



# Glens Falls Middle School and High School Circulation Study

**Draft Final Report | May 2024**

Prepared For:



**GLEN FALLS**  
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# 1.0 INTRODUCTION AND PURPOSE

The Glens Falls Middle School and High School campus is located in a walking school district with student transportation options that include walking, biking, or by passenger vehicle. The campus is located in a residential neighborhood with access provided via City owned roads. The goal of this project is to assess current pedestrian, bicycle, and vehicle circulation on and off the campus, and to deliver implementable concepts that will improve safety and circulation around the schools. The study develops recommendations to reduce congestion and minimize vehicle and pedestrian conflicts by evaluating traffic operations during peak school periods and existing student drop-off/pick-up procedures. The purpose of this Memorandum is to summarize the assessment and recommendations developed for the Glens Falls Middle School and High School. The study area is shown on Figure 1.

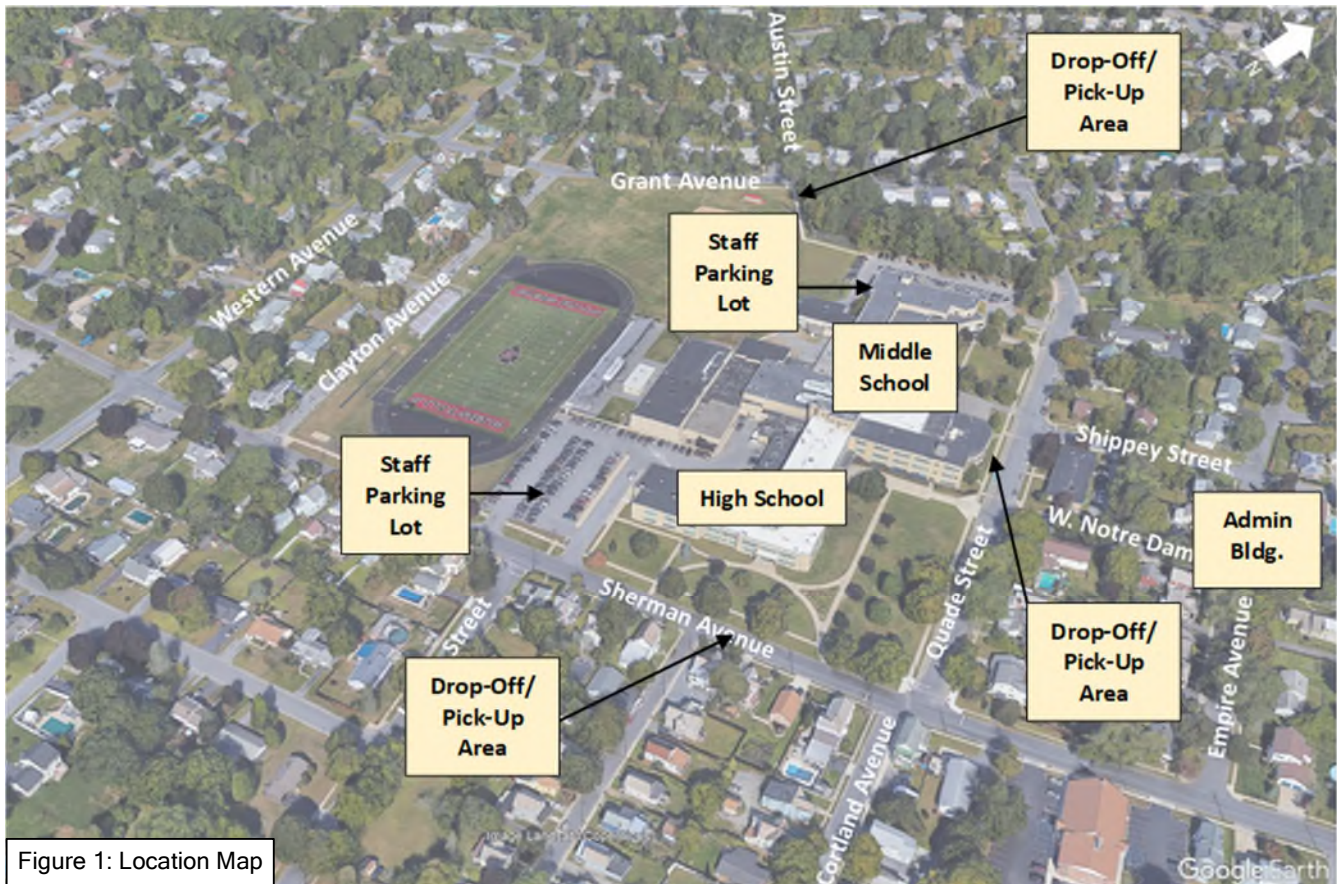


Figure 1: Location Map

As part of the assessment, peak AM arrival and PM dismissal periods were observed, including parking and circulation of buses, parents, and faculty, as well as non-motorized movements of students. A meeting was also attended with representatives of the school to get an overview of operations, needs, and focus areas. Based on these observations, several concepts were

developed for further consideration by the Glens Falls School District (GFSD) and City of Glens Falls to improve pedestrian safety, circulation, and parking. The following summarizes the assessment.

## 2.0 EXISTING CONDITIONS

A meeting was held with members of the school on May 23, 2023 to discuss existing circulation and parking issues. The morning arrival period was observed on Tuesday, May 23, 2023, while the afternoon dismissal period was observed on Wednesday, May 24, 2023. Table 1 summarizes site specifics for the Glens Falls Middle School and High School.

**Table 1 - Site Statistics and General Information**

Description	2023 Statistics and Times	
	Middle School	High School
Number of Students	583	589
Number of Staff/Faculty	102	105
Number of bikers/scooters	25-30 estimated (parking at front lawn)	25-30 estimated (parking next to Door A)
Are Crossing Guards Provided?	Yes, Quade/Sherman (AM/PM) and Grant/Austin (PM only) <sup>1</sup>	
Buses	4-5 buses (BOCES, homeless, sports) Door N	4-5 buses (BOCES, homeless, sports) Door C
<b>Arrival:</b>		
School Start	8:25 AM warning bell 8:30 AM homeroom	8:25 AM warning bell 8:30 AM homeroom
Bus Arrival/Departure	8:07 to 8:10 AM / 8:11 AM	7:35 AM / 7:44 to 7:47 AM
Walkers/Bikers/Scooters Peak	8:05 AM	
Vehicle Drop-Off		
Start Unload	7:45 AM	
Peak Drop-Off	8:15 AM	
Finish Unload	8:30 AM	
Bicycle/Scooter Parking (after arrival)	21	28
<b>Departure:</b>		
School End	3:00 PM	3:03 PM
Bus Arrival/Departure	2:45 to 2:51 PM / 3:01 to 3:03 PM	
Walkers/Bikers/Scooters Peak	3:00 PM - 3:05 PM	
Parent Pick-Up		
Start Idling	2:25 PM	
Peak Pick-Up	3:00 PM - 3:05 PM	
Finish Pick Up	3:14 PM	
Bicycle/Scooter Parking (prior to departure)	16	43



## 2.1 Data Collection

Turning movement counts (TMCs) were collected at ten (10) intersections on Wednesday, May 31, 2023 for the weekday morning peak hour which typically occurs from 7:30 to 9:30 AM and the weekday afternoon peak hour which typically occurs from 2:00 to 4:00 PM based on the school schedule. In addition, Automatic Traffic Recorders (ATRs) were installed at two (2) locations to collect speed, volume, and classification data over a 24-hour period on Thursday, June 1, 2023. A summary of the data collection locations is listed below and shown on Figure 2. The raw data is provided in Appendix A.

Turning Movement Counts (TMCs):

- Sherman Avenue/Larose Street
- Sherman Avenue/Cortland S.t/Quade St.
- Sherman Avenue/Empire Avenue
- Quade Street/West Notre Dame Street
- Quade Street/Shippey Street
- Quade Street/Middle School Parking Lot
- Quade Street/Grant Avenue
- Grant Avenue/Austin Street
- Empire Avenue/West Notre Dame Street
- Empire Avenue/Shippey Street



Figure 2: Data Collection Map

Automatic Traffic Recorders (ATRs):

- Sherman Avenue between Larose/Stevens
- Quade Street between Grant/Shippey

Daily (24-hour) average speed data is summarized in Table 2.

Table 2 - Speed Data

Road	50 <sup>th</sup> Percentile Speed	85 <sup>th</sup> Percentile Speed
Quade Street	22 MPH (NB) 18 MPH (SB)	28 MPH (NB) 24 MPH (SB)
Sherman Avenue	27 MPH (EB) 28 MPH (WB)	32 MPH (EB) 33 MPH (WB)

## 2.2 Roadways Adjacent to the Schools

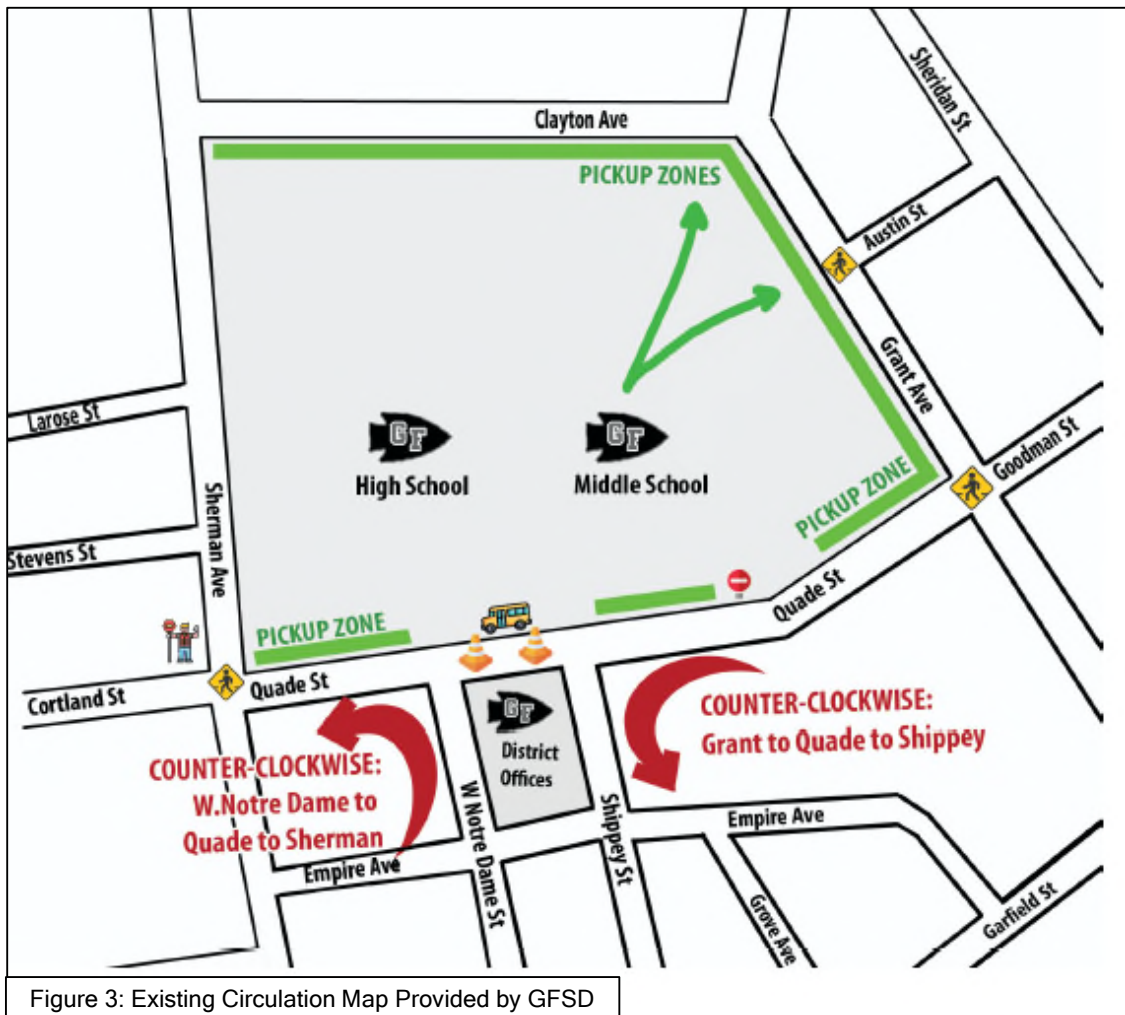
A summary of the existing conditions of roadways adjacent to the school is provided in Table 3.

**Table 3 - Existing Roadway Conditions**

Road	Direction Classification	Width Lanes	Parking	Posted Speed Limit	Pedestrian Accom.	Land Use
<b>Quade Street</b> from Grant Avenue to Sherman Avenue	North-South Local Road	40 feet 2 travel lanes	East side (2-hour) West side (pick-up/drop-off)	30 MPH 15 MPH School Zone	Generally sidewalks and crosswalks provided	School Residential Business
<b>Grant Avenue</b> from Western Avenue to Crandall Street	East-West Urban Major Collector	30 feet 2 travel lanes	Unrestricted/ not marked	30 MPH 15 MPH School Zone	Generally sidewalks and crosswalks provided	School Residential
<b>Sherman Avenue</b> from Western Avenue to Glen Street	East-West Urban Minor Arterial	30 feet 2 travel lanes	North side (no parking) South side (parking outside of school hours)	30 MPH 15 MPH School Zone	Generally sidewalks and crosswalks provided	School Residential

### 3.0 EXISTING CIRCULATION SUMMARY

The arrival and dismissal circulation patterns are shown on Figure 3. Currently, cones are set out for a period of time before arrival and dismissal to block traffic on Quade Street between the Shippey Street and West Notre Dame Street intersections. This results in a blocked off area for pedestrians to cross the street without vehicle conflict, and for buses to load/unload in front of the school. Vehicles traveling south on Quade Street should turn left onto Shippey Street while cars traveling north on Quade Street should turn right on West Notre Dame Street. The reverse is true for vehicles traveling from Shippey Street and West Notre Dame Street. Cones are also provided at the District Offices parking lot to prohibit vehicles from using the parking lot as a cut through to/from Shippey Street/West Notre Dame Street. A summary of arrival and departure operations is provided below:





### 3.1 Arrival

Buses access the school from Quade Street and park facing southbound within the coned off area between Shippey Street and West Notre Dame Street. Four buses were observed providing transportation for Middle School and High School students. The buses depart the coned off area by 8:10 AM and travel south on Quade Street to Sherman Avenue. Buses using the Sherman Avenue parking lot were observed to arrive at 8:12 AM and depart at 8:15 AM using the designated bus lane.

For purposes of this report, non-vehicular users include student walkers, cyclists, skateboarders, and people using scooters. To assist in the arrival period, a crossing guard is stationed at Quade Street/Sherman Avenue and a Glens Falls School District police officer parks a vehicle on Quade Street in front of the *Glens Falls High School*. At approximately 8:05 AM, heavy pedestrian activity was observed crossing Quade Street from the neighborhoods to the east. On Grant Avenue, no crossing guard is provided and the majority of student walkers used the crosswalk from Austin Street to Grant Avenue. Pedestrians were observed crossing Sherman Avenue near Larose Street where no crosswalks are provided.



Figure 4: Students Walking, Biking and Scootering at Arrival

Student drop-off begins at approximately 7:45 AM and slows at approximately 8:25 AM when the warning bell rings. Students were generally dropped off on both sides of Quade Street and crossed in front of their vehicle without using available crosswalks. At 8:15 AM, vehicles were observed dropping students off on West Notre Dame Street and Shippey Street. On Grant Avenue, students were mostly dropped off on the south side of Grant Avenue to access the sidewalk to the Glens Falls Middle School. Some merging issues were observed for vehicles entering and exiting the informal drop-off area. Vehicles were also observed parking on either side of Sherman Avenue to drop students off.

Administrative and faculty/staff parking was observed at the lot on Quade Street and the lot on Sherman Avenue. Generally, both lots were utilized by staff parking, but some student drop-off

was observed in these lots as well. By 8:30 AM, the last school bell is sounded and the cones blocking Quade Street are removed.

### 3.2 Departure

Similar to the arrival period, buses access the school from Quade Street and park facing southbound within the coned off area between Shippey Street and West Notre Dame Street. Two buses were observed providing transportation for Middle School and High School students. The buses arrive in the coned off area at approximately 2:45 PM and depart shortly after 3:00 PM traveling south on



Figure 5: Sherman Avenue Dismissal Period

Quade Street. A teacher that assisted students to the bus pick-up replaced the cones after the buses left. Two buses using the Sherman Avenue parking lot were observed in the designated bus lane and departed at approximately 3:07 PM.

To assist in the pedestrian departure period, a crossing guard is stationed at Quade Street/Sherman Avenue and at Grant Avenue/Austin Street. Shortly after 3:00 PM, heavy pedestrian activity was observed crossing Quade Street to access the neighborhoods to the east. On Grant Avenue, a crossing guard is provided and the majority of student walkers used the crosswalk from Austin Street to Grant Avenue. Pedestrians were observed crossing Sherman Avenue near Larose Street where no crosswalks are provided.

Vehicles begin idling on Quade Street at 2:25 PM with the peak parking period at approximately 3:00 PM when vehicles begin double parking along the west side of Quade Street. Students were picked up on both sides of Quade Street and crossed in front of their intended vehicle, not using crosswalks. Shortly after 3:00 PM, vehicles were observed parking on both sides of West Notre Dame Street and



Figure 6: Student Pick-Up on Grant Avenue

Shippey Street waiting for students. By 3:00 PM, vehicles were parked on both sides of Grant

Avenue between Clayton Avenue and Quade Street. Students were picked up on both sides of the street with most using the crosswalk at Austin Street. At approximately 2:37 PM, vehicles were observed parking on the north side of Sherman Avenue in addition to using the Sherman Avenue parking lot. Over forty vehicles were observed departing the Sherman Avenue parking lot between 2:30-3:30 PM and vehicles used both parking lot driveways.

Administrative and staff parking was observed at the lot on Quade Street and the lot on Sherman Avenue. Exiting traffic from both parking lots included staff/faculty as well as vehicles picking up students. Students/visitors parked on Quade Street in the coned off area were observed to move the cones to leave their parking space and not replace the cones, allowing vehicles to enter into the restricted area. The dismissal period concluded at approximately 3:15 PM when the cones were removed from Quade Street.

### 3.3 Issues

In general, the school district administration has utilized the layout of the campus to the best of their ability to implement a safe and efficient arrival and dismissal process. The following issues contributed to pedestrian/vehicle conflicts:

- Vehicles making U-turns at the coned off areas of Quade Street, vehicles turning into and backing out of residential driveways, vehicles double parking while other vehicles are passing them going the wrong direction, and vehicles merging into traffic where pedestrians are present.
- At the time of the site visit, a semi-truck was observed turning from Quade Street southbound left onto Shippey Street eastbound. The truck had to reverse to make the left turn due to the vehicles parking on both sides of Shippey Street. It is unclear why a semi-truck was utilizing Quade Street at this time.
- Confusing signage with messaging of restrictions and allowances, and some signs were faded or blocked by low hanging trees.
- Sidewalk ramps do not appear to be ADA compliant. Sidewalk links are missing (i.e. south side of Grant Avenue from Clayton Avenue to Western Avenue; the south side of Shippey Street from the Administration Building parking lot to Liberty Avenue; the north side of Shippey Street from Empire Avenue to Garfield Street; and the east side of Quade Street from Shippey Street to Grant Avenue).



## 4.0 PREVIOUS STUDIES

The Glens Falls School District provided information on two previous studies relevant to the project. The studies are summarized below:

- *Glens Falls School District Traffic Circulation Study* was prepared in August 2012 to evaluate and address site circulation, vehicle access, and pedestrian safety issues around the Glens Falls Middle School and High School campus prior to the alignment of the High School and Middle School start times. This document summarized short term and long-term recommendations as well as provided discussion on the traffic impacts as a result of aligning school times. The current coned-off area on Quade Street is a result of the clockwise circulation pattern recommendation to split middle and high school drop-off/pick-up. The study also suggested encouraging modal distribution to encourage pedestrians, cyclists, and transit-users.
- *High School Start Time News from Glens Falls City Schools* was a compilation of articles providing support and research on delaying school start time from 7:45 AM to 8:30 AM. The Middle School and High School both start at 8:30 AM as a result of this research.

## 5.0 PUBLIC INVOLVEMENT

A public survey was distributed via email to the school district via Survey123 and available for comment from June 12, 2023 to June 28, 2023. A total of 316 responses were collected. Questions in the survey focused on how people travel to and from school, and what their biggest traffic/pedestrian safety concern was. Survey respondents included parents/guardians (60%), teachers/staff (16%), residents (12%), other (7%), and students (4%) with most from the Kensington elementary school zone (41%). The questions were organized by respondent type. A summary of each type is provided. Results of the survey are summarized in Appendix B.

- **Parents/Guardians** - Approximately 87% of parents/guardians drive their student(s) to school with 65% driving their student to school five days per week. Parents/guardians indicated they are likely to continue driving to school but requested demand management strategies be explored.
- **Teachers/Staff** - Approximately 85% of teachers/staff identified parent parking/idling as an observed issue in staff lots. Teachers noted that parent/guardian behaviors are the issue in staff lots, not students.

- Residents - Over 65% of residents experience congestion/traffic issues occasionally or frequently. Residents noted that their driveways are often blocked, the roads seem unsafe for students, and that there is a need for more parking and sidewalks.
- Students - 31% of students indicated they walk/bike to school, while 46% of students indicated their reason for driving/being driven to school is related to convenience, or the need to carry musical instruments, sports equipment, or special projects.





*The results of the survey indicate traffic congestion and lack of designated drop-off/pick-up areas are the biggest circulation challenges.*

A virtual public meeting was distributed by the school district and available for viewing and commenting from October 23, 2023 to November 7, 2023. The presentation detailed existing conditions inventoried and noted the future considerations included in Section 6 below. A total of 180 people viewed the meeting and 87 online responses were received in addition to the submission of two emailed responses. Survey respondents included parents/guardians (71%), teachers/staff (10%), residents (9%), and students (9%) with most from the Kensington elementary school zone (48%). The online survey asked people to indicate if they were in support of one of the future considerations to convert Quade Street to one-way. Of the respondents, 50% were in favor of the proposal, 20% were neutral, and 30% were not supportive of the consideration. The presentation and comments are summarized in Appendix C.







## 6.0 FUTURE CONSIDERATIONS

Improvements for consideration that have a consistent theme are summarized in Table 4. The steps on how to implement the themes and which jurisdiction the improvement would fall under are also included. The items are conceptual in nature and would require further design before implementation. All options are stand-alone but can work together to create a safer environment for students walking/biking and entering/exiting vehicles. It is also a recommendation of this study that the current cones be removed as they are aiding in congestion and vehicle conflicts (i.e. U-Turns, backing out of driveways). Figures 8 through 15 depict the treatment considerations.

