional by pass lane at the beginning of the carpool line near the existing Fraser building (and Phase 3 turf field as shown in Figure 13).

The existing 29 parking spaces that are located in the Marjorie Webster parking lot would remain. Parking operations would not be permitted in the Marjorie Webster parking lot during the afternoon pick up period.

The new site access system offers the safety benefits of removing queued vehicles from 17th Street and eliminating the previous sight distance issue associated with the 17th Street driveway access (i.e. restricted sight distance for vehicles traveling northbound that are unable to view southbound left turn movements due to a small hill). The new circulation would provide a total on-site single stack capacity for a total of 71 vehicles whereas the current driveway system accommodates on-site stacking for 38 vehicles.

Morning drop-off operations would still occur via the 17th Street driveway. The community preferred to maintain access from 17th Street in the morning since through traffic volumes on Kalmia Road are slightly higher in the AM (269) compared to the PM (200). Also maintaining access from 17th Street in the morning allows the school to maintain the flexibility of a two-lane drop off system with greater by pass opportunity. Maintaining morning inbound access from 17th Street does not address the brief 17th Street queuing issue or the sight distance issue that is addressed during the afternoon when the Kalmia Road driveway would be used.

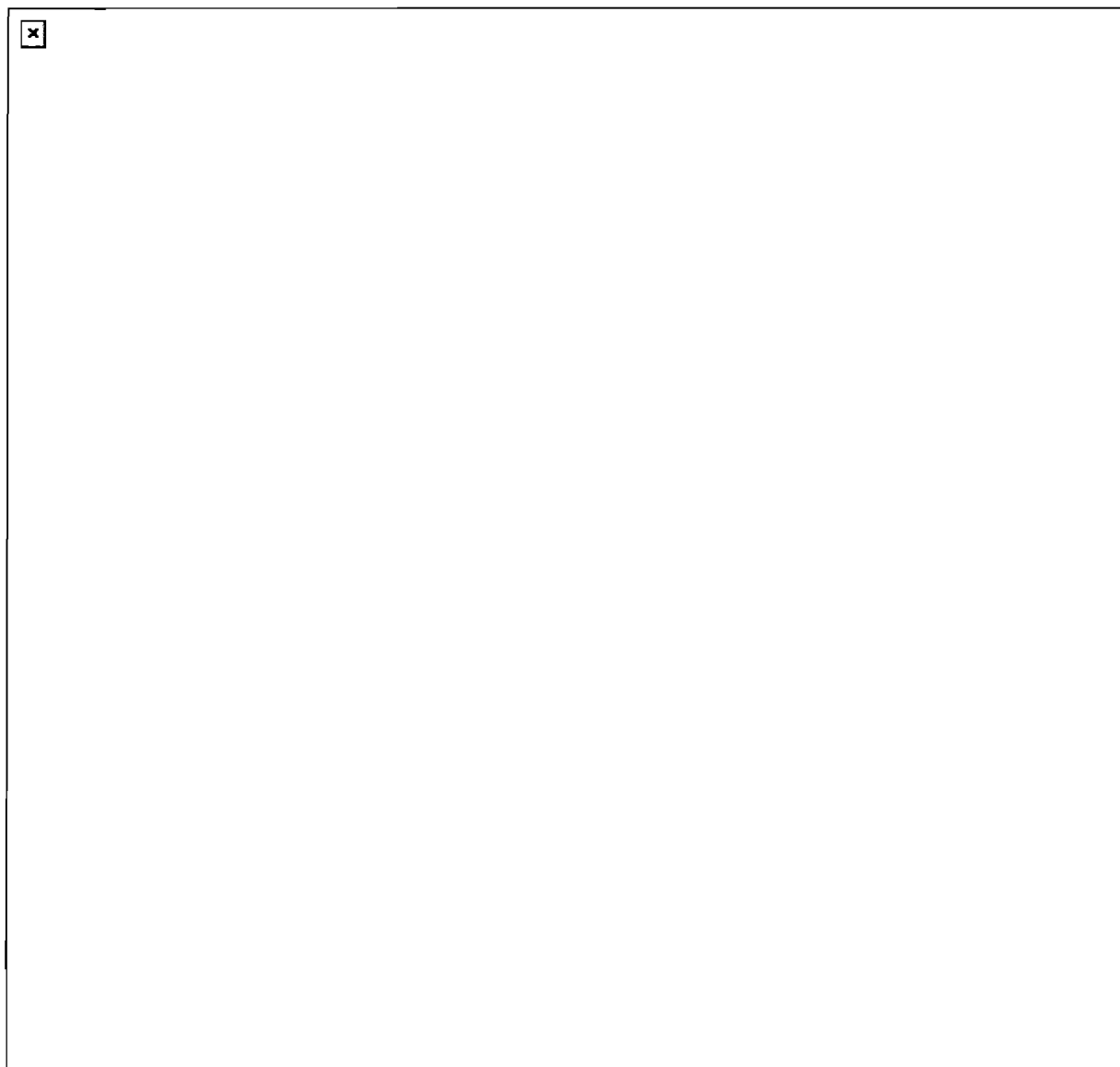


Figure 13: Phase 2 Proposed Kalmia Road Driveway Access¹⁴

¹⁴ NOTE: Figure 13 shows a new turf field and parking deck located at the current location of the Fraser building. This improvement is shown in this phase 2 driveway access figure but is programmed as part of Phase 3 improvements.

