



# Safe Routes to School Planning Guide

## New Glarus School District | Village of New Glarus, WI

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## Overview

This report has been created under the scope of the UniverCity Year program, a collaborative partnership between communities across the State of Wisconsin and the University of Wisconsin - Madison. In partnership with Green County UniverCity Alliance, Village of New Glarus officials identified a need for a safe routes to school study for the New Glarus School District (NGSD), citing concerns of traffic congestion along 2nd Street during peak hours, as well as a broader need for an assessment of multi-modal transportation infrastructure within the Village.



This Safe Routes to School planning guide, developed for the Village of New Glarus and New Glarus School District, has been structured to identify and address multiple causes of concern during peak school drop-off and pick-up hours. While the most effective way to decrease congestion may very well be to encourage all students who are able to safely walk to school, this would require significant investments in education, programming, and infrastructure, collaboration from multiple taxing and budgeting authorities, and collaboration with parents over a period of multiple years at minimum. Recognizing inherent constraints, this plan aims to allow flexibility of implementation as deemed both necessary and feasible by the School District and Village, allowing for multi-step, phased solutions as resources become available. Aspects of this plan should be addressed in the order NGSD and the Village believe they will have the greatest impact.

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## Executive Summary

An idyllic semi-rural community with bountiful natural amenities and easy access to employment opportunities, New Glarus is a unique asset to both Green County and the Madison, WI region. Considering the community's strengths, it comes as no surprise that New Glarus provides an excellent quality of life for both families and individuals, providing desirable living, recreation, and education.

The New Glarus School District (NGSD) operates out of two buildings along the southern end of 2nd Street with the Elementary School to the north and the Middle and High School situated 0.2 miles further south. The close proximity of the schools on this 2nd Street corridor has been one of many reasons for traffic and safety concerns.

Because the New Glarus schools are located close to the village center, 63% of students live within a one mile radius of the schools and according to survey results, only 8% of students walk or bike to school regularly. The survey also identified primary barriers to walking and biking to school which includes from most influential to least influential: vehicle traffic volume, dangerous intersections and crossings, lack of sidewalk and bike path infrastructure, vehicle traffic speed. Survey respondents overwhelmingly identified the intersection of 14th Ave and 2nd Street as the most concerning intersection which would directly impede the vast majority of pedestrians and cyclist who need to traverse that intersection to arrive at school. The study team recommends both infrastructural and programmatic solutions to the current conditions:

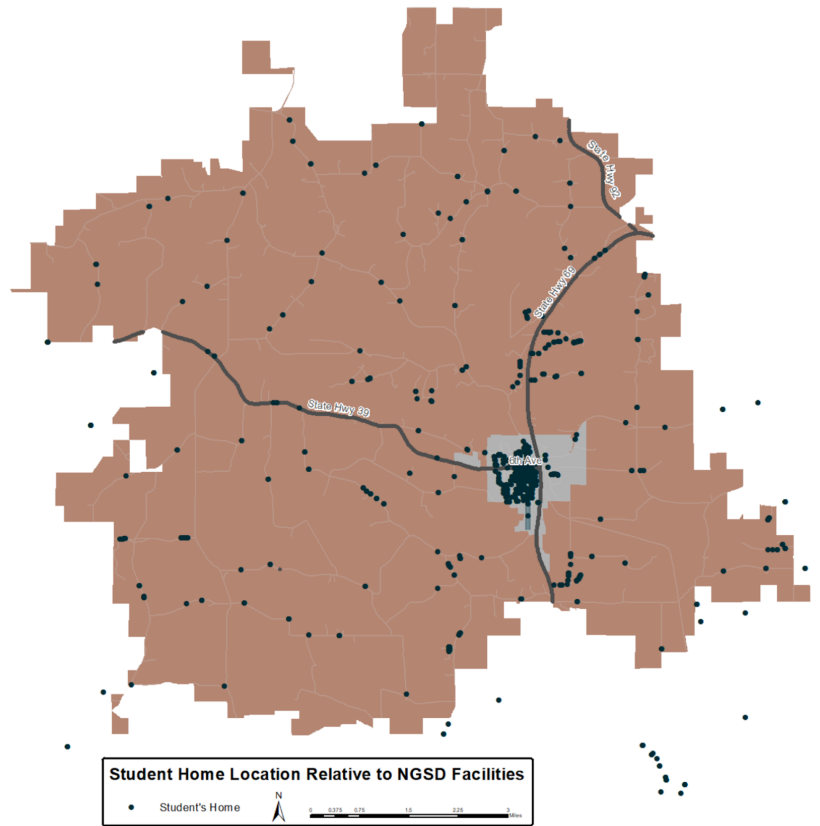


Figure 1. Map of NGSD student households relative to school district boundaries.

- 1. Add crosswalk(s) from athletic field lot to High School**
- 2. Implement Sidewalk and Bike Path Infrastructure**
- 3. Improve Signage and Traffic Calming Efforts**
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- 9. Expand Shuttle Service**
- 10. Stagger Bell Times**

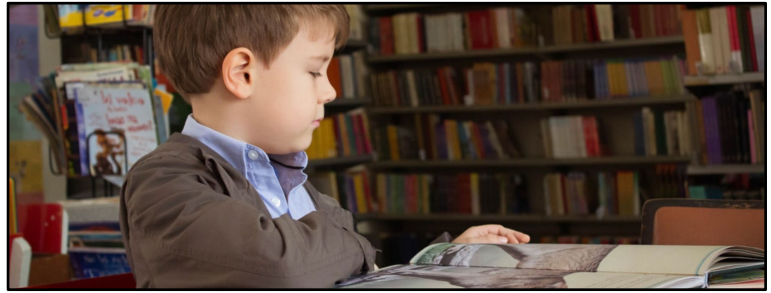


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# Background

## Community

The Village of New Glarus has many attributes that make it a wonderful place to live, including high-performing schools and an idyllic rural setting with rolling hills and clear, cool trout streams. Situated within that setting lies a slightly more densely populated downtown, the southernmost development of that downtown being the New Glarus School District facilities. The Elementary School lies four-fifths of a mile (0.8 miles) directly south of New Glarus Village Hall on the northern edge of Downtown, indicating what should be accessible facilities through active transit for school families residing within the downtown area.



Within a 5-mile radius from New Glarus Middle School, there has been consistent population growth, up to 6,112 individuals in 2015 from 4,842 in the 2000 decennial Census. Projections to 2020 show a decreasing rate of growth, however (1.7% from 2000-2010, projected 0.94% from 2010-2020). Typical of more rural areas, the median age is a slightly higher 41.7 compared to the national median of 37.9. There is relative consistency in the average household size, currently 2.46 compared to 2.48 in the year 2010. This represents an estimate of consistency in number of school aged children based on rates of household formation, with projections of school-aged children to decrease slightly over the next few years, especially anticipating lower numbers of enrollees within Elementary School-aged demographics.

This area of the County displays relatively strong median incomes, with earnings per household at \$63,406 in 2015 and projected growth of 3.6% annually to 2020 for an anticipated figure of approximately \$75,500. This rate of earnings is significantly higher than the 2015 median of \$53,217 for all US households. This is demonstrated in high rates of homeownership within the Village - 76% of all households within the 5-mile study area owned their own home.

