

**2019-2020**

CREATED May 2020

# School Travel Plan



**Safe Routes**



**To School**  
with

**TransOptions**

## **MILLBURN MIDDLE SCHOOL**

22 Old Short Hills Road  
Millburn, NJ 07041

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## Introduction:

Safe Routes to School (SRTS) is an initiative that promotes safer and more accessible walking and bicycling environments for children in New Jersey through education, training, and research. SRTS is supported by the New Jersey Department of Transportation with funds from the Federal Highway Administration. TransOptions is one of eight Transportation Management Associations in New Jersey that provides SRTS programming to schools. TransOptions' service area includes multiple counties in Northwestern New Jersey.

## School Description:

Millburn Township is located in southwestern Essex County bordering both Morris and Union Counties and has a total area of 9.876 square miles. Millburn Middle School is located on Old Short Hills Road, a busy County road, and backs up to a small residential neighborhood in close proximity to both the train station and the downtown. Millburn Middle School contains grades 6<sup>th</sup>-8<sup>th</sup> with 1,198 students currently enrolled. The school is open from 7:15am-2:30pm with class hours between 7:40am to 2:30pm. A formal alternative drop-off area is located on Brookside Drive at the corner of Old Short Hills Road and students must use a pedestrian bridge over Old Short Hills Road to access the school.

Old Short Hills Road has a 35mph speed limit and drops to 25mph in the school zone when students are present. The adjacent neighborhood has a speed limit of 25mph and is the main funnel for the drop off line. This neighborhood has narrow streets and lacks sidewalks creating a concern over traffic volume and limited space for students who are walking or biking.

## Millburn Township Demographics:

The following chart shows Millburn Township's population data, age demographics, and school enrollment. Since 2014, enrollment at Millburn Middle School has grown by 65 students.

Population Demographics (From US Census)			
Categories	2010 Census	2000 Census	Population Change %
Population	20,149	19,765	1.94%
Male	9,832	9,584	2.59%
Female	10,317	10,181	1.34%
Under 18	6,502	5,976	8.8%
18 and Over	13,647	13,789	-1%
20-24	521	416	25.2%
25-34	1,105	1,791	-38.3%
35-44	3,146	3,825	-17.75%
45-54	3,920	3,145	24.64%
55-59	1,338	1,079	24.0%
60-64	1,020	744	37.1%
65 and over	2,275	2581	-11.86%
Median Age	41.0	39.2	4.59%

School Enrollment	
Millburn Middle School (2014)	1,133 Students
Millburn Middle School (2019)	1,198 Students

### Goals of the Travel Plan:

1. To make travel to and from Millburn Middle School safer and more efficient
2. To encourage walking and bicycling to school
3. To set a foundation for ongoing Safe Routes to School programming
4. To create awareness amongst motorists in Millburn Township
5. To reduce traffic congestion on streets around Millburn Middle School during arrival and dismissal times.

### Working Group Members:

Working group members consist of Millburn Middle School's principal, PTO representatives including the PTO Safety Committee, TransOptions, and several parents and community members. PTOC Safety Committee has been working with the Township's Pedestrian Safety Advisory Committee, police department, and Township Administration to create safer routes around Millburn Middle School and the other schools in the district.

Member Name	Organization / Title	Role / Responsibility	Contact Info (phone, email)	General Timeline
Lisa Leone Emily Casey	TransOptions TMA	SRTS Program Assistance	973-267-7600 lleone@transoptions.org ecasey@transoptions.org	Ongoing
John Connolly	Millburn Middle School	Principal	john.connolly@millburn.org	Ongoing
Jennifer Duckworth	PTO/Safety Committee	Co-chair (2019) Township Safety Committee liaison	jennifer@jenniferduckworth.com	Ongoing
Eric Andersen	PTO/Safety Committee	Co-chair	eric@erickandersen.com	2017-2019
Stephanie Mallios	Safety Committee	MMS Representative	stephanie1972@earthlink.net	Ongoing
Kirsty Nuttall	PTO		chrisandkirsty@hotmail.com	2018-2019



## **Existing Effort:**

Millburn Middle School supports creating safer routes to and from school for its students. Students are encouraged to walk or bike to school. A bike rack depot is available for students and faculty to use to encourage biking to school. Additionally, a bike rack is located across from the school along the path connecting to the library. The PTO and school administration work closely to advocate for safety improvements around the school for a safer walking and biking environment. In 2019, the district passed a policy supporting Safe Routes to School and students walking and biking. Millburn Middle School was awarded Gold certification through the Safe Routes to School Recognition Program for the efforts put in to increase safety and encourage active transportation at the school.

## **PTOC Safety Committee:**

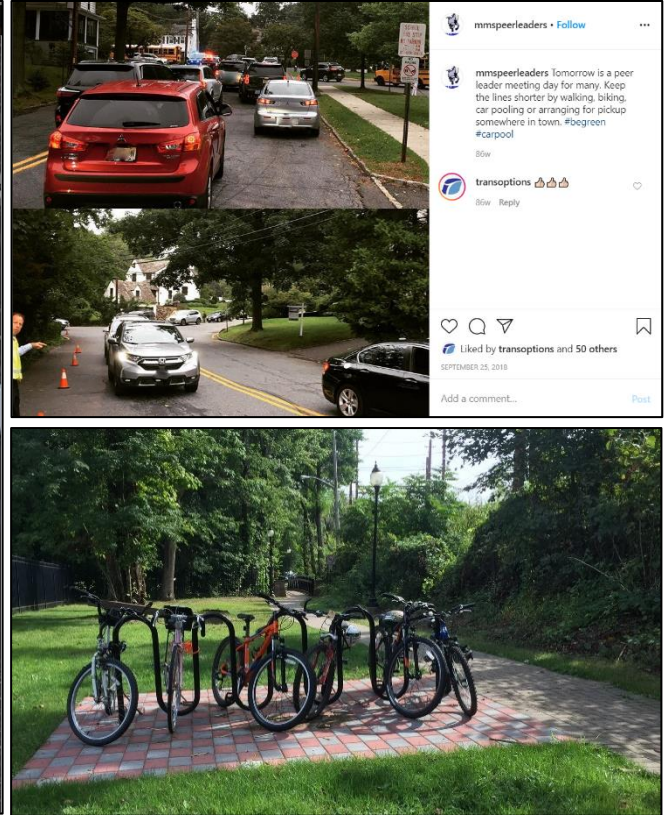
Millburn Middle School PTO representatives attend monthly PTOC Safety Committee Meetings to discuss concerns regarding pedestrian and bicycle safety around the school. Each year the school sets goals to improve walkability and bikeability while working with the Township and Police Department to meet these goals and find solutions for a safer walking environment. TransOptions attends these meetings to provide information on Safe Routes to School, listen to safety concerns regarding walking and biking to and from school, as well as provide recommendations on how to go about creating a safer walking and biking environment for students.