Phase 2 Queuing

Under Phase 2, during the morning drop-off, the Lowell School would continue to operate the driveway from 17th Street as it does today. Afternoon pick-up operations would require all vehicles accessing the campus to approach via the proposed driveway from Kalmia Road as described in the Phase 2 Site Access section. The new circulation will allow for a total of 71 vehicle storage spaces on-site.

The queuing analysis considers the projected population increase from 290 existing students to 350 students (same as Phase 1), implementation of a bus program (40-passenger bus) and Middle School Extra Curricular activities that would reduce school traffic during the peak afternoon pick up period.

Drop-off

- The maximum vehicle queue is projected to increase from 49 vehicle to 53 vehicles (same as Phase 1) thereby increasing the total number of queued vehicles on 17th Street from 15 to 19 vehicles.¹⁵

Pick-Up

- The existing maximum queue length of 61 cars is projected to **decrease** to 59 cars (same as Phase 1) as a result of the planned school bus and the Middle School student participation in extracurricular activities.
- Afternoon pick-up operations would require all vehicles accessing the campus to approach via this proposed driveway from Kalmia Road as described in the Phase 2 Site Access section. The new circulation will allow for a total of 71 vehicle storage spaces on-site thus the expected 59 vehicles would all be accommodated on-site.

Phase 2 Traffic Projections

Phase 2 peak hour trip generation (see Table 7) was calculated based on population growth percentages and expected reduction considering the planned bus program and Middle School participation in extracurricular activities. Phase 2 trip generation is expected to be the same as Phase 1 trip generation.

Table 7 - Phase 2 Peak Hour Trip Generation

	AM Peak			Commuter PM Peak			School PM Peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Existing	190	166	356	18	47	65	68	107	175
Phase 2 add'l trips (w/ Bus Reduction and Extra Curricular Activity Participation)	15	15	30	11	11	22	-3	-3	-6
Phase 2 Total	205	181	386	29	58	87	65	104	171

¹⁵ Phase 2 queuing assessment for morning arrival assumes parents use the exiting driveway circulation. The driveway capacity would remain 38.

Additional Lowell School site trips were distributed throughout the roadway network using a modified existing directional distribution during the afternoon peak considering the proposed site access from Kalmia Road. Figure 14 shows projected traffic increases and decreases along Kalmia Road and 17th Street as a result of Phase 2 Lowell School traffic projections.