Overall, aggregate statistics indicate relative economic health for the Village in the present as well as in projections. Opposed to typical rural and village trends nationally, population growth in New Glarus is projected to continue until at least 2030, and economic growth is projected to continue to rise with new population. It is worth noting, however, that more recent 2018 DoA population estimates represent growth of only 1 person within the Village, and the Town displaying growth of only 44 persons over the 9-year period 2010 to 2018. This may be due to increased growth within the Madison economic region, or other economic factors, but is worth noting when planning enrollment and facilities replacement, including road infrastructure for the school district and its facilities.

New Glarus School District

New Glarus School District (NGSD) encompasses areas of both Green and Dane Counties, including the Village of New Glarus and the Towns of New Glarus, York, Exeter, Washington, Adams, Perry, Primrose, and Montrose. NGSD administers three schools in the district service area—New Glarus High School (HS), New Glarus Middle School (MS), and New Glarus Elementary School (ES). The schools are located along 2nd Street on the village’s southern end, spaced 0.2 miles apart. 2nd Street is a two-lane road that connects the two school buildings and also extends into the heart of the village. The school district campus encompasses the majority of the Village of New Glarus’ southern end, and is bordered by 14th Avenue to the north, State Highway 69 to the east, County Highway H to the south, and agricultural lands to the west. This stretch of 2nd St which is south of 14th Ave and north of County Highway N will henceforth be referred to as the 2nd St Corridor.



Figure 2. Map of the 2nd Street Corridor study area.



There have been consistent increases in enrollment through present, with projected enrollment increases consistent with WI Department of Administration growth projections and the Village of New Glarus’ Comprehensive Plan. As a whole, NGSD enrollment has increased 3.7% over the past five years and had a cumulative enrollment of 980 in the 2018-2019 school year.

The Elementary School is situated at the northern end of the NGSD campus and sits across from Veterans Memorial Park. The New Glarus Elementary School has seen a small decrease in enrollment every year over the past five school years. The Elementary School had enrollment of 436 in the 2013 - 2014 and has steadily dropped to an enrollment of 411 for the 2017 - 2018 school year.

The New Glarus Middle School shares a building with the High School on the southern end of the NGSD campus and is located in the northern portion of the building. The Middle School has seen large increases in enrollment over the past five years.

In the 2013 - 2014 school year, the Middle School had enrollment of 241 and has since increased by 34% to an enrollment of 323 in the 2017 - 2018 school year.

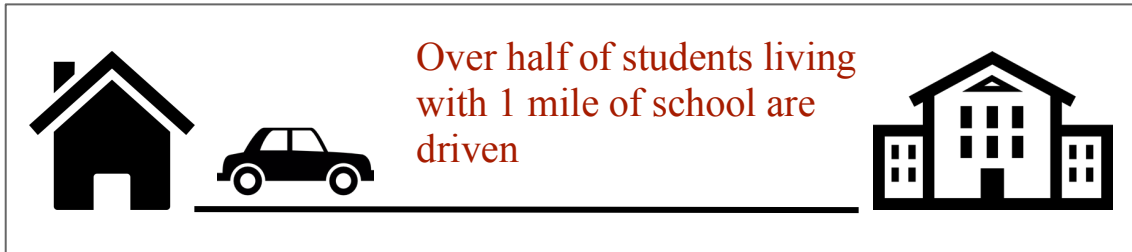
The New Glarus High School is located in the same building as the Middle School and occupies the southern portion of the building. High school enrollment has fluctuated from a five-year high in 2013 - 2014 school year to a five-year low of 235 in the 2016 - 2017. It has since increased 6.8% to 251 for the 2017-2018 school year.

	<p>While 10% of students walk or bike to school, <b>30%</b> have asked their parent or guardian for permission to do so</p>	
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## Current Conditions

The majority of NGSD students are dropped-off and picked up from school via family vehicle or school bus. Traffic congestion is a prominent obstacle to both passive and active modes of transportation during peak hours of school drop-off and dismissal. There are numerous backups on 2nd St. during these times that create a precarious situation for all who travel the route including pedestrians, bikers and those in vehicles.



Pedestrian Facilities

Children electing to walk to and from school rely on safe and predictable pedestrian facilities for their transportation. Pedestrian walkways and sidewalks are common in the downtown core of the Village of New Glarus, but become sparse or nonexistent near the edges of the Village. Many neighborhoods are underserved by sidewalks. Important streets connecting these neighborhoods to the school campus, such as 12th Avenue and 14th Avenue, often have sidewalks on only one side of the street. Sidewalks and crosswalks are very restrictive within the 2nd St Corridor, as there is only a sidewalk on the east side of 2nd St. and only one crosswalk location to the Middle School and High School at the far north side of the Middle School. At the Elementary School, there is one crosswalk from the School that connects to Veterans Memorial Park. These are the only two crosswalks on 2nd St. from the intersection with County Highway H to 14th Ave. Crossing guards are stationed at these locations during school arrival and departure times to assist with student crossings.

The Village of New Glarus has indicated in its Comprehensive Plan that there is a need to improve pedestrian connection through sidewalk improvements and extensions, particularly in older neighborhoods, crossing Highway 69, and along 2nd St near the school campus.

## Bicycle Facilities

Students electing to ride their bikes to and from school rely upon safe bicycle facilities, such as dedicated bike lanes or separate bike trails. However, no streets within Village limits have bike lanes, posing a barrier to safe bicycle travel. High levels of congestion along 2nd Street during school drop-off and pick-up times can further make it difficult for bikers to navigate. The Village is accessed by the Sugar River State Trail, an off-street multipurpose trail managed by the Wisconsin Department of Natural Resources, which connects the Villages of New Glarus to others in Green County. The Sugar River State Trail begins at the north end of the Village, near 5th Avenue and Railroad Street, and continues south where it runs adjacent to State Highway 69. The trail offers access to the school campus as it runs west along County Highway H before turning north along 2nd Street, terminating near the southern end of the High School and Middle School. However, this trail offers potentially hazardous crossings at 11th Avenue, 14th Avenue, and of driveways that offer access to commercial establishments from State Highway 69. A spur of the trail offers access for neighborhoods east of Hwy 69, but requires bicyclists to cross Hwy 69 at an uncontrolled and potentially hazardous crossing.

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## Busing

There are currently six bus routes for picking up children throughout the school district. Out of 980 total NGSD students, 737 are registered for busing, although not nearly all of these students are frequent riders. Also, there are 60 students that are currently ineligible for bus services due to living in a close proximity to schools.

Bus routes start pickups in the more distant rural areas of the school district and work their way back to make a few stops in the village limits. Within the village, parents can drop students off at the New Glarus Village Hall to be bussed to their respective schools. To be eligible for this service, families must live within the hazard zone and live closest to that stop. In the mornings, busses travel southbound on 2nd Street and first drop students off at the Elementary School entering from the Staff Parking Lot and then proceed to drop High School and Middle School students off at the visitor entrance to the High School. In the afternoon, elementary students first board the bus behind the Elementary School and then buses pick-up High School and Middle School students in the visitor parking lot.



## Vehicle Infrastructure

NGSD's campus is bordered by State Highway 69 to the east and County Highway H to the south, limiting multi-modal transportation from the those directions. The vast majority of students who live within a reasonable walking and biking distance live in the village center to the north and are not impeded by these highways.