Additional efforts:

- The Knollwood neighborhood association worked closely with the school administration, Township Committee, and police department to develop solutions for drop-off line traffic and to include safety for students who need to walk from the adjoining neighborhood.
- Anti-idling signs are present at the school drop-off zone

## **Safe Routes to School Pedestrian and Bicycle Safety Programs and Events:**

Millburn Middle School hosts Walk/Bike to School Day events in the fall and spring each year to encourage students to walk or bike to school rather than being driven in a car. TransOptions has attended these events and provided giveaways for students that walk or bike. Student Peer Leaders have also assisted with Walk to School Day tabling. TransOptions provides standards-based in-class pedestrian and bicycle education programs that Millburn Middle School has expressed an interest in bringing into the school and the school plans to continue hosting Walk/Bike to School Day events. Millburn Middle School is also working with the high school media department to create a video to encourage carpooling at the middle school in order to reduce the number of cars during drop-off. The reduction of cars will create a safer environment for students walking and biking to school as well as cut down on idling and air pollution in front of the school.

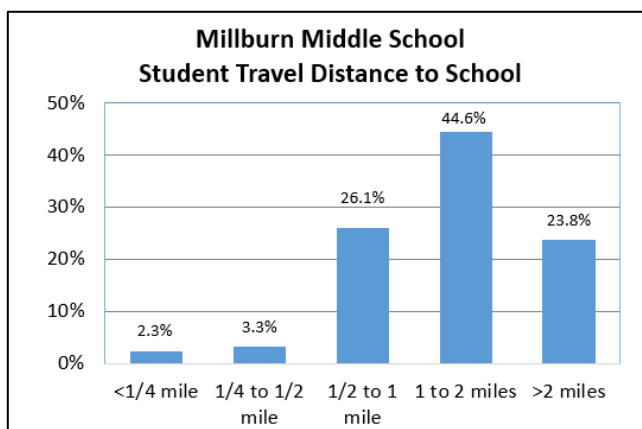


### Safe Routes to School Program Inclusion for Students with Disabilities:

TransOptions will provide differentiated instruction during in-class education programs to all students. This includes students with both learning and physical disabilities. TransOptions will work with Millburn Middle School staff to arrange special accommodations to ensure every student receives safety education in its various forms.

### Proximity Analysis:

Millburn Middle School provided student travel data for the 2019-2020 academic school year to TransOptions. These student locations were used to assess the feasibility of the students walking or biking to and from school based on the distance they lived from Millburn Middle School.



### Millburn Middle School Student Travel Distances

Distance to School	Count	Percentage
<1/4 mile	27	2.3%
1/4 to 1/2 mile	39	3.3%
1/2 to 1 mile	313	26.1%
1 to 2 miles	534	44.6%
>2 miles*	285	23.8%
<b>Total</b>	<b>1198</b>	<b>100%</b>
* All students over 2 miles are mandated transportation under state law		

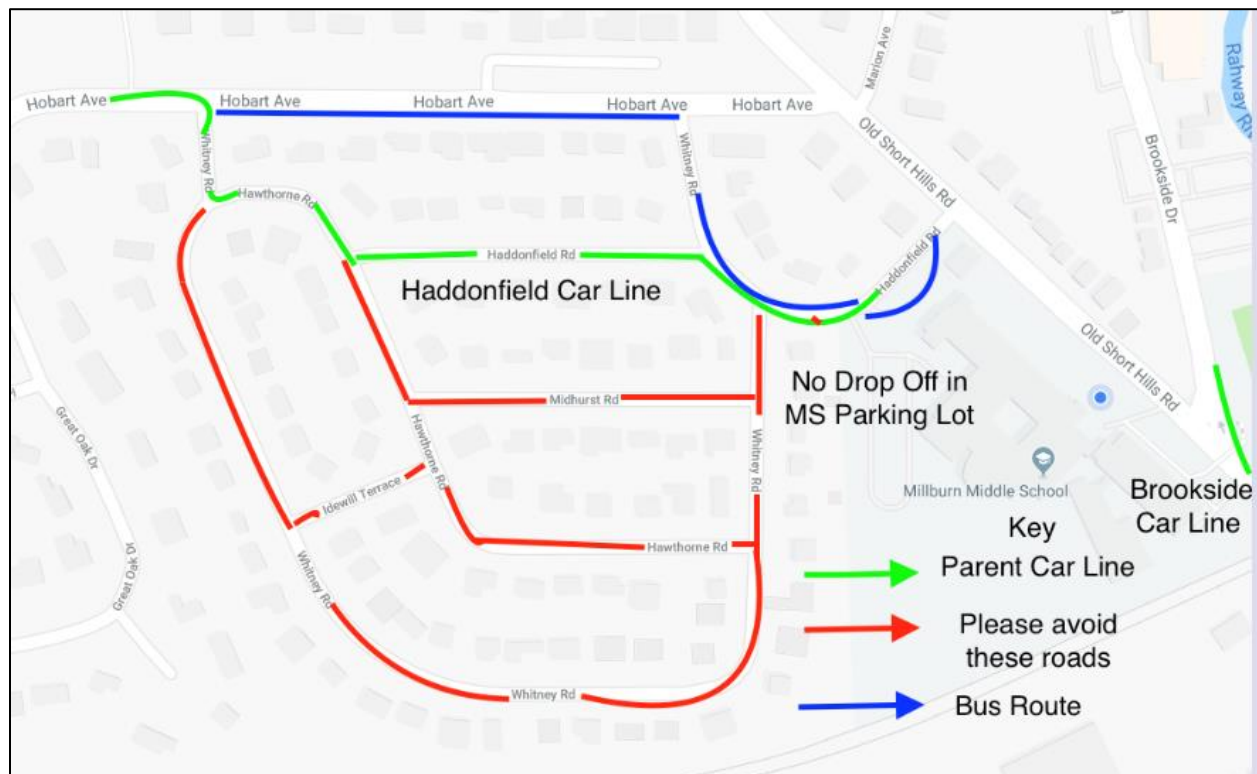
## Current School Travel Environment:

All students at Millburn Middle School are encouraged to walk or bike to and from school. Students that reside more than 2 miles from Millburn Middle School are eligible for school bus transportation and are encourage to utilize it to decrease traffic congestion at the school and increase safety for students who walk and bike.