**Table 4 - Glens Falls Middle School and High School Traffic Related Options  
for Further Consideration by the School District**

Improvements		How to Implement	Impact	Cost	Time to Implement	Jurisdiction
	One Way Circulation	<ul style="list-style-type: none"> <li>Convert Quade Street to one-way southbound traffic from Grant Avenue to Sherman Avenue using signage and striping (Figures 8-10)</li> <li>Provide a pick-up/drop-off lane, a parking lane, and a buffered bicycle lane.</li> <li>See section 6.1 for more detail and traffic analysis.</li> </ul>	High	\$\$	6 months to 1 year	City of Glens Falls
	On-Street Parking	<ul style="list-style-type: none"> <li>Enforce no student parking on-street and encourage use of off-campus lot.</li> <li>Designate pick-up/drop-off or specified parking zones on Quade Street, Sherman Avenue, Grant Avenue, Shippey Street, and West Notre Dame Street. This can be accomplished through consistent sign messaging instructing vehicles if parking is allowed, for how long, and for what times of day.</li> <li>Stripe parking and/or travel lanes on Sherman Avenue and Grant Avenue to reduce speeds and alleviate congestion. The existing 30-foot wide roads lack pavement markings which may contribute to higher speeds and is not wide enough for parking on both sides of the street plus two travel lanes.</li> </ul>	High	\$\$	6 months to 1 year	City of Glens Falls
	Roadway Crossings	<ul style="list-style-type: none"> <li>Install raised crosswalks (speed table) or intersections at Quade Street/Shippey Street and Quade Street/West Notre Dame Street. This will slow down vehicles and alert vehicles to an area where pedestrians are crossing. An example of a crossing like this in the City of Glens Falls is on Fire Road (Figure 11). These should be designed as 22 feet long and 3" high to reduce emergency vehicle response time delay.</li> <li>Consider Rapid Rectangular Flashing Beacons (RRFB) if justified by further study at high pedestrian crossing areas (Grant Avenue/Austin Street, Quade Street/Shippey Street, Quade Street/West Notre Dame Street). RRFBs are actuated flashing signs installed at pedestrian crossings proven to reduce crashes involving pedestrians. Crossings should meet certain volume thresholds before installing RRFBs. The school and City would need a coordinated maintenance program to review and repair as needed. An example of a crossing like this in the City of Glens Falls is on Kensington Road (Figure 12).</li> <li>Install pedestrian bump-outs (Figure 12) where crossings are in the vicinity of on-street parking (Figure 17) to promote pedestrian visibility and shorter crossing distances.</li> <li>Stripe ADA crosswalks at Grant Avenue/Western Avenue if sidewalks are installed by the Town of Queensbury on the west side of Grant Avenue.</li> </ul>	High	\$\$\$	More than 1 year	City of Glens Falls
	Parking Lots	<ul style="list-style-type: none"> <li>Middle School parking lot clearly marked for staff/faculty only.</li> <li>High School lot part of <i>Capital Improvement Plan</i> to improve parking lot circulation to separate buses from staff parking.</li> <li>Consider designated ADA and/or visitor spaces.</li> <li>Incentivize/Encourage more student drivers to park in specified student parking areas.</li> </ul>	Medium	\$	Less than 6 months	Glens Falls School District



	Sidewalk Improvements	<ul style="list-style-type: none"> <li>Install missing sidewalk links (i.e. south side of Grant Avenue from Clayton Avenue to Western Avenue; the south side of Shippey Street from the Administration Building parking lot to Liberty Avenue; the north side of Shippey Street from Empire Avenue to Garfield Street; and the east side of Quade Street from Shippey Street to Grant Avenue).</li> <li>Upgrade ramps on Quade Street, Grant Avenue, and Sherman Avenue to be ADA compliant.</li> <li>Cut back vegetation at intersection corners to improve sight distance for vehicles approaching pedestrian crossings (i.e. Grant Avenue/Quade Street southwest corner). Refer to the City of Glens Falls code for the shrubbery height.</li> </ul>	High	\$\$\$	More than 1 year	City of Glens Falls
	Signage	<ul style="list-style-type: none"> <li>Update signage so parking restrictions are consistent. Currently sign messaging and appearance is inconsistent which can lead to driver confusion (Figure 13).</li> <li>Update pedestrian signage to current MUTCD standards. Signs are currently faded or missing information (i.e. north side of Shippey Street). Remove excess signage from stop signs (i.e. southwest corner of Sherman Avenue/Quade Street).</li> </ul>	Medium	\$\$	6 months to 1 year	City of Glens Falls
	Encourage Multi-Modal Use	<ul style="list-style-type: none"> <li>Incentivize students to ride bicycles to school to reduce vehicle trips by providing covered bicycle racks, logo/branded locks for rentals, helmet giveaways or having bike-to-school days.</li> <li>To support riders in the winter, campus sidewalk and roadway snow removal should be prioritized.</li> </ul>	Medium	\$	Less than 6 months	Glens Falls School District & City of Glens Falls
	Bus	<ul style="list-style-type: none"> <li>Relocate bus pick-up/drop-off area to Middle School and High School parking lots (Figures 14 and 15).</li> <li>Encourage use of current school supported transit system and options such as CDTA's dial-a-ride to convert car trips to transit trips.</li> </ul>	Low	\$	Less than 6 months	Glens Falls School District
	Start/End Time	<ul style="list-style-type: none"> <li>Adjust school start/end times to separate Middle School and High School arrivals/departures. Minor (10-15 minutes) adjustments will improve traffic congestion but will still adhere to the School Start Time study.</li> </ul>	High	\$	Less than 6 months	Glens Falls School District
	Communication and Enforcement	<ul style="list-style-type: none"> <li>Continue to provide circulation information emails or informational brochures in the beginning of the year to the entire student population instructing parents/students of school drop-off/pick-up procedures. Traffic circulation patterns can be enforced periodically throughout the year with reminder emails.</li> </ul>	Low	\$	Less than 6 months	Glens Falls School District and City of Glens Falls

## 6.1 One-Way Circulation Pattern on Quade Street

The current coned off area on Quade Street (see Figure 7) is causing visible circulation issues by creating opportunities for vehicles to make U-turns, reverse back-up, and double park on Quade Street. To address these issues and congestion around the campus, converting Quade Street to one-way southbound between Grant Avenue and Sherman Avenue should be considered. Providing one-way circulation in front of the Middle School and High School has the potential to be the most effective change of all the recommendations.

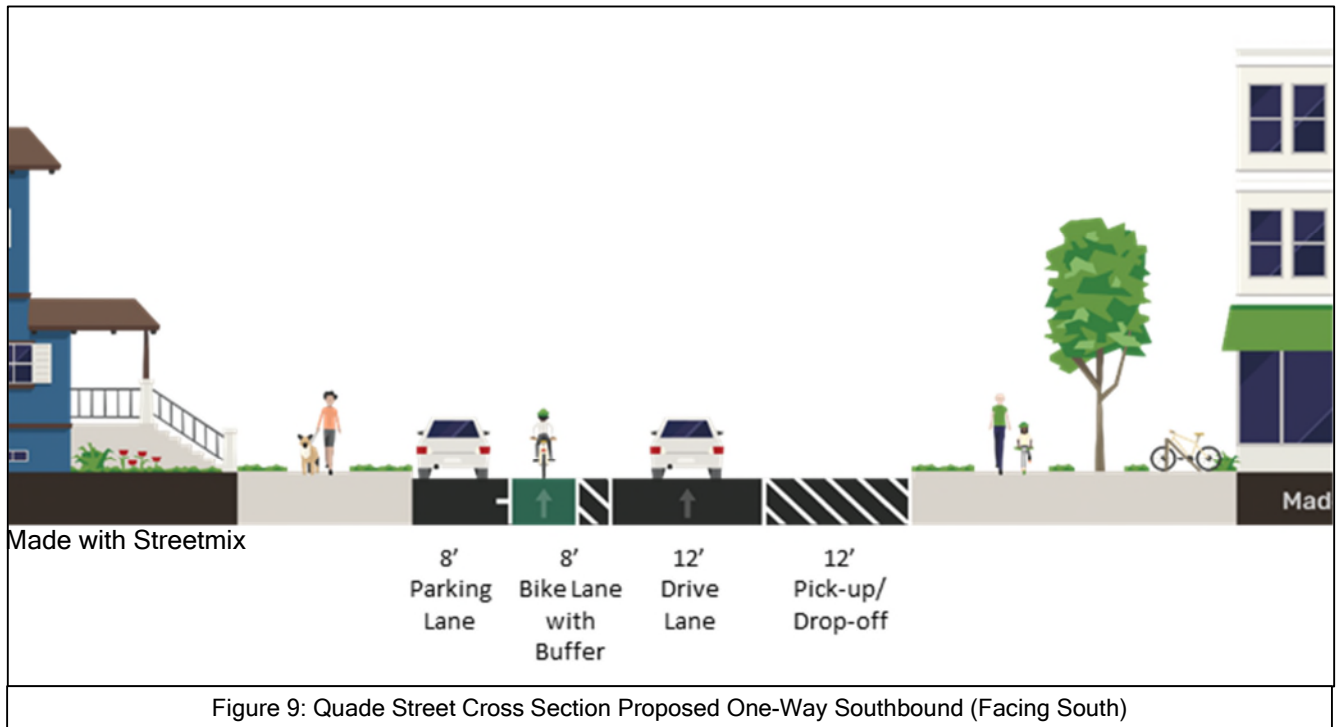
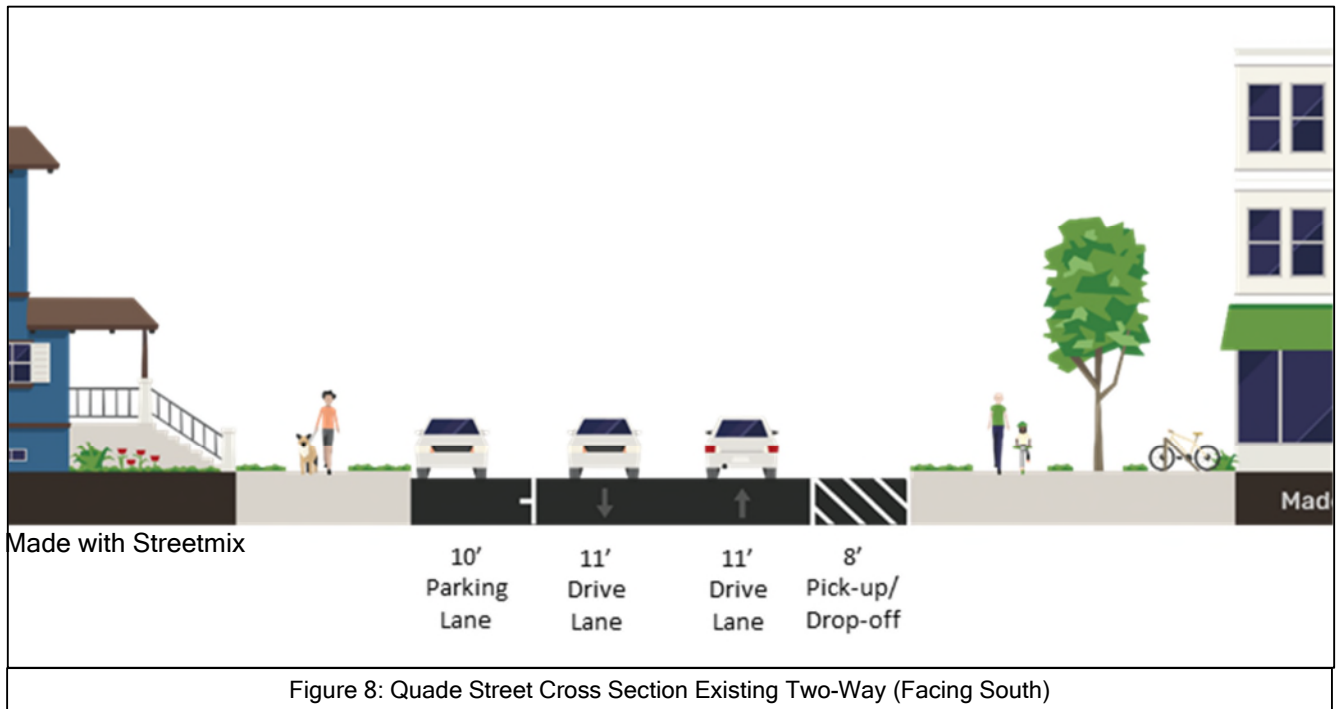


Figure 7: Quade Street Coned Off at Shippey Street

One-way traffic allows for a more pedestrian-friendly corridor with reduced conflict points as pedestrians are only looking one direction for vehicles before crossing. In addition, undesirable vehicle movements currently happening will be eliminated by requiring vehicles to travel in the same direction.

To make Quade Street a one-way between Grant Avenue and Sherman Avenue, signage and striping will need to be installed. Signage will include MUTCD compliant “One-Way” and “Do Not Enter” signage, as well as review of existing signs and updates as necessary to have signs face the same direction. The road would be striped to include a pick-up/drop-off lane, a travel lane, a parking lane, and a bicycle lane with a striped buffer. The bicycle lane with buffer could be curbside with a parking buffer or the parking lane could be against the curb with the bicycle lane buffered by striping from vehicles. Parking provides a physical barrier for bicyclists from travel lanes, while bicycle lanes adjacent to the travel lane provide better connectivity for cyclists to cross the street to get to the schools. The traffic analysis completed for this one-way scenario is described below. See Figure 8 and Figure 9 for existing and proposed cross-sections of Quade Street between Shippey Street and West Notre Dame Street. See Figure 10 for a plan view of the one-way street.

*Based on public feedback, people are generally (70% positive/neutral) in favor of converting Quade Street to one-way southbound*





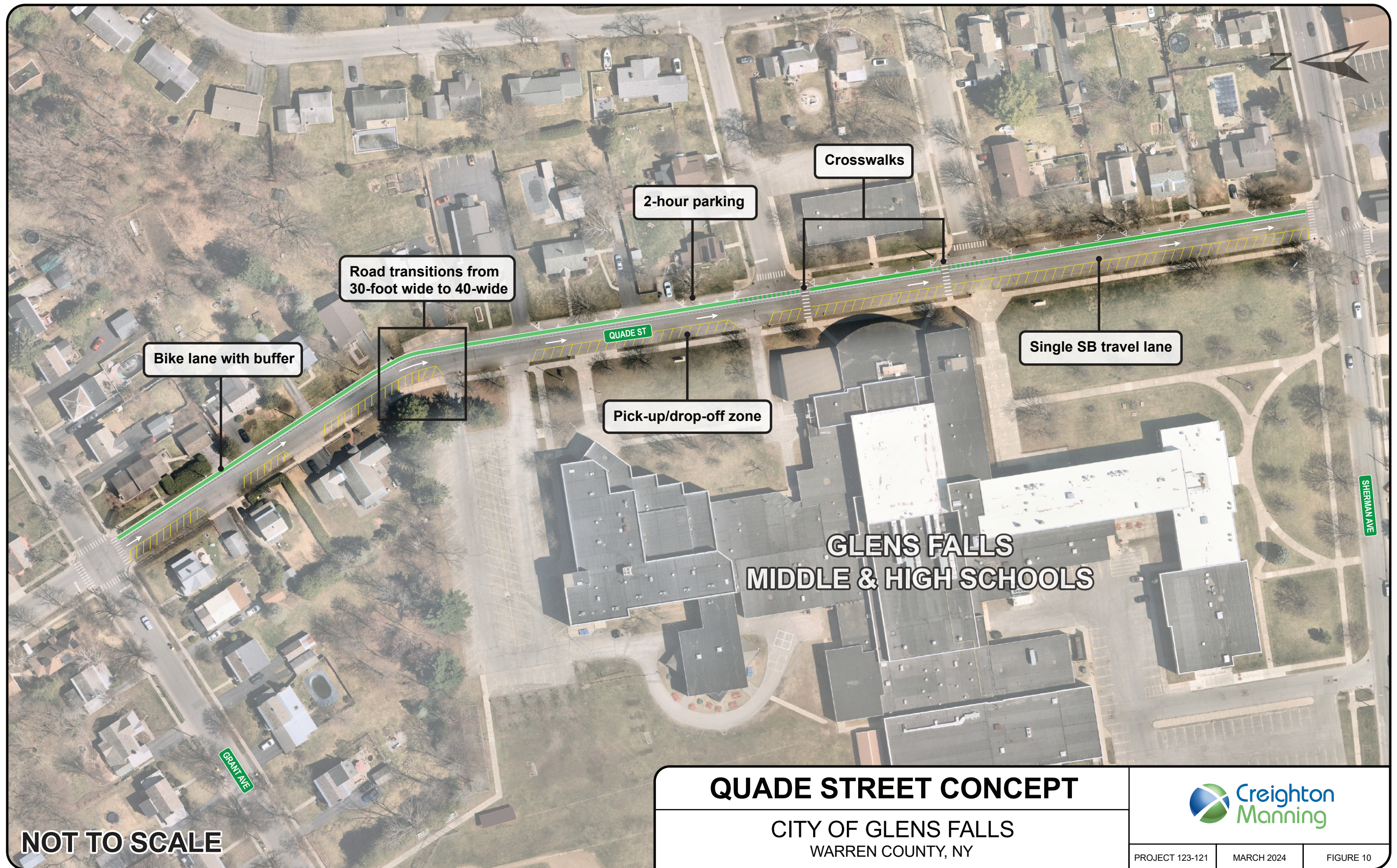






Figure 11: Example of Raised Crossing and Bump Out on Fire Road



Figure 12: Example of a RRFB on Kensington Road





Figure 13: Current Parking Signage Around Campus

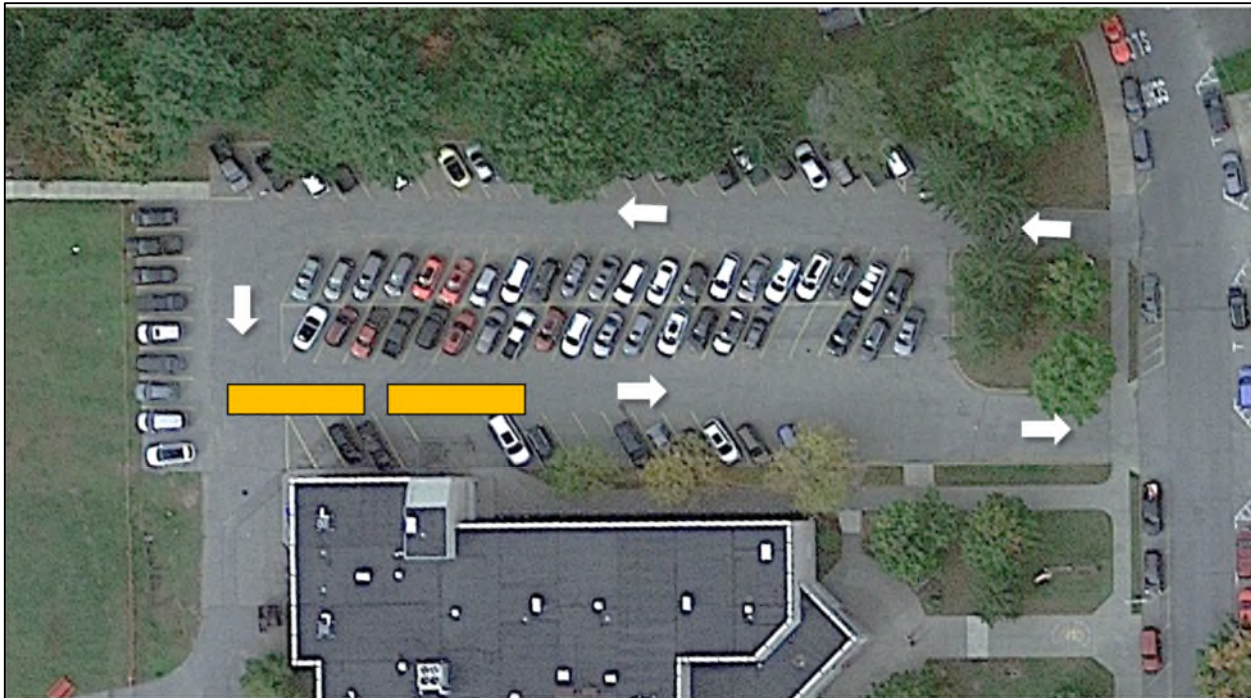


Figure 14: Middle School Parking Lot Circulation



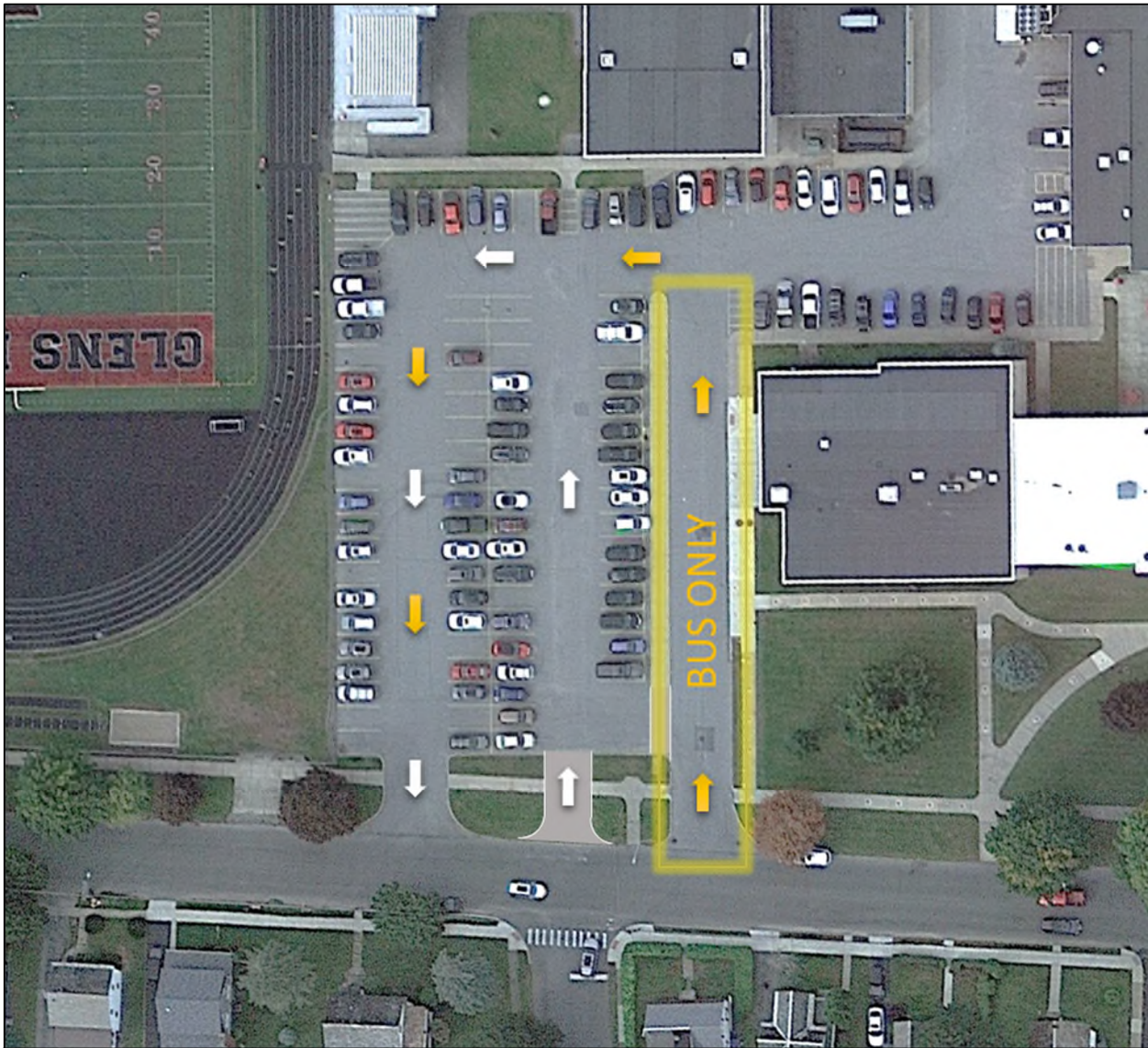


Figure 15: High School Parking Lot Circulation



## 6.2 One-Way Circulation Traffic Analysis

Level of service and delay were calculated using Trafficware's Synchro 11 for existing and proposed conditions at the study area intersections related to converting Quade Street to one-way southbound and are summarized in Table 5. The Level of service results are included under Appendix D.

**Table 5 - Level of Service Summary**

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Existing	One-Way Alternative	Existing	One-Way Alternative
Quade Street & Grant Ave	U				
Grant Ave EB LTR		A (8.3)	A (8.5)	A (8.1)	A (8.0)
Grant Ave WB LTR		A (8.9)	A (8.9)	A (8.6)	A (8.3)
Quade Street NB LTR		A (8.1)	A (8.1)	A (8.2)	A (7.8)
Quade Street SB LTR		A (8.1)	--	A (7.9)	--
Quade Street & Parking Lot	U				
Parking Lot EB LR [R]		A (9.8)	A (9.3)	A (9.4)	A (9.0)
Quade Street NB L		A (1.9)	--	A (0.4)	--
Quade Street & Shippey St	U				
Shippey Street WB LR [L]		A (8.8)	B (12.0)	A (8.7)	B (10.1)
Quade Street SB L		A (6.6)	A (6.2)	A (4.2)	A (3.3)
Quade Street & W. Notre Dame Street	U				
W. Notre Dame Street WB LR [L]		A (9.1)	A (9.5)	A (9.1)	A (9.2)
Quade Street SB L		A (0.0)	A (0.0)	A (0.6)	A (0.2)
Quade Street/Cortland Street/Sherman Ave	U				
Sherman Ave EB LTR [TR]		B (10.3)	B (10.6)	B (10.7)	B (11.0)
Sherman Ave WB LTR [LT]		A (9.9)	B (10.5)	B (10.8)	B (11.5)
Cortlandt Street NB LTR [LR]		A (8.8)	A (8.9)	A (9.1)	A (9.2)
Quade Street SB LTR		A (9.0)	B (10.2)	A (9.2)	B (10.4)
Empire Ave & Shippey Street	U				
Shippey Street EB LTR		A (8.0)	A (8.1)	A (7.5)	A (7.6)
Shippey Street WB LTR		A (7.5)	A (7.6)	A (7.2)	A (7.2)
Empire Ave NB LTR		A (7.9)	A (8.1)	A (7.5)	A (7.6)
Empire Ave SB LTR		A (7.4)	A (7.5)	A (7.4)	A (7.4)
Empire Ave & W. Notre Dame Street	U				
W. Notre Dame Street EB LTR		A (7.5)	A (7.6)	A (7.4)	A (7.4)
W. Notre Dame Street WB LTR		A (7.4)	A (7.5)	A (7.4)	A (7.4)
Empire Ave NB LTR		A (7.7)	A (7.9)	A (7.4)	A (7.5)
Empire Ave SB LTR		A (7.4)	A (7.5)	A (7.3)	A (7.4)
Sherman Ave & Empire Ave	U				
Sherman Ave EB L		A (0.9)	A (1.5)	A (1.2)	A (1.5)
Empire Ave SB LR		B (11.1)	B (11.3)	B (11.6)	B (11.8)

U = Unsignalized intersection

EB, WB, NB, SB = Eastbound, Westbound, Northbound, and Southbound intersection approaches

L, T, R = Left-turn, Through, and/or Right-turn movements

LTR [LTR] = Existing Lane Movements [Proposed Lane Movements]

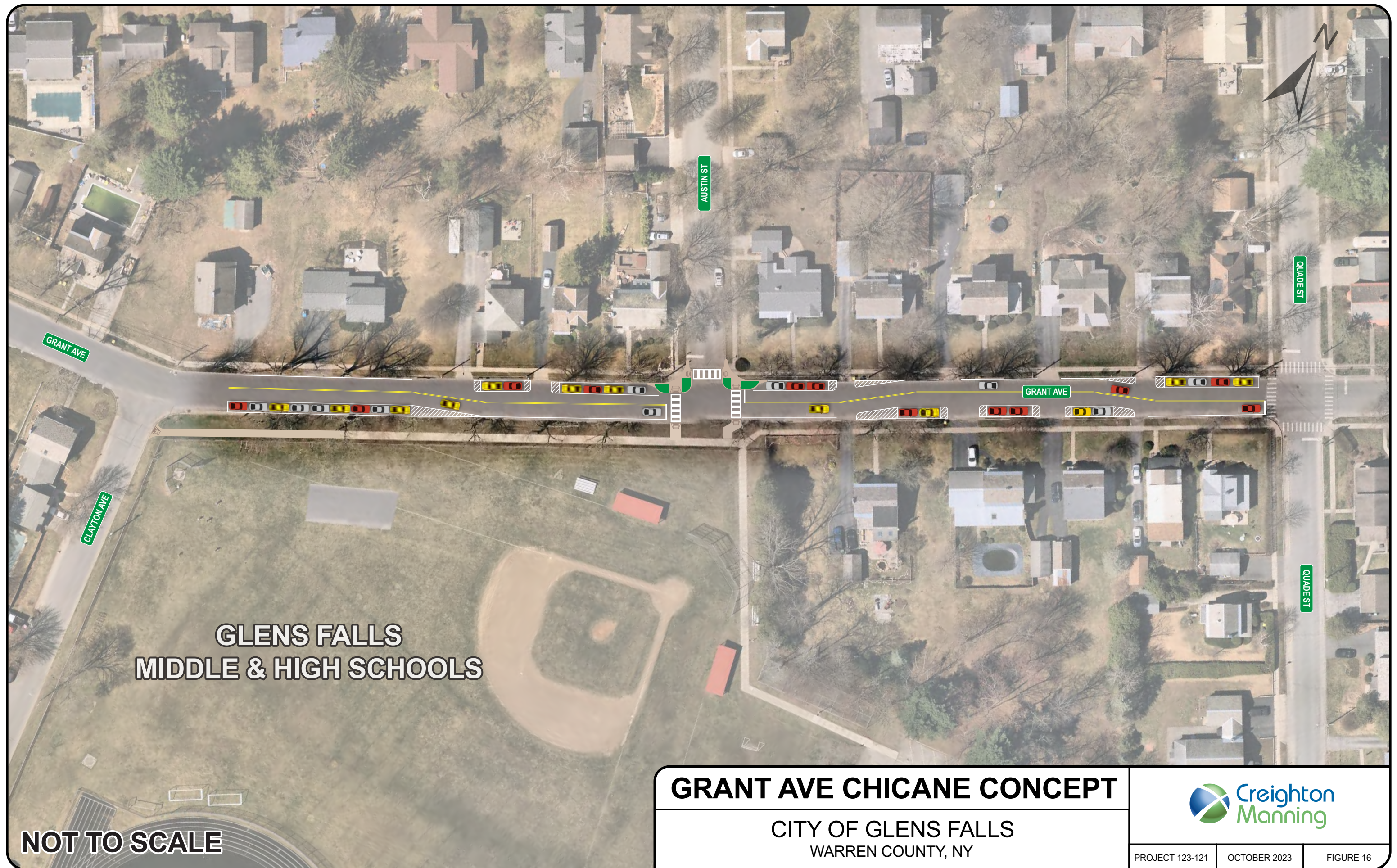
X (Y.Y) = Level of service (Average delay in seconds per vehicle)

The level of service analysis indicates that all intersection movements will continue to operate at LOS B or better during the AM and PM peak school hours if Quade Street is converted to a one-way southbound facility. Based on public feedback, people are generally (70% positive/neutral) in favor of converting Quade Street to one-way southbound. The City of Glens Falls and the GFSD should consider this option to improve operations and safety adjacent to the Glens Falls Middle School and High School campus.