The primary drop-off and pick-up location at Elementary School is the Kiss n' Fly line. The entrance is at the southern end of the Elementary School parking lot and allows parents to get in a queue to quickly drop their child off at the front entrance to the school. The exit is also towards the southern end of the parking lot. Veterans Memorial Park parking lot is also heavily utilized by parents for drop-off and pick-up at the Elementary School. Some parents prefer to park there in the morning and walk their child across the street to school, but this lot is predominantly used to in the afternoon to pick-up children after school.

The northern entrance to the Middle School and High School accesses the front entrance to the schools and district offices. It serves as faculty and visitor parking, and is also used secondarily as a student drop-off location by some district families. Primarily, this entrance serves as the entrance point for buses during drop-off and pick-up times, while buses exit through the designated exit point at the southern end of the bus loop.

The majority of student drop-off and pick-up at the Middle School and High School occurs in the southern parking lot as cars pull up to the curb adjacent to the southern end of the High School. This parking lot also provides the majority of the parking for faculty and High School students with parking permits. This parking lot is accessed by designated entrance and exit driveways. Across 2nd Street from the Middle School and High School is a secondary parking lot, designated in this report as the Athletic Field Lot, which spans the length of the Middle School and High School. Primarily serving as overflow parking for students, this lot is often unfilled and largely empty. Because this lot is connected to the Elementary School by a sidewalk, it is heavily utilized as a pick-up location in the afternoon by parents who have their child meet them there.

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## Research & Assessment Methodologies

Two methods were used for data collection. The first were traffic assessments, during which they study team made direct observations, took traffic counts, and took traffic flow counts. Assessments were made during the 30 minute period preceding pick-up and drop-off times, as well as 30-minutes post pick-up and drop-off times. In addition, a comprehensive survey was administered to parents with the New Glarus School District. This survey gave background reasoning for transportation patterns and choices, as well as the ability to run cross-tabulations to gauge the level of significance of individual answers based on social, economic, and geographic data.

### Traffic Assessment & Study

The study team conducted multiple on-site analyses to assess traffic flow on 2nd Street, in school parking lots, and at primary student drop-off locations. Data collection included traffic flow observations, directional traffic counts of 2nd Street, and counts of turns into and out of parking lots.

### *Observations*

Because of the large amount of traffic, left turns are time consuming and impede traffic flow. Cars turning left off of 2nd Street often have to wait for a handful of cars to pass before they can execute their turn. Since 2nd Street is a two-lane road, all cars must come to a stop until the car can make their turn. Cars turning left out of parking lots also have to wait until an opening in traffic, which creates long lines when exiting parking lots.

Backups are also caused from pedestrians crossing 2nd Street, commonly in one of the two crosswalks near the schools. There are typically crossing guards at both crosswalks to assure student and parent safety while crossing the street. Parents and students utilize Veterans Memorial Park and the Athletic Field parking lot and need to walk across the street to arrive at their respective schools. Some parents like to park at Veterans Memorial Park and walk their child into or pick their child up at the Elementary School. This lot is used in the morning, but more heavily in the afternoon. Each time a student crosses from Veterans Memorial Park, traffic also can back up. The Athletic Field Lot is predominantly used by High School students, but few, if any, of these students walk to the north end of the lot to use the crosswalk. Most students jaywalk across 2nd Street towards the southern end of the lot. The crosswalk near the High School is generally used by southbound pedestrians and those who park on the north end of the Athletic Field Lot.

We witnessed the drop-off lines to the main High School and Elementary School become backed up all the way to 2nd Street. At this point, whether turning left or right off of 2nd Street to get into the queue, the entire lane of traffic must stop until the line progresses enough to make room for the next vehicle. This creates a dangerous situation for vehicles who might need to come to a sudden stop and might entice people to illegally pass by using the other traffic lane.

Traffic count data collected indicates that the majority of people enter the 2nd Street at the intersection closest to their destination. Most people entering 2nd Street from County Highway H go to the High School or Middle School and most who enter from the north are going to the Elementary School. This results in more traffic towards the north because students are dropped off as opposed to driving themselves. Because a large portion of High School students and staff drive themselves to school, this created 207 vehicles entering 2nd street from County Highway H, but only 72 vehicles exiting in the morning. From the northern entrance to the 2nd Street study area, the amount of vehicles that entered and exited were both approximately 200 due to dropping off and then leaving the school.



*Traffic Counts*

**Friday, October 12th**

The primary purpose of this traffic count was to determine the total number of vehicles, pedestrians, and bicycles entering and exiting the 2nd Street corridor from the north and from the south. During the morning drop-off time from 7:30-8:30 am, 201 cars, 9 bikes, and 20 pedestrians accessed the 2nd Street corridor from the north, while 207 cars accessed from the south. 199 cars exited the 2nd Street corridor to the north, while 72 exited to the south (Figure 3). In the afternoon, from 2:30-3:30 pm during school pick-up times, 115 cars accessed the corridor from the north, while 107 accessed from the south. 183 cars and 78 pedestrians exited to the north, while 108 cars exited to the south (Figure 4).



*Figure 3. Total traffic counts for the ES (left) and HS/MS (right) during AM drop-off times.*



*Figure 4. Total traffic counts for the ES (left) and HS/MS (right) during PM pick-up times.*



**Friday, November 2**

The primary purpose of the second traffic count was to determine total traffic volume along 2nd Street at the north and south entrance points, and to determine how often vehicles utilized each entrance and exit to the schools, including their turn direction. On this day, during AM drop-off times 159 vehicles accessed the corridor from the north, while 241 accessed from the south. 181 vehicles exited the corridor to the north, while 68 exited to the south. In the PM during pick-up times, 124 vehicles entered the corridor from the north, while 78 entered from the south. 166 vehicles exited the corridor to the north, and 114 exited to the south.

Counts were made at the Elementary School and the High School/Middle School in both the morning drop-off time and afternoon pick-up time. Data for vehicle movement into and out of school parking lot is provided in the figures below, with arrows indicating the direction of traffic movement, and numbers indicating volume of traffic.



*Figure 5. Traffic and turning counts for the HS/MS during AM drop-off times.*



Figure 6. Traffic and turning counts for the HS/MS during PM pick-up times.

***“I think 14th Ave and Second Street needs additional crosswalks and supervision. The road right in front of the elementary school is still dangerous even with police presence. Not unusual to see inattentive drivers and then there is a high volume of traffic and kids.”***

***- Survey Respondent***

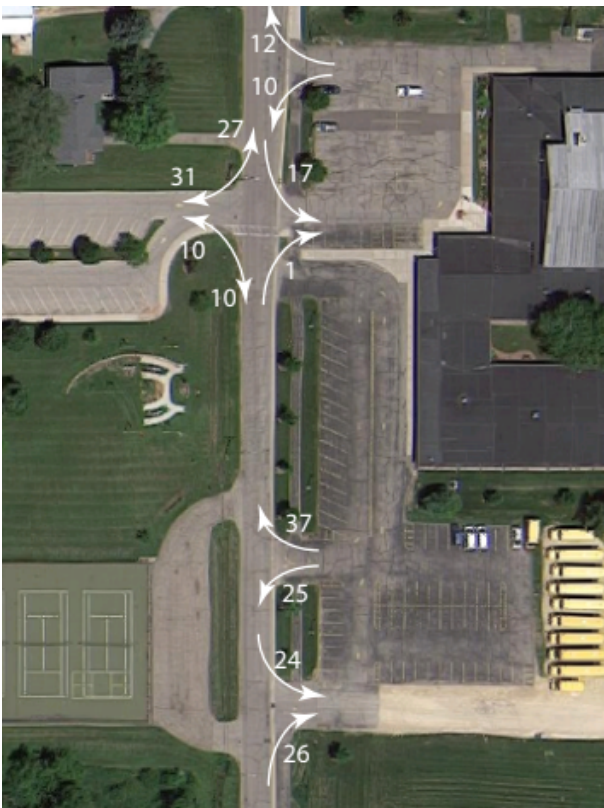


Figure 8. Figure 6. Traffic and turning counts for the ES during PM pick-up times



Figure 7. Traffic and turning counts for the ES during AM drop-off times.