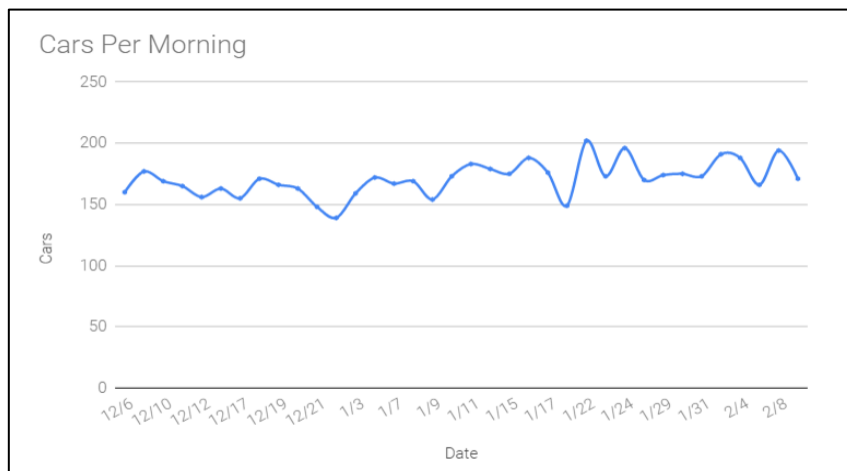
## Student Drop-off Procedure:

The Millburn Police Department along with the Millburn Township Administrators and Millburn Middle School have developed a procedure for school drop-off to help alleviate traffic due to the number of cars and buses, and make a safe walking and biking environment for students traveling in the adjacent neighborhood. A school staff member assists with drop-off and puts out cones and bollards each morning to create a safe path way for students walking to school past the drop-off line. Additionally, the number of cars entering the drop-off line are tallied each morning.

Millburn Middle School allows drop-off between 7:10-7:30am and makes early morning drop-off available at 6:45. School buses enter from a different roadway than car traffic does. Police officers and signs are located at each of the roadway entrances to enforce this policy. In addition, Haddonfield Road, the road featuring the drop-off location, is shut down to traffic to allow for the carline and buses to enter. Alternative drop-off is located on Brookside Drive and parents are encouraged to use this drop-off location to alleviate traffic congestion and wait time in the Whitney/Haddonfield Road area. Students who use the Brookside Drop-off can use the pedestrian bridge to cross Old Short Hills Road.



There are concerns regarding the number of cars entering the drop-off line each morning. In the fall, an average of 150 cars entered the drop-off line while this number increased to over 170 cars in the winter. With staff members included in the counts, the adjacent neighborhood in which the car line passes through sees over 200 cars during drop-off in addition to buses.



Millburn Middle School students wrote an article (**Appendix A**) analyzing the school's drop-off zone congestion and concerns that arise because of it, specifically the mass number of cars creating an unsafe environment for students who walk or bike to school.

### Travel Tallies:

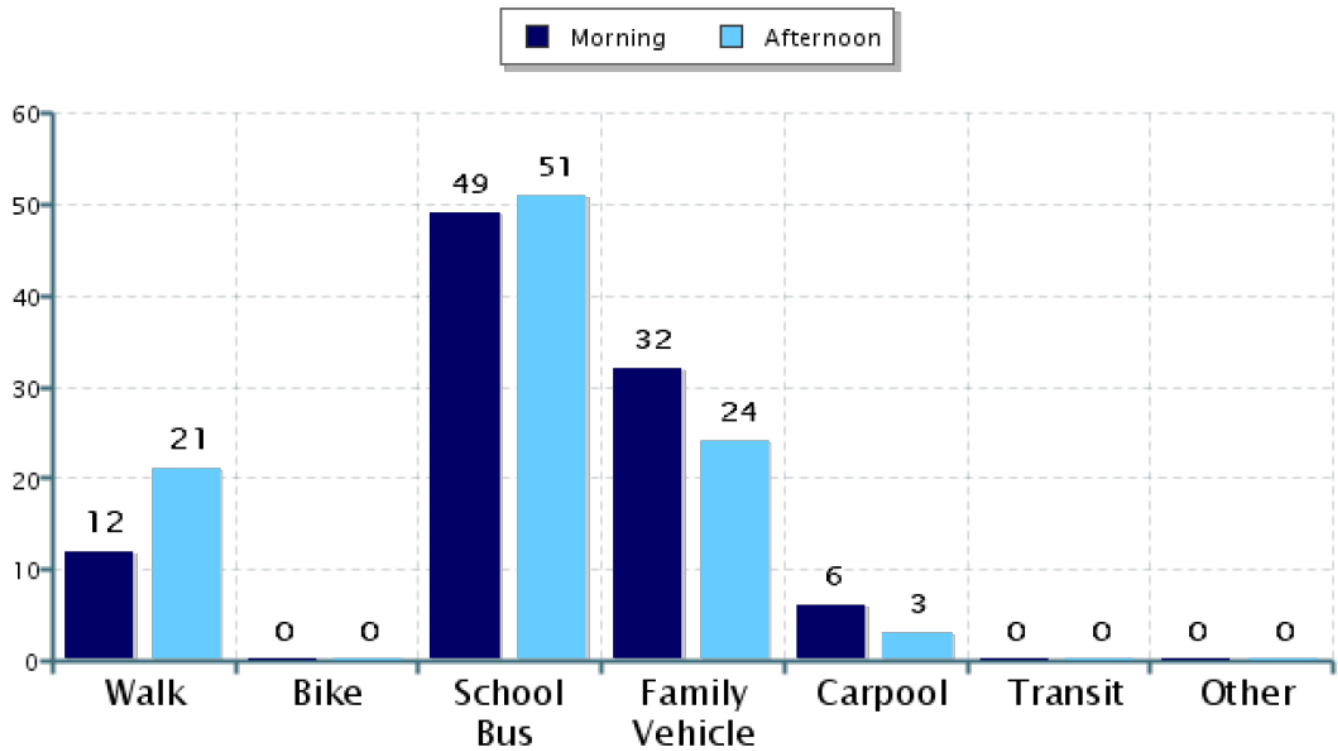
A Student Arrival and Dismissal Travel Tally from the National Center for Safe Routes to School was conducted on Tuesday, January 9<sup>th</sup> and Wednesday, January 10<sup>th</sup> in the spring of 2018. This tally collected data on student travel modes in both the morning and afternoon to gain an accurate understanding of how students travel to and from school. This data allows the administration to develop policies based on their students' travel behaviors.