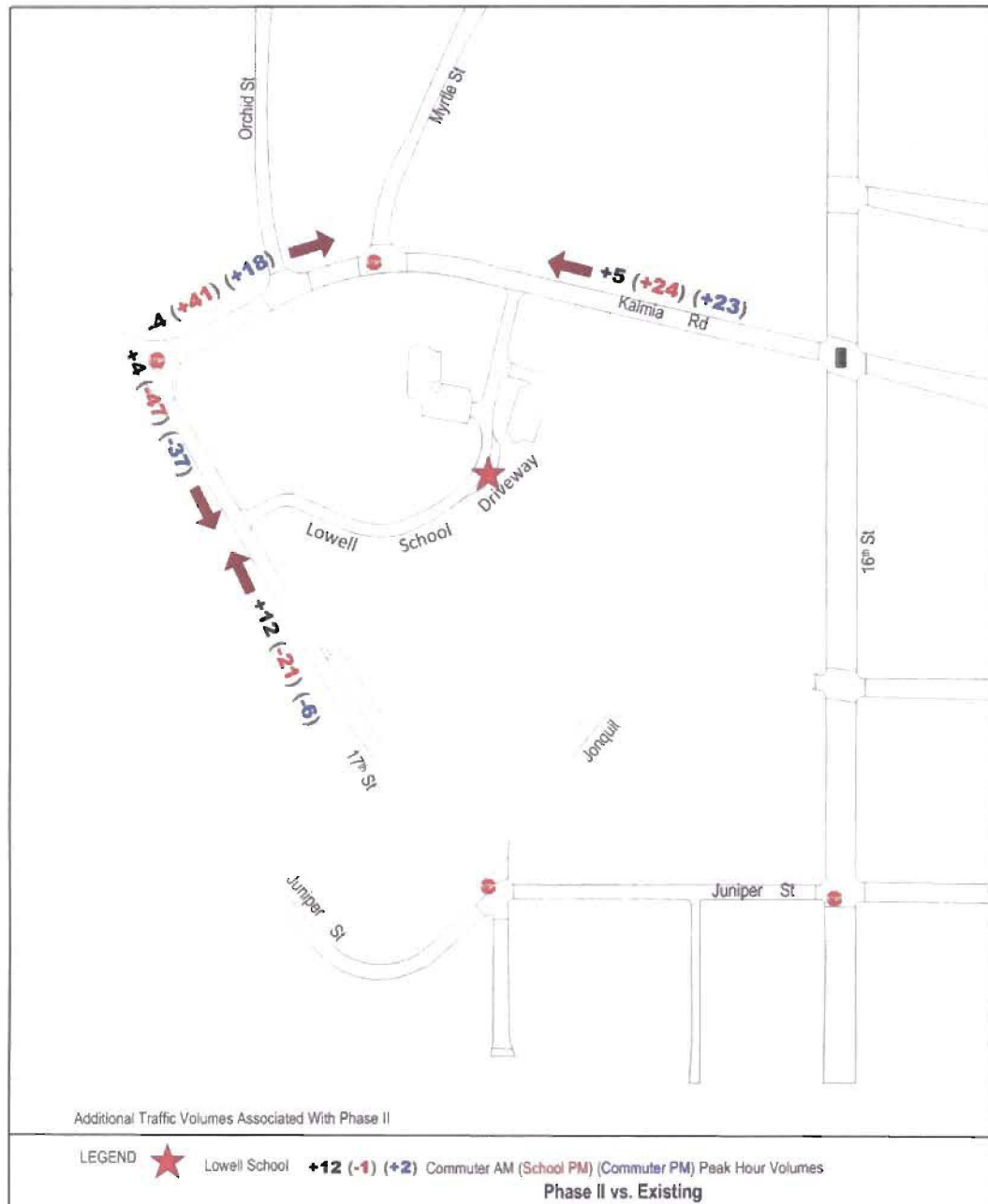


Figure 14: Phase 2 Site Traffic.

Phase 2 Total Traffic

Traffic changes associated with Phase 2 enrollment increases were added to existing traffic volumes to produce Future Phase 2 traffic projections. Future traffic volumes projected for Phase 2 are illustrated in Figure 15.

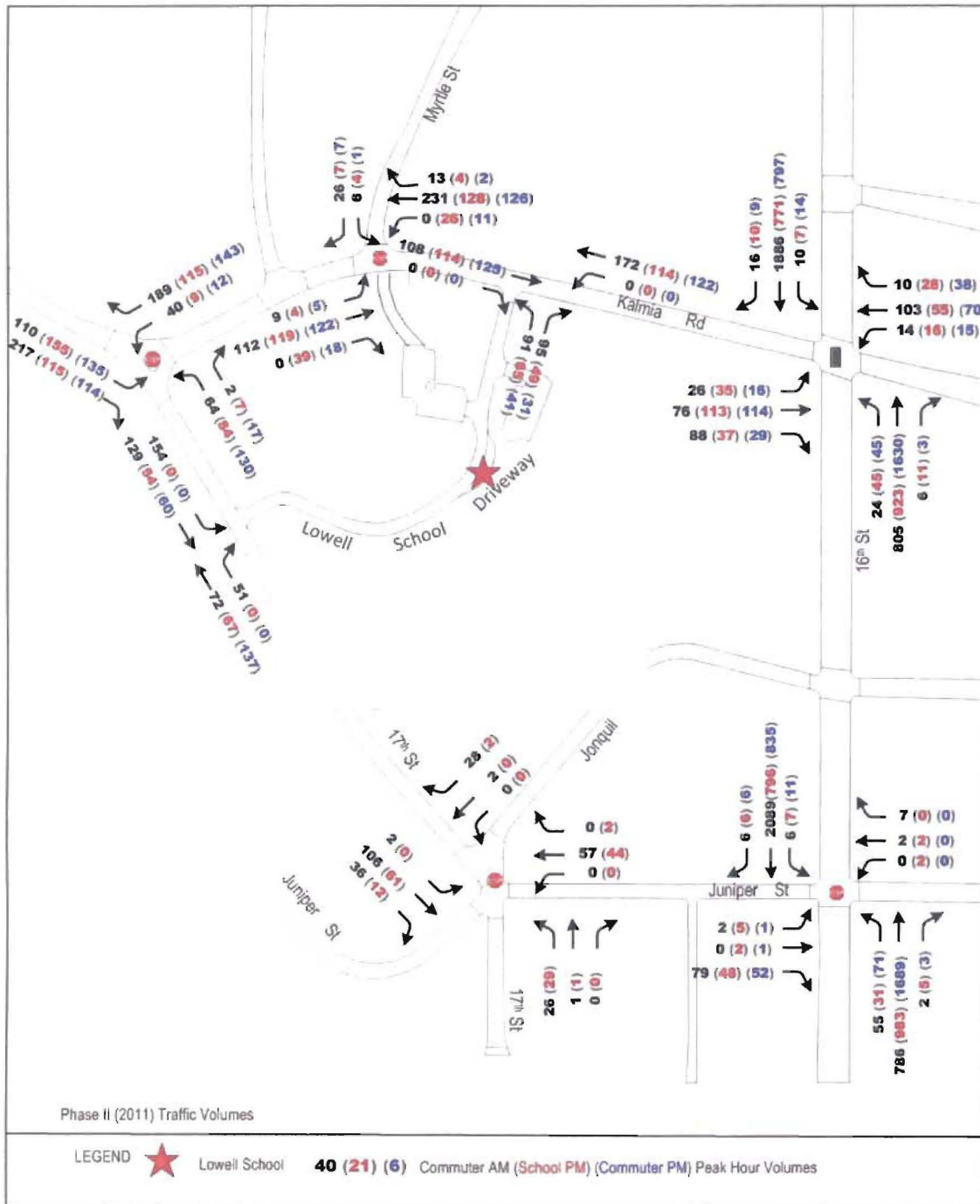


Figure 15: Phase 2 Total Traffic Volumes

Phase 2 Traffic Analysis

Phase 2 future total traffic volumes shown in Figure 15 were analyzed using capacity analysis methodology as outlined in the Existing Conditions section of this report. Phase 2 traffic analysis results are summarized in Table 8 below.