Survey Background

A 27 question survey was administered to NGSD families to collect demographic data, understand current transportation preferences, and identify barriers to using alternative modes of transportation. Out of 560 families in the school district, 195 completed the survey. 26 respondents began the survey but did not fully complete it. This is a 35% response rate for the survey and is representative of the school district. These 195 families represented 402 families distributed across all grades (Table 1). 79% of survey respondents were mothers of students, 19% were fathers, and 2% were stepparents or grandparents.

Grade	Students
K	47
1	25
2	35
3	45
4	37
5	34
6	38
7	33
8	28
9	24
10	28
11	19
12	9
<b>Total</b>	<b>402</b>

Table 1 - Survey Sample Grade Distribution

Key Survey Results

An important aspect of the Safe Routes to School survey was to determine the community’s priorities for improving their commute to and from school. Survey respondents were asked to rank, from highest to lowest priority, five options:

1. More Transportation Options
2. Safer walking and biking routes
3. Better student drop-off and pick-up locations
4. Improved traffic flow at and around the schools
5. Other

The most common top priority for survey respondents was an improvement in traffic flow along the 2nd St corridor and within entrances and exits to the schools. The second highest priority was better drop-off and pick-up locations, followed by safer biking and walking routes and more transportation options.

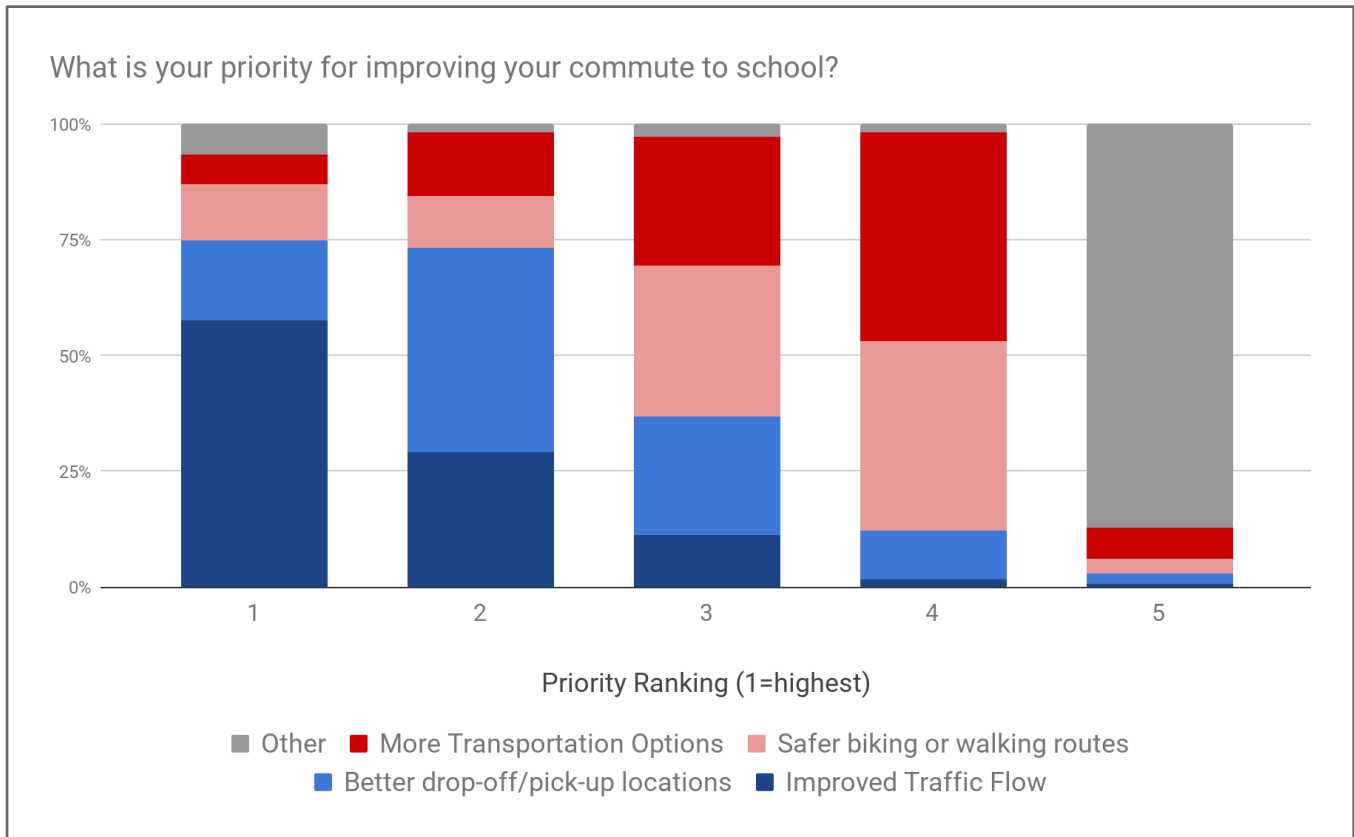


Figure 9. Parent Identified Improvement Prioritization

The Safe Routes to School survey shows that there is potential for positive changes in the share of students utilizing active transportation, such as walking or biking, to get to and from school. Of students living more than two miles from school, 72% arrive in a car while 26% ride the school bus. For these students, walking and biking is not feasible due to the distance and the hazards presented by high-traffic and high-speed roads outside of the village limits.

However, 63% of students attending NGSD schools live within two miles of school. Of these students, 68% arrive by car and 17% ride the school bus. Similarly, 63% of district students live within one mile of school, yet still 63% of these students arrive by car and 14% ride the bus. In order to reduce traffic congestion along the 2nd St Corridor during school drop-off and pick-up times, it will require students to utilize alternative modes of transportation, such as busses, shuttles, walking, or biking, rather than driving. There is greatest opportunity to capture this mode shift amongst the students living within one mile of school.



In the mornings during school drop-off, approximately two-thirds of student arrive in a vehicle, while only 22% take the bus and 8% walk or bike. After school, more students utilize alternative forms of transportation, as one-half are picked up by a car, 30% bus, and 12% walk or bike (Figure 10).