### **6.3 Alternatives Considered but Not Progressed**

Stripe Grant Avenue into a chicane with alternate side parking to slow traffic (Figure 16). A chicane is a form of traffic calming that shifts the alignment of the center line of the road to add curvature to the travel lanes so motorists cannot drive in a linear path. It also provides parking on the residential side of the street while creating a parking/pick-up/drop-off area on the school side of the street. This alternative was not progressed as it is a unique alternative that is not typical for the area. It should be considered in the future if the City of Glens Falls restripes other roadways in the area similarly.





GLENS FALLS  
MIDDLE & HIGH SCHOOLS

NOT TO SCALE

<b>GRANT AVE CHICANE CONCEPT</b>
CITY OF GLENS FALLS WARREN COUNTY, NY





## 7.0 CONCLUSIONS

The Glens Falls School District should review the future considerations and concepts provided in this memo to determine preferred options for further design development and implementation. The one-way option supplemented with other enhancements will achieve the goals of this project to improve safety, and improve pedestrian, bicycle, and vehicle circulation around the schools. It is also a recommendation of this study that the current cones be removed as they are aiding in congestion and vehicle conflicts (i.e. U-Turns, backing out of driveways).

### 7.1 The Plan

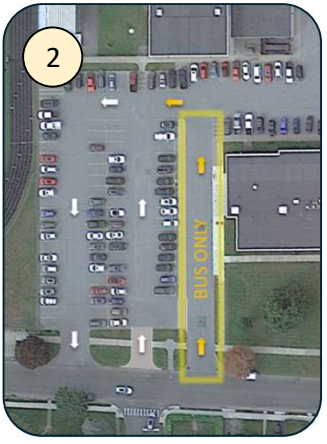
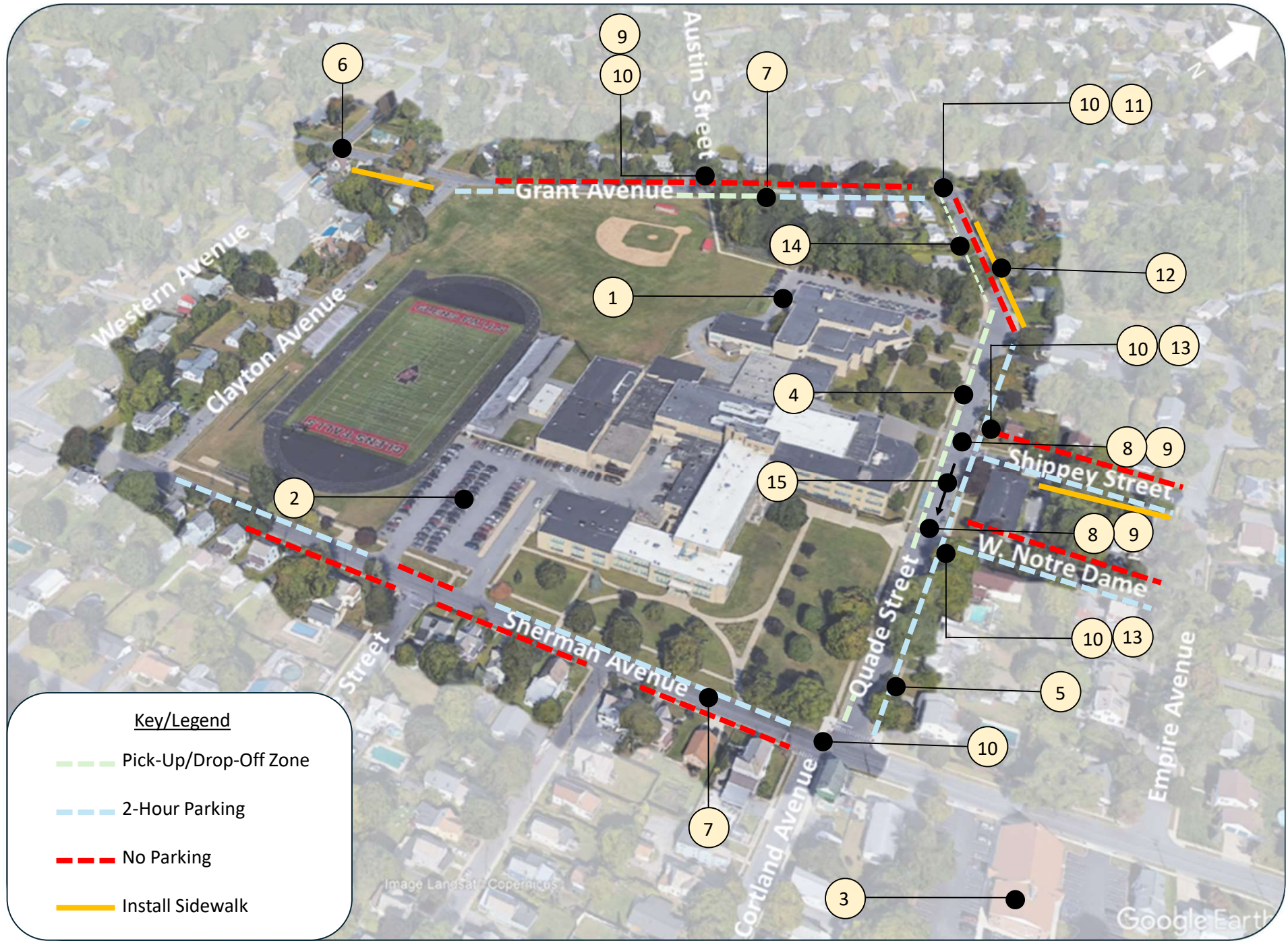
The plan identifies several bicycle and pedestrian connectivity improvements improve safety and congestion surround the Glens Falls Middle School and High School. The considerations were summarized in detail in Table 4. Due to the nature of the treatment, it is useful to think of these elements as a “Toolbox” with many different treatments that can be incorporated into future projects. The tools, and overall study recommendations, are shown on Figure 17.

### 7.2 Next Steps

Some of the considerations may already be addressed since the City of Glens Falls is currently advancing special projects related to City-wide parking, progressing a review of ADA compliant sidewalks/ramps through the *ADA Transition Plan*, and a *Complete Streets Policy*. Improvements the GFSD would like to pursue can be handled internally on campus or coordinated with the City of Glens Falls for approvals/funding support.

Funding for future projects can be in the form of grants through the GFSD, the GFSD requesting funds through the A/GFTC MPO, and through Federal/State/Local programs like *Safe Routes to School* or capital programming through the City of Glens Falls.





- |   |  |   |                                   |
|---|--|---|-----------------------------------|
| 1 Middle School Parking Lot for faculty/staff-only and/or visitor/handicap parking and bus pick-up/drop-off | 4 Designate pick-up/drop-off parking zone  | 8 Install raised crosswalk at Quade Street/Shippey Street and Quade Street/West Notre Dame Street | 12 Install missing sidewalk links |
| 2 High School Parking Lot reconfigured to separate buses from faculty/staff parking                         | 5 Designate two-hour parking from 7:00 AM to 3:00 PM   | 9 Install Rapid Rectangular Flashing Beacons (RRFB)   | 13 Upgrade ADA Ramps              |
| 3 Encourage/Incentivize student parking in designated areas   | 6 Stripe Crosswalks at Grant Avenue/Western Avenue (conditional on Town of Queensbury sidewalk installation) | 10 Install pedestrian bump-outs where crosswalks are adjacent to parking lanes                    | 14 Update signage                 |
|   | 7 Stripe parking on Sherman Avenue and Grant Avenue  | 11 Cut back vegetation at intersection corners  | 15 Quade Street one-way           |
|   |  |   | 16 Stagger school start times     |

A/GFTC Glens Falls Middle School and High School Circulation Study

**Figure 17: Future Considerations**



# Appendix

**Glens Falls Middle School and  
High School Circulation Study**



# Appendix A

## Data Collections (TMCs and ATRs)

**Study Name 1-Grant Ave at Austin St****Start Date 05-31-2023****Start Time****Site Code****Austin St is SB**

Start Time	GRANT AVE Southbound			GRANT AVE Westbound			AUSTIN ST Eastbound			
	Left	Right	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	
7:30 AM	0	0	0	9	0	0	0	25	0	277
7:45 AM	0	0	0	13	0	0	0	32	0	298 PK HR
8:00 AM	1	1	0	21	2	0	4	51	0	282
8:15 AM	3	1	0	38	8	0	20	48	0	235
8:30 AM	0	1	0	22	0	0	3	29	0	145
8:45 AM	0	0	0	19	0	0	1	9	0	
9:00 AM	1	2	0	18	0	0	0	12	0	
9:15 AM	0	0	0	17	0	0	1	10	0	
2:00 PM	0	0	0	19	0	0	0	7	0	169
2:15 PM	0	0	0	21	0	0	1	21	0	238
2:30 PM	0	0	0	23	0	0	1	24	0	266
2:45 PM	3	2	0	24	3	0	1	19	0	282 PK HR
3:00 PM	1	4	0	42	4	0	12	32	0	276
3:15 PM	1	0	0	34	0	0	4	32	0	
3:30 PM	0	0	0	38	0	0	1	25	0	
3:45 PM	0	0	0	32	0	0	1	13	0	
7:45 AM	4	3	0	94	10	0	27	160	0	
2:45 PM	5	6	0	138	7	0	18	108	0	



**Study Name 2-Grant Ave at Quade St**

**Start Date 05-31-2023**

**Start Time**

**Site Code**

	QUADE ST Southbound				GRANT AVE Westbound				QUADE ST Northbound				GRANT AVE Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:30 AM	0	1	0	0	8	7	0	0	0	1	0	0	0	17	7	0	420
7:45 AM	0	3	1	0	5	13	0	0	0	1	2	0	0	22	12	0	459 PK HR
8:00 AM	2	9	1	0	22	18	0	0	5	3	11	0	0	15	33	0	445
8:15 AM	0	18	4	0	53	27	2	0	16	5	24	0	1	23	28	0	361
8:30 AM	0	5	1	0	14	13	0	0	7	1	10	0	1	20	8	0	198
8:45 AM	0	5	0	0	6	15	0	0	3	2	4	0	0	7	3	0	
9:00 AM	1	1	0	0	2	15	0	0	1	1	2	0	1	11	0	0	
9:15 AM	0	3	0	0	2	16	2	0	2	0	3	0	0	8	2	0	
2:00 PM	0	3	0	0	7	19	1	0	2	3	3	0	0	6	1	0	228
2:15 PM	1	1	0	0	5	22	0	0	0	2	1	0	1	16	4	0	337
2:30 PM	1	2	0	0	9	15	0	0	3	1	2	0	0	17	5	0	374
2:45 PM	3	1	0	0	15	32	3	1	0	2	2	0	2	9	5	0	400 PK HR
3:00 PM	2	3	2	0	15	24	7	1	22	10	27	0	0	34	7	0	388
3:15 PM	1	3	1	0	10	17	0	0	9	5	9	0	4	23	8	0	
3:30 PM	0	0	0	0	8	30	0	0	7	4	9	0	0	20	3	0	
3:45 PM	0	1	0	0	4	31	0	0	1	7	6	0	0	12	1	0	
7:45 AM	2	35	7	0	94	71	2	0	28	10	47	0	2	80	81	0	
2:45 PM	6	7	3	0	48	103	10	2	38	21	47	0	6	86	23	0	

**Study Name 3-Quade St at Parking Lot**

**Start Date 05-31-2023**

**Start Time**

**Site Code**

	QUADE ST Southbound					DRIVEWAY Westbound					QUADE ST Northbound					PARKING LOT Eastbound						
Start Time	Left	Thru	Right	Hard Right	U-Turn	Left	Thru	Bear Right	Right	U-Turn	Left	Bear Left	Thru	Right	U-Turn	Hard Left	Left	Thru	Right	U-Turn		
7:30 AM	3	5	1	7	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	274	
7:45 AM	0	4	0	16	0	0	0	0	0	0	0	2	1	1	1	0	1	0	0	0	313	
8:00 AM	0	33	0	20	0	0	0	0	0	0	2	6	14	1	1	0	1	0	0	0	312	
8:15 AM	1	68	0	26	0	0	0	0	0	0	0	7	35	0	0	0	5	0	8	0	246	
8:30 AM	2	18	0	9	0	1	0	0	0	0	0	2	15	1	0	0	4	0	7	0	110	
8:45 AM	0	10	0	2	0	1	0	0	1	0	0	0	6	1	1	0	2	0	1	0		
9:00 AM	0	4	0	0	0	0	0	0	0	0	0	3	5	0	0	0	0	0	0	0		
9:15 AM	1	5	0	1	0	1	0	0	1	0	0	0	4	0	0	0	0	0	1	0		
2:00 PM	1	7	0	2	0	0	0	0	0	0	0	0	6	0	2	0	2	0	0	0	65	
2:15 PM	0	7	0	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	1	0	139	
2:30 PM	0	8	0	0	0	0	0	0	1	0	0	0	4	0	0	0	1	0	1	0	179	
2:45 PM	0	9	1	1	1	0	0	0	0	0	0	0	2	0	1	0	2	0	0	0	202	
3:00 PM	0	35	0	3	0	0	0	0	0	0	0	1	27	0	0	0	19	0	9	0	207	
3:15 PM	0	19	0	1	0	0	0	0	1	0	0	2	12	1	1	0	10	0	6	0		
3:30 PM	0	9	0	1	0	0	0	0	0	0	0	0	9	0	1	0	11	0	7	0		
3:45 PM	0	6		0	0	0	0	0	0	0	0	0	10	0	1	0	3	0	2	0		
7:45 AM	3	123	Right	71	0	1	0	0	0	0	Left	2	17	65	3	2	Left	11	0	15	0	
3:00 PM	0	69	0	5	0	0	0	0	1	0	0	3	58	1	3	0	43	0	24	0		

**Study Name 4-Quade St at Shippey st****Start Date 05-31-2023****Start Time****Site Code**

	QUADE ST Southbound			SHIPPEY ST Westbound			QUADE ST Northbound			
Start Time	Left	Thru	U-Turn	Left	Right	U-Turn	Thru	Right	U-Turn	
7:30 AM	4	0	0	0	4	0	0	0	0	214
7:45 AM	3	0	0	0	7	0	2	0	0	253
8:00 AM	35	0	0	2	28	0	0	0	0	265 PK HR
8:15 AM	83	0	1	0	45	0	0	0	0	214
8:30 AM	11	18	0	2	8	0	7	1	0	100
8:45 AM	2	11	0	3	1	0	7	0	0	
9:00 AM	0	4	0	0	0	0	8	2	0	
9:15 AM	1	8	0	2	0	0	3	1	0	
2:00 PM	1	5	1	2	4	0	4	3	1	62
2:15 PM	3	2	0	0	2	0	1	0	0	124
2:30 PM	6	2	0	0	8	0	0	0	0	164
2:45 PM	7	0	1	0	8	1	0	0	0	179
3:00 PM	47	3	1	0	24	0	3	5	0	189 PK HR
3:15 PM	3	28	0	2	3	0	10	1	1	
3:30 PM	1	15	0	2	2	0	8	3	0	
3:45 PM	0	9	0	2	2	0	12	2	0	
8:00 AM	131	29	1	7	82	0	14	1	0	
3:00 PM	51	55	1	6	31	0	33	11	1	

**Study Name 5-Quade St at W Notre Dame**

**Start Date 05-31-2023**

**Start Time**

**Site Code**

	QUADE ST Southbound				W NOTRE DAME ST Westbound				QUADE ST Northbound				DRIVEWAY Eastbound				
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
7:30 AM	0	0	0	0	2	0	0	0	0	0	8	0	0	0	0	0	136
7:45 AM	0	0	0	0	4	0	0	0	0	2	8	0	0	0	0	0	163
8:00 AM	0	0	0	0	18	0	1	1	0	0	22	0	0	0	0	0	173 PK HR
8:15 AM	0	0	0	0	38	0	0	1	0	0	31	0	0	0	0	0	147
8:30 AM	0	19	1	0	3	0	2	0	0	7	5	0	0	0	0	0	95
8:45 AM	4	10	0	0	2	0	1	0	0	5	2	0	0	0	0	0	
9:00 AM	0	4	0	0	0	1	0	0	0	10	1	0	0	0	0	0	
9:15 AM	0	9	0	0	1	0	1	0	0	3	3	1	0	0	0	0	
2:00 PM	2	6	0	0	3	0	0	0	0	7	0	0	0	0	0	0	69
2:15 PM	0	2	0	0	5	0	0	1	0	1	6	0	0	0	0	0	94
2:30 PM	0	0	0	0	6	1	0	2	0	0	7	0	0	0	0	0	131
2:45 PM	0	1	0	0	3	0	0	1	0	0	14	1	0	0	0	0	148
3:00 PM	0	7	0	0	19	0	0	2	0	1	12	0	0	2	0	0	160 PK HR
3:15 PM	2	26	0	0	6	0	2	0	0	10	4	1	0	1	0	0	
3:30 PM	2	13	0	0	1	0	2	0	0	9	5	0	0	1	0	0	
3:45 PM	1	12	0	0	3	0	0	0	0	14	1	0	0	1	0	0	
8:00 AM	4	29	1	0	61	0	4	2	0	12	60	0	0	0	0	0	
3:00 PM	5	58	0	0	29	0	4	2	0	34	22	1	0	5	0	0	

**Study Name 6-Quade St at Cortland/Sherman****Start Date 05-31-2023****Start Time****Site Code**

	QUADE ST Southbound				SHERMAN AVE Westbound				CORTLAND ST Northbound				SHERMAN AVE Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:30 AM	0	1	2	0	3	41	1	0	0	6	1	0	5	74	3	0
7:45 AM	2	0	3	0	4	57	0	0	0	5	2	0	2	63	3	0
8:00 AM	14	0	5	0	1	53	5	0	4	8	9	0	12	49	1	0
8:15 AM	23	3	11	0	8	52	4	0	5	18	13	0	11	53	5	0
8:30 AM	5	5	14	0	3	35	1	0	0	8	3	0	4	50	1	0
8:45 AM	2	2	8	0	3	55	3	0	1	5	3	0	0	52	3	0
9:00 AM	0	2	1	0	4	43	1	0	1	3	1	0	5	39	1	0
9:15 AM	2	5	3	0	3	25	1	0	2	1	4	0	3	43	1	0
2:00 PM	3	3	3	0	2	44	0	0	7	2	1	0	5	59	4	0
2:15 PM	0	1	1	0	3	47	3	0	4	0	6	0	4	50	0	0
2:30 PM	0	2	0	0	4	62	2	0	6	3	4	0	3	64	2	0
2:45 PM	1	0	2	0	7	54	4	0	9	6	6	0	7	51	2	0
3:00 PM	18	15	9	0	10	45	1	0	6	3	6	0	2	57	1	0
3:15 PM	11	5	16	0	8	74	1	0	7	6	3	0	10	66	3	0
3:30 PM	4	4	10	0	3	64	0	0	3	7	2	0	4	59	3	0
3:45 PM	7	1	5	0	2	60	1	0	5	9	0	0	5	53	1	0



**Study Name 7-ShermanAve T Larose St**

**Start Date 05-31-2023**

**Start Time**

**Site Code**

	SHERMAN AVE Westbound			LAROSE ST Northbound			SHERMAN AVE Eastbound		
Start Time	Left	Thru	U-Turn	Left	Right	U-Turn	Thru	Right	U-Turn
7:30 AM	7	32	0	4	5	0	79	7	0
7:45 AM	5	51	0	3	5	0	63	15	0
8:00 AM	2	62	0	9	10	0	63	8	0
8:15 AM	9	55	0	8	7	0	60	8	0
8:30 AM	2	45	0	3	5	0	52	7	0
8:45 AM	10	50	0	3	4	0	52	2	0
9:00 AM	7	43	0	2	8	0	39	7	0
9:15 AM	4	21	0	0	7	0	41	4	0
2:00 PM	5	41	0	2	12	0	55	2	0
2:15 PM	8	40	0	3	8	0	46	0	0
2:30 PM	13	53	0	5	20	0	55	4	0
2:45 PM	1	57	0	7	14	1	57	6	0
3:00 PM	12	63	0	7	9	0	81	14	0
3:15 PM	13	84	0	9	10	0	59	6	0
3:30 PM	13	73	0	4	12	0	53	3	0
3:45 PM	8	69	0	9	10	0	51	4	0

**Study Name 8-Empire Ave at Shippey St****Start Date 05-31-2023****Start Time****Site Code**

	EMPIRE AVE Southbound				SHIPPEY ST Westbound				EMPIRE AVE Northbound				SHIPPEY ST Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:30 AM	0	1	0	0	3	3	0	1	3	0	1	0	0	6	1	0
7:45 AM	0	0	0	0	5	1	0	0	1	2	2	0	0	4	3	0
8:00 AM	2	5	0	0	24	9	0	0	9	18	12	0	0	11	4	0
8:15 AM	1	8	0	0	15	12	1	1	32	25	16	0	1	17	17	0
8:30 AM	0	2	0	0	1	1	1	0	4	1	0	0	0	1	2	0
8:45 AM	0	2	0	0	0	1	0	0	1	1	0	0	0	4	1	0
9:00 AM	0	0	0	0	0	2	0	0	1	0	0	0	0	3	0	0
9:15 AM	0	0	0	0	0	2	0	0	2	1	0	0	0	0	3	0
2:00 PM	0	1	0	0	0	2	1	0	1	0	2	0	0	1	3	0
2:15 PM	0	0	0	0	2	4	2	0	1	0	1	0	0	4	0	0
2:30 PM	1	1	0	0	9	9	1	0	0	1	3	0	0	5	3	1
2:45 PM	0	3	1	0	9	10	2	0	7	0	4	0	0	12	0	0
3:00 PM	1	4	2	0	11	12	3	0	17	27	11	0	0	11	3	0
3:15 PM	1	1	2	0	0	8	2	0	1	1	0	0	0	3	1	0
3:30 PM	0	1	0	0	0	2	0	0	1	3	0	0	0	6	1	0
3:45 PM	0	1	0	0	1	5	0	0	3	1	2	0	0	2	1	0