The data collected in this tally was completed by the homeroom teachers in a "show of hands" collection method where teachers asked students how they arrived to school that morning and how they planned to leave for home after school. Teacher then read off the list of choices to the students which include walk, bike, bus, carpool with children from other families, driven in a family vehicle with only children from your family, or other (scooter, skateboard, etc.), and students raised their hands for the option that matched how they traveled.

At Millburn Middle School, in the morning, on average, 12% of students walk while 49% commute by school bus. 32% of students commute by family vehicle, 6% carpool, and 0.4% biked<sup>1</sup>. In the afternoons, on average, more students walked (21%, a 9% increase) and took the school bus (51%, a 2% increase) while fewer students took family vehicles (24%), or carpooled (3%). Students riding bicycles decreased slightly in the afternoon. This data is compared to the total number of students at the school. A breakdown summary of the survey results is presented below:

<sup>1</sup> Percentages may not total 100% due to rounding.

## Morning and Afternoon Travel Mode Comparison



## Morning and Afternoon Travel Mode Comparison

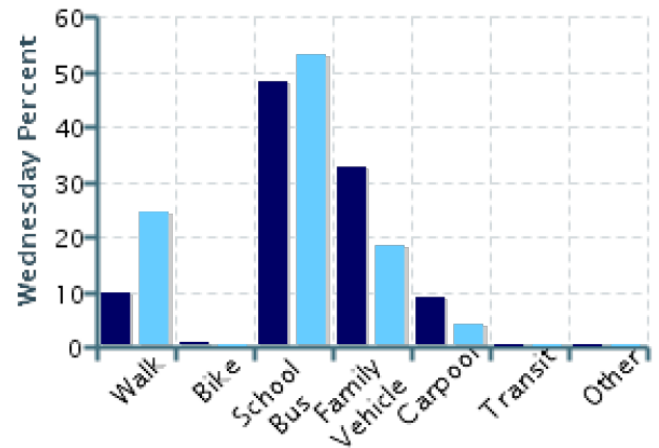
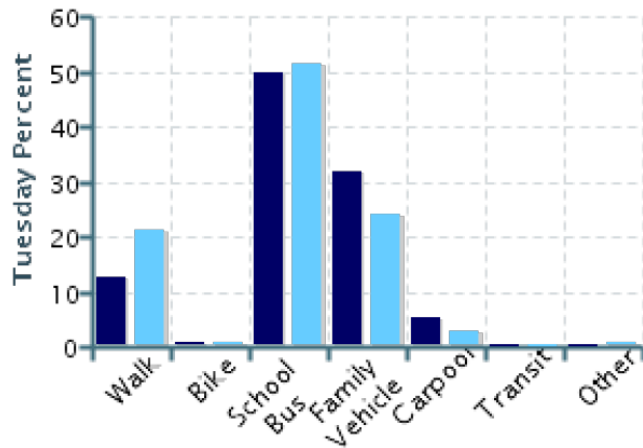
	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	1049	12%	0.4%	49%	32%	6%	0%	0%
Afternoon	853	21%	0.2%	51%	24%	3%	0%	0.1%

Percentages may not total 100% due to rounding.



## Morning and Afternoon Travel Mode Comparison by Day

■ Morning ■ Afternoon



## Morning and Afternoon Travel Mode Comparison by Day

	Number of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tuesday AM	926	13%	0.3%	50%	32%	5%	0%	0%
Tuesday PM	804	21%	0.2%	51%	24%	3%	0%	0.1%
Wednesday AM	123	10%	0.8%	48%	33%	9%	0%	0%
Wednesday PM	49	24%	0%	53%	18%	4%	0%	0%

Percentages may not total 100% due to rounding.

## **Walk and Bike Barriers and Opportunities:**

### **2016 Road Safety Audit:**

TransOptions conducted a Road Safety Audit at Millburn Middle School focusing on the school zone and areas within a half-mile radius of the school over a 3 week period. Observations were made on traffic patterns, student drop-off sites, road conditions around the school, and students' method of transportation before and after school, along with the conditions of the roads, traffic flow, sidewalk quality, bikeability of the roads, and signage. Recommendations were made to increase safety and increase walkability and bikeability for students and are outlined in **Appendix B**.

### **Walkability Assessment:**

A walkability assessment was conducted on September 21, 2018 by TransOptions, Millburn Middle School administration, as well as PTO and PTOC Safety Committee representatives. The walkability assessment identified several barriers that pose potential danger for students walking to and from school, as well as opportunities for enhancing pedestrian safety.

Major concerns and barriers related to walkability are the increased car traffic during drop-off times, limited sidewalks throughout the surrounding neighborhoods, driver behaviors, and limited school zone signage.

### **Safety Related Concerns:**

- The morning drop-off line is busy with a lot of cars and students are being dropped off while waiting in line
- Haddonfield Road is a narrow roadway that is accommodating a parent drop-off line, teacher access, buses, and students walking and biking to school
- There are no sidewalks in the adjacent neighborhood to the school including Haddonfield Road. This forces students to walk in drainage gutters or across yards
- Sidewalk surfaces are unstable along Hobart Avenue
- Roadway and pedestrian scaled lighting is missing on Hobart Avenue
- The school zone is not clearly marked with signs
- The pedestrian bridge across Old Short Hills Road has low sides creating a safety hazard

### **Driver Behavior Concerns:**

- Drivers make U-turns on Haddonfield Road, Hobart Avenue, and Old Short Hills Road
- Driving speed is perceived to be high on Haddonfield Road, Hobart Avenue, and the corner of Whitney Road and Hawthorne Road
- Drivers are inattentive to pedestrians while in the drop-off line
- Drivers cut down Whitney Road to avoid the long drop-off line causing a traffic jam at the corner of Haddonfield Road and Whitney Road at the school
- Drivers double park on Haddonfield Road
- Drivers in the drop-off line try to make two lanes for drop-off on the narrow roadway

### **Road Crossing Related Concerns:**

- Along Hobart Avenue there is heavy traffic which makes it hard for pedestrians to cross
- On Hobart Avenue and Old Short Hills Road, students are dropped off at crossing guard posts and crossings that are not designated drop-off locations for students
- Crosswalk missing at the intersection of Whitney Road and Hobart Avenue (west entrance)
- Pedestrian crossing signage is lacking on Hobart Avenue
- Crossing at Hobart Avenue and Old Short Hills Road intersection is long