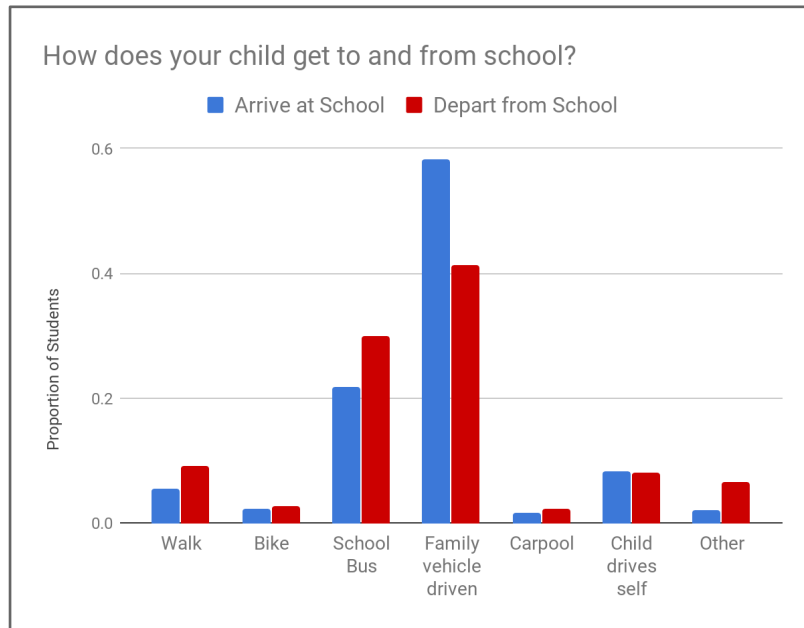


Figure 10 - Transportation Commute Modes

Throughout the survey, respondents indicated that they are uncomfortable with their children walking or biking to school because of perceptions of safety. If their children were to walk to school, only 38% of respondents felt the route was safe or very safe. If their children were to bike to school, only 27% of respondents felt the route was safe or very safe. Only 43% of parents indicated they would allow their children to walk or bike while they were in elementary school, and 30% would be uncomfortable with their children walking or biking to school at any age.

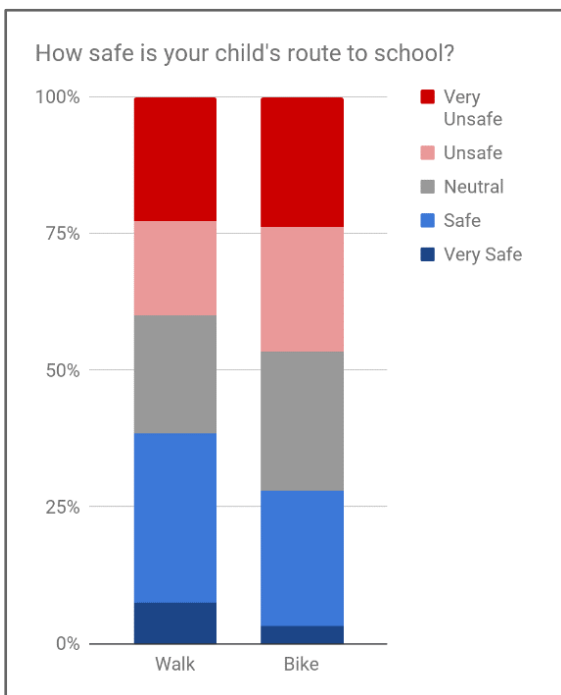


Figure 11- Route to School Safety

Numerous factors influence NGSD parents in their decision to allow their children to walk or bike to school. Most common is the distance to school, though more than three-fourths of parents are also concerned about the amount of traffic along their child's route and the safety of intersections and crossings. However, these parents indicated that they would be willing to allow their students to walk or bike if conditions improved, or if there were adults available to supervise students on their trip.

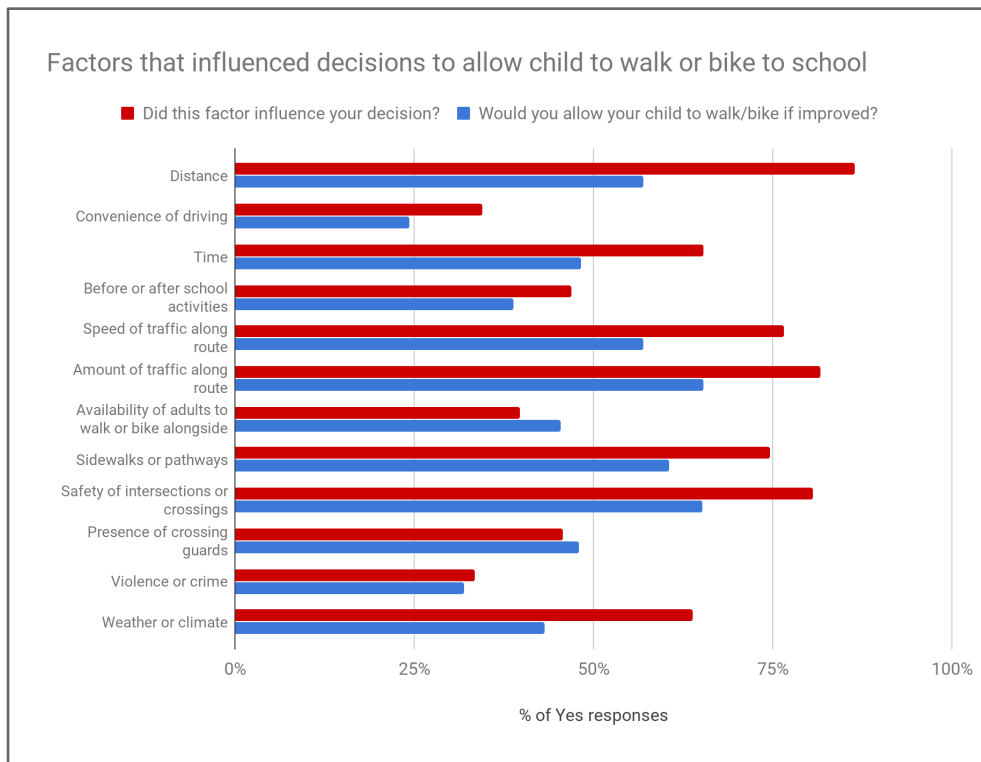


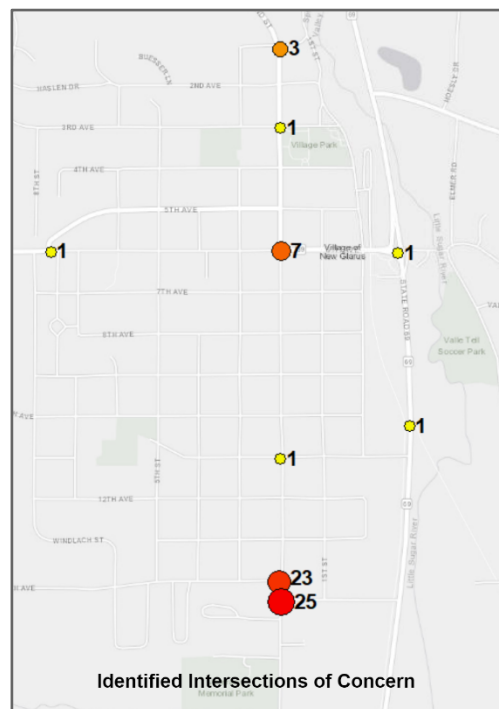
Figure 12. Influencing Decisions to Walk or Bike

Many survey respondents who lived greater distances from the 2nd Street corridor indicated that crossing major highways (i.e. State Highways 39 and 69, County Highways H, N, and W) or country roads (i.e. Legler Valley Road) acted as a barrier to active transportation. However the majority of survey respondents were able to identify specific intersections or streets within the Village of New Glarus limits, where infrastructure improvements may be simpler, that presented a safety concern for walking or biking. The five most common responses were:

1. 2nd St. and 14th Ave. - southern intersection (25)
2. 2nd St. and 14th Ave. - northern intersection (23)
3. 2nd St. and 6th Ave. (7)
4. 2nd St. and 1st Ave. (3)
5. 2nd St. and 11th Ave./ 2nd St. and 3rd Ave./ 5th Ave. and 6th Ave. (1)

An additional six survey respondents indicated that crossing 2nd St in general poses the biggest concern,

while five indicated that 6th Ave in general posed the biggest safety concern. Another common theme in survey responses was that the Village lacked safe and connected sidewalk infrastructure, particularly on the village’s west side, along 14th Ave, and on the west side of the 2nd St corridor.