**Study Name 9-Empire Ave At W Notre Dame St****Start Date 05-31-2023****Start Time****Site Code**

	EMPIRE AVE Southbound				W NOTRE DAME ST Westbound				EMPIRE AVE Northbound				W NOTRE DAME ST Eastbound			
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
7:30 AM	0	5	2	0	0	2	0	1	3	5	0	0	3	1	4	0
7:45 AM	0	3	2	0	0	2	0	0	3	4	1	0	2	2	2	0
8:00 AM	1	14	7	0	0	6	1	0	9	18	0	0	9	1	9	0
8:15 AM	2	20	16	0	0	15	5	0	15	17	2	0	11	13	12	0
8:30 AM	0	4	0	0	0	2	0	0	1	2	0	0	2	1	4	0
8:45 AM	0	3	0	0	1	2	1	0	0	0	0	0	1	2	1	0
9:00 AM	0	3	0	0	0	2	0	0	0	1	0	0	0	0	1	0
9:15 AM	0	1	1	0	1	1	0	0	0	1	0	0	1	0	0	1
2:00 PM	0	2	1	0	1	0	0	0	1	4	0	0	1	0	0	0
2:15 PM	0	4	2	0	0	2	0	0	0	2	0	0	4	1	1	0
2:30 PM	0	6	3	0	0	3	0	0	6	12	1	0	8	1	1	0
2:45 PM	1	11	1	0	2	2	1	0	1	16	5	0	8	1	3	0
3:00 PM	2	18	5	0	3	6	2	0	5	15	8	0	4	12	3	0
3:15 PM	0	5	1	0	0	5	0	0	2	9	0	0	2	2	3	0
3:30 PM	0	4	0	0	1	1	0	0	0	3	1	0	1	4	1	0
3:45 PM	0	4	1	0	3	1	1	0	2	4	1	0	0	2	2	0

**Study Name 10-Empire Ave at Sherman Ave****Start Date 05-31-2023****Start Time****Site Code**

	EMPIRE AVE Southbound			SHERMAN AVE Westbound			SHERMAN AVE Eastbound		
Start Time	Left	Right	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn
7:30 AM	3	8	0	35	1	0	7	67	0
7:45 AM	0	8	0	49	7	0	0	69	0
8:00 AM	7	14	0	49	21	0	8	63	0
8:15 AM	8	20	0	45	17	0	18	66	0
8:30 AM	7	8	0	35	3	0	2	63	0
8:45 AM	0	2	0	52	1	0	1	54	0
9:00 AM	2	4	0	50	0	0	1	42	0
9:15 AM	2	1	0	30	1	0	0	45	0
2:00 PM	1	2	0	41	1	0	3	57	0
2:15 PM	0	4	0	48	1	0	3	54	0
2:30 PM	3	3	0	62	8	0	12	57	0
2:45 PM	2	13	0	57	10	0	12	45	0
3:00 PM	11	16	0	48	9	0	12	84	0
3:15 PM	4	7	0	72	4	0	7	80	0
3:30 PM	1	4	0	66	0	0	4	63	0
3:45 PM	0	7	0	63	2	0	4	51	0

# TRAFFIC DATABANK LLC

716 SOUTH SIXTH AVENUE  
MT. VERNON NY 10550

Page 1

Site Code:  
Station ID:  
QUADE ST

Latitude: 0' 0.0000 Undefined

NB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/01/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14-23	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1
04:00	0	0	1	1	0	1	0	0	0	0	0	0	0	0	3	19-28	2
05:00	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	14-23	1
06:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	21-30	3
07:00	1	3	6	3	0	0	0	0	0	0	0	0	0	0	13	16-25	9
08:00	33	42	17	4	1	0	0	0	0	0	0	0	0	0	97	16-25	59
09:00	0	7	12	6	2	1	0	0	0	0	0	0	0	0	28	16-25	19
10:00	1	11	18	5	0	0	1	0	0	0	0	0	0	0	36	16-25	29
11:00	3	7	19	13	4	0	0	0	0	0	0	0	0	0	46	21-30	32
12 PM	0	2	20	5	3	0	0	0	0	0	0	0	0	0	30	21-30	25
13:00	2	6	16	11	1	0	0	0	0	0	0	0	0	0	36	21-30	27
14:00	8	1	4	2	1	0	0	0	0	0	0	0	0	0	16	21-30	6
15:00	19	34	16	13	1	0	0	0	0	0	0	0	0	0	83	16-25	50
16:00	1	1	6	33	8	1	0	0	0	0	0	0	0	0	50	25-34	41
17:00	1	8	22	12	9	1	0	0	0	0	0	0	0	0	53	21-30	34
18:00	1	13	26	15	1	0	0	0	0	0	0	0	0	0	56	20-29	41
19:00	2	2	15	5	4	0	0	0	0	0	0	0	0	0	28	21-30	20
20:00	0	8	14	14	2	0	0	0	0	0	0	0	0	0	38	21-30	28
21:00	0	0	3	3	0	2	0	0	0	0	0	0	0	0	8	21-30	6
22:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	25-34	3
23:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1
Total	72	145	217	151	39	7	1	0	0	0	0	0	0	0	632		
Percent	11.4%	22.9%	34.3%	23.9%	6.2%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	11:00	11:00	11:00	04:00	10:00								08:00		
Vol.	33	42	19	13	4	1	1								97		
PM Peak	15:00	15:00	18:00	16:00	17:00	21:00									15:00		
Vol.	19	34	26	33	9	2									83		
Total	72	145	217	151	39	7	1	0	0	0	0	0	0	0	632		
Percent	11.4%	22.9%	34.3%	23.9%	6.2%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 15 MPH  
50th Percentile : 22 MPH  
85th Percentile : 28 MPH  
95th Percentile : 31 MPH

Stats  
10 MPH Pace Speed : 21-30 MPH  
Number in Pace : 368  
Percent in Pace : 58.2%  
Number of Vehicles > 55 MPH : 0  
Percent of Vehicles > 55 MPH : 0.0%  
Mean Speed(Average) : 22 MPH

# TRAFFIC DATABANK LLC

716 SOUTH SIXTH AVENUE  
MT. VERNON NY 10550

Page 2

Site Code:  
Station ID:  
QUADE ST

Latitude: 0' 0.0000 Undefined

SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/01/23	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	19-28	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	9-18	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3	14-23	2
05:00	0	1	1	0	2	0	0	0	0	0	0	0	0	0	4	14-23	2
06:00	0	0	1	1	3	0	0	0	0	0	0	0	0	0	5	25-34	4
07:00	5	5	5	4	0	0	0	0	0	0	0	0	0	0	19	16-25	10
08:00	57	69	25	3	0	0	0	0	0	0	0	0	0	0	154	16-25	94
09:00	2	5	8	4	0	0	0	0	0	0	0	0	0	0	19	16-25	13
10:00	4	10	4	3	1	0	0	0	0	0	0	0	0	0	22	16-25	14
11:00	8	17	5	2	0	0	0	0	0	0	0	0	0	0	32	16-25	22
12 PM	2	12	7	6	4	0	0	0	0	0	0	0	0	0	31	16-25	19
13:00	4	7	10	3	1	0	0	0	0	0	0	0	0	0	25	16-25	17
14:00	4	24	6	1	0	0	0	0	0	0	0	0	0	0	35	16-25	30
15:00	48	51	14	4	0	0	0	0	0	0	0	0	0	0	117	11-20	67
16:00	1	13	5	9	2	0	0	0	0	0	0	0	0	0	30	16-25	18
17:00	3	17	12	7	1	1	0	0	0	0	0	0	0	0	41	16-25	29
18:00	3	14	19	7	1	0	0	0	0	0	0	0	0	0	44	16-25	33
19:00	4	5	8	9	0	0	0	0	0	0	0	0	0	0	26	21-30	17
20:00	2	33	10	5	0	0	0	0	0	0	0	0	0	0	50	16-25	43
21:00	0	4	5	1	3	0	0	0	0	0	0	0	0	0	13	16-25	9
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	9-18	1
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	20-29	2
Total	147	290	146	74	18	1	0	0	0	0	0	0	0	0	676		
Percent	21.7%	42.9%	21.6%	10.9%	2.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	06:00										08:00		
Vol.	57	69	25	4	3										154		
PM Peak	15:00	15:00	18:00	16:00	12:00	17:00									15:00		
Vol.	48	51	19	9	4	1									117		
Total	147	290	146	74	18	1	0	0	0	0	0	0	0	0	676		
Percent	21.7%	42.9%	21.6%	10.9%	2.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 10 MPH  
50th Percentile : 18 MPH  
85th Percentile : 24 MPH  
95th Percentile : 28 MPH

Stats  
10 MPH Pace Speed : 16-25 MPH  
Number in Pace : 436  
Percent in Pace : 64.5%  
Number of Vehicles > 55 MPH : 0  
Percent of Vehicles > 55 MPH : 0.0%  
Mean Speed(Average) : 18 MPH



# TRAFFIC DATABANK LLC

716 SOUTH SIXTH AVENUE  
MT. VERNON NY 10550

Page 1

Site Code:  
Station ID:  
QUADE ST

Latitude: 0' 0.0000 Undefined

Start Time	5/29/2023		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	0	1	*	*	0	1	*	*	*	*
01:00	*	*	*	*	*	*	1	1	*	*	1	1	*	*	*	*
02:00	*	*	*	*	*	*	0	1	*	*	0	1	*	*	*	*
03:00	*	*	*	*	*	*	1	0	*	*	1	0	*	*	*	*
04:00	*	*	*	*	*	*	3	3	*	*	3	3	*	*	*	*
05:00	*	*	*	*	*	*	2	4	*	*	2	4	*	*	*	*
06:00	*	*	*	*	*	*	3	5	*	*	3	5	*	*	*	*
07:00	*	*	*	*	*	*	13	19	*	*	13	19	*	*	*	*
08:00	*	*	*	*	*	*	97	154	*	*	97	154	*	*	*	*
09:00	*	*	*	*	*	*	28	19	*	*	28	19	*	*	*	*
10:00	*	*	*	*	*	*	36	22	*	*	36	22	*	*	*	*
11:00	*	*	*	*	*	*	46	32	*	*	46	32	*	*	*	*
12:00 PM	*	*	*	*	*	*	30	31	*	*	30	31	*	*	*	*
01:00	*	*	*	*	*	*	36	25	*	*	36	25	*	*	*	*
02:00	*	*	*	*	*	*	16	35	*	*	16	35	*	*	*	*
03:00	*	*	*	*	*	*	83	117	*	*	83	117	*	*	*	*
04:00	*	*	*	*	*	*	50	30	*	*	50	30	*	*	*	*
05:00	*	*	*	*	*	*	53	41	*	*	53	41	*	*	*	*
06:00	*	*	*	*	*	*	56	44	*	*	56	44	*	*	*	*
07:00	*	*	*	*	*	*	28	26	*	*	28	26	*	*	*	*
08:00	*	*	*	*	*	*	38	50	*	*	38	50	*	*	*	*
09:00	*	*	*	*	*	*	8	13	*	*	8	13	*	*	*	*
10:00	*	*	*	*	*	*	3	1	*	*	3	1	*	*	*	*
11:00	*	*	*	*	*	*	1	2	*	*	1	2	*	*	*	*
Total Day	0	0	0	0	0	0	632	676	0	0	632	676	0	0	0	0
AM Peak	-	-	-	-	-	-	08:00	08:00	-	-	08:00	08:00	-	-	-	-
Vol.	-	-	-	-	-	-	97	154	-	-	97	154	-	-	-	-
PM Peak	-	-	-	-	-	-	15:00	15:00	-	-	15:00	15:00	-	-	-	-
Vol.	-	-	-	-	-	-	83	117	-	-	83	117	-	-	-	-

Comb. Total	0	0	0	1308	0	1308	0	0
ADT	ADT 1,308	AADT 1,308						

# TRAFFIC DATABANK LLC

716 SOUTH SIXTH AVENUE  
MT. VERNON NY 10550

Page 1

Site Code:  
Station ID:  
SHERMAN AVE

Latitude: 0' 0.0000 Undefined

EB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/01/23	0	0	2	3	3	1	0	0	0	0	0	0	0	0	9	26-35	6
01:00	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5	25-34	5
02:00	0	0	2	4	4	1	0	0	0	0	0	0	0	0	11	26-35	8
03:00	0	0	2	5	1	2	0	0	1	0	0	0	0	0	11	21-30	7
04:00	0	0	2	9	4	0	0	0	0	0	0	0	0	0	15	25-34	13
05:00	0	1	2	18	9	4	0	0	0	0	0	0	0	0	34	26-35	27
06:00	0	2	9	42	43	11	1	0	0	0	0	0	0	0	108	26-35	85
07:00	0	3	34	112	68	7	1	0	0	0	0	0	0	0	225	26-35	180
08:00	8	9	93	106	39	4	0	0	0	0	0	0	0	0	259	21-30	199
09:00	0	2	66	80	35	1	0	0	0	0	0	0	0	0	184	21-30	146
10:00	0	4	66	102	35	3	0	0	0	0	0	0	0	0	210	21-30	168
11:00	0	5	67	120	34	4	0	0	0	0	0	0	0	0	230	21-30	187
12 PM	0	1	50	125	63	11	0	0	0	0	0	0	0	0	250	26-35	188
13:00	2	7	58	130	43	5	0	0	0	0	0	0	0	0	245	21-30	188
14:00	0	6	60	110	53	7	0	0	0	0	0	0	0	0	236	21-30	170
15:00	0	11	91	116	40	5	1	0	0	0	0	0	0	0	264	21-30	207
16:00	0	0	27	137	108	14	0	0	0	0	0	0	0	0	286	26-35	245
17:00	0	1	36	147	100	23	0	0	0	0	0	0	0	0	307	26-35	247
18:00	3	5	35	92	72	13	0	0	0	0	0	0	0	0	220	26-35	164
19:00	0	2	21	49	57	13	0	0	0	0	0	0	0	0	142	26-35	106
20:00	0	1	17	66	20	3	0	0	0	0	0	0	0	0	107	26-35	86
21:00	0	1	12	34	22	4	1	1	0	0	0	0	0	0	75	26-35	56
22:00	1	0	3	9	26	5	0	0	0	0	0	0	0	0	44	26-35	35
23:00	0	1	1	6	4	1	0	0	0	0	0	0	0	0	13	26-35	10
Total	14	62	756	1625	885	142	4	1	1	0	0	0	0	0	3490		
Percent	0.4%	1.8%	21.7%	46.6%	25.4%	4.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	11:00	07:00	06:00	06:00		03:00						08:00		
Vol.	8	9	93	120	68	11	1		1						259		
PM Peak	18:00	15:00	15:00	17:00	16:00	17:00	15:00	21:00							17:00		
Vol.	3	11	91	147	108	23	1	1							307		
Total	14	62	756	1625	885	142	4	1	1	0	0	0	0	0	3490		
Percent	0.4%	1.8%	21.7%	46.6%	25.4%	4.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 22 MPH  
50th Percentile : 27 MPH  
85th Percentile : 32 MPH  
95th Percentile : 34 MPH

Stats  
10 MPH Pace Speed : 26-35 MPH  
Number in Pace : 2510  
Percent in Pace : 71.9%  
Number of Vehicles > 55 MPH : 0  
Percent of Vehicles > 55 MPH : 0.0%  
Mean Speed(Average) : 28 MPH

# TRAFFIC DATABANK LLC

716 SOUTH SIXTH AVENUE  
MT. VERNON NY 10550

Page 2

Site Code:  
Station ID:  
SHERMAN AVE

Latitude: 0' 0.0000 Undefined

WB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
06/01/23	0	0	1	2	4	1	0	0	0	0	0	0	0	0	8	26-35	6
01:00	0	0	1	0	6	0	0	0	0	0	0	0	0	0	7	26-35	6
02:00	0	0	1	3	1	0	0	0	0	0	0	0	0	0	5	26-35	4
03:00	0	0	1	5	3	2	0	0	0	0	0	0	0	0	11	25-34	8
04:00	0	1	1	5	6	2	1	0	0	0	0	0	0	0	16	26-35	11
05:00	0	1	6	6	24	9	1	0	0	0	0	0	0	0	47	31-40	33
06:00	0	0	12	27	<b>54</b>	<b>19</b>	1	0	0	0	0	0	0	0	113	26-35	81
07:00	0	4	25	57	48	15	<b>2</b>	0	0	0	0	0	0	0	151	26-35	105
08:00	0	5	<b>66</b>	<b>95</b>	46	7	0	0	0	0	0	0	0	0	<b>219</b>	21-30	161
09:00	<b>1</b>	2	29	61	48	10	0	0	0	0	0	0	0	0	151	26-35	109
10:00	1	7	27	91	42	5	1	0	0	0	0	0	0	0	174	26-35	133
11:00	0	<b>13</b>	50	91	49	7	0	0	0	0	0	0	0	0	210	21-30	141
12 PM	0	5	37	105	78	6	0	0	0	0	0	0	0	0	231	26-35	183
13:00	2	7	44	100	67	5	0	0	0	0	0	0	0	0	225	26-35	167
14:00	<b>3</b>	10	50	116	54	6	0	0	0	0	0	0	0	0	239	26-35	170
15:00	3	<b>25</b>	<b>107</b>	136	44	4	0	0	0	0	0	0	0	0	<b>319</b>	21-30	243
16:00	1	3	40	<b>143</b>	100	15	0	0	0	0	0	0	0	0	302	26-35	243
17:00	0	1	21	120	<b>105</b>	<b>18</b>	0	0	0	0	0	0	0	0	265	26-35	225
18:00	0	2	21	79	69	8	0	0	0	0	0	0	0	0	179	26-35	148
19:00	0	2	18	66	58	12	0	0	0	0	0	0	0	0	156	26-35	124
20:00	0	0	20	54	54	8	<b>1</b>	0	0	0	0	0	0	0	137	26-35	108
21:00	0	1	6	40	34	4	0	0	0	0	0	0	0	0	85	26-35	74
22:00	0	0	3	20	26	5	0	0	0	0	0	0	0	0	54	26-35	46
23:00	0	0	2	6	11	3	0	0	0	0	0	0	0	0	22	26-35	17
Total	11	89	589	1428	1031	171	7	0	0	0	0	0	0	0	3326		
Percent	0.3%	2.7%	17.7%	42.9%	31.0%	5.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	11:00	08:00	08:00	06:00	06:00	07:00								08:00		
Vol.	1	13	66	95	54	19	2								219		
PM Peak	14:00	15:00	15:00	16:00	17:00	17:00	20:00								15:00		
Vol.	3	25	107	143	105	18	1								319		
Total	11	89	589	1428	1031	171	7	0	0	0	0	0	0	0	3326		
Percent	0.3%	2.7%	17.7%	42.9%	31.0%	5.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 23 MPH  
50th Percentile : 28 MPH  
85th Percentile : 33 MPH  
95th Percentile : 35 MPH

Stats  
10 MPH Pace Speed : 26-35 MPH  
Number in Pace : 2459  
Percent in Pace : 73.9%  
Number of Vehicles > 55 MPH : 0  
Percent of Vehicles > 55 MPH : 0.0%  
Mean Speed(Average) : 29 MPH

# TRAFFIC DATABANK LLC

716 SOUTH SIXTH AVENUE  
MT. VERNON NY 10550

Page 1

Site Code:  
Station ID:  
SHERMAN AVE

Latitude: 0' 0.0000 Undefined

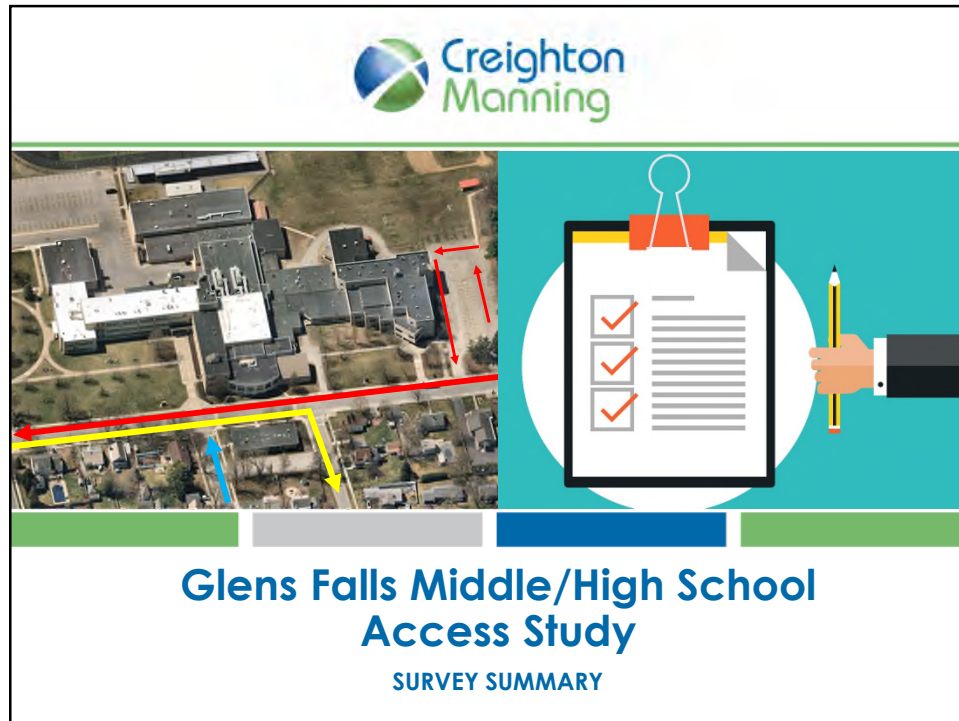
Start Time	5/29/2023		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	9	8	*	*	9	8	*	*	*	*
01:00	*	*	*	*	*	*	5	7	*	*	5	7	*	*	*	*
02:00	*	*	*	*	*	*	11	5	*	*	11	5	*	*	*	*
03:00	*	*	*	*	*	*	11	11	*	*	11	11	*	*	*	*
04:00	*	*	*	*	*	*	15	16	*	*	15	16	*	*	*	*
05:00	*	*	*	*	*	*	34	47	*	*	34	47	*	*	*	*
06:00	*	*	*	*	*	*	108	113	*	*	108	113	*	*	*	*
07:00	*	*	*	*	*	*	225	151	*	*	225	151	*	*	*	*
08:00	*	*	*	*	*	*	259	219	*	*	259	219	*	*	*	*
09:00	*	*	*	*	*	*	184	151	*	*	184	151	*	*	*	*
10:00	*	*	*	*	*	*	210	174	*	*	210	174	*	*	*	*
11:00	*	*	*	*	*	*	230	210	*	*	230	210	*	*	*	*
12:00 PM	*	*	*	*	*	*	250	231	*	*	250	231	*	*	*	*
01:00	*	*	*	*	*	*	245	225	*	*	245	225	*	*	*	*
02:00	*	*	*	*	*	*	236	239	*	*	236	239	*	*	*	*
03:00	*	*	*	*	*	*	264	319	*	*	264	319	*	*	*	*
04:00	*	*	*	*	*	*	286	302	*	*	286	302	*	*	*	*
05:00	*	*	*	*	*	*	307	265	*	*	307	265	*	*	*	*
06:00	*	*	*	*	*	*	220	179	*	*	220	179	*	*	*	*
07:00	*	*	*	*	*	*	142	156	*	*	142	156	*	*	*	*
08:00	*	*	*	*	*	*	107	137	*	*	107	137	*	*	*	*
09:00	*	*	*	*	*	*	75	85	*	*	75	85	*	*	*	*
10:00	*	*	*	*	*	*	44	54	*	*	44	54	*	*	*	*
11:00	*	*	*	*	*	*	13	22	*	*	13	22	*	*	*	*
Total Day	0	0	0	0	0	0	3490	3326	0	0	3490	3326	0	0	0	0
AM Peak	-	-	-	-	-	-	08:00	08:00	-	-	08:00	08:00	-	-	-	-
Vol.	-	-	-	-	-	-	259	219	-	-	259	219	-	-	-	-
PM Peak	-	-	-	-	-	-	17:00	15:00	-	-	17:00	15:00	-	-	-	-
Vol.	-	-	-	-	-	-	307	319	-	-	307	319	-	-	-	-

Comb. Total	0	0	0	6816	0	6816	0	0
ADT	ADT 6,816	AADT 6,816						

# Appendix B

## Summary of Survey Results





1

## Survey Overview

- Open from June 12 – June 28
- Distributed via email
- 316 responses
- 5 to 8 questions depending on respondent type
- Questions focused on how people travel to and from school & their biggest traffic/pedestrian safety concerns

2

## Survey Overview

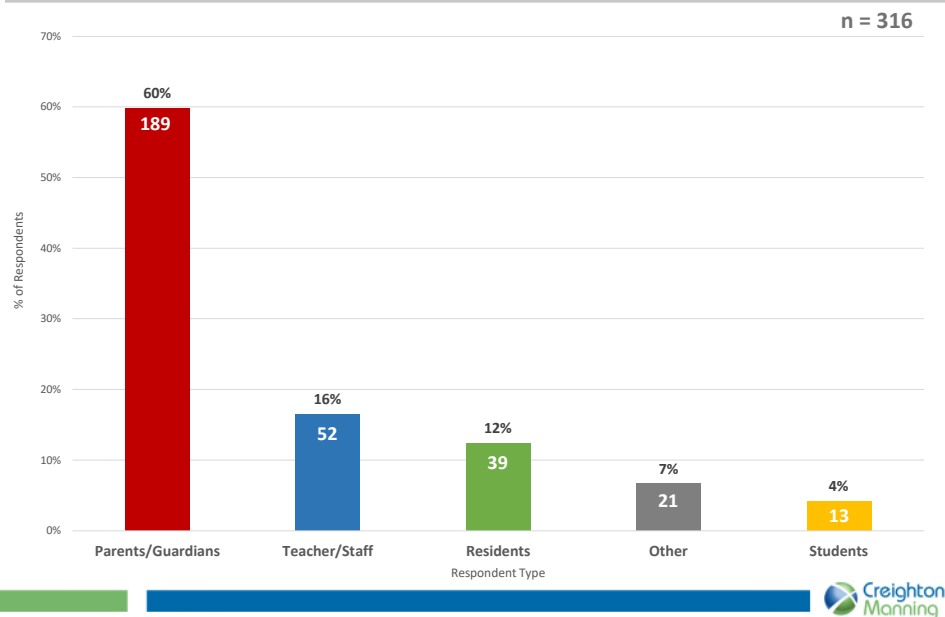
### • Examples of Questions:

- What are the biggest challenges/concerns regarding pedestrian, bicycle, or vehicle circulation around GFMHS?
- How many days a week do you drive your child to GFMHS?
- Why do you drive your child rather than having them walk or bike?
- If you use the staff parking lot, what issues do you see?
- Does traffic congestion related to the students traveling to and from GFMHS impact you?
- Where do you experience the most traffic or safety related issues to GFMS?