Table 8- Phase 2 Future Total Conditions Level of Service

PHASE 2	AM Peak		School PM Peak	
	LOS	Delay (sec/vehicles)	LOS	Delay (sec/vehicles)
17 th Street/ Lowell School Entrance*	A	5.1	A	0.0
Kalmia Road / Lowell School Exit*	B	14.7	B	10.6
17 th Street/ Kalmia Road*	B	10.5	B	10.5
16 th Street / Kalmia Road	B	15.5	B	11.9
16 th Street / Juniper*	F	57.5	D	28.8
Kalmia Road / Myrtle Street/New Entrance*	A	9.8	A	8.4
17 th Street/ Juniper Street/ Jonquil Street*	A	7.8	A	8.0

* Unsignalized intersection - LOS reflects worst minor approach

The new access system from Kalmia Road will improve safety and traffic conditions in the neighborhood. Vehicles will no longer be queued along 17th Street and the new site driveway is projected to accommodate all queued vehicles during the afternoon pick up period. Kalmia Road currently has very low traffic levels and can easily accommodate the small shift in traffic.

FUTURE CONDITIONS: PHASE 3

The Lowell School Phase 3 plans include the following:

- Demolition of Fraser Building and construction of a new turf recreational field over structured parking spaces (64 gross new parking spaces with a net of 42 parking spaces considering the loss of some existing spaces)
- Maintain the driveway access system from Kalmia Road proposed under Phase 2
- Increase faculty/staff from 80 to 100
- Increase student enrollment from 350 students to 400 students
- Additional Middle School students and increased participation in extracurricular activities
- Bus program with two 40-passenger buses

Phase 3 Site Access & Infrastructure Improvements

The same site access system proposed under Phase 2 would be used for Phase 3.

Phase 3 includes plans to demolish the existing Fraser Building and provide a new turf field and below-grade parking facility. The proposed facility would allow for 64¹⁶ parking spaces for faculty, staff and parents. The garage provides an internal route from the parking facility to the main building.

Phase 3 Queuing

While the faculty/staff and student enrollment levels are projected to increase, the queue length is projected to stay close to the same as it is in Existing Conditions and in Phase 1 and Phase 2 Conditions. The addition of an additional 40-passenger school bus and the increased opportunity for student participation in Middle School extracurricular activities will help to manage peak hour traffic conditions.

Drop-off

- The maximum vehicle queue is projected to increase from 53 vehicles (Phase 1 and Phase 2) to 56 vehicles thereby increasing the total number of queued vehicles on 17th Street from 19 to 21 vehicles.¹⁷

Pick-Up

- The existing queue length of 61 cars is projected to **decrease** to 59 cars (same as Phases 1 and 2) as a result of the additional school bus and the Middle School student participation in extracurricular activities.
- Afternoon pick-up operations would require all vehicles accessing the campus to approach via this proposed driveway from Kalmia Road as described in the Phase 2 Site Access section. The new circulation will allow for a total of 71 vehicle storage spaces on-site thus the expected 59 vehicles would all be accommodate on-site as shown in Figure 16.

¹⁶ The proposed parking deck will be placed over an existing parking lot with 22 parking spaces. Thus the net increase in on-site parking spaces will be 42.

¹⁷ Phase 2 queuing assessment for morning arrival assumes parents use the exiting driveway circulation. The driveway capacity would remain 38.



Figure 16: On-site Traffic Queue

Phase 3 Traffic Projections

Phase 3 peak hour trip generation (see Table 9) was calculated based on population growth percentages and expected reduction considering the planned bus program and Middle School participation in extracurricular activities. Phase 3 traffic changes are shown in Figure 17.

Table 9 - Phase 3 Peak Hour Trip Generation

	AM Peak			Commuter PM Peak			School PM Peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Existing	190	166	356	18	47	65	68	107	175
Phase 3 add'l trips (w/ Bus Reduction and Extra Curricular Activity Participation)	30	24	54	17	25	42	-2	7	5
Phase 3 Total	220	190	410	35	72	107	66	114	180

As with Phase 2, additional Lowell School site trips were distributed throughout the roadway network using a modified existing directional distribution during the afternoon peak considering the proposed site access from Kalmia Road.