### **Community Driven Goals and Recommendations:**

#### *Short term:*

- ✓ Limit parking on Haddonfield Road until after school drop-off (originally allowed at 6am)
- ✓ Come up with a plan to open up traffic flow to more than one road for drop-off
- ✓ Police enforcement of speed and drivers making U-turns during drop-off
- ✓ Increased school zone signage (i.e. painted "Slow School" or "School Zone" painted on road (like at elementary schools)
- ✓ Create a visualized walking path for students (i.e. painting "M"s or mascot on the side of the road to designate a walking route to school and alert cars of the walking route)
- ✓ Consider extending the yellow no parking line on Haddonfield Road
- ✓ Consider having someone trained in traffic control along routes leading to Haddonfield Road drop-off
- ✓ Consider shortening crossing at the intersection of Hobart Avenue and Old Short Hills Road

#### *Mid-term:*

- ✓ Install sidewalks or permanent bollards along drop-off area to separate pedestrians from car traffic at the drop-off line<sup>2</sup>
- ✓ Consider temporarily making roads in drop-off area one way in the morning
- ✓ Look for additional satellite drop-off locations
- ✓ Increase education of parents about safety and encourage carpooling
- ✓ Consider installing temporary speed display signage
- ✓ Reinforce safety for students and parents before new school year to change their behaviors

#### *Long-term:*

- ✓ Consider traffic calming measures along Whitney Road and Haddonfield Road to slow traffic
- ✓ Create a connective path of sidewalks along Marion Avenue
- ✓ Update pedestrian bridge to create a safer road crossing environment

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<sup>2</sup> The Township Engineer surveyed Haddonfield Road by Millburn Middle School where staff currently are placing bollards and recommends installing a sidewalk there that is 6 inches high.





Haddonfield Road and Whitney Road- Roadways are narrow and lack sidewalks or shoulders for students to walk on which forces students to walk on lawns or in the sloped, unstable drainage ditches



Haddonfield Road- school staff set out cones to make a pathway for students walking to school outside the car line



Hobart Avenue- uneven and uplifted sidewalk



Intersection of Hobart Avenue and Old Short Hills Road- long crossing





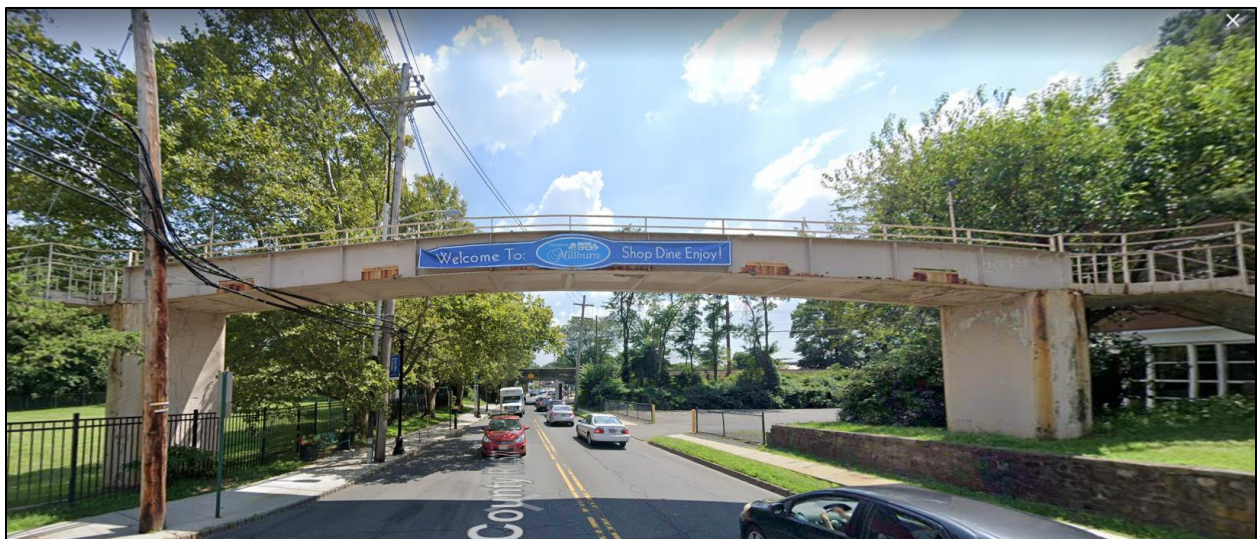
Haddonfield Road- drivers make U-turn while in the car line



Haddonfield Road- drivers create two lines during drop off instead of staying in the one line



Haddonfield Road- there is a lot of congestion and merging at the school for drop-off and buses making it unsafe for students walking and biking



Old Short Hills Road- pedestrian bridge has low railings



## Next Steps:

Millburn Middle School will continue to partner with TransOptions and participate in Safe Routes to School programs to encourage and promote students walking/biking to and from school. Millburn Middle School will continue to participate in Walk and Bike to School Days and continue to send representation to monthly PTOC Safety Meetings. Continual updates of student travel mode tallies will provide informative feedback for school administration to evaluate and monitor their Safe Routes to School initiatives progress.