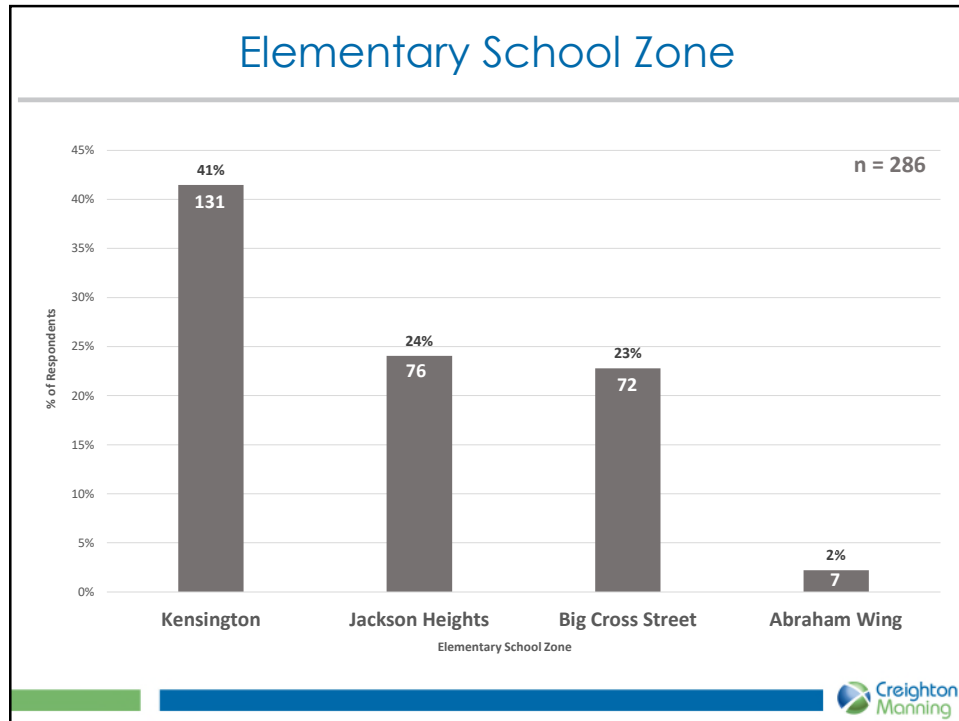


3

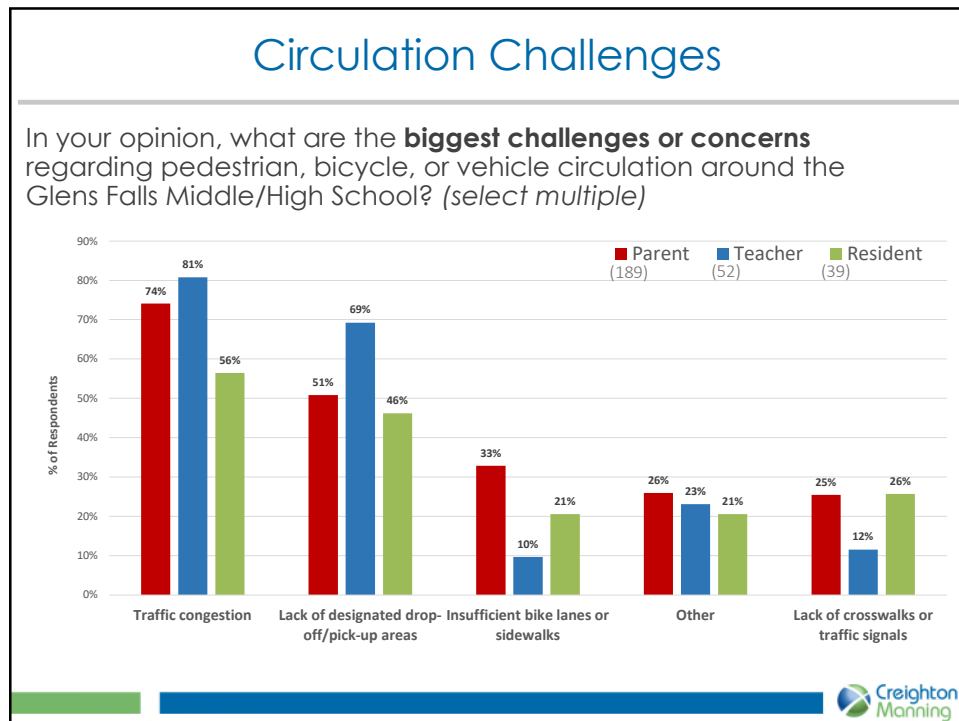
## Survey Respondents



4



5

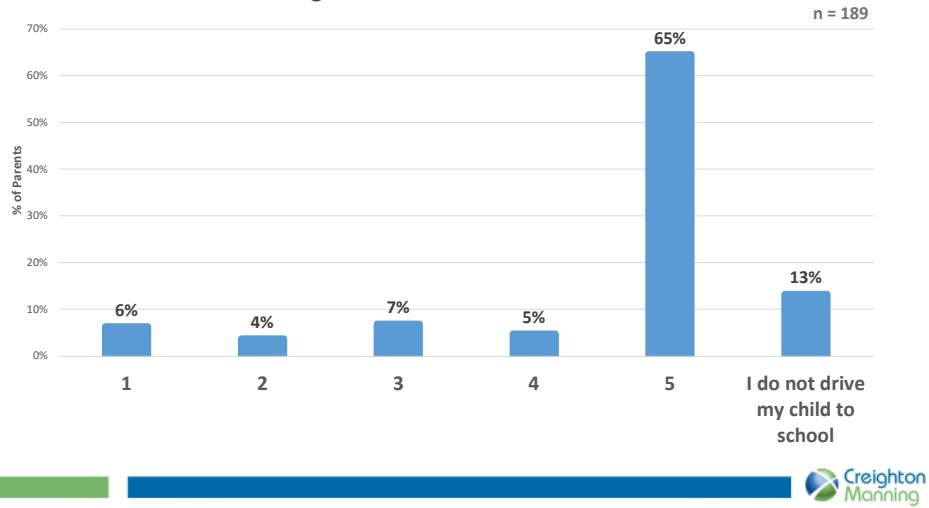


6

## Parent Responses

FOR PARENTS ONLY:

On average, **how many days a week do you drive your child to the Glens Falls Middle/High School?**

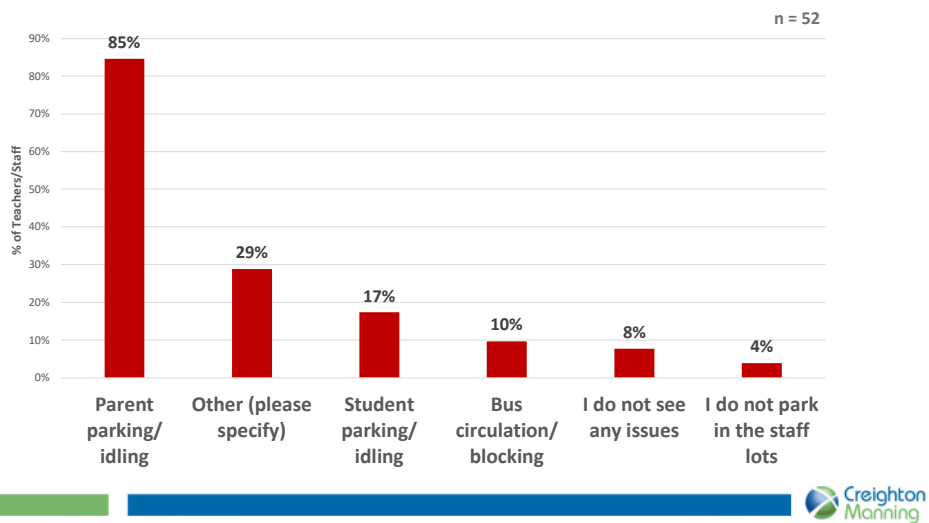


7

## Teacher/Staff Responses

FOR TEACHERS/STAFF ONLY:

If you use the **staff parking lots**, what issues do you see? (select multiple)

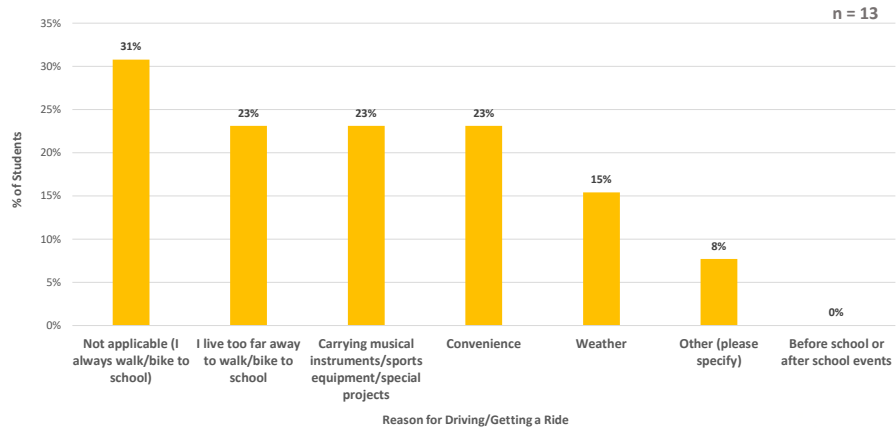


8

## Student Responses

FOR STUDENTS ONLY:

Why do you **drive or get a ride** to school **rather than walking or biking?** (select multiple)

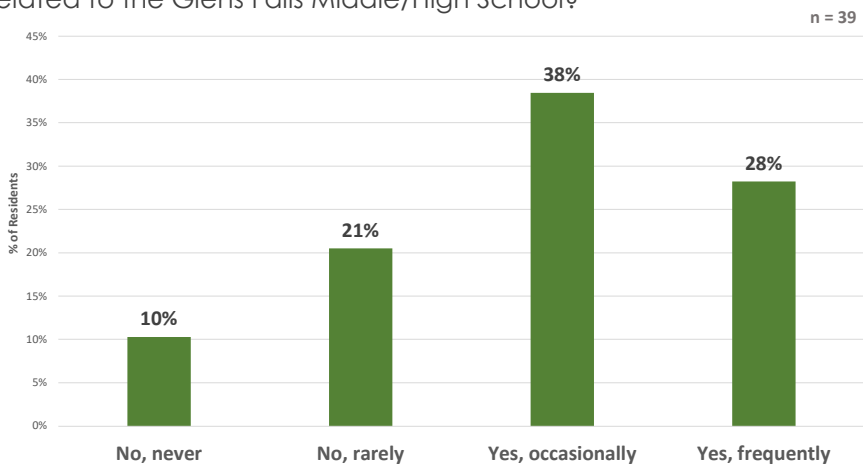


9

## Resident Responses

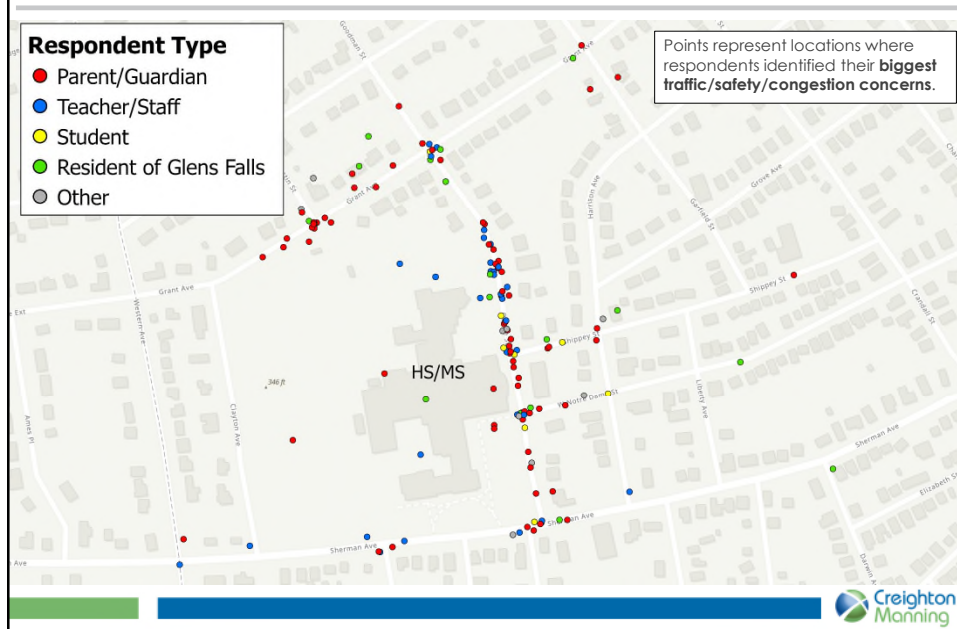
FOR RESIDENTS ONLY:

How often do you **experience any traffic or safety concerns** related to the Glens Falls Middle/High School?



10

## Map of Survey Responses



11

## Main Takeways by Respondent

- **All respondents**
  - Congestion was the biggest issue
  - Lack of designated pick-up / drop-off was the second biggest
- **Parents**
  - 65% drive their child 5 days a week
  - 13% do not drive their child ever
- **Teachers**
  - Biggest issue is parent idling/parking at staff lots
- **Residents**
  - Over 65% experience congestion/traffic issues occasionally or frequently
- **Student response** → too low

12



## Insights from Responses

- Overall greater interest in **congestion management** than walking/bike improvements
- Parents likely to keep driving, but “**demand management**” strategies should be explored
- Teachers see **parents’ behavior**, not students’, as the issue in staff lots
- Residents' concerns were **validated and varied**
  - “Blocking my driveway” / “unsafe for kids” / “create more parking” / “need more sidewalks”
- **External factors** prevent students from walking/biking to school
  - Weather, carrying instruments/equipment, distance, etc.

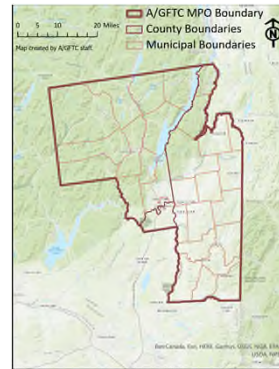


# Appendix C

## Public Meeting Presentation and Comments

## A/GFTC Overview

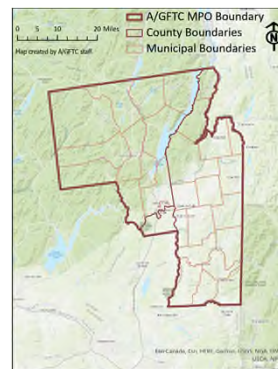
- Regional association of governments, public agencies, and transportation providers
- A/GFTC covers Warren, Washington, and northern Saratoga County
- Administer federal transportation funding and planning activities for roads, bridges, public transportation and bicycle and pedestrian facilities



1

## Study Overview

- Study was requested by GFSD and the City of Glens Falls
- Professional services are provided at no direct cost to City or School District
- The improvement concepts here are presented for consideration and are not mandates; the City and School District may pursue implementation at their discretion
- Public feedback will influence which of these concepts are included in the final report
- At present, there is no capital funding set aside for any of these concepts



2

## A/GFTC contact information

[www.agftc.org](http://www.agftc.org)




11 South Street #203  
Glens Falls, NY 12801  
518-223-0086

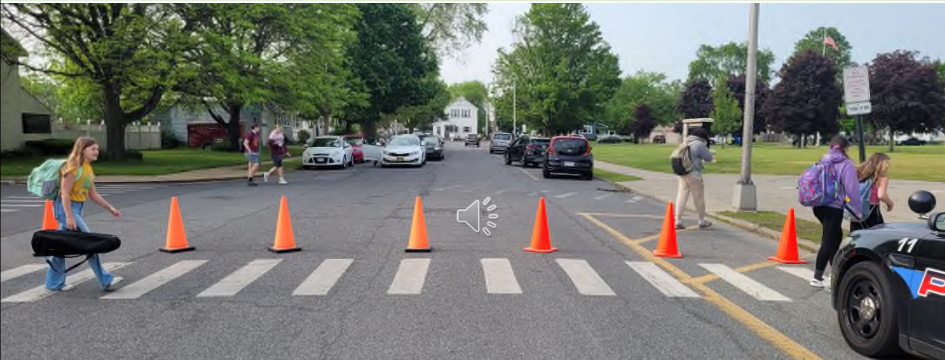
### Staff Contacts

Aaron Frankenfeld, Director: [aaron@agftc.org](mailto:aaron@agftc.org)  
Jack Mance, Senior Transportation Planner:  
[jack@agftc.org](mailto:jack@agftc.org)



3



## Glens Falls Middle School & High School Circulation Study

Public Meeting | October 2023

4

## Study Advisory Committee

- A/GFTC
- GFSD
- City of Glens Falls
- Police Department
- Creighton Manning



5

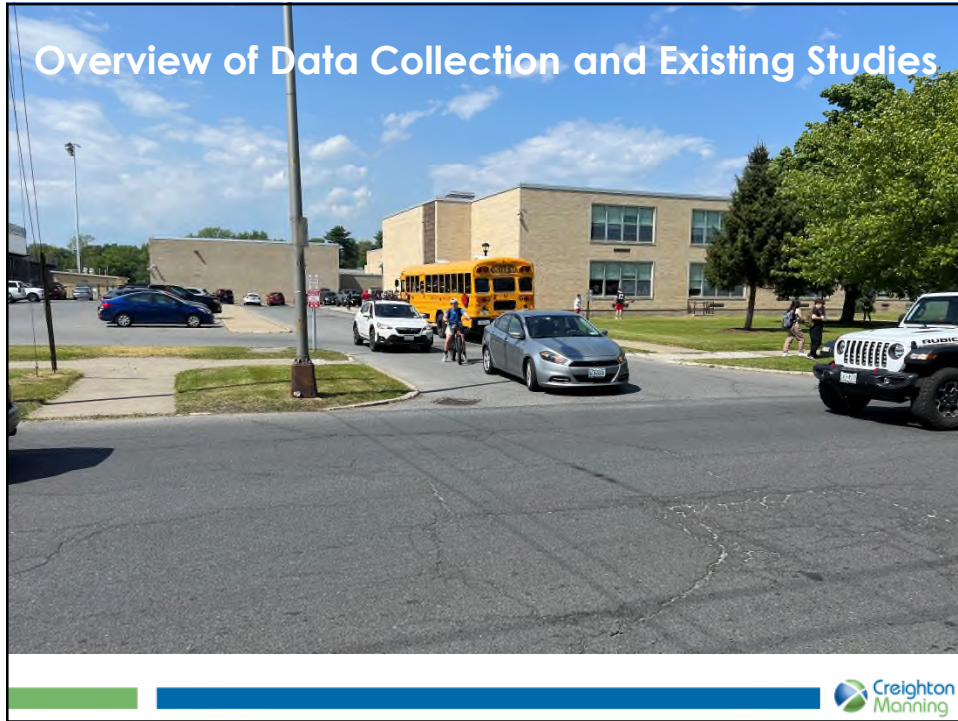
## Agenda

- Overview of Data Collection
- Summary of Public Survey Response
- Future Considerations
- Next Steps



6

## Overview of Data Collection and Existing Studies



7

## Data Collection

- Traffic Data:
  - Counts at 10 intersections
  - 7:30-9:30 AM and 2:00-4:00 PM
  - Speed data on Sherman Avenue and Quade Street
- Field Observations:
  - Pick up on Tuesday May 23, 2023
  - Drop off on Wednesday May 24, 2023
  - Grant Avenue, Quade Street, Sherman Avenue



8



## Quade Street



9

## Grant Avenue



10

## Sherman Avenue



11

## General Observations

- Sign messaging is not consistent
- Pedestrian accommodations need improvements
- Cars parked/idling on both sides of road
- Peak activity at 8:15-8:30 AM and 3:00-3:15 PM
- Safety concerns
- Bicycle/scooter parking (60 day one; 50 day two)



12



## Previous Studies

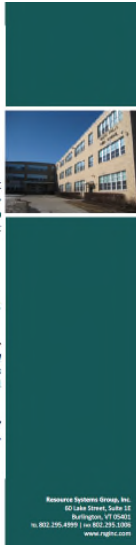
Glens Falls School District  
Traffic Circulation Study

## Technical Report

August 9, 2012

*Prepared for*  
Glens Falls School District and  
Adirondack / Glens Falls  
Transportation Council

Prepared by  
Resource Systems Group, Inc.



IMMAGINANDO IL MIO FUTURO con  **Colony Italia** C.F.T. S. S. R. L.

Dear Parents and Guardians

This is the second in our series of publications on the High School now **OPEN** and, most time, designed to help you informed about the district's efforts to create an environment in which students are more alert, and ready to learn.

Your family's efforts at home are much appreciated, as only your child can ensure he or she is using those extra 45 minutes each morning to improve his or her sleep quality and overall health. For additional tips and resources, check the High School home page: [www.gbsd.org](http://www.gbsd.org).



### Preliminary data in sleep study shows improvement

Data from the second year of the University's sleep study shows Glen Ridge High School students getting about 20 extra minutes of sleep per day this fall. Students' sleep quality has also shown a "really significant" improve-

Students participating in the study answered questions about their sleep habits, mood, and cognitive performance during the study period.

and online use this past May, and again in mid-November, as part of data collection for the multi-year study on how the closed campus change affects academic achievement and overall student health.

Survey data obtained for these students total sleep time increased from an average of 7 hours and 17 minutes in May to 7 hours and 35 minutes in November. Dr. Thacher said. Reported sleep loss now average is 50 minutes, but student melatonin rates have dropped from 9.60% over the first two months of the 2013-14 school year to 6.10% over the same time period this year, reported HighSchool senior principal Lita Collins.

The mid comparison will come in the spring. Dr. Thacker said, when her time is able to

Sleep variables

measures data from May of 2012 against data from May of 2011.

"To use a deep quality index to go from an average of 3.6 in the first series of data collection to a 4.3 in the second series is really, isn't it?"

As to the second wave, it really shouldn't," Dr. Thacher said. Lower-income students tend to have greater difficulty sleeping. Also in the second wave, lower study participants were referred to the school counseling office for depressive screening, based on their questionnaire responses.

Participation in the study is completely voluntary for students, and they can choose to fill out surveys in any or all rounds of data collection. Parents can opt their child out of an invitation to participate by contacting the main

office of the High School. Details and an opt-out form are available on the High School web page at [www.gshs.org](http://www.gshs.org). The questionnaires are also posted online for parents to view. Aggregate results of the study will be shared with parents, students, and the school community once the research is complete.

Dr. Pamela Thacher's  
on Nov. 19. (left)

Variable	Wave 1	Wave 2
Sleep quality	5.6	6.3
Total sleep time	7 hrs, 17 min	7 hrs, 37 min
Awake time	6:00 a.m.	3:00 a.m.
Bed time	10:40 p.m.	10:47 p.m.
Time it takes to fall asleep	22 min	21 min

A slide from Dr. Pamela Thacher's presentation on Nov. 19. (left) A lower sleep quality variable in Wave 2 is an improvement, Dr. Thacher said.