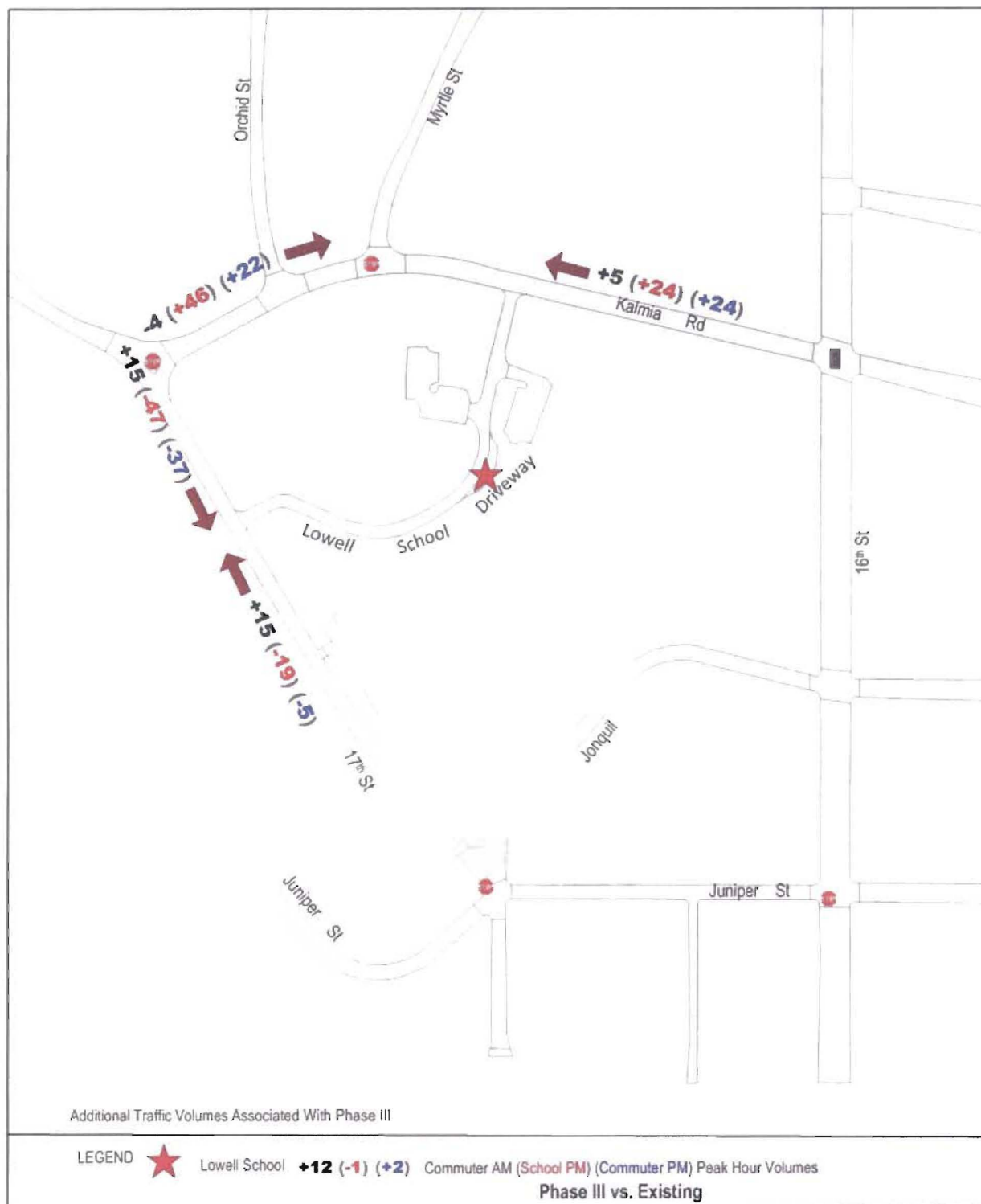


Figure 17: Phase 3 Site Traffic.

Phase 3 Total Traffic

Traffic changes associated with Phase 3 enrollment increases were added to existing traffic volumes to produce Future Phase 3 traffic projections. Future traffic volumes projected for Phase 3 are illustrated in Figure 18.