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# Recommendations

As mentioned previously in this report, these ten recommendations are designed to be implemented in order of preference by the New Glarus School District or Village of New Glarus, who more intimately know capabilities and constraints that may be associated with implementation. All recommendations reflect national best practices as applicable to infrastructure and programming as it currently exists, and it is the belief of the study team that all or any in combination will achieve net positive benefits toward alleviating congestion, promoting active and healthy lifestyles, and furthering safety of students and parents within the District.



*A village in Oregon organizing to reduce traffic congestion in their school corridor*

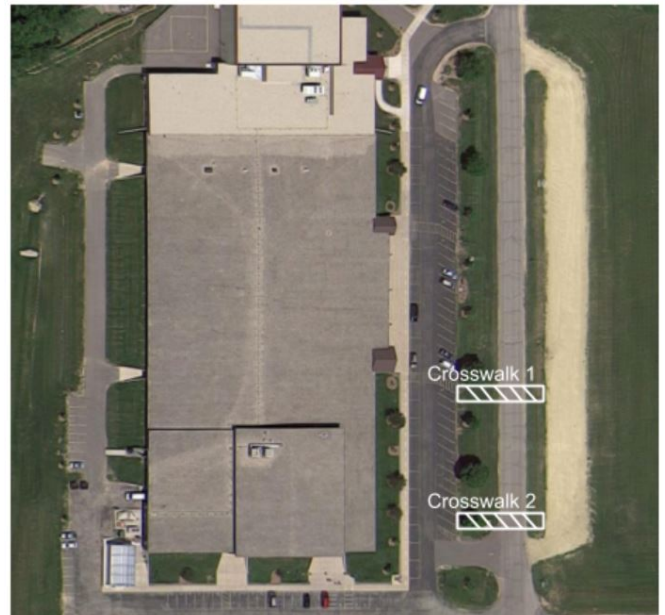
## Infrastructural Recommendations

### 1. Add Crosswalk(s) from Athletic Field Lot to High School

The current location of the lot directly east of the Middle and High School (Athletic Field Lot) does not match programmatically with best use for safety and traffic along the corridor. Currently, the lot is primarily used by High School students who drive themselves during morning drop-off times and is used limitedly by Elementary School parents, though the lot tends to be less than 25% filled

during the day. Although other recommendations suggest repurposing of the lot to dissuade use by student drivers, there are times when crossing 2nd Street from this lot to the school building are necessary. For safety reasons, crosswalks are a critical infrastructure improvement, which coupled with signage would increase overall safety of crossings within the corridor. On a single day of direct observation, the study team recorded a total of 21 dangerous crossings in this location in the morning and 28 dangerous crossings in the afternoon. The study team also witnessed one vehicle drive through the grass separating the lot from 2nd St, rather than use the designated exit, posing a safety risk to students who could have been crossing. This issue could be alleviated through crosswalks and signage, changing usage of the lot, or a combination of both.

Logical locations for crossings include the south entrance to the athletic field lot and in alignment with the front entrance of the High School. The crosswalk on the southern entrance to the Athletic Field Lot (Crosswalk 2) may be easier to implement, although could lead to initial educational programming as cars enter during peak times. However, the paved infrastructure is already present at this location. The option of a crosswalk from the front High School entrance (Crosswalk 1) could be more difficult and costly to implement due to the lack of current pedestrian infrastructure and the uphill grading on the western side of 2nd Street. A sidewalk would need to be implemented that connects the athletic field lot to the High School front entrance which is at a notable incline. The sidewalk would also have to travel through a drainage ditch on the west side of 2nd Street. Although more costly, this location could provide the highest level of safety within implementation.



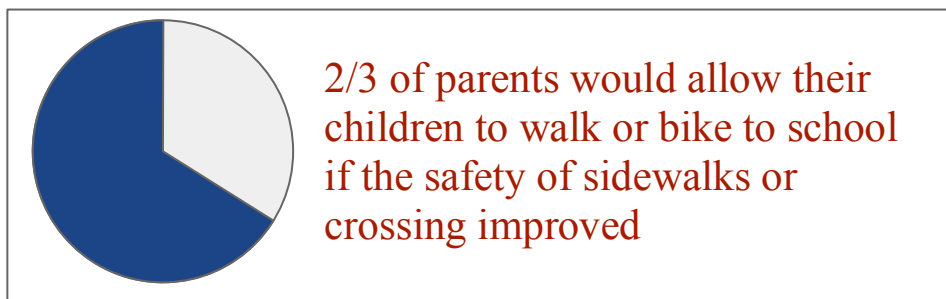
*Figure 13. Recommended crosswalk improvements for the HS/MS.*

2. Implement Sidewalk, and Bike Path Infrastructure

Lack of sidewalks along the corridor is an important impediment to multi-modal transportation options, which directly increases congestion during peak hours. 61% of survey respondents indicated they would let their children walk or bike to school if sidewalks or pathways were changed or improved, and the current lack of infrastructure reinforces driving patterns directly adding to congestion within the corridor. The most needed pedestrian infrastructure is a sidewalk on the west side of the 2nd Street corridor to ease access to the Middle School and High School. This will not only remove cars from the roadway during peak hours, it will also decrease congestion by allowing students to walk to school without crossing the street, stopping traffic in the process, in front of the Elementary School. Additionally, New Glarus lacks arterial connecting sidewalks to many residential areas of New Glarus, which could bridge connections creating reinforcing feelings of safety which could perpetuate active transportation modes as opposed to car travel.



Figure 14. Sidewalk improvements are recommended for the west side of 2nd St, seen here.



***“There is no bike friendly way to get to any of the schools and this needs to be fixed. The fact that so many kids are driven/driving to school is insane!”***

***- Survey Respondent***

3. Improve Signage and Traffic Calming Efforts

Improving signage near crosswalks throughout the duration of 2nd street will better delineate the corridor. Additional signage should include repainting of pavement traffic directions within lots to direct flow and signal proper routes to traffic. Current signage at both crosswalk locations on 2nd Street is minimal and could be improved due to student safety concerns. Improvements may also include additional crosswalk signage and improved sign visibility, which could include installation of a high-intensity activated crosswalk (HAWK) beacon (e.g. at 6th Avenue, which was identified in the survey as a barrier to pedestrian crossings) or a rectangular rapid flash beacon (RRFB) along 2nd Street to draw further attention to pedestrian crossings and further ensure safety near crosswalks.



Mike Cynecki

The blue line used by the Deer Valley School District in the Phoenix, Arizona, metropolitan area designates parent drop-off circulation for school parking lots. This sign corresponds to the blue pavement markings used by the Deer Valley School District in Phoenix, Arizona.

Figure 16. Improved signage indicating routing in and out of parking lots is recommended.



Figure 15. Speed bumps are recommended along the 2nd St Corridor to reduce traffic speeds.