# Summary of Public Survey Response



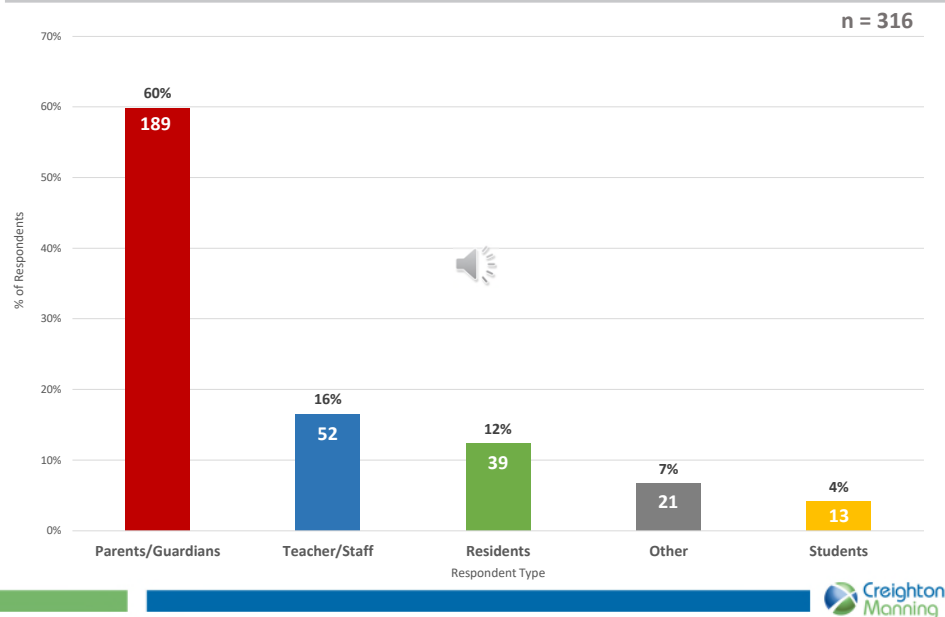
## Survey Overview

- Open from June 12 – June 28
- Distributed via email
- 316 responses
- 5 to 8 questions depending on respondent type
- Questions focused on how people travel to and from school & their biggest traffic/pedestrian safety concerns



15

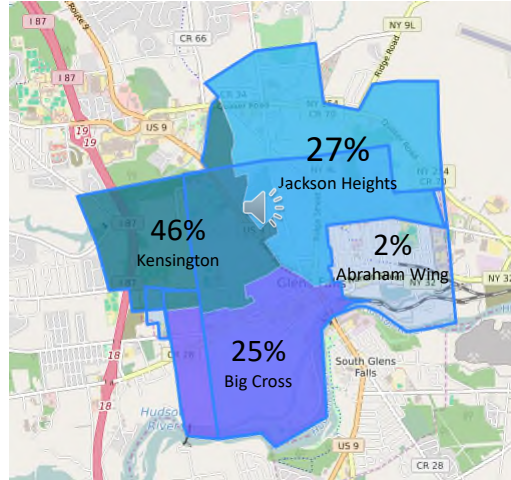
## Survey Respondents



16



## Elementary School Zone



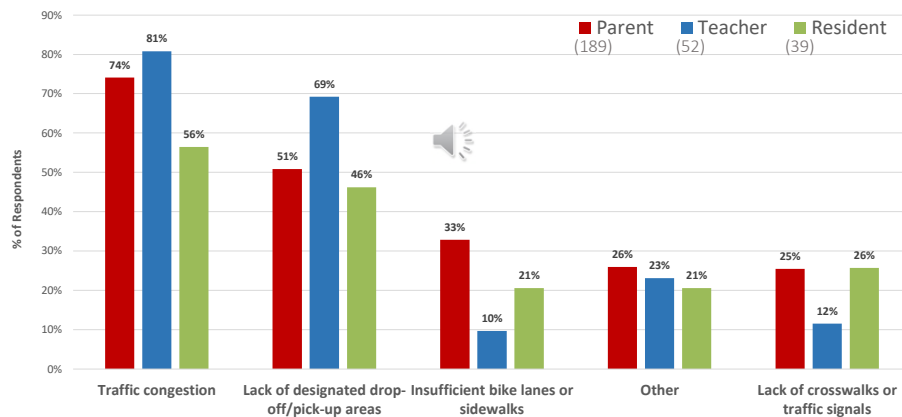
Zipdatamaps.com



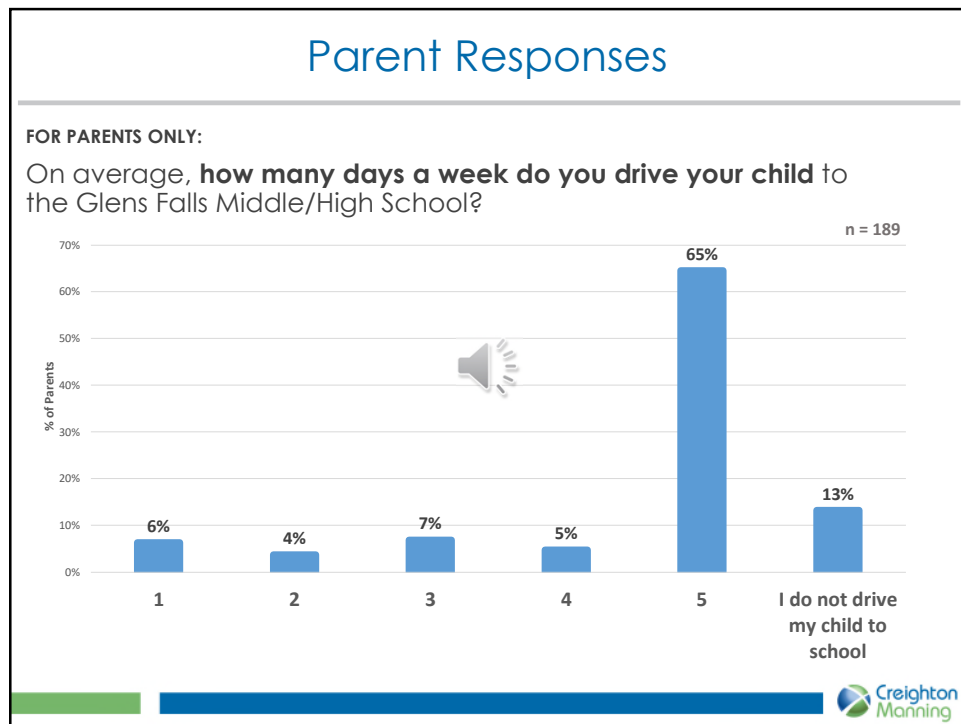
17

## Circulation Challenges

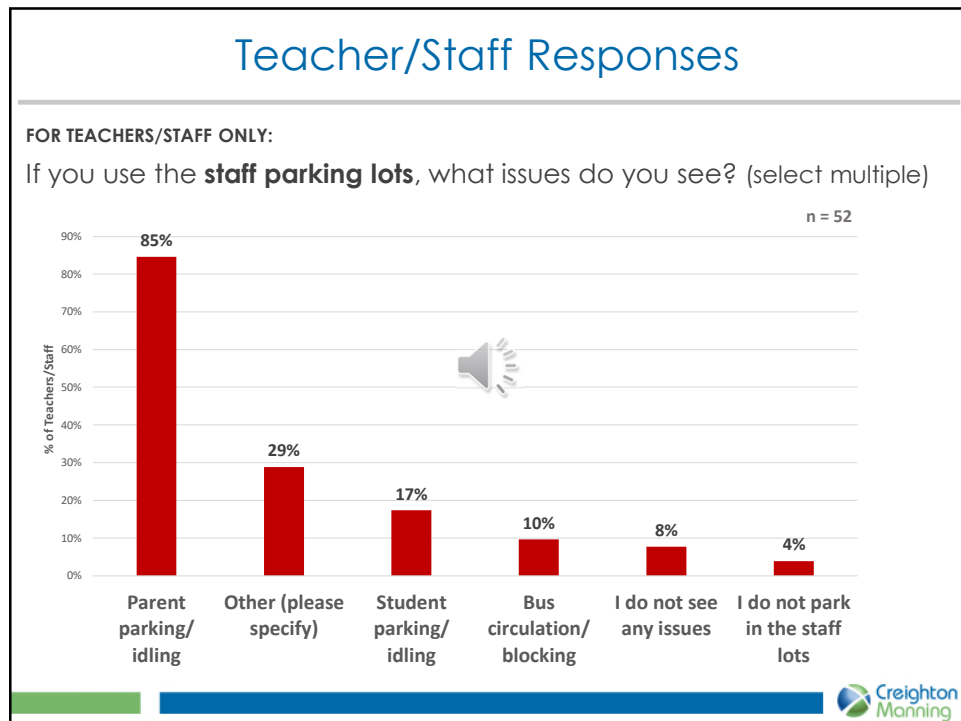
In your opinion, what are the **biggest challenges or concerns** regarding pedestrian, bicycle, or vehicle circulation around the Glens Falls Middle/High School? (select multiple)



18



19

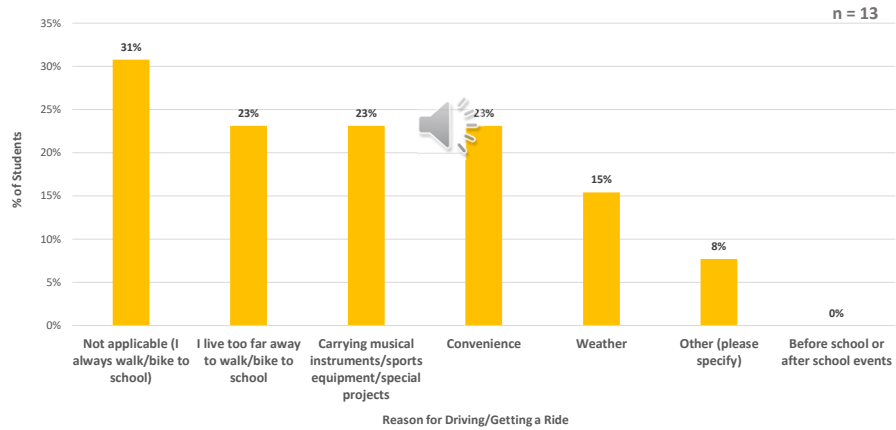


20

## Student Responses

FOR STUDENTS ONLY:

Why do you **drive or get a ride** to school **rather than walking or biking**? (select multiple)

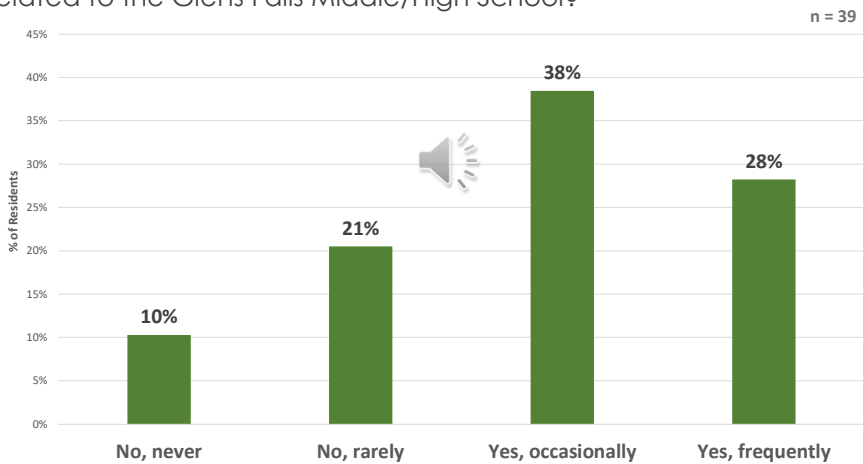


21

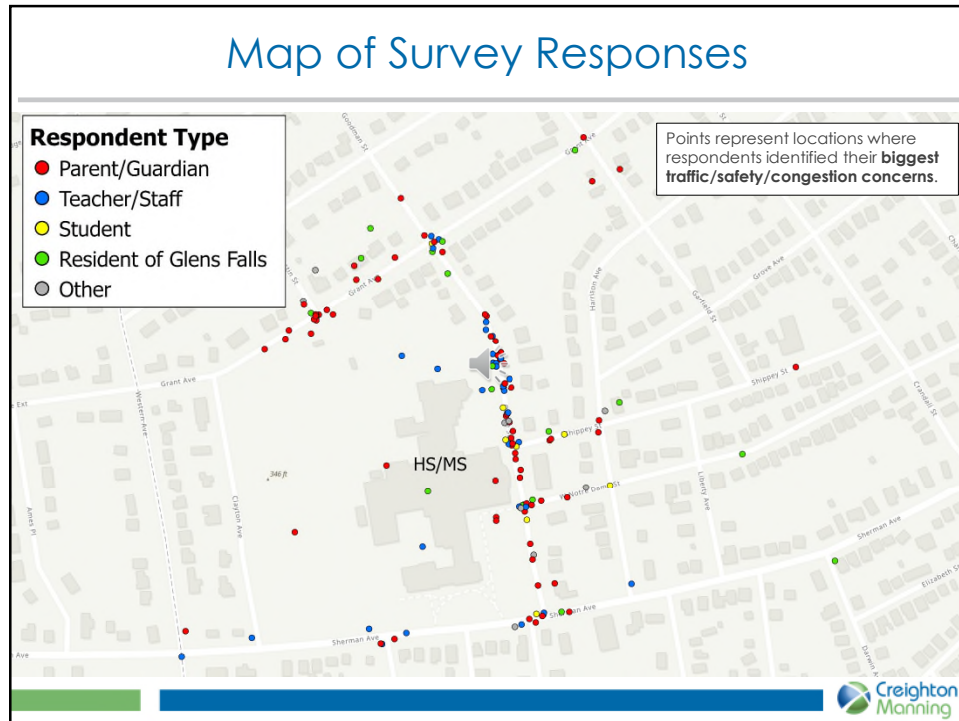
## Resident Responses

FOR RESIDENTS ONLY:

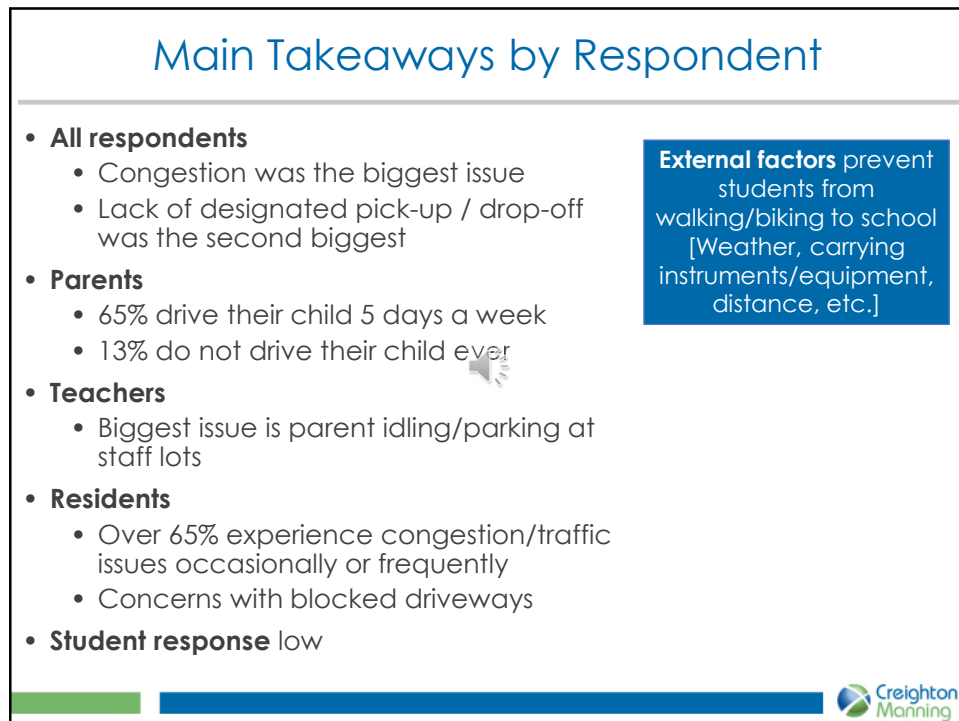
How often do you **experience any traffic or safety concerns** related to the Glens Falls Middle/High School?



22



23



24





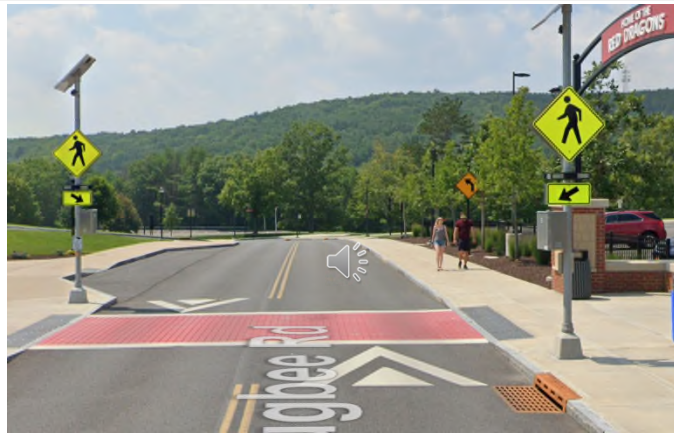
25

## Quade Street

- Restrict parking/idling on east side of Quade Street
  - Time of day
  - Time limit restriction
  - Relocate visitor parking
- Raised intersection at Quade/Shippey and Quade/West Notre Dame
- Middle School staff parking lot is currently being redesigned to incorporate bus pick-up/drop-off

26

## Raised Crosswalk

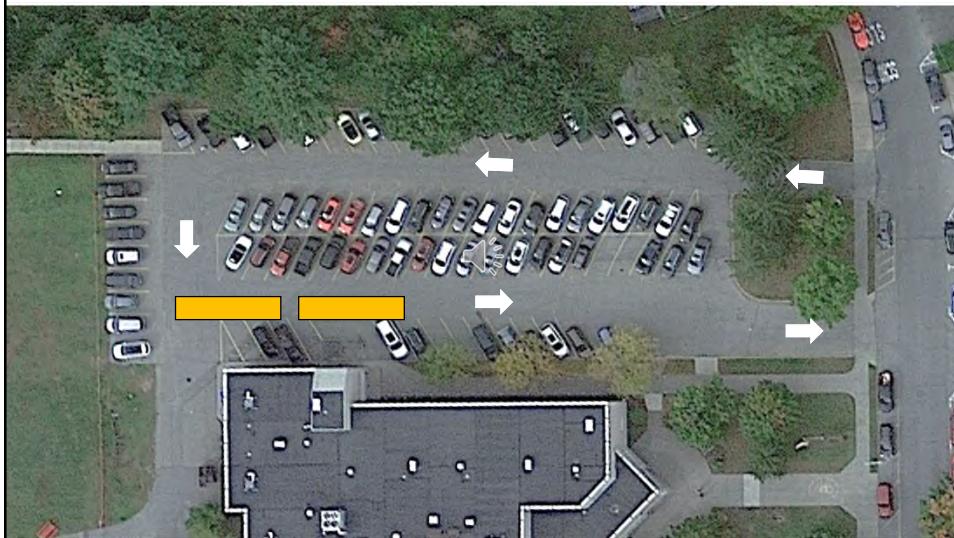


Bugbee Rd  
SUNY Oneonta, Otsego Co, NY



27

## Quade Street Parking Lot



28

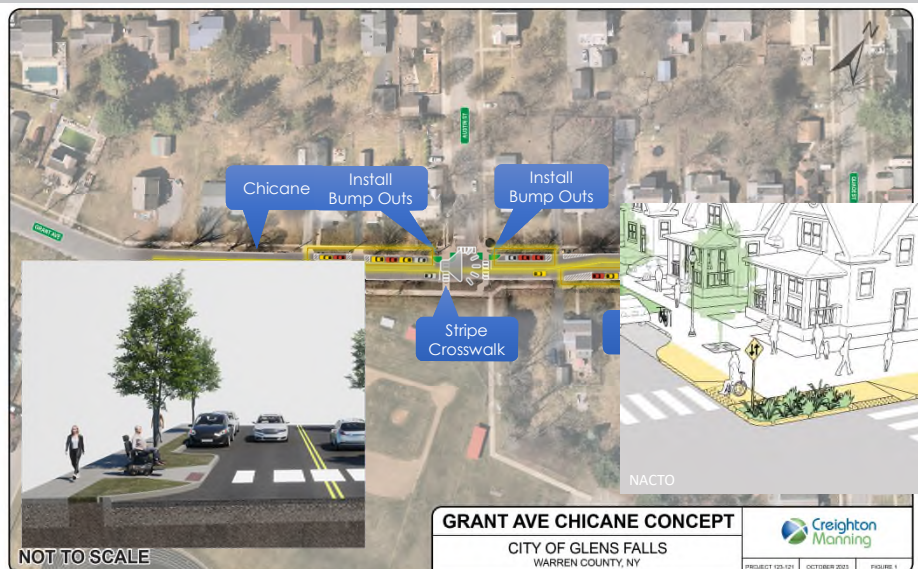
## Grant Avenue

- Stripe new crosswalk on west side of Grant Avenue/Austin Street intersection
- Construct missing sidewalk link on south side of Grant Avenue between Clayton Avenue and Austin Street
- Pedestrian bulb outs at crossings
- Offset parking on Grant Avenue (chicane); provides two-way traffic but parking is limited to one side or the other



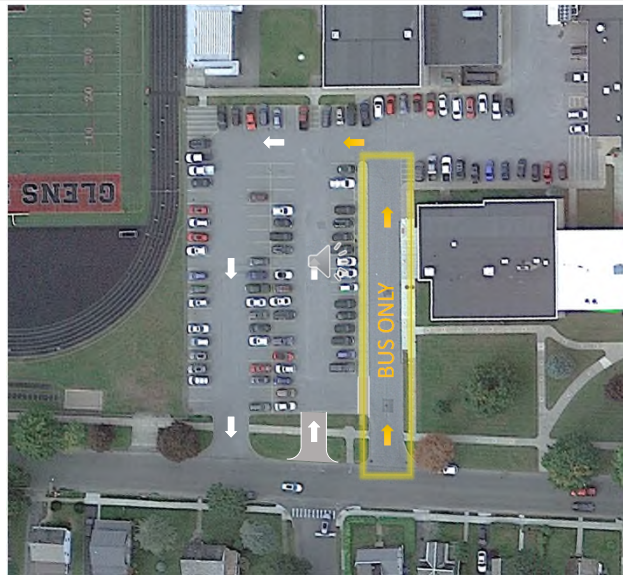
29

## Grant Avenue



30

## Sherman Avenue



31

## General

- Update signage so parking restrictions are consistent\*
- Update pedestrian signage to current MUTCD standards\*
- Continue to provide circulation information emails or informational brochures with enforcement periodically
- Separate pedestrians from students being picked up
- Incentivize student parking at Family Life Center parking lot (if applicable)
- Consider site lines near crossings

\*Coordinate with City of Glens Falls

32



## General

- Incentivize pedestrian/bicycle/transit use.
  - Larger lockers for sports/band equipment
  - Covered bicycle racks / visible locations (safety) / signage
  - Bicycle locks for rent
  - School themed umbrellas
  - Improve snow removal\*
  - Continue to publicize access to current transit system



\*Coordinate with City of Glens Falls



33

## General

- Improve ramps to be ADA compliant
- School start time staggered
- Install RRFB at high pedestrian locations
- City of Glens Falls is currently advancing special projects:
  - City-wide parking
  - ADA compliant sidewalks/ramps
  - Complete Streets Policy



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## Rectangular Rapid Flashing Beacon (RRFB)



- RRFB stands for **Rapid Rectangular Flashing Beacon**
- Placed at pedestrian crossings
- Pedestrian-actuated
  - Sign flashes aggressively when a pedestrian is in the crosswalk
  - Flashing alerts oncoming traffic to slow down and pay attention
- Proven to reduce crashes involving pedestrians
- Can be solar powered



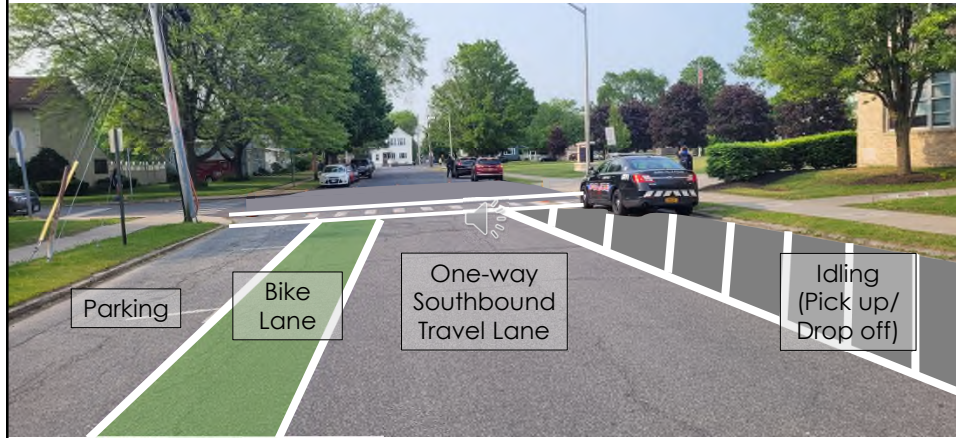
35

## Rectangular Rapid Flashing Beacon (RRFB)



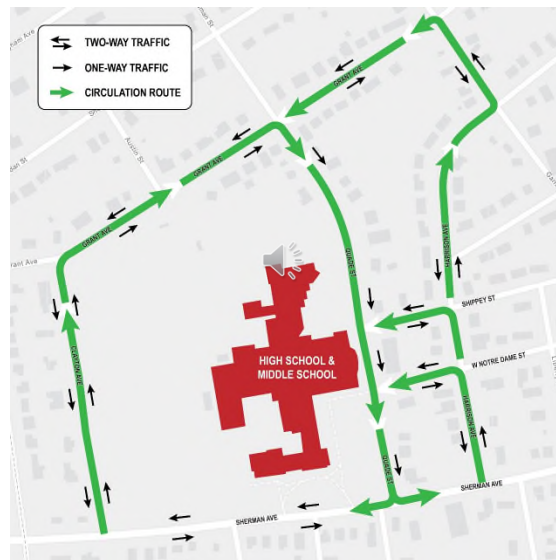
36

## Quade Street – One Way Circulation



37

## Quade Street – One Way Circulation



38

## Next Steps

- Please provide feedback, comments or ask questions using the link ->
  - Open for 2 weeks
- Draft report submitted to A/GFTC
  - Public comment period
- Final report

**We want to hear from you!**

SCAN:



OR TYPE:

<https://tinyurl.com/GFSD-circulation-feedback>



39

## Thank You

**Creighton Manning  
Engineering, LLP**

Project Manager: Sarah Carroll, PE, PTOE 

 [scarroll@cmellp.com](mailto:scarroll@cmellp.com)

 518.446.0396

**We want to hear from you!**

SCAN:



OR TYPE:

<https://tinyurl.com/GFSD-circulation-feedback>

40



Timestamp	Which elementary school zone do you live in?	Which of the following best describes you?	I am in support of the Quade Street one-way alternative: (1 Strongly Agree. 5 Disagree)	Please provide any feedback, comments, or questions on the solutions presented. We will include responses in the draft report to A/GFTC.
2023/10/24 1:05:42 PM EST	Kensington	Teacher or staff member in Glens Falls Middle/High School	1	Concerned about chicane option on Grant
2023/10/24 2:55:21 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	3	I think that the street that is the biggest safety threat is Grant Ave. It is so dangerous for not only cars, but the kids crossing. There should be a crossing guard there everyday before and after school. I also think the city should look at doing something like Saratoga does with alternating the side of the street you can park on so you can't park on both sides on the same day. This would make it easier for cars to drive down Grant, and easier for kids to see to cross.
2023/10/25 10:43:57 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	The side street where middle school people park to drop off an pick up needs to be one way also it is bad there also
2023/10/25 10:44:01 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	Grant Ave between Quade and Western is also a nightmare at drop off/pick up. Are there any thoughts on how to address that?
2023/10/25 10:45:46 AM EST	Big Cross Street	Parent of student who goes to Big Cross, I live in Wilton, but drop my daughter at Big Cross three days a week and pick her up as many times	3	My remarks are for Big Cross School. The morning drop off is dangerous. Drivers are not obeying the crossing guards and the first at the intersection rule of who moves first at a four way stop. I highly suggest the crossing guards be backed up by the presence of law enforcement.
2023/10/25 10:46:09 AM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	5	None
2023/10/25 10:47:51 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	1	This is very much needed for safe traffic flow!
2023/10/25 10:54:15 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	3	Why are early bike riders told they are coming to early? I like the presentation. How is plowing going to be improved? I have to pick up from Jackson and middle school.
2023/10/25 10:54:34 AM EST	Kensington	Teacher at the HS and parent of both MS & HS students	1	Having Quade Street be one-way South bound is a great idea that should have happened long ago!!!!!!!!!!!!!! Anything is better than students running across Quade Street dodging merging traffic every day at drop off and pickup times. Thank you for addressing this very important safety issue!!!!!!!!!!
2023/10/25 10:56:09 AM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	5	The issue is parents stopping in the middle of Quade street to let their children out rather than finding a parking spot. Stop this behavior and traffic will flow smoothly.
2023/10/25 10:57:13 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	5	Flow should be one way at Grant continuing loop around Clayton and down Sherman
2023/10/25 10:59:13 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	5	If the intention is to make flow better; regulation of Quade, Sherman, Clayton, and Grant need to be proposed.
2023/10/25 11:01:43 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	5	
2023/10/25 11:04:10 AM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	5	I think that will make the traffic/congestion even worse.. cars will be lined up down every single road trying to get onto the street to drop their kid off. I think no matter what you do, it won't matter because these entitled parents do not follow the basic and moral rules of the road. They do what they want when they want and they don't care who it affects. Start giving tickets for illegal stops, parking and safety. Then maybe they will be a bit more cautious and finally start obeying the traffic laws. These parents will literally stop dead in the middle of the road or at the stop sign to let the kids out, but the kids take 5 minutes to get out, causing massive back-ups. Or add some bus routes to pick up some of the kids so less cars are coming to the school. What is the reason you can't have some school busses like every other school in the country? You making the street one way effect the people who live there and the people who use that road daily who don't have kids at the school. And it will make the traffic more backed-up and the parents will be even worse with their lack of human decency, common sense and ability to follow the laws.
2023/10/25 11:09:45 AM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	1	I always drive to Empire, make the loop and drop my kids off in the fire/idle lane. They don't have to cross in front of cars and it keeps traffic moving. The cars coming north bound make it unsafe with kids crossing in front of cars and often not in the crosswalk and adds to the congestion at that turn and the four way stop. I also think encouraging parents dropping off in the fire lane to pull up as far as possible would be helpful. They often stop right in front of the entrance to the building when the lane is wide open down the street and clog up traffic at that street for others trying to unload.
2023/10/25 11:14:54 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	1	I like the look of the chicane on Grant! Cars go way too fast on that street and often block two way traffic.
2023/10/25 11:17:46 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	I like all of the ideas presented, consideration for residents/businesses in the neighborhood is important - I would think it would be important to see their input. I think improvement can be made with implementation of any of the ideas. I believe the parking/idling situation on Grant and Quade is the most important issue. The HS parking lot changes are also needed.
2023/10/25 11:20:28 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	No comment
2023/10/25 11:21:40 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	One way during school schedule and we'll signed
2023/10/25 11:26:58 AM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	3	I really think we need to focus on the fifth and six graders getting away from the back door and that parking lot it terrifies me everyday the kids are running in front of vehicles especially delivery vehicles or work trucks
2023/10/25 11:27:15 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	A comprehensive pedestrian and bicycle plan needs to be developed in and around the entire middle/high school. One that dovetails with a plan for the balance of the city. Improved crossing in the vicinity of Fort Amherst, Fire, and Webster is very important/critical. There are many new residents with children in the Kensington school that will soon be walking to the middle school. The crossing down on Horicon is too far south for residents in the abovementioned neighborhoods.
2023/10/25 11:41:13 AM EST	Kensington	Student in Glens Falls Middle/High School	3	I just think there should be bike lanes.
2023/10/25 11:47:10 AM EST	Big Cross Street	Student in Glens Falls Middle/High School	4	I feel like having a one way street would make it hard and longer to get to school everyday.
2023/10/25 11:48:07 AM EST	Kensington	Teacher or staff member in Glens Falls Middle/High School	1	Whatever it takes to keep parents from dropping kids off in the middle school parking lot while the teachers are arriving. The one way solution seems like a no-brainer.
2023/10/25 11:51:43 AM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	1	I have been saying this since 5th grade...why isn't Quade One Way?! Would make so much more sense!!
2023/10/25 12:02:53 PM EST	Kensington	Resident of Glens Falls (not a parent or guardian of a student)	3	There is an area on Grant Ave in the school zone that does not have sidewalks right after Clayton on the left. Because it doesn't have a sidewalk, students are forced to walk on the street, which is very dangerous, especially in the winter when snowbanks are high.
2023/10/25 12:11:26 PM EST	Kensington	Parent @ Kensington	5	I support most any measure that reduces traffic in the vicinity of our schools. I'd also like to see speed limits reduced on surrounding streets. Many kids walk up and down Western. Traffic & speeding are always a concern. 25mph on Western and other surrounding streets. Bike lanes in all!
2023/10/25 12:21:14 PM EST	Kensington	Resident of Glens Falls (not a parent or guardian of a student)	3	Making Quade southbound only, while not addressing the idling/parking issues on Shippey during drop off and pickup, still leaves a serious congestion problem. With cars stopped on both sides of the road there is not enough room for 2-way traffic particularly in the winter. This does seem to be a problem on West Notre Dame. Note that there is sidewalk on only part of the administration Bldg side of Shippey -- on the side that aligns with the current crosswalk on Quade. In fact sidewalks in this area are very inconsistent, if not non-existent -- something to address in the City sidewalk plan. Lastly, with the current middle school entrance being the O door, there is much less student crossing from stopped cars on Quade, now greater use of Shippey for drop off, in particular the northwest corner of Quade and Shippey -- blocking the existing crosswalk. Can that entire intersection be a crosswalk where stopping is prohibited? Bump-outs, traffic signals or raised roadbeds all sound good.

2023/10/25 12:21:52 PM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	1	<p>I am a resident, parent and teacher. I wanted to mention three items from the presentation</p> <p>1 - The MS lot can be very difficult to navigate as it is, I think adding busses would really increase frustration. Busses waiting for students...busses running early or late. I've gotten stuck behind a variety of vehicles in that lot and been stuck for 20-30 minutes.</p> <p>2 - It seemed like having "stuff" to carry was a reason kids give for not walking, but also something noted by CM as something to consider. For musical instruments, students who play large instruments are provided with a school instrument and a home instrument. For students who carry their instruments back and forth, they are manageable.</p> <p>3 - The mention about larger lockers for sports equipment and instruments. Students already have lockers for their instruments...but they are brought back and forth for at home practice.</p> <p>Thank you for your work!</p>
2023/10/25 12:26:16 PM EST	Abraham Wing	Resident of Glens Falls (not a parent or guardian of a student)	5	Make it less safe so that people have to deal with injuries from getting hit by cars
2023/10/25 12:27:36 PM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	1	I personally think all of the suggestions should go into play. 1 way on Quade, flashing crosswalks, the alternate parking on grant so traffic slows down. All of these things would help keep our kids safe!
2023/10/25 12:30:35 PM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	3	Has there been a study near Jackson Heights? There are many safety issues there for pedestrians, starting with a lack of sidewalks.
2023/10/25 12:49:52 PM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	2	Agree with one-way direction during school hours only
2023/10/25 1:18:37 PM EST	Jackson Heights	Student in Glens Falls Middle/High School	4	it fine make the bike lane closer to side walk
2023/10/25 1:22:29 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	5	I donâ€™t see any other solution. It is dangerous during rush hour. Something needs to be done.
2023/10/25 1:31:22 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	4	<p>The current setup is most efficient if the current traffic pattern could be enforced. Unfortunately you have too many people dropping kids off the wrong way, slowing traffic flow. Why canâ€™t the city just make shippey and WND one way on the blocks required? In the proposed solution, thin of all the extra car traffic being routed to the intersection of Quade and Grant and all of the kids that cross at that intersection. That will be a huge bottleneck. Oddly, no crossing guard works that area now.</p> <p>I like the idea of the raised walkways to slow flow on quade but as two way traffic.</p> <p>If pedestrian safety is critical on Grant why not put the parking on school side onlyâ€™, having kids dropped or picked up on north side doesnâ€™t kids crossing road outside of the crosswalks.</p> <p>Relocate the concession stand / BRs to allow one way bus pass thru and parking from HS to MS lots. Repurpose the current bus lane to add more parking spaces. get rid of the concrete median.</p> <p>Thanks for looking into these issues!!</p>
2023/10/25 1:32:06 PM EST	Jackson Heights	Student in Glens Falls Middle/High School	5	Its fine the way it is
2023/10/25 1:39:06 PM EST	Big Cross Street	Teacher or staff member in Glens Falls Middle/High School	1	<p>One area of concern that wasn't mentioned in the presentation was the small part of the faculty parking area at the HS that is surrounded by door E, F, G of the high school. There have been several times when cars have pulled into this area too fast (maybe to try to park or to turn around) and have almost hit me on my bike as I am trying to exit. People are often exiting the building through this small lot or preparing for sports practice.</p> <p>I love the idea of raised crosswalks, chicanes, and RRBs wherever possible. It seems like improvements for Sherman street aren't being considered much but I have found that vehicles often go too fast on this street and feel that it could benefit from chicanes (like Grant St.).</p> <p>Finally, is there a reason the possible bike lane on Quade St. couldn't be next to the curb (instead of between the parked cars and the vehicular traffic)? Parked cars protect bikes from traffic and as designed, cars would need to frequently cross the bike lane to access street parking.</p>
2023/10/25 1:39:19 PM EST	Jackson Heights	Student in Glens Falls Middle/High School	5	.
2023/10/25 1:49:10 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	A big part of the problem is simply that people aren't following the current rules and are driving the wrong way down Quade Street so I think addressing this is a must.
2023/10/25 2:26:04 PM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	3	<p>We are only in support of a one-way change, if the bike lane is included. Statistically speaking, not just for traffic safety but for mental health and overall physical health of our students, there should be biking and walking more to school. Sidewalks are not shoveled, and there are not adequate bike lanes to support that mode of travel. We can do more, to support biking and we should do more. So yes to the one-way, as long as thereâ€™s bike lane involved it. Instead of just throwing our hands in the air and accepting that the only way to get our children to and from school is via a vehicle, why are we not doing more to promote biking and walking? Both of these alternative forms of transportation, promotes community, promotes mental health stability and physical well-being. Not to mention, alleviates traffic congestion.</p>
2023/10/25 2:45:29 PM EST	Kensington	Teacher or staff member in Glens Falls Middle/High School	5	Build a drop off on Sherman Ave.
2023/10/25 3:48:28 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	Very Happy the city/school has done this study. I believe the city working with the school to move the recommendations forward would be very valuable.
2023/10/25 4:40:23 PM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	5	The grant street area is also very congested and a concern for crossing students. Thx for looking into the traffic situation!
2023/10/25 5:01:38 PM EST	Kensington	Parent and resident of Quade St	5	Create a drop off horse shoe on HS lawn, Sherman side. The parents dropping their kids off at the front door of the school adds to congestion and lack of crosswalk use. No way one way, I live on the street and you're proposing a permanent hardship for school day only issues.
2023/10/25 5:08:50 PM EST	Jackson Heights	Student in Glens Falls Middle/High School	4	My primary concern is that the Quade Street initiative will actually pose MORE harm to students biking to school, as cars pulling in and out of park have the potential to hit and injure kids. It can be hard to pull out from parking spots when you cannot see what would be traversing the bike lane more than one car away. As a result collisions could occur. A possible solution would be putting the bike-lane on the opposite side of the road, and pushing the idle/one way road over slightly. Since it is drop and go, there would be less cars to obscure those who are pulling out. This would also help prevent kids from riding on the school sidewalk as well, a common issue. Fixing both the issue of accidents, and pedestrian side-walks. One stretch of road with a bike-lane is not helping kids get to school on bikes, a comprehensive system throughout the city would be needed. In addition there is a major need to clear side walks of snow and leaves.
2023/10/25 6:08:15 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	2	If parents are still allowed to sit in their cars waiting for their children to go inside or come out, restricting to one-way traffic won't entirely resolve congestion issue. Idling needs to be eliminated -- drop off and GO. If your kid isn't ready at pickup time, circle around.

2023/10/25 7:44:32 PM EST	Big Cross Street	Student in Glens Falls Middle/High School	1	Possible traffic light at quade/uppersherman intersection to make crossing and pick up line go smoother and quicker
2023/10/25 7:59:31 PM EST	Kensington	Student in Glens Falls Middle/High School	1	none
2023/10/25 8:15:38 PM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	1	Although Iâ€™d be curious to hear the feedback from residents of Quade St. I think that the change to one way would be successful and alleviate t majority of the pain points I experience with daily drop-off and pickup.
2023/10/25 8:41:41 PM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	1	Great work! Only 1 consideration: While I LOVE the addition of a bike lane, the location pictured in the slide seems dangerous and should maybe moved closer to the school (to the west side of Quade not east side) so students arenâ€™t crossing in front of two lanes of moving and idling vehicles to rack their bikes (assuming th racks are still in front of the schools and not the admin bldg side of the street). I guess the movement pattern of kids on bikes and scooters should considered to determine where the bike lane and racks are most appropriate and safest for students to use.
2023/10/26 5:21:29 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	One way would help so muchhh
2023/10/26 6:56:12 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	3	I also think it important to make sure that students have easy access to sidewalks - we have numerous students who have to walk on busy streets, such as Sherman or Dixon, with no sidewalks. If we are a walking district, and we want to emphasize student attendance, then safe pathways to ge to school should be provided.
2023/10/26 7:02:36 AM EST	Abraham Wing	Parent or guardian of a student in Glens Fall Middle/High School	5	So if Quade is going to be a one way street, in which I think it should be, does that mean the parking on the left side of the street is okay to use evn though technically we will be parking or face the wrong side/way.
2023/10/26 7:16:56 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	5	
2023/10/26 9:07:19 AM EST	Big Cross Street	Employee with the District ( non-resident )	5	Chris Hadsell , I am a Custodian with the district. This proposal seems like a good idea , and if it doesn't work on all the issues then it can be adjust as the return on investment is realized . If there are changes needed in the future there hasn't been any major changes made and the traffic can be returned to the same old if necessary. I think it is definitely worth a try as the kids need the added safety protections.
2023/10/26 9:36:10 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	2	Would make it easier and safer. Sometimes it is very difficult with 2 way traffic and people parked on both sides
2023/10/26 10:23:26 AM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	3	I think the one way should go the opposite way.
2023/10/26 11:46:34 AM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	Great plan, definitely needed
2023/10/26 12:38:10 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	making Quade one way will hopefully also reduce the congestion at the streets and intersections surrounding the school on Grant and Sherman, y can get stuck in those for 15+ minutes after school, cars backed up over 10 deep!
2023/10/26 12:39:24 PM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	1	You need crossing guards on Quade st for the kids and more crossing areas.
2023/10/26 2:24:33 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	3	This district needs more crosswalks and Guards. The fact that kids headed to Morse field after school for sports do not even have a painted Crosswalk to get across Western ave. I know the battle has always been that neither the City of Glens Falls and the Town of Queensbury want to fc the bill to paint the road because itâ€™s the border but it is Glens Falls school district. As for traffic by the school, itâ€™s not like the school is centrally located. You donâ€™t want buses then this is what you get.
2023/10/26 2:38:20 PM EST	Kensington	Parent of Glens Falls elementary studen	1	I have an elementary student who will be in the middle school in less than 3 years. Iâ€™d like to see the lack of sidewalks addressed, especially in t portions of the school district that are in the Town of Queensbury. It would be great for students in these outlying areas to have a safe path to wal or bike to school.
2023/10/26 2:56:23 PM EST	Big Cross Street	Resident of Glens Falls (not a parent or guardian of a student)	4	Bike lane makes total sense.
2023/10/26 3:32:59 PM EST	Big Cross Street	Resident of Glens Falls (not a parent or guardian of a student)	1	Just a thoughtâ€¦it would be a nice idea and helpful to perhaps have a designated crossing guard parking spot at beginning and end of school day about an hour at the corner of duty. By the time the shift has come, most if not all the parking is filled.
2023/10/26 3:38:18 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	I love the bike lane on Quade idea. Please consider a PROTECTED bike lane. I see people speed by buses with stop signs out, physical barriers are important!
2023/10/26 5:14:12 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	Most of the unsafe behaviors Iâ€™ve seen are a result of northbound traffic on Quade.
2023/10/26 5:26:56 PM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	3	I think they should stagger the pickup and drop off times by grades to limit the cars and enforce the no dropping off in the parking lot . There is constant cars coming in and out of there.
2023/10/26 5:35:47 PM EST	Kensington	Parent of Kensington students	3	It is unsafe for students from all over the district to walk/ride to school. We live in Hidden Hills and for us to walk, we have to travel on Dixon or Sherman. Without sidewalks, I cannot allow my children to safely walk/ride to any of the GFSD schools and will have to drive to pick them up. I believe that making this "walking" district more accessible for all families, regardless of locRion, will help the traffic issues more than changing traff patterns. Additionally, students should be reminded to cross only in crosswalks. Many times I have seen students crossing in between traffic and parked cars along Sherman in front of the middle/high school.
2023/10/26 7:00:27 PM EST	Kensington	Parent of both middle and Kensington	1	I agree safety needs to be number one for the kids itâ€™s a walking district. I live in western and Iâ€™m afraid for the kids that walk home and hav to cross western daily, no one stops and letâ€™s them go. Something needs to be done before something tragic happens
2023/10/26 7:36:41 PM EST	Big Cross Street	Parent or guardian of a student in Glens Fall Middle/High School	5	We are need to look at drop and pick up at big cross st school. The middle school and high school are horrible for pickups. Tell parents to stay in ca instead of parking in road and getting out.
2023/10/27 8:36:21 AM EST	Big Cross Street	Parent to a child who will attend GF schools in the next 5 years	1	Protected Bike Lanes should be the goal. We should be able to easily and safely commute via bikes or walking throughout this city. To school, wori and downtown. <a href="https://www.peopleforbikes.org/statistics/economic-benefits">https://www.peopleforbikes.org/statistics/economic-benefits</a>
2023/10/27 8:48:27 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	3	Possibly widen Grant Street, utilizing several feet of the field/grass, for better and safer traffic flow for 5-8 student drop off - pickup. Quade St utilized by 9-12 students.
2023/10/27 9:15:25 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	4	I agree with the new one way traffic

2023/10/27 3:19:59 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	My wife and I live on Grant across from the middle school fields and we are in favor of all of the proposals to slow traffic and increase the safety of students crossing the street. Weâ€™ve seen too many near misses (including our daughter almost getting hit crossing in the crosswalk at Quade a Grant). Please make these changes before someone gets hurt. Allowing parking only on one side of Grant will be great to allow traffic to move freely. Currently emergency vehicles can not pass with vehicles on both sides of the street. Thanks. John Sevens Please let me know if you have any questions. 518 232-1611 (cell) email jls2342@yahoo.com ps Has anyone considered paving part of the yard in front of the high school to have a bigger drop off area?
2023/10/27 11:48:21 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	5	Not everyone going down this street is going to the school.
2023/10/28 10:05:19 AM EST	Jackson Heights	Parent or guardian of a student in Glens Fall Middle/High School	1	Creating one way loops to mitigate risk of children jaywalking between cars from the parents who refuse to follow the current unidirectional drop guidance would be amazing, welcome, and long overdue. The bidirectional traffic flow is a safety hazard and causes excessive traffic backup as kid dart between vehicles unseen and drivers have to dodge the jaywalkers.
2023/10/28 2:48:34 PM EST	Jackson Heights	Teacher or staff member in Glens Falls Middle/High School	4	Regarding students carrying instruments to school: EVERY student who carries an instrument already has a locker in the band room/orchestra room for it. That need is already met. The issue is students who have to carry an instrument back and forth to/from school each day: how do they carry a saxophone and ride a bike? Within 1 mile with a cello and backpack? Then add the student who is also carrying their field hockey equipment for practice after school... (perhaps athletic lockers are a different option?) But let's be realistic about what "incentives" are and what a 12 or 13 year old should be expected to carry to/from school each day.
2023/10/28 3:28:42 PM EST	Kensington	Parent or guardian of a student in Glens Fall Middle/High School	1	As a resident across the school and parents of high school, middle school, and elementary we donâ€™t want a flashing light it doesnâ€™t work at Kensington at all. We need parking on one side of the street, and a crossing guard. That will keep our kids safe, and be the easiest option.
2023/10/30 9:11:36 AM EST	Big Cross Street	Grandparent to Middle School Students	3	Parking is a premium on Grant and Austin. Do not put in bump outs. Also, do not put in staggered center line on Grant. Why not cut down the big trees on Grant Ave. along the baseball side. Put in new curbs near the existing sidewalk and re-pave to the curb. That way you could have parking and two way traffic that would not be as congested.
2023/10/30 11:51:25 AM EST	Kensington	Teacher or staff member in Glens Falls Middle/High School	1	Parents parking/dropping off in the MS parking lot is still a very real and dangerous situation happening daily! Some parents are parking there and waiting in their vehicle with students in their vehicle until the bell rings. Due to drop of schedule of my own children, I am often arriving around 8:20am and see so many close-calls of accidents involving parents and students. With the construction, our parking space is already limited. For safety, I think it is very important that the MS staff/faculty lot is staffed and monitored to eliminate parents from entering. Thank you!
2023/10/31 7:38:52 AM EST	Kensington	Teacher or staff member in Glens Falls Middle/High School	3	I do not live in an elementary school zone but it would not let me leave that blank.  One of my biggest concerns regarding traffic is the middle school parking lot. As an employee it has become increasingly difficult to find a parking spot in the morning because not only are parents dropping their students off (and there is a long line to do so in the parking lot), but families are also parking in parking spots until school starts so it's leaving very little spaces (if at all) open for faculty and staff to park. I know of several staff members that have had to wait in the line (to exit the lot) only to try to find parking on the street. I know last year there was someone monitoring traffic outside the parking lot in the morning and I think that was helpful so I hope we can do that again.
2023/11/01 9:23:52 AM EST	Kensington	Resident of Glens Falls (not a parent or guardian of a student)	1	In favor of all the solutions, but think any new bike lane should be a protected one (between the sidewalk and parking). Definitely in favor of the flashing beacons on crossings and raised crosswalks.
2023/11/03 12:18:47 PM EST	Big Cross Street	Parent of small child not yet a student in the District	2	Door-zone bike lanes are useless. With 10 ft lanes, there is more than enough space to move the bike lane curbside with a door buffer zone separating cyclists from the car parking
2023/11/04 12:59:17 PM EST	Kensington	Parent of a UPK-4 student at Kensington as well as school board member	1	I agree with all of the proposed changes. Safety should be the first priority.
2023/11/06 7:25:57 PM EST	Kensington	Resident of Glens Falls (not a parent or guardian of a student)	5	-Traffic on Clayton Ave attempting to go left (east) onto Sherman Ave is hard any time of the day. -Why not put up signs showing a cars current speed on Quade and Sherman? -Did people say they would walk or bike more if these suggestions were put in place? -Implement the other changes first (raised crosswalks, signage, reconfigured parking lot, etc) and then reevaluate the need for a one way. -At some point kids need to have some responsibilities too, why not start with learning not to walk in front of moving cars and using designated areas to cross the street. -if there is no other options but to have one way traffic, why not temporary lane closures with gates similar to a railroad crossing at either end of Quade from 7:30-8:45ish & 2:30-3:30ish?
2023/11/08 12:47:53 PM EST	Kensington	Resident of Glens Falls (not a parent or guardian of a student)	5	Please prioritize the safety and convenience of walking and biking. While many folks who currently drive will prioritize improved access via private automobile, it is important to consider the latent demand for walking and biking.