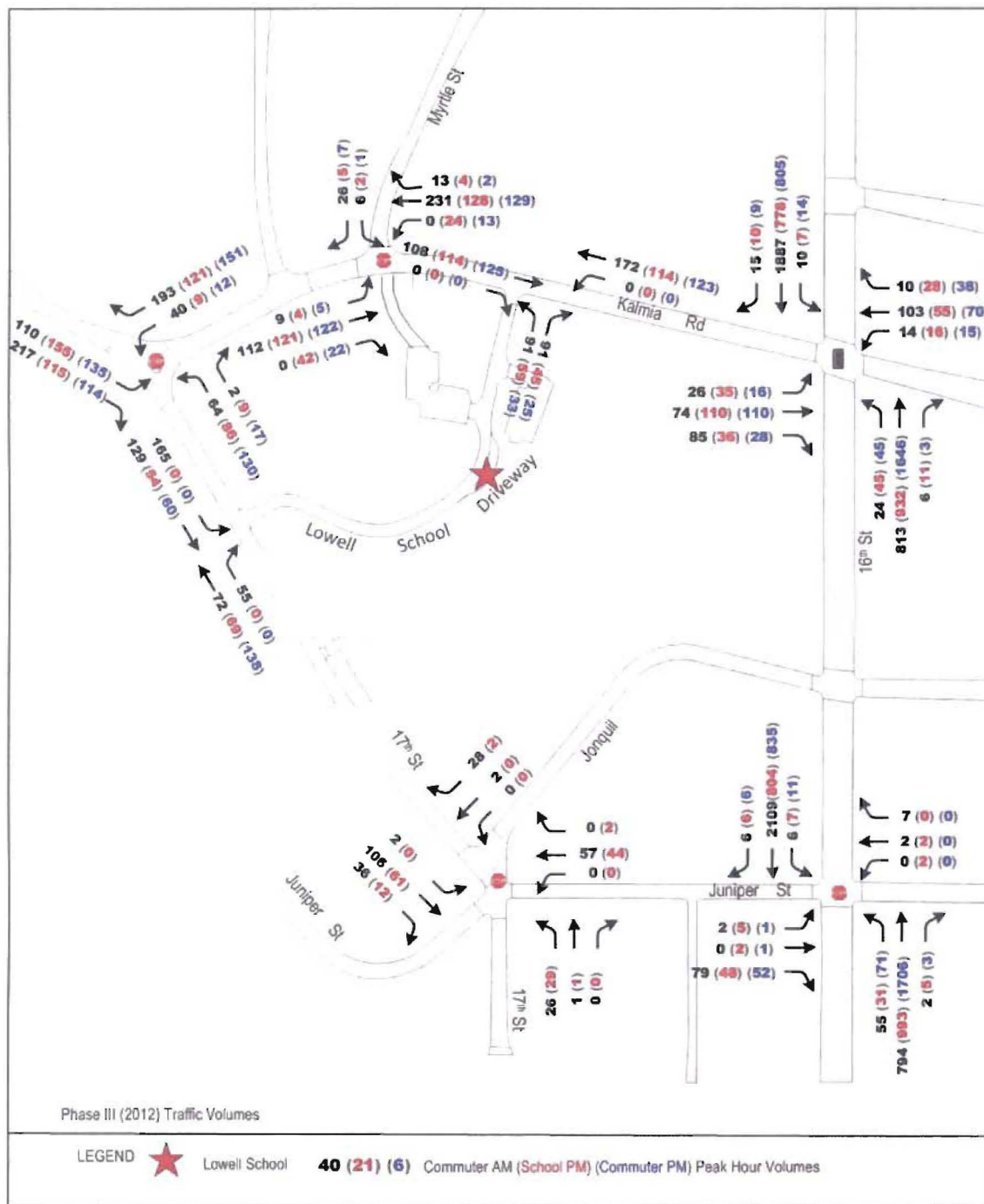


Figure 18: Phase 3 Total Traffic Volumes

Phase 3 Traffic Analysis

Phase 3 total future traffic volumes shown in Figure 16 were analyzed using capacity analysis methodology as outlined in the Existing Conditions section of this report. Phase 3 traffic analysis results are summarized in Table 10 below.

Table 10 - Phase 3 Level of Service

PHASE 3 w/ Proposed Kalmia Access	AM Peak		School PM Peak	
	LOS	Delay (sec/vehicles)	LOS	Delay (sec/vehicles)
17 th Street/ Lowell School Entrance*	A	5.3	A	0.0
Kalmia Road / Lowell School Exit*	B	14.7	A	8.3
17 th Street/ Kalmia Road*	B	10.9	B	10.6
16 th Street / Kalmia Road	B	15.7	B	11.9
16 th Street / Juniper*	F	61.3	E	37.2
Kalmia Road / Myrtle Street/New Entrance*	A	9.8	A	9.4
17 th Street/ Juniper Street/ Jonquil Street*	A	7.8	A	7.6

The new access system from Kalmia Road will improve safety and traffic conditions in the neighborhood (as in Phase 2). Vehicles will no longer be queued along 17th Street and the new site driveway is projected to accommodate all queued vehicles during the afternoon pick up period. Kalmia Road currently has very low traffic levels and can easily accommodate the small shift in traffic.

TRANSPORTATION MANAGEMENT PLAN

A Transportation Management Plan (TMP) is an active program used to foster alternative transportation choices that are more efficient and environmentally friendly than driving alone, in order to minimize adverse impacts on the vicinity of the project. The TMP includes specific measures that the Lowell School will implement to manage traffic and parking demand and encourage *green* travel choices (i.e. car sharing, walk and bike). Providing transportation choices is a key goal of the District Comprehensive Plan.

The Lowell School will use this TMP as baseline to monitor transportation operation and improvements and manage automobile trips to and from the school. The TMP will examine specific strategies such as staggered start times, expanded before-care/ after-care programs, and aggressive carpool initiatives. The overarching goal of the TMP is to set a baseline for accessing the effectiveness of management strategies as Lowell School moves forward with proposed program plans.

The land use elements that the School has specifically considered in developing its Transportation Management Plan are listed below.

Policy LU-3.2.1: Transportation Impacts of Institutional Uses: Support ongoing efforts by District institutions to mitigate their traffic and parking impacts by promoting ridesharing, carpooling, public transportation, shuttle service and bicycling; providing on-site parking; and undertaking other transportation demand management measures.

Policy LU-3.2.3: Non-Profits, Private Schools, and Service Organizations: Ensure that large non-profits, service organizations, private schools, seminaries, colleges and universities, and other institutional uses that occupy large sites within residential areas are planned, designed, and managed in a way that minimizes objectionable impacts on adjacent communities. The zoning regulations should ensure that the expansion of these uses is not permitted if the quality of life in adjacent residential areas is significantly adversely affected.