Traffic calming measures should also be implemented to maintain safe, controlled vehicle speeds when driving along the 2nd Street corridor. We recommend the use of a semi-permanent radar speed sign to alert drivers of their current speed when entering the 2nd Street corridor and the implementation of speed humps while approaching crosswalks to keep vehicles at a reasonable speed. Finally, we recommend that the intersection of 2nd Street and lower 14th Ave become an all-way stop to slow down southbound traffic from the village center. This intersection was identified as the greatest barrier to safe pedestrian access to NGSD schools. This will help maintain safe vehicle speeds while approaching the schools and create a safer crossing for pedestrians. Implementing these recommendations will require NGSD collaboration with the Village of New Glarus and the Wisconsin Department of Transportation.

***“Maybe a flashing yield sign, or [having] a crossing guard at [2nd St and 14th Ave] would help... I see all the traffic there in the morning, people in a rush to get their kids to school, or get to school themselves, and they do not slow down.”***

***- Survey Respondent***



4. Prohibit Left Turns

Left turns are a primary cause of congestion and an impediment to traffic flow. During the traffic study, left turns into or out of the HS/MS parking lot represented 63% of all turns in the morning, and 51% of all turns during the afternoon. At the ES, left turns represented 35% of all turns during the morning and 50% of all turns during the afternoon.

Prohibiting left turns would prevent unnecessary backups and improve traffic flow both on 2nd Street and in parking lots as well. This can be executed through the use of signage. “No Left Turn” signs should be placed in strategic locations along the 2nd Street corridor that are in a clear sight line near turning locations. These rules should be coupled through programmatic assistance from the Village, who can supply Law Enforcement Officers to be present during peak times to discourage these behaviors for the initial week, and periodically afterward. If signage is not being acknowledged, traffic delineators could be placed in the median to prevent left turns from being executed. In this scenario, all vehicles going to the Elementary School must enter from the south and all vehicles going to the Middle or High School must enter 2nd Street from the north. The only exception would be if parents or students park at Veterans Memorial Park or the athletic field lot and walk across the street to arrive at their school.

5. Transition 2nd Street into a One-Way Road

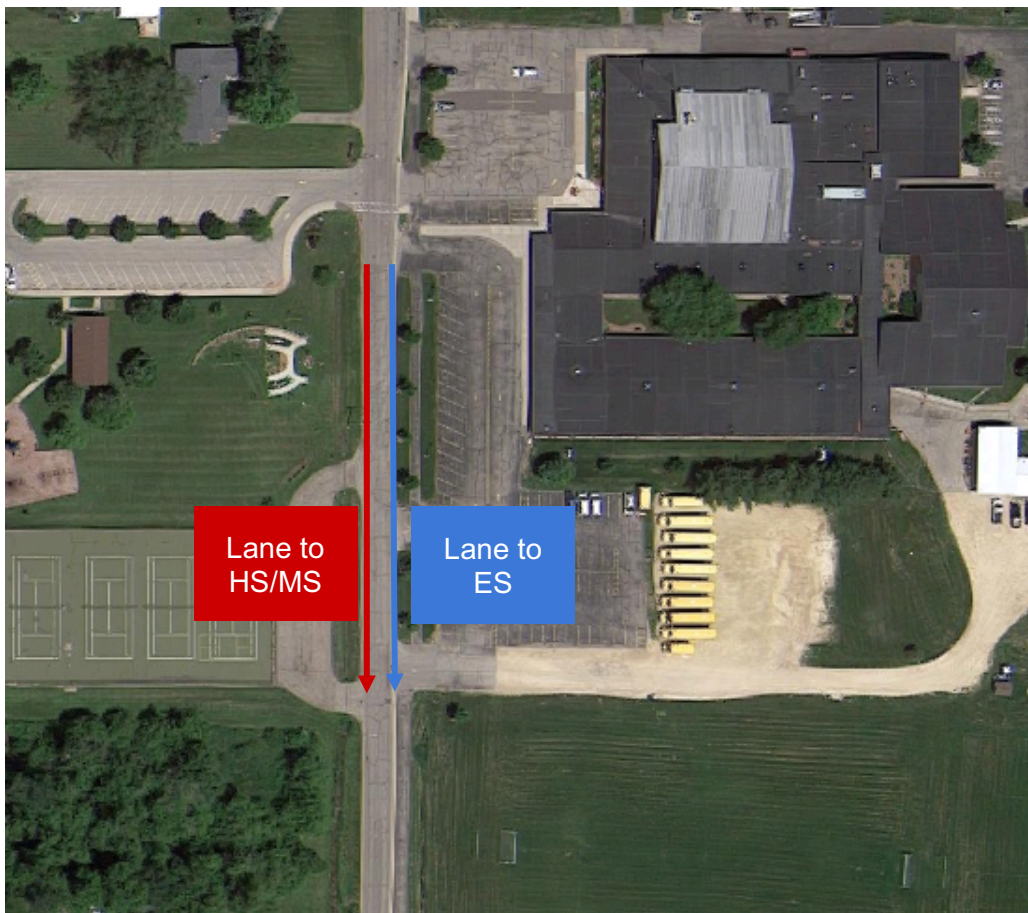


Figure 17. Recommended north-to-south orientation if 2nd St is made a one-way street.

Alternatively to prohibiting left turns in the corridor, transitioning 2nd Street into a one-way road would be another step to improve traffic flow and prevent backups due to congestion. We recommend the one way to go north to south to accommodate current traffic preferences. If implemented, we would recommend the construction of speed humps along 2nd Street especially near crosswalks. One-way roads typically entice increases of vehicle speed and traffic

calming measures would likely need to be implemented to maintain safety for pedestrians and drivers.

While this may reduce congestion near school facilities, it may have other effects on transportation. The intersection of 2nd Street and 14th Ave was identified in our survey as the most concerning intersection in school commutes. If 2nd Street were a one-way road, the traffic at this intersection would increase and potentially deter the use of alternative modes of transportation from within the village. Additionally, this would require rerouting of the current Kiss n' Fly line at the elementary school so that the current entrance and exit are reversed.

One last consideration is it will be important for NGSD to collaborate with the SSM Health Clinic and the Village of New Glarus in order for SSM Health Clinic vehicles to have convenient access to their facilities. Ensuring the health and safety of the citizens of New Glarus should be a top priority.

***“14th Ave and 2nd St [is a problem]. Most vehicles slow down and allow kids to cross. However, there are still a fair amount of vehicles that don't slow down or pay attention.”***

***- Survey Respondent***

#### Programmatic Recommendations

##### 6. Reroute Kiss n' Fly Line

One cause of congestion along the 2nd Street corridor is due to the Elementary Schools' Kiss n' Fly line backing up all the way to the entrance of the parking lot. In the morning of November 2 during the study team's traffic assessment, the Kiss n' Fly line reached 2nd Street four different times causing significant traffic backups. When this occurs, it is impossible for vehicles to turn off of 2nd Street and vehicles must stop in their current lane until room is created in the line to execute the turn. Not only does this create congestion through a complete shutdown of a traffic lane, but it creates a dangerous situation for drivers who must stop abruptly. It may also entice drivers to illegally pass a vehicle in the opposing traffic lane.