## Action Timeline:

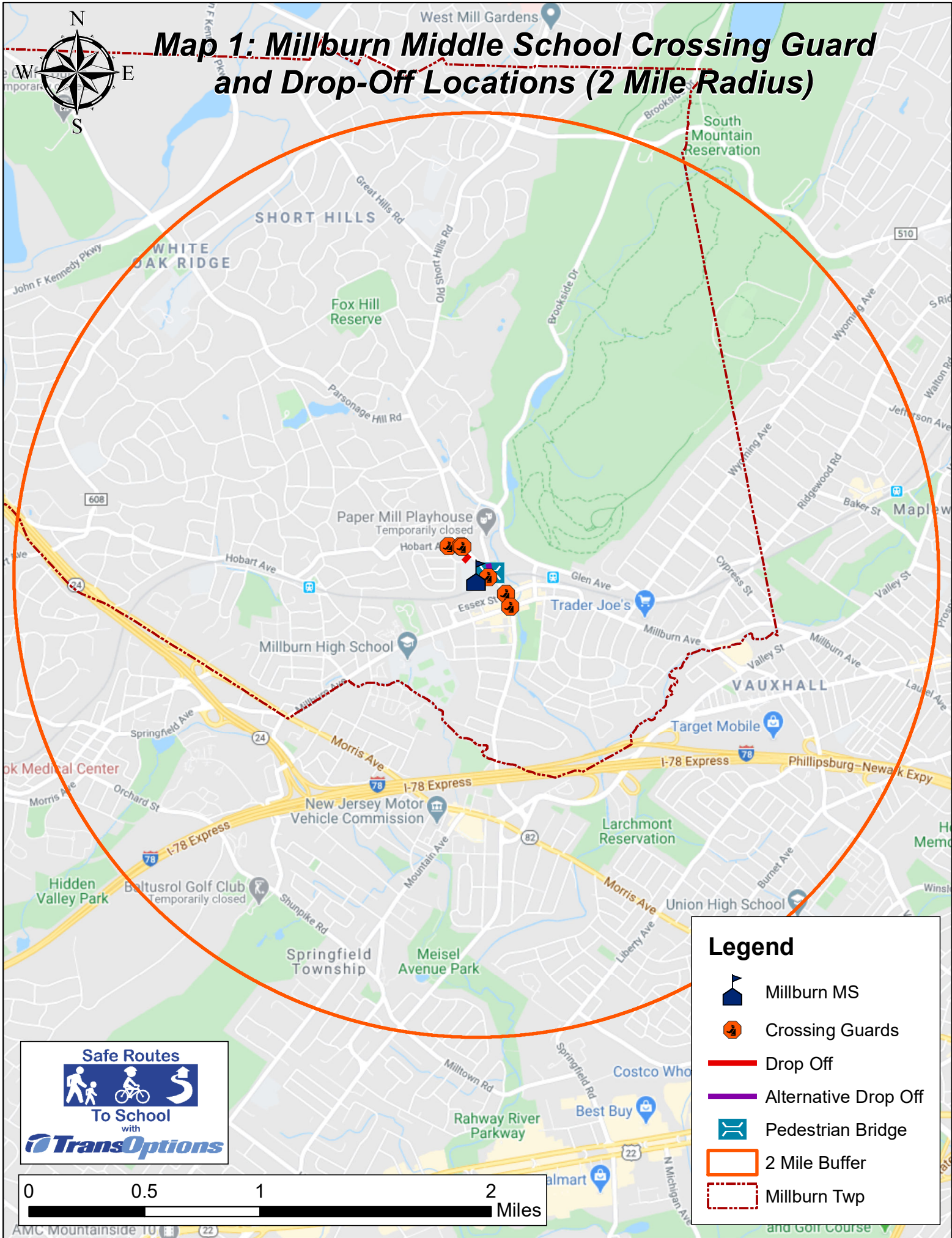
Education Actions	Responsibility	Timeline	Cost
Pedestrian/Bicycle Education Programming	School/TransOptions	Ongoing	Low
Town-wide pedestrian safety education campaign	Municipality/Police	Future	Low-Mid
<b>Encouragement Actions</b>			
Continue Walk and Bike to School Days	School/TransOptions	Ongoing	Low
Encourage usage of alternative drop-off locations	School	Ongoing	Low
Continue encouraging families to carpool when walking or biking is not an option	School/PTO	Ongoing	Low
<b>Enforcement Actions</b>			
Increase enforcement of speeding and illegal turning through drop-off/student walking locations	Police Department	Ongoing	Mid
<b>Engineering Actions</b>			
Increased School Zone Signage	School, Municipality, Essex County	Ongoing	Mid
Apply for Safe Routes to School Infrastructure grants	Municipality	Ongoing	Low
Traffic Calming and pedestrian/bicycle safety infrastructure improvements	Municipality	Ongoing	Mid-High
<b>Evaluation Actions</b>			
Periodically complete Student Arrival and Departure Tallies to assess student travel mode changes	School/TransOptions	Ongoing	Low
Complete walkability assessments periodically to assess improvements and challenges to walkability	School, TransOptions, Municipality, PTO	Ongoing	Low

## Maps:

- Map 1. Millburn Middle School Crossing Guard and Drop-Off Locations (2 Mile Radius)
- Map 2. Millburn Middle School Crossing Guard and Drop-Off Locations (1/2 Mile Radius)
- Map 3. Walkability Audit Routes

## Appendix:

- Appendix A. The Middle School Drop-Off Problem
- Appendix B. 2016 Road Safety Audit Recommendations

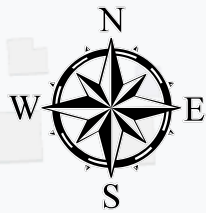




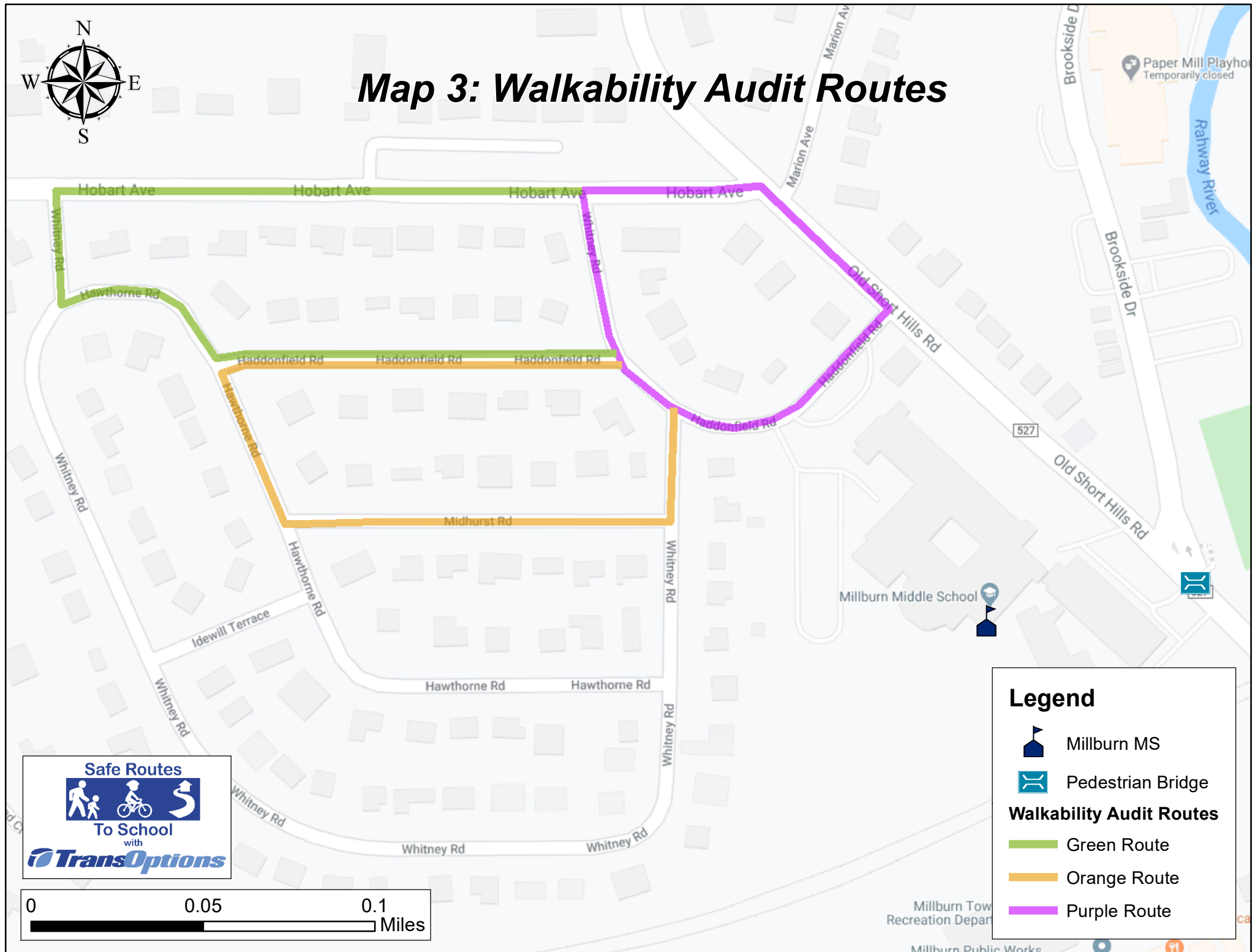
## Map 2: Millburn Middle School Crossing Guard and Drop-Off Locations (1/2 Mile Radius)