The Lowell School has and will continue to encourage, implement and enforce the following management strategies:

Bus Program

By the fall 2011 school year, the first year of 7th grade, the Lowell school plans to initiate a bus program. Lowell School plans to hire a private bus service to transport children to and from the campus from group pick-up locations. The initial phase would include one 40-seat bus and depending on interest, the Lowell School would expand the program on a need basis. It is projected that the Phase 1 bus would experience about 85% utilization (or 34 students). By Phase 2, the Lowell school plans to expand its bus program to include two service routes or two buses. Children would be picked up from group pick-up locations and transported to and from the campus. It is projected that both bus routes would experience about 85% utilization (or 68 students).

Carpool

Lowell School established a Carpool Coordinator to manage carpool participation. The Coordinator has been tasked with assisting parents locate carpool families in their area. The coordinator convened a task force – including teachers, administrators, and parent participants – to encourage carpooling. The Coordinator also organizes events and reward programs and advertises the environmentally benefit and importance of participant in the program.

Lowell School makes formal announcements quarterly to encourage parents to register with carpools. (i.e. new student orientation, distribution brochures, newsletter, email, voicemail). The school has also initiated a carpool web tool and online bulletin board.

After School Programs and Extra Curricular Activities

Lowell School offers Before Care daily between 7:30 and 8:15am as well as After School Program (ASP) until 6:00pm. The ASP provides indoor and outdoor games and activities, academic study and special projects. Mini-courses are also offered to children in kindergarten through sixth grade in three sessions during the school year. Approximately 10% of the school's students participate in the ASP.

In the future the Middle School will include extracurricular activities which will also help to decrease the amount of students that will get picked up during the afternoon pick up period.

Green Initiatives

Lowell School encourages staff, parents and students to participate in green friendly events like International Walk to School Day. The Lowell School has also committed to the following strategies to increase use of multi-modal transportation choices:

- Develop a walkway along Kalmia Road and crosswalk, to support safe pedestrian crossing to and from the sight.
- Improve accessibility and visibility of bike facilities. Provide new bicycle racks and access to showers for individuals who bike to work.
- Provide metro subsidy for faculty/staff.

TMP Monitoring

Lowell School will continue to monitor the success of its TMP program by monitoring the following indicators:

- School Bus Program participation
- Neighborhood impacts
- Trip generation rate (Trips per Students)
- Carpool occupancy
- Parent satisfaction in pick-up/drop-off operations

COMMUNITY CONCERNS

Lowell School has held several community meetings to hear concerns regarding the school's existing transportation operations and to address any issues moving forward. The following list summarizes transportation-related concerns voiced during those meetings:

- Vehicle stacking on both sides of 17th street reduces visibility
- Cut through traffic, high vehicular speeds and need for traffic calming in the neighborhood
- Parent parking in the community
- Confusing design of the 17th Street/ Kalmia Road intersection

The Lowell School has proposed several options to lessen its impact on the community and has also begun coordinating with the District Department of Transportation to actively address these issues.

The Lowell School is committed to continually dialoguing with parents and the community to minimize impacts associated with the school and generally improve transportation conditions. The Lowell School will continue to enforce policies to minimize impacts to the community. As part of all planned Phases the Lowell School will look to incorporate the following additional measures to address safety concerns and minimize traffic impacts:

- Addressing vehicle stacking on both sides of 17th street reduces visibility
 - The Lowell will implement a bus program that will take 34 (85% utilization) students out of the carpool in Phases 1 and 2, and 68 students in Phase 3. This will help to minimize vehicle stacking on 17th Street during Phase 1 and eliminate stacking on 17th Street during the afternoon pick up period for Phases 2 and 3.
 - For Phase 2, the Lowell School proposes a new ingress from Kalmia Road at the exiting "T" intersection at Myrtle Street for afternoon pick-up operations. This new circulation would allow for increased on-site vehicle queuing (current driveway accommodates 38 vehicles and in the future it will accommodate about 67 vehicles) and eliminate queuing on 17th Street. The circulation would also eliminate the existing sight distance issue on 17th Street.
 - The Middle school component will also create an opportunity for less vehicle dependency, given older children, and increased use of multi-modal options like walking/biking to and from school, and staggered dismissal in coordination with extracurricular activities.