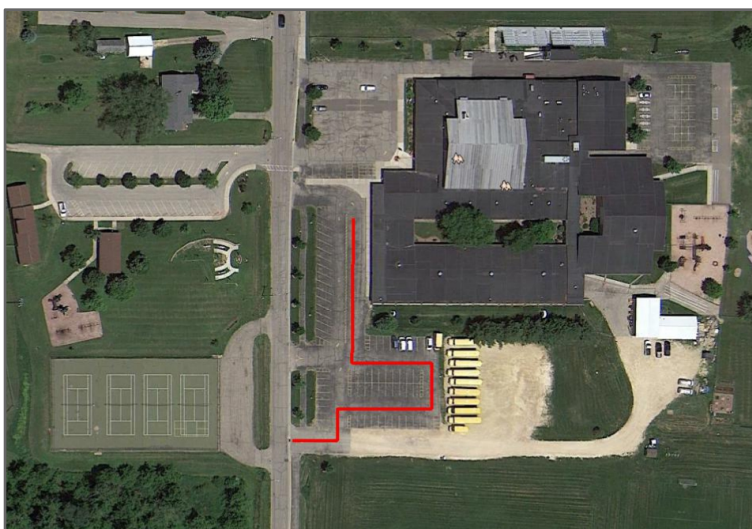


Figure 18. Proposed re-routing of the Kiss n' Fly Line.

To prevent this scenario from occurring, we propose restructuring the Kiss n' Fly line to extend throughout the rest of the parking lot so the line stays in the parking lot and off of 2nd Street. As seen in the image above, the line should be rerouted around the parking stalls in the southwestern portion of the parking lot. It is worthy to note that this would be restrictive to vehicles currently parked in these stalls and would prevent some vehicles from backing up immediately. Although it would be restrictive to parking, it would alleviate congestion on 2nd Street and improve traffic flow. This recommendation would be simple to implement, as it would not require new infrastructure.

7. Encourage Use of Athletic Field Lot for Elementary School Parents

We recommend that the athletic field lot, which is across from the High School, be utilized for drop-off and pick-up by Elementary School parents in lieu of Veterans Memorial Park or to reduce congestion in the Kiss n' Fly line. Because the athletic field lot is on the same side of 2nd Street as the Elementary School, this would minimize the congestion caused by parents and children crossing 2nd Street by the Elementary School when parking at Veterans Memorial Park. This would create a safer environment for students, parents, and drivers on the road. The athletic field lot is currently underutilized with less than 5% of parents using this lot regularly. It remains largely empty for the majority of the day and should be utilized to its full potential.

It is important to note that while this would require students to walk a longer distance than from Veterans Memorial Park, it is a distance of only 0.15 miles. The school could organize walking groups led by parent volunteers or NGSD faculty to make travel safer and provide a social opportunity for students.



*Figure 19. The Athletic Field Parking lot across from the HS/MS is often empty and can be better utilized as a drop-off and pick-up location for parents of elementary school students.*

8. Implement Alternative Transportation Programming

The original intent of this project was to help implement a traditional safe routes to school program for the New Glarus schools, and we do not want that to be lost in our traffic study. Programming, whether a traditional safe routes to school program or other school sponsored efforts, plays a key role in how students and parents perceive walking and biking to school.

To encourage active transportation to and from school, NGSD can utilize education and student engagement, such as hosting walk to school days, implementing walking school busses, and creating frequent walker and biker programs.



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A Walk to School Day is an annual event which encourages all students to walk to school on the same day. The National Walk to School Day Organization is held annually on the first Wednesday in October. If students do not live within reasonable walking distance, they can park or be dropped off a few blocks away from school and walk from there in an organized group. Walk to School Days can help raise awareness for the benefits of walking to school and create a fun environment for students.



*Figure 20. Participating in National Walk to School Day can help encourage students to utilize alternative transportation to school.*

Similarly, NGSD can work with parent volunteers to implement a system of walking school busses. A walking school bus is a group of students walking to and from school together, guided by one or more adults. Walking school busses can be organized within a neighborhood or from a centralized drop-off location. When pedestrian safety is a concern, these programming efforts offer students a chance to walk to school under adult supervision, increased visibility, and with safety in numbers. The National Safe Routes to School organization offers resources and guides for schools looking to implement walking school busses.

Our final programming recommendation is to implement a frequent walker and biker program to reward students for choosing active transportation to get to and from school. This program would provide students with a punch card to record each time they walk or bike to school, and students can be rewarded with corresponding prizes.

Programming efforts to encourage active transportation are a great, cost-effective means to introduce the idea of walking and biking to school for students and parents. If students walk or bike to school just once, they may realize the health, social, and community benefits it offers, and the idea to walk or bike may become more feasible in the mind of both students and parents.



*Figure 21. Walking school busses, seen here, can provide safety and social engagement when walking to school.*

## 9. Expand Shuttle Service

Many parents are concerned about traffic congestion, but do not choose to bus their children because of long busing times and the convenience of driving. We recommend programming additional shuttle locations within the Village Center so parents can still elect to drive their children, yet drop them off at a secondary location to avoid 2nd Street and alleviate congestion.

Students could be conveniently dropped off by parents at these shuttle locations in town and can be picked up by school buses on their way to the schools. Currently, the only bus shuttle location is located at Village Hall, other shuttle locations should have a safe area for students to congregate as they wait and include parking for vehicles as they wait to pick-up their children after school. Examples include the Historical Museum, the Swiss Center of North America, New Glarus Bible Church and Railroad Street, though collaboration would be needed with these community partners.



Figure 22. School shuttle service can be expanded at Village Hall (above) and other locations to alleviate congestion along 2nd St.

We also recommend increasing awareness of the current shuttle and expanding its service to support multiple pickup times. According to our survey, 32% of respondents were not aware of this shuttle and only 10% of respondents claim to use it. Two primary reasons for not using the shuttle include the convenience of driving and living outside of the hazard zone. Currently, only students living within the hazard zone (south of WI-39 in village limits) are allowed to use the shuttle. We recommend the shuttle also be available for students outside of the hazard zone as well to give parents who live outside of town another drop-off and pick-up option.

the 2nd Street corridor through decreased traffic and create a more convenient drop-off and pick-up location for parents.

Through these recommendations, this shuttle could help alleviate traffic congestion along

***“There are way too many cars, people, and not much patience [on] 2nd Avenue at arrival and dismissal times. The pattern does not allow for parents to easily drop-off or pick-up at ES/MSHS. I don’t have my kids take the bus due to hour long routes [but] if more people took the bus it might alleviate the issue.”***

***- Survey Respondent***

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## 10. Stagger Bell Times

Peak congestion periods along the 2nd Street corridor only last about 15 minutes in both the morning and afternoon. Through the use of staggered bell times, this timeframe can be extended and the congestion can be spread out. For example, a start time of 7:40 AM for students with last names A-L, 7:45 AM for M-Z at Elementary School and corresponding 7:45 AM, 7:50 AM at Middle and High School can decrease traffic by allowing a small extension of drop-off and pick-up windows for parents. We recommend using last name rather than grade to dictate start and dismissal times so siblings are released simultaneously. Instead of 15 minutes of peak congestion, it could be extended closer to 20 minutes and therefore have fewer cars on 2nd Street and in parking lots at a given time. This would take programming efforts within the classroom and would have to be communicated well to parents, students, and faculty.

In Switzerland, 75% of children walk or bike to school kindergarten through graduation.



We believe we can provide the same opportunity for America's Little Switzerland