# Map 3: Walkability Audit Routes



## Legend



Millburn MS



Pedestrian Bridge

## Walkability Audit Routes

Green Route

Orange Route

Purple Route

# The Middle School Drop-Off Problem

## Will Millburn Middle School revamp our drop off system in the name of efficiency?

Zachary Turinsky and Aamir Jamil

Millburn Middle School's car drop-off system has made some concerned. Currently, more than 170 parent cars go through the Haddonfield Ave drop-off in only 25 minutes on an average morning. On one day, more than 200 cars passed through in just those 25 minutes. If including 16 buses or the 50 plus faculty cars, over 250 vehicles might pass through during this short window on very narrow streets.

This has repercussions for Millburn greater than just the school: every day, for 25 minutes, this traffic empties onto Old Short Hills Road. This is a problem for many reasons. For example, it creates a delay from the motorists' perspective, trying to get to work during their morning commute, and also from from a safety standpoint; to get to school, children have to cross this busy street. Additionally, parents also drop off on Brookside Drive, near the walking overpass. It was estimated about 100 cars drop off here. Thankfully, the school district employs crossing guards, but the root of the problem remains, there are a lot of cars on the road during a specific time period. Perhaps, something needs to change.

One solution could be to bring back courtesy or "free" busing; this would likely increase busing and decrease car ridership, alleviating some traffic at the drop-off. However, another more drastic solution would be to create an entirely new drop-off area. This is what Gabriel Pelaez, a high schooler in Millburn, proposed when asked. Gabe was contacted because he designed a walking path at Hartshorn for an Eagle Scout project. The new zone would be on Whitney Road, and students would walk to the school from the grass area behind the Middle School. On the plan, Gabe wrote:

"(T)he amount of traffic congestion on Haddonfield Rd should be reduced as parents dropping off from the west will not need to turn on to Old Short Hills Rd," and that "I think that once parents drop off at the proposed path, they should have an easier time leaving the area."

However, there are some concerns with the plan. For example, the congestion on the smaller residential roads might increase. A bigger concern is permission from the property owners to cross their land with the path. Gabe said:

Another concern would be the increased walking time for students from the drop-off. A direct benefit of this plan, however, would be decreased traffic on Old Short Hills Road. There are many possible benefits and drawbacks. One solution to those possible drawbacks would be keeping both areas open in the morning. That, however, would come with a host of issues, such as the drastically increased resources needed to coordinate and manage the areas. The only way to find out if these proposals could succeed is implementation; the town could, if they get the necessary permission, have a pilot project for some time to monitor how the situation changes. Soon, the town will decide what to do; whatever it is, it must be implemented carefully and with an eye to posterity.

Do you think there are other solutions? Do you favor one solution over the other? Tell the town what you think through the poll and the comments below.







## Road Safety Audit: Millburn, NJ



**August 2016**



## Study Area Maps





## Millburn Middle School Road Safety Audit Recommendations

### I. Compliance

#### A. Crosswalk Sign on Old Short Hills Road



- Sign recognition and compliance are among the main issues noticed in the observations, given that many drivers had little to no regard for the signage that was in front of them.
- Although there's a flashing crosswalk sign, speed limit sign, and even "School Slow" painted on the roadway, drivers have a tendency to speed down the roadway as if they weren't in a school zone.
- In order to better grab the attention of the drivers, we can recommend attaching the speed limit sign to the flashing crosswalk sign (photo below).



## B. Early Drop Off



- Another area of concern is where students are being dropped off. One of the popular spots for drop-off is the Old Short Hills Avenue/ Brookside Drive intersection.
- Although, this site gives the students easy access and close proximity to the bridge, it leads to congestion on the northbound side of Old Short Hills Road
- One solution is to have a designated drop off spot farther down Brookside Drive to clear up some traffic (right photo).
- Another issue is that the drivers are running the red light at this intersection,
  - o During the observation on 6/14/16, 12 cars ran the red light between 7:15 and 7:30 am.



- An additional "STOP HERE ON RED" sign on the traffic shown above may be helpful.
- Having an officer present for increased enforcement could also help to change this dangerous behavior over time.
- We also recommend that Millburn and its police department consider implementing *Street Smart*, a pedestrian and driver safety education campaign, in FY2018. TransOptions conducts this program in conjunction with key municipal stakeholders on a town-by-town basis.

## II. Roadway Maintenance

### A. Roadway Repaint



- Due to the wear and tear of the roads over time, maintenance is a must in order to keep drivers, pedestrians, and bicyclists safe, especially on the busiest streets, where there's the most volume.
- There are areas throughout the half mile region where yellow lines, shoulders, stop lines, and cross walks need to be re-painted.
- For instance, the photo above is a segment of Old Short Hills Road across from the Middle School.
  - o Due to the volume of traffic on this street, the yellow lines, which separate the direction of traffic flow, are starting to fade.
- The second photo is supposed to be one of a sharrow. However, it's basically non-existent due to the consistent wear and tear.
- We recommend repainting and keeping an eye out for noticeable fading to address it before it completely disappears.



## B. Potholes

### 1. Large Potholes



- Another kind of maintenance issue noticed during observation is potholes.
- Although most of the potholes in this region are small and can be taken care of down the road, there are two areas where the potholes are larger than usual and present a hazard.
- The photos above were taken on residential roads off of Glen Avenue (Glen Hill Ln and Cape Ct), which show that the roads aren't in the best condition due to the deteriorated surface.
- The photos below show some of the potholes at Millburn High School Drop off / Parking lot area.