- Cut through traffic, high vehicular speeds and need for traffic calming in the neighborhood
 - The Lowell School has committed to establishing a task force to initiate a joint endeavor with the DDOT and the local community to address traffic calming and safety.
 - Lowell School will discourage use of the public alley to access the school or neighboring streets.
 - Lowell School will discourage using neighborhood streets to the south (i.e. Juniper, Holly, Jonquil) to access the School
- Parent parking in the community
 - The Lowell has sent out a bulletin to its parent community as a reminder that all parking on local streets is prohibited during pick-up and drop-off operations. The bulletin also included a list of restrictions including blocking neighborhood driveways and the No Idling Policy. Lowell School understands the importance of parent obedience to these policies and will continue to send reminder bulletins quarterly.
 - The Lowell School will support the neighbors on Kalmia Road by appointing school personnel to ensure and enforce the no parking in the neighborhood restriction as well as create more obvious signage prohibiting blocking driveways.
- Ambiguous design of the 17th Street/ Kalmia Road intersection
 - Signage¹⁸
 - Provide School Advance Signs and School Crossing Signs at appropriate locations to alert drivers of the School Zone and create a more favorable walking environment to and from the school.
 - Provide directional signs and restriping at the “Y” 17th Street/ Kalmia Road Intersection for clarity
 - Provide warning signs to alert drivers of the limited sight distance along 17th Street approaching the school entrance
 - Roadway Geometric Improvements
 - Considering the existing conditions at the intersection of 17th Street at Kalmia Road, it is recommended additional assessments are undertaken to examine the feasibility of implementing a mini-roundabout in place of the existing “Y” intersection. The mini-roundabout would eliminate the awkward configuration as well as potential hazards for drivers traversing the intersection. The Institute of Transportation Engineers Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities provides a description for Recommended Practice for Modern Roundabout. The manual notes mini-roundabouts are applicable on both collector and local streets and are favorable for areas with a maximum entry speed of 15 mph, a maximum of one entry lane with a typically capacity of 10,000¹⁹ vehicles per day. Existing Conditions at the intersection of 17th Street at Kalmia Road are applicable for implementing a mini-roundabout. Implementing a mini—roundabout would be a potential long term improvement that DDOT may wish to consider implementing.

¹⁸ Coordination with DDOT would be necessary for this effort. At an April 22, 2010 meeting, DDOT acknowledge the agency would be willing to implement maintenance improvements in and around the study area to improve safety and establish improved operations at this intersection.

¹⁹ Entering from all approaches

CONCLUSIONS

- The Lowell School proposes to expand its offering to incorporate a middle school component (7th and 8th grades). The Lowell School will increase enrollment to a maximum of 400 students in three phases. Phase 1 would increase existing enrollment by 60 students from 290 to 350. Phase 2 would maintain enrollment at 350 students and would develop a new site access system from 17th Street to help improve afternoon pick up operations. Phase 3 would provide the maximum allowable enrollment with a new turf field and structured parking. The staff count is proposed to increase from 60 to 100 at full enrollment.
- Transportation Demand Management measures including increasing carpool participation and implementing a school bus program will reduce impact on the local intersections and reduce the school's carbon footprint on the environment. Extracurricular activities for the Middle School will also help to reduce afternoon traffic conditions. The Lowell School remains committed to being a good neighbor by easing the burden of its presence in the community.
- All of the study area intersections currently operate at Level of Service "C" or better during the AM, School PM, and Commuter PM Peak hours except for the 16th Street/Juniper Street intersection. The vast majority of motorists (approximately 98%) at this intersection experience no delay at all. Only the very small percentage of motorists on Juniper Street (the minor approach of the intersection) experience delay. Also the traffic signal at the adjacent 16th Street/Kalmia Road intersection does provide gaps in traffic to improve access at the 16th Street/Juniper Street intersection.
- All of the study area intersections that operated within acceptable levels during existing conditions will continue to operate at acceptable Levels of Service with the regional background growth and future conditions (including Lowell School Phases Enrollment Increases).
- Phases 1 and 2 will generate an additional 30 AM and 22 commuter PM peak hour trips. The school will reduce trips (-5) during the School PM peak hour. Vehicle queuing is expected to increase from 49 to 53 vehicles for morning drop-off and decrease by two vehicles from 61 to 59 during afternoon pick-up.
- Phase 3 will generate 54 AM and 42 PM commuter PM peak hour trips (compared to existing conditions). Phase 3 will result in an increase of 5 peak trips during the School PM peak hour. Thus a maximum of 28 vehicles (66 minus 38 on site vehicle queuing capacity) would queue off-site during afternoon pick-up. Vehicle queuing is expected to increase by three vehicles during the AM peak and decrease by two vehicles from 61 to 59 during the afternoon pick up (compared to existing conditions).
- Phase 2 proposes on-site infrastructure improvements including a new ingress for afternoon pick-up from Kalmia Road to increase on-site vehicle capacity and reduce the School's impact on the local roadway. Phase 2 infrastructure improvements will increase on-site vehicle queuing capacity by 86% from the existing capacity of 38 to a total future capacity of 71.
- Additional parking spaces that will be provided during Phase 3 would also help to accommodate parking for parents during pick-up/drop-off periods. Phase 3 infrastructure plans will included a net increase in 42 parking spaces for a total of 132 spaces on-site.
- Kalmia Road and 17th Street both currently have very low traffic levels. Kalmia Road currently carries 287 AM vehicles and 202 vehicles during the school PM peak hour. 17th Street carries 391 AM peak hour vehicles and 121 vehicles during the school PM peak hour. Shifting additional Phase 2 trips and Phase 3

trips to Kalmia Road as a result of the new afternoon driveway access system will not adversely affect operations along Kalmia Road. The new driveway system will remove traffic queues from 17th Street and will address the current sight distance issue during the afternoon pick up period.

- Further the increases in traffic associated with each of the Lowell School phases have been minimized as a result of Transportation Management Plan measures.
- The Lowell School has committed to establishing a task force to initiate a joint endeavor with the DDOT and the local community to address traffic calming and safety traversing in the community.