Summary "I am in support of the Quade Street one-way alternative":

38	strongly agree
4	agree
17	neutral
7	disagree
21	strongly disagree



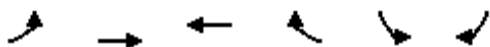
# Appendix D

## Level of Service Results

# HCM Unsignalized Intersection Capacity Analysis

## 8: Sherman Ave & Empire Ave

11/29/2023

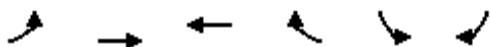


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	261	178	48	22	50
Future Volume (Veh/h)	28	261	178	48	22	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	284	193	52	24	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	245				563	219
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	245				563	219
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	93
cM capacity (veh/h)	1321				476	821
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	314	245	78			
Volume Left	30	0	24			
Volume Right	0	52	54			
cSH	1321	1700	671			
Volume to Capacity	0.02	0.14	0.12			
Queue Length 95th (ft)	2	0	10			
Control Delay (s)	0.9	0.0	11.1			
Lane LOS	A		B			
Approach Delay (s)	0.9	0.0	11.1			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			1.8			
Intersection Capacity Utilization		41.9%		ICU Level of Service		A
Analysis Period (min)		15				

# HCM Unsignalized Intersection Capacity Analysis

## 8: Sherman Ave & Empire Ave

11/29/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	272	243	23	18	40
Future Volume (Veh/h)	35	272	243	23	18	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	296	264	25	20	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	289				648	276
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	289				648	276
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				95	94
cM capacity (veh/h)	1273				422	762
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	334	289	63			
Volume Left	38	0	20			
Volume Right	0	25	43			
cSH	1273	1700	607			
Volume to Capacity	0.03	0.17	0.10			
Queue Length 95th (ft)	2	0	9			
Control Delay (s)	1.2	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	1.2	0.0	11.6			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			1.6			
Intersection Capacity Utilization			43.9%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 10: Empire Ave & Shippey St

11/29/2023

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	46	46	30	3	15	0	45	23	2	1	33	26
Future Volume (vph)	46	46	30	3	15	0	45	23	2	1	33	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	50	33	3	16	0	49	25	2	1	36	28
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	133	19	76	65								
Volume Left (vph)	50	3	49	1								
Volume Right (vph)	33	0	2	28								
Hadj (s)	-0.04	0.07	0.15	-0.22								
Departure Headway (s)	4.2	4.4	4.5	4.1								
Degree Utilization, x	0.16	0.02	0.09	0.07								
Capacity (veh/h)	829	768	772	839								
Control Delay (s)	8.0	7.5	7.9	7.4								
Approach Delay (s)	8.0	7.5	7.9	7.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.8								
Level of Service				A								
Intersection Capacity Utilization				30.5%	ICU Level of Service	A						
Analysis Period (min)				15								



# HCM Unsignalized Intersection Capacity Analysis

## 10: Empire Ave & Shippey St

















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	26	31	15	2	9	5	20	32	7	2	32	5
Future Volume (vph)	26	31	15	2	9	5	20	32	7	2	32	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	34	16	2	10	5	22	35	8	2	35	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	78	17	65	42								
Volume Left (vph)	28	2	22	2								
Volume Right (vph)	16	5	8	5								
Hadj (s)	-0.02	-0.12	0.03	-0.03								
Departure Headway (s)	4.1	4.1	4.2	4.1								
Degree Utilization, x	0.09	0.02	0.08	0.05								
Capacity (veh/h)	845	849	832	843								
Control Delay (s)	7.5	7.2	7.5	7.4								
Approach Delay (s)	7.5	7.2	7.5	7.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.5								
Level of Service				A								
Intersection Capacity Utilization				25.4%	ICU Level of Service	A						
Analysis Period (min)				15								

# HCM Unsignalized Intersection Capacity Analysis

## 12: Empire Ave & W Notre Dame St

















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	17	27	0	25	6	28	41	3	3	41	25
Future Volume (vph)	24	17	27	0	25	6	28	41	3	3	41	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	18	29	0	27	7	30	45	3	3	45	27
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	73	34	78	75								
Volume Left (vph)	26	0	30	3								
Volume Right (vph)	29	7	3	27								
Hadj (s)	-0.13	-0.09	0.09	-0.17								
Departure Headway (s)	4.1	4.2	4.3	4.0								
Degree Utilization, x	0.08	0.04	0.09	0.08								
Capacity (veh/h)	834	815	807	862								
Control Delay (s)	7.5	7.4	7.7	7.4								
Approach Delay (s)	7.5	7.4	7.7	7.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.5								
Level of Service				A								
Intersection Capacity Utilization				27.8%	ICU Level of Service	A						
Analysis Period (min)				15								

# HCM Unsignalized Intersection Capacity Analysis

## 12: Empire Ave & W Notre Dame St

















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	19	10	6	14	3	8	43	14	3	38	7
Future Volume (vph)	15	19	10	6	14	3	8	43	14	3	38	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	21	11	7	15	3	9	47	15	3	41	8
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	48	25	71	52								
Volume Left (vph)	16	7	9	3								
Volume Right (vph)	11	3	15	8								
Hadj (s)	-0.04	0.02	-0.07	-0.05								
Departure Headway (s)	4.2	4.2	4.0	4.1								
Degree Utilization, x	0.06	0.03	0.08	0.06								
Capacity (veh/h)	837	821	862	860								
Control Delay (s)	7.4	7.4	7.4	7.3								
Approach Delay (s)	7.4	7.4	7.4	7.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.4									
Level of Service			A									
Intersection Capacity Utilization			16.0%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 4: Quade St & Grant Ave

11/29/2023

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	80	81	94	71	2	28	10	47	2	35	7
Future Volume (vph)	2	80	81	94	71	2	28	10	47	2	35	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	87	88	102	77	2	30	11	51	2	38	8
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	177	181	92	48								
Volume Left (vph)	2	102	30	2								
Volume Right (vph)	88	2	51	8								
Hadj (s)	-0.26	0.14	-0.23	-0.06								
Departure Headway (s)	4.2	4.6	4.5	4.8								
Degree Utilization, x	0.21	0.23	0.12	0.06								
Capacity (veh/h)	825	752	731	687								
Control Delay (s)	8.3	8.9	8.1	8.1								
Approach Delay (s)	8.3	8.9	8.1	8.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.5								
Level of Service				A								
Intersection Capacity Utilization				40.0%	ICU Level of Service	A						
Analysis Period (min)				15								



# HCM Unsignalized Intersection Capacity Analysis

## 4: Quade St & Grant Ave

11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	86	23	48	103	10	38	21	47	6	7	3
Future Volume (vph)	6	86	23	48	103	10	38	21	47	6	7	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	93	25	52	112	11	41	23	51	7	8	3
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	125	175	115	18								
Volume Left (vph)	7	52	41	7								
Volume Right (vph)	25	11	51	3								
Hadj (s)	-0.07	0.06	-0.16	0.01								
Departure Headway (s)	4.3	4.4	4.4	4.7								
Degree Utilization, x	0.15	0.21	0.14	0.02								
Capacity (veh/h)	797	780	758	696								
Control Delay (s)	8.1	8.6	8.2	7.9								
Approach Delay (s)	8.1	8.6	8.2	7.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.3								
Level of Service				A								
Intersection Capacity Utilization				29.8%	ICU Level of Service	A						
Analysis Period (min)				15								

# HCM Unsignalized Intersection Capacity Analysis

## 18: Quade St & Parking Lot

11/29/2023












Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			T	T	L
Traffic Volume (veh/h)	11	15	19	65	123	71
Future Volume (Veh/h)	11	15	19	65	123	71
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	16	21	71	134	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	286	172	211			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	286	172	211			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	98			
cM capacity (veh/h)	694	871	1360			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	28	92	211			
Volume Left	12	21	0			
Volume Right	16	0	77			
cSH	785	1360	1700			
Volume to Capacity	0.04	0.02	0.12			
Queue Length 95th (ft)	3	1	0			
Control Delay (s)	9.8	1.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.8	1.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			28.6%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 18: Quade St & Parking Lot










11/29/2023

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	22	3	50	72	6
Future Volume (Veh/h)	42	22	3	50	72	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	24	3	54	78	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	142	82	85			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	142	82	85			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	98	100			
cM capacity (veh/h)	850	978	1512			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	70	57	85			
Volume Left	46	3	0			
Volume Right	24	0	7			
cSH	890	1512	1700			
Volume to Capacity	0.08	0.00	0.05			
Queue Length 95th (ft)	6	0	0			
Control Delay (s)	9.4	0.4	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.4	0.4	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization		15.4%		ICU Level of Service		A
Analysis Period (min)		15				

# HCM Unsignalized Intersection Capacity Analysis

## 9: Quade St & Shippey St

11/29/2023










						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	88	9	1	132	18
Future Volume (Veh/h)	4	88	9	1	132	18
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	96	10	1	143	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	316	10			11	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	316	10			11	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	91			91	
cM capacity (veh/h)	616	1071			1608	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	100	11	163			
Volume Left	4	0	143			
Volume Right	96	1	0			
cSH	1040	1700	1608			
Volume to Capacity	0.10	0.01	0.09			
Queue Length 95th (ft)	8	0	7			
Control Delay (s)	8.8	0.0	6.6			
Lane LOS	A		A			
Approach Delay (s)	8.8	0.0	6.6			
Approach LOS	A					
Intersection Summary						
Average Delay		7.2				
Intersection Capacity Utilization		27.3%		ICU Level of Service		A
Analysis Period (min)		15				



# HCM Unsignalized Intersection Capacity Analysis

## 9: Quade St & Shippey St










11/29/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	37	21	9	58	46
Future Volume (Veh/h)	4	37	21	9	58	46
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	40	23	10	63	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	204	28			33	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	204	28			33	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	96			96	
cM capacity (veh/h)	753	1047			1579	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	44	33	113			
Volume Left	4	0	63			
Volume Right	40	10	0			
cSH	1011	1700	1579			
Volume to Capacity	0.04	0.02	0.04			
Queue Length 95th (ft)	3	0	3			
Control Delay (s)	8.7	0.0	4.2			
Lane LOS	A		A			
Approach Delay (s)	8.7	0.0	4.2			
Approach LOS	A					
Intersection Summary						
Average Delay			4.5			
Intersection Capacity Utilization			22.3%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 14: Quade St & W Notre Dame St










11/29/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	63	3	9	66	0	19
Future Volume (Veh/h)	63	3	9	66	0	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	3	10	72	0	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	67	46			82	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	67	46			82	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	938	1023			1515	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	71	82	21			
Volume Left	68	0	0			
Volume Right	3	72	0			
cSH	941	1700	1515			
Volume to Capacity	0.08	0.05	0.00			
Queue Length 95th (ft)	6	0	0			
Control Delay (s)	9.1	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.1	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		3.7				
Intersection Capacity Utilization		14.9%		ICU Level of Service		A
Analysis Period (min)		15				

# HCM Unsignalized Intersection Capacity Analysis

## 14: Quade St & W Notre Dame St

















11/29/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	4	20	35	4	47
Future Volume (Veh/h)	29	4	20	35	4	47
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	4	22	38	4	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100	41			60	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100	41			60	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	100			100	
cM capacity (veh/h)	896	1030			1544	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	36	60	55			
Volume Left	32	0	4			
Volume Right	4	38	0			
cSH	909	1700	1544			
Volume to Capacity	0.04	0.04	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	9.1	0.0	0.6			
Lane LOS	A		A			
Approach Delay (s)	9.1	0.0	0.6			
Approach LOS	A					
Intersection Summary						
Average Delay		2.4				
Intersection Capacity Utilization		15.8%		ICU Level of Service		A
Analysis Period (min)		15				

# HCM Unsignalized Intersection Capacity Analysis

## 3: Cortland St/Quade St & Sherman Ave

















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	29	215	10	16	197	10	9	39	27	44	8	33
Future Volume (vph)	29	215	10	16	197	10	9	39	27	44	8	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	234	11	17	214	11	10	42	29	48	9	36
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	277	242	81	93								
Volume Left (vph)	32	17	10	48								
Volume Right (vph)	11	11	29	36								
Hadj (s)	0.03	0.02	-0.16	-0.10								
Departure Headway (s)	4.7	4.7	5.1	5.2								
Degree Utilization, x	0.36	0.32	0.12	0.13								
Capacity (veh/h)	727	723	625	621								
Control Delay (s)	10.3	9.9	8.8	9.0								
Approach Delay (s)	10.3	9.9	8.8	9.0								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay			9.8									
Level of Service			A									
Intersection Capacity Utilization			38.5%	ICU Level of Service					A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 3: Cortland St/Quade St & Sherman Ave

11/29/2023

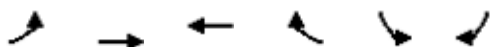
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	23	233	9	28	237	6	25	22	17	34	24	37
Future Volume (vph)	23	233	9	28	237	6	25	22	17	34	24	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	253	10	30	258	7	27	24	18	37	26	40
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	288	295	69	103								
Volume Left (vph)	25	30	27	37								
Volume Right (vph)	10	7	18	40								
Hadj (s)	0.03	0.04	-0.04	-0.13								
Departure Headway (s)	4.8	4.8	5.4	5.3								
Degree Utilization, x	0.38	0.39	0.10	0.15								
Capacity (veh/h)	715	719	575	603								
Control Delay (s)	10.7	10.8	9.1	9.2								
Approach Delay (s)	10.7	10.8	9.1	9.2								
Approach LOS	B	B	A	A								
Intersection Summary												
Delay				10.4								
Level of Service				B								
Intersection Capacity Utilization				33.3%	ICU Level of Service	A						
Analysis Period (min)				15								



# HCM Unsignalized Intersection Capacity Analysis

## 8: Sherman Ave & Empire Ave

11/29/2023

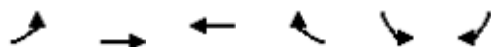


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	261	178	58	22	50
Future Volume (Veh/h)	47	261	178	58	22	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	284	193	63	24	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	256				611	225
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256				611	225
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				95	93
cM capacity (veh/h)	1309				440	815
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	335	256	78			
Volume Left	51	0	24			
Volume Right	0	63	54			
cSH	1309	1700	645			
Volume to Capacity	0.04	0.15	0.12			
Queue Length 95th (ft)	3	0	10			
Control Delay (s/veh)	1.5	0.0	11.3			
Lane LOS	A		B			
Approach Delay (s/veh)	1.5	0.0	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			43.5%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 8: Sherman Ave & Empire Ave

11/29/2023



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	272	243	29	18	40
Future Volume (Veh/h)	45	272	243	29	18	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	296	264	32	20	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	296				674	280
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	296				674	280
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				95	94
cM capacity (veh/h)	1265				404	759
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	345	296	63			
Volume Left	49	0	20			
Volume Right	0	32	43			
cSH	1265	1700	593			
Volume to Capacity	0.04	0.17	0.11			
Queue Length 95th (ft)	3	0	9			
Control Delay (s/veh)	1.5	0.0	11.8			
Lane LOS	A		B			
Approach Delay (s/veh)	1.5	0.0	11.8			
Approach LOS			B			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			44.8%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 10: Empire Ave & Shippey St

















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	46	46	30	3	15	0	45	52	2	1	33	26
Future Volume (vph)	46	46	30	3	15	0	45	52	2	1	33	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	50	33	3	16	0	49	57	2	1	36	28
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	133	19	108	65								
Volume Left (vph)	50	3	49	1								
Volume Right (vph)	33	0	2	28								
Hadj (s)	-0.04	0.07	0.11	-0.22								
Departure Headway (s)	4.3	4.5	4.4	4.1								
Degree Utilization, x	0.16	0.02	0.13	0.07								
Capacity (veh/h)	808	750	778	830								
Control Delay (s/veh)	8.1	7.6	8.1	7.5								
Approach Delay (s/veh)	8.1	7.6	8.1	7.5								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.9								
Level of Service				A								
Intersection Capacity Utilization				32.1%	ICU Level of Service	A						
Analysis Period (min)				15								

# HCM Unsignalized Intersection Capacity Analysis

## 10: Empire Ave & Shippey St

















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	26	31	15	2	9	5	20	52	7	2	32	5
Future Volume (vph)	26	31	15	2	9	5	20	52	7	2	32	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	34	16	2	10	5	22	57	8	2	35	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	78	17	87	42								
Volume Left (vph)	28	2	22	2								
Volume Right (vph)	16	5	8	5								
Hadj (s)	-0.02	-0.12	0.03	-0.03								
Departure Headway (s)	4.2	4.1	4.2	4.2								
Degree Utilization, x	0.09	0.02	0.10	0.05								
Capacity (veh/h)	831	833	832	837								
Control Delay (s/veh)	7.6	7.2	7.6	7.4								
Approach Delay (s/veh)	7.6	7.2	7.6	7.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.5									
Level of Service			A									
Intersection Capacity Utilization			26.5%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 12: Empire Ave & W Notre Dame St

11/29/2023

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	24	17	27	0	25	6	28	70	3	3	41	25
Future Volume (vph)	24	17	27	0	25	6	28	70	3	3	41	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	18	29	0	27	7	30	76	3	3	45	27
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	73	34	109	75								
Volume Left (vph)	26	0	30	3								
Volume Right (vph)	29	7	3	27								
Hadj (s)	-0.13	-0.09	0.07	-0.17								
Departure Headway (s)	4.2	4.3	4.3	4.1								
Degree Utilization, x	0.09	0.04	0.13	0.09								
Capacity (veh/h)	815	796	810	852								
Control Delay (s/veh)	7.6	7.5	7.9	7.5								
Approach Delay (s/veh)	7.6	7.5	7.9	7.5								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.7								
Level of Service				A								
Intersection Capacity Utilization				29.3%	ICU Level of Service	A						
Analysis Period (min)				15								



# HCM Unsignalized Intersection Capacity Analysis

## 12: Empire Ave & W Notre Dame St
















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	15	19	10	6	14	3	8	59	14	3	38	7
Future Volume (vph)	15	19	10	6	14	3	8	59	14	3	38	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	21	11	7	15	3	9	64	15	3	41	8
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	48	25	88	52								
Volume Left (vph)	16	7	9	3								
Volume Right (vph)	11	3	15	8								
Hadj (s)	-0.04	0.02	-0.05	-0.05								
Departure Headway (s)	4.2	4.3	4.1	4.1								
Degree Utilization, x	0.06	0.03	0.10	0.06								
Capacity (veh/h)	827	810	859	855								
Control Delay (s/veh)	7.4	7.4	7.5	7.4								
Approach Delay (s/veh)	7.4	7.4	7.5	7.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.4								
Level of Service				A								
Intersection Capacity Utilization				16.8%	ICU Level of Service	A						
Analysis Period (min)				15								

# HCM Unsignalized Intersection Capacity Analysis

## 4: Quade St & Grant Ave
















11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	109	81	113	71	12	0	0	0	2	35	7
Future Volume (vph)	22	109	81	113	71	12	0	0	0	2	35	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	118	88	123	77	13	0	0	0	2	38	8
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total (vph)	230	213	48									
Volume Left (vph)	24	123	2									
Volume Right (vph)	88	13	8									
Hadj (s)	-0.17	0.11	-0.06									
Departure Headway (s)	4.1	4.4	4.8									
Degree Utilization, x	0.26	0.26	0.06									
Capacity (veh/h)	866	801	686									
Control Delay (s/veh)	8.5	8.9	8.1									
Approach Delay (s/veh)	8.5	8.9	8.1									
Approach LOS	A	A	A									
Intersection Summary												
Delay			8.6									
Level of Service			A									
Intersection Capacity Utilization			36.0%	ICU Level of Service					A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 4: Quade St & Grant Ave

11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	18	109	23	51	103	23	0	0	0	6	7	3
Future Volume (vph)	18	109	23	51	103	23	0	0	0	6	7	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	118	25	55	112	25	0	0	0	7	8	3
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total (vph)	163	192	18									
Volume Left (vph)	20	55	7									
Volume Right (vph)	25	25	3									
Hadj (s)	-0.03	0.01	0.01									
Departure Headway (s)	4.1	4.1	4.7									
Degree Utilization, x	0.19	0.22	0.02									
Capacity (veh/h)	864	863	712									
Control Delay (s/veh)	8.0	8.3	7.8									
Approach Delay (s/veh)	8.0	8.3	7.8									
Approach LOS	A	A	A									
Intersection Summary												
Delay			8.1									
Level of Service			A									
Intersection Capacity Utilization			28.9%	ICU Level of Service		A						
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 18: Quade St & Parking Lot

11/29/2023











Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	26	0	0	123	90
Future Volume (Veh/h)	0	26	0	0	123	90
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	28	0	0	134	98
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	183	183	232			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	183	183	232			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	806	859	1336			
Direction, Lane #	EB 1	SB 1				
Volume Total	28	232				
Volume Left	0	0				
Volume Right	28	98				
cSH	859	1700				
Volume to Capacity	0.03	0.14				
Queue Length 95th (ft)	3	0				
Control Delay (s/veh)	9.3	0.0				
Lane LOS	A					
Approach Delay (s/veh)	9.3	0.0				
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			22.0%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 18: Quade St & Parking Lot

11/29/2023









						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	64	0	0	72	9
Future Volume (Veh/h)	0	64	0	0	72	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	70	0	0	78	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	83	83	88			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	83	83	88			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	919	976	1508			
Direction, Lane #	EB 1	SB 1				
Volume Total	70	88				
Volume Left	0	0				
Volume Right	70	10				
cSH	976	1700				
Volume to Capacity	0.07	0.05				
Queue Length 95th (ft)	6	0				
Control Delay (s/veh)	9.0	0.0				
Lane LOS	A					
Approach Delay (s/veh)	9.0	0.0				
Approach LOS	A					
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization			15.0%	ICU Level of Service		A
Analysis Period (min)			15			



# HCM Unsignalized Intersection Capacity Analysis

## 9: Quade St & Shippey St









11/29/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	92	0	0	0	132	29
Future Volume (Veh/h)	92	0	0	0	132	29
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	100	0	0	0	143	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	318	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	318	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	100			91	
cM capacity (veh/h)	616	1085			1623	
Direction, Lane #	WB 1	SB 1				
Volume Total	100	175				
Volume Left	100	143				
Volume Right	0	0				
cSH	616	1623				
Volume to Capacity	0.16	0.09				
Queue Length 95th (ft)	14	7				
Control Delay (s/veh)	12.0	6.2				
Lane LOS	B	A				
Approach Delay (s/veh)	12.0	6.2				
Approach LOS	B					
Intersection Summary						
Average Delay		8.3				
Intersection Capacity Utilization		20.6%		ICU Level of Service		A
Analysis Period (min)		15				

# HCM Unsignalized Intersection Capacity Analysis

## 9: Quade St & Shippey St









11/29/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	41	0	0	0	58	78
Future Volume (Veh/h)	41	0	0	0	58	78
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	0	0	63	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	211	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	211	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	100			96	
cM capacity (veh/h)	747	1085			1623	
Direction, Lane #	WB 1	SB 1				
Volume Total	45	148				
Volume Left	45	63				
Volume Right	0	0				
cSH	747	1623				
Volume to Capacity	0.06	0.04				
Queue Length 95th (ft)	5	3				
Control Delay (s/veh)	10.1	3.3				
Lane LOS	B	A				
Approach Delay (s/veh)	10.1	3.3				
Approach LOS	B					
Intersection Summary						
Average Delay		4.9				
Intersection Capacity Utilization		17.3%		ICU Level of Service		A
Analysis Period (min)		15				

# HCM Unsignalized Intersection Capacity Analysis

## 14: Quade St & W Notre Dame St









11/29/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	66	0	0	0	0	118
Future Volume (Veh/h)	66	0	0	0	0	118
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	0	0	0	0	128
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	128	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	128	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	866	1085			1623	
Direction, Lane #	WB 1	SB 1				
Volume Total	72	128				
Volume Left	72	0				
Volume Right	0	0				
cSH	866	1623				
Volume to Capacity	0.08	0.00				
Queue Length 95th (ft)	7	0				
Control Delay (s/veh)	9.5	0.0				
Lane LOS	A					
Approach Delay (s/veh)	9.5	0.0				
Approach LOS	A					
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			16.5%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 14: Quade St & W Notre Dame St

















11/29/2023

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	0	0	0	4	119
Future Volume (Veh/h)	4	0	0	0	4	119
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	0	0	4	129
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	137	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	854	1085			1623	
Direction, Lane #	WB 1	SB 1				
Volume Total	4	133				
Volume Left	4	4				
Volume Right	0	0				
cSH	854	1623				
Volume to Capacity	0.00	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s/veh)	9.2	0.2				
Lane LOS	A	A				
Approach Delay (s/veh)	9.2	0.2				
Approach LOS	A					
Intersection Summary						
Average Delay		0.5				
Intersection Capacity Utilization		16.5%		ICU Level of Service		A
Analysis Period (min)		15				

# HCM Unsignalized Intersection Capacity Analysis

## 3: Cortland St/Quade St & Sherman Ave

11/29/2023

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	215	10	16	197	0	29	0	46	96	8	83
Future Volume (vph)	0	215	10	16	197	0	29	0	46	96	8	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	234	11	17	214	0	32	0	50	104	9	90
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	245	231	82	203								
Volume Left (vph)	0	17	32	104								
Volume Right (vph)	11	0	50	90								
Hadj (s)	0.01	0.05	-0.25	-0.13								
Departure Headway (s)	5.0	5.1	5.2	5.1								
Degree Utilization, x	0.34	0.33	0.12	0.29								
Capacity (veh/h)	673	666	603	643								
Control Delay (s/veh)	10.6	10.5	8.9	10.2								
Approach Delay (s/veh)	10.6	10.5	8.9	10.2								
Approach LOS	B	B	A	B								
Intersection Summary												
Delay				10.3								
Level of Service				B								
Intersection Capacity Utilization				46.1%	ICU Level of Service	A						
Analysis Period (min)				15								



# HCM Unsignalized Intersection Capacity Analysis

## 3: Cortland St/Quade St & Sherman Ave

11/29/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	233	9	28	237	0	37	0	27	76	24	78
Future Volume (vph)	0	233	9	28	237	0	37	0	27	76	24	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	253	10	30	258	0	40	0	29	83	26	85
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	263	288	69	194								
Volume Left (vph)	0	30	40	83								
Volume Right (vph)	10	0	29	85								
Hadj (s)	0.01	0.05	-0.10	-0.14								
Departure Headway (s)	5.1	5.1	5.6	5.3								
Degree Utilization, x	0.37	0.41	0.11	0.29								
Capacity (veh/h)	668	672	556	618								
Control Delay (s/veh)	11.0	11.5	9.2	10.4								
Approach Delay (s/veh)	11.0	11.5	9.2	10.4								
Approach LOS	B	B	A	B								
Intersection Summary												
Delay				10.9								
Level of Service				B								
Intersection Capacity Utilization				48.2%	ICU Level of Service	A						
Analysis Period (min)				15								