- It's highly recommended to cover up potholes in these two areas as soon as possible, to prevent further breakdown, hazards, and potential injury.
  - o Fixing the potholes would be extremely beneficial during inclement weather, where they are obscured by rain puddles and filled with ice during the winter.

### 2. Smaller Potholes

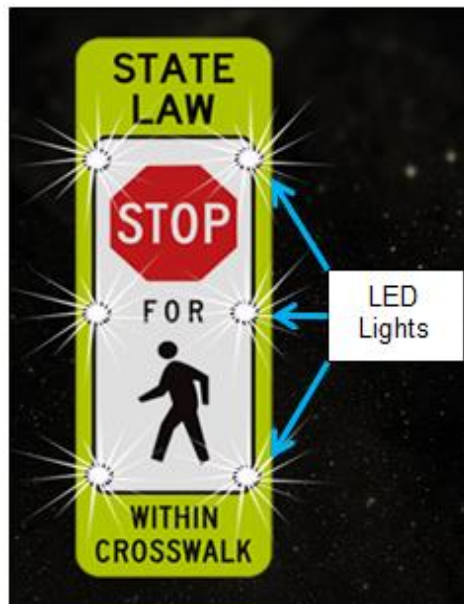
- Although these potholes aren't large in size and can be considered a less urgent problem, they can still pose a hazard for motorists and cyclists.
- They should be addressed to prevent damage, crashes, and further pothole growth.



## C. Signage



- A third area that could use maintenance is signage, given that it's important to alert drivers, pedestrians, and cyclists of their surroundings and what's ahead of them.
- Three factors should be focused on regarding signage: 1) Is the sign in satisfactory condition, 2) Is the sign's message up to date, and 3) Is signage appropriate and properly spaced.
- The photo on the left shows a No Parking Sign near Millburn High School, but it's very difficult to read since it's in poor shape. Therefore, one can't tell whether parking is permitted during certain hours or at any time.
- The photo on the right is a "Yield to Pedestrians" sign by the Paper Mill Playhouse on Brookside Drive. Although the sign is in fair condition, it needs to be changed to "Stop for Pedestrians" which was passed into law in 2010.
  - o We also recommend adding LED's for extra visibility.



### III. Additions

#### A. Crosswalk Addition



- Roadway Additions, such as crosswalks and shoulders are key in that they provide a sense of protection for pedestrians and cyclists, as well as help encourage slower driving speeds.
- The photo above is the intersection of Brookside Drive and Glen Avenue. Although there's a crosswalk across Glen Avenue, there should be at least one more going across Brookside Drive.
  - o The reason for this is that there are pedestrians that walk on Glen Avenue and go across Brookside Drive. Therefore, it's recommended to have a crosswalk for them to travel safely across.
- There should also be a "Stop for Pedestrians" sign placed mid-street.





- The photo below is an aerial shot of the eastern end of Downtown Millburn.
- There are crosswalks that go across Holmes Street and Undercliff Road (marked in purple) but there are no crosswalks in between.
  - o Given that there's about 200 yards (the length of two football fields) between the two crosswalks, people are more reluctant to use the crosswalk out of inconvenience and jaywalk instead, which composes a plethora of problems, given that it's one of the two busiest roads in the entire central business district.



- We recommend adding a crosswalk at Rawley Place (marked in blue).



## B. Sidewalk/ Shoulder Additions



- The photos above are prime examples of two sites where shoulders/sidewalks can be implemented.
  - o The photo on left is a segment of Glen Avenue near the Brookside Ave intersection. The left side of the photo shows a dirt path, which is an indicator, more times than not, of pedestrian usage.
  - o Since the roads are narrow enough at 11 feet each side, it wouldn't hurt to add at a narrow asphalt path, if not a sidewalk, where the dirt path is.
  - o The photo on the right is a segment of Hobart Avenue near the Whitney Avenue Intersection. In this case, there's a sidewalk on the right side of the photo, on top of the green hill, but the eastbound side of the road is wide at around 18 feet.
  - o Shoulder striping is recommended on that side, as drawn in the picture below, in order to have safe space for cyclists and slow driving speeds.
  - o In addition, lower driver speeds might reduce the chances of side swipes and rear end crashes, given that the Old Short Hills Avenue Intersection is a very popular drop off spot for students.

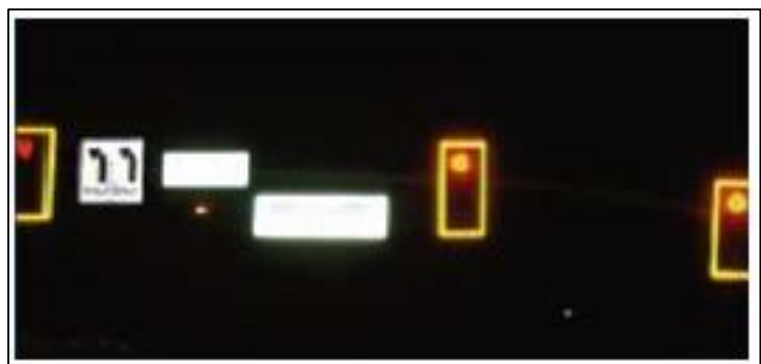




### C. Traffic Signal Backplates



- According to the NJ Plan 4 Safety Database, the stretch from the Main Ave/ Millburn Ave intersection to the Main Ave/ Essex St intersection has the town's highest amount of crashes involving pedestrians.
- Therefore it's not only important to catch the attention of the drivers, but the pedestrians as well.
- One recommendation for drivers is to add retroreflective backplates to the traffic signals at these intersections to increase visibility, especially at night.
- A suggestion for pedestrians is to add "Please Use Crosswalk" signs on both sides either between the two intersections or close to them.
- It's also recommended to have "Stop for Pedestrian" signs mid-street.



#### IV. Millburn Middle School Bridge



- The bridge is very convenient in that students and pedestrians can avoid oncoming traffic on Old Short Hills Road, but there's still some room for improvement.
- Rust and erosion are found all over the bridge. It's important to keep the bridge in peak condition since it's subject to significant foot traffic, especially during the school year.



- Another issue is the low railing on the bridge. Although we are not aware of any incidents where someone has fallen off the bridge, it's only one horseplay incident away from making that into an unfortunate reality.
- So it's recommended to have at least higher fencing rails to protect the pedestrian or even have the fencing go all the way around like in the picture on the right.

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