

School Zone Safety Strategies



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The New Jersey Safe Routes Program, supported by the New Jersey Department of Transportation, is a statewide initiative with a mission to partner with schools and communities to prioritize and implement opportunities for people to walk, bike, or travel by other wheeled devices. By focusing on improvements to support active travel by youth, we can create safe, healthy, equitable, and appealing conditions for all.

The New Jersey Safe Routes Resource Center assists public officials, transportation and health professionals, and the general public in creating safer and more accessible walking and bicycling environments for children in New Jersey through education, training, and research.

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Cover photo: *Incoming 4th graders ride bicycles to their new school as part of "Transition Day" in Fair Haven.*

Introduction

Safety has long been an issue in school zones where buses, personal vehicles, pedestrians, and bicyclists all share the same space. In particular, child pedestrians and bicyclists face significant safety challenges when traveling in school zones due to congestion and environmental problems caused by personal vehicle use. Traffic congestion can lead to more traffic collisions, child pedestrian injuries, and deaths, especially in settings with on-street parking and high traffic volumes where children can emerge unexpectedly from behind parked cars.^{2,3} Risky drop-off behaviors such as double parking, reversing, and crossing between parked cars are also associated with traffic congestion and can pose a threat to child pedestrian safety.⁴ Furthermore, traffic congestion and idling vehicles during school arrival and departure expose children to a multitude of harmful pollutants like fine and ultra-fine particles, as well as gases such as nitrogen oxides, carbon monoxide, and ozone, which are harmful but often go unnoticed.⁶ These gases remain in the surrounding atmosphere even after vehicles leave and can affect indoor and outdoor air quality near schools.⁷

In response to these concerns, schools and districts across the State have implemented ways to reduce the number of motor vehicles in school zones, slow driving speeds, and minimize potential conflicts and crashes. These school zone strategies represent inexpensive and flexible approaches to improving safety that prioritize vulnerable populations like children, seniors, and people traveling on foot or bike.

This paper addresses four solutions (Satellite Drop-Off, Temporary Road Closure, Temporary One-Ways, and School Streets) and presents case studies demonstrating how these strategies have been designed and successfully employed in school zones throughout New Jersey. It is important to note that these strategies are most effective when implemented alongside other Safe Routes programs, such as walk to school events and safety lessons for students. Together, these strategies and programs can successfully build a community culture of walking and bicycling. When seeking to implement school zone strategies, it is also important to note that any changes to roadways along state and county roads require input from the respective road owners.

Addressing Safety During COVID-19

The COVID-19 pandemic has dramatically altered the way people live, work, and interact. An important part of these lifestyle changes concerns school attendance, including scheduling, commuting patterns, and following health protocols such as physical distancing and capacity limits. Some school districts have elected to conduct remote lessons only, while others have adopted a hybrid model, and the continually changing public health situation has necessitated a flexible approach to school attendance procedures, which has, in turn, disrupted children's usual commuting routines.

These pandemic-induced changes pose significant challenges. Increased personal vehicle use by parents who may not be comfortable with their children commuting by bus, for example, has exacerbated the environmental and traffic congestion problems described above. The shifts in travel behavior caused by the pandemic have underscored the need to ensure child pedestrian safety in school zones and have further ratified school zone strategies as solutions to both existing and new problems students face in their commutes to and from school.

School Zone Safety Strategies

School zone strategies are cheap and flexible solutions to safety concerns in school zones that can be set up in a matter of days and benefit communities for years. The quick-build nature of school zone strategies translates into a customizable approach to solving safety issues. Strategies can be easily pilot-tested, allowing schools and communities to experiment with new designs for days, weeks, or months, depending on what works best.

Four approaches to school zone safety (Satellite Drop-Off, Temporary Road Closure, Temporary One-Ways, and School Streets) are described below.

Satellite Drop-Off

Satellite drop-off programs redistribute congestion and pollution by encouraging parents to avoid releasing students directly at schools and instead take advantage of an off-site drop-off location within a walkable distance from a school. From these off-site locations, students can walk the rest of the way to or from school.

Satellite drop-off programs require a group of stakeholders (such as school personnel, PTA members, parents, police officers, planners, or other community leaders) to identify a suitable drop-off location and walking route. Depending upon the size of the school, organizers may designate multiple satellite drop-off locations. The structure of the program can vary based on the age of the students, and children participating in the program may be released to walk the rest of the way to school alone or with friends, or there may be a more organized volunteer system in which students are accompanied on their walk by an adult. In general, satellite drop-offs can range from informal arrangements to more structured programs with specific schedules and multiple drop-off locations and routes to school.

Satellite drop-off and pickup programs are a great way to reduce congestion and pollution in and around school zones while still allowing students to get some exercise as they walk to and from school. All students can participate

and benefit from physical activity regardless of how close they live to their school. By having a coordinated time and spot to meet, students can walk to school with their friends even if they do not live close to each other.

Street Closures

Temporary street closures restrict vehicle movements and prioritize bicycle and pedestrian travel. Street closures remove vehicles from critical streets during student arrival and departure times, reducing congestion and pollution near schools, minimizing conflicts between vehicles, bicyclists, and pedestrians, and freeing up more space in school zones for students walking and bicycling.

A street closure is accomplished by installing a physical barrier that blocks a street to motor vehicle traffic. Depending upon the school property's layout and school needs, certain streets can either prohibit all vehicular traffic or only private vehicles while remaining open for school buses.¹² Street closures are often used in conjunction with other programs like satellite drop-offs.

Excluding parents' vehicles through the use of temporary street closures helps to mitigate the effects of congestion in school neighborhoods, including pollution and the potential for pedestrian and vehicle conflicts. Overall, street closures can help to make arrival and departure a more orderly and predictable process.

Temporary One-Ways

With a temporary one-way street, vehicle movements are restricted but not eliminated near a school. While one-way street closures do not eliminate pollution, they improve arrival and departure by making the process more directed, more predictable, and less chaotic.

Temporary one-ways can be created with the use of barriers. Assistance from local government officials, school authorities, and nearby residents may be required. Unlike a full street closure, which can be closed with a full barrier at access points, temporary one-ways rely on barriers and signage to ensure safety. Restricting vehicle travel to one direction makes arrival and departure at schools more orderly and predictable and can help to eliminate unsafe drop-off and street-crossing behavior.



Temporary restrictions on motorized traffic around schools can improve air quality, promote safety, and encourage students to walk and bike to and from school.

Pandemic Safety Solutions

School Streets

Cited as an effective solution by the National Association of City Transportation Officials (NACTO) guide Streets for Pandemic Response and Recovery, school streets are defined as roads surrounding schools that place temporary restrictions on motorized school and through traffic during arrival and dismissal times. School streets are created by closing streets around schools and placing temporary barriers at school entrances, allowing space for safe waiting areas with vehicular access. Areas are also provided for health screenings, handwashing stations, and temperature checks. Temporary ground markings and signage are used to guide students, parents, and teachers, and any changes to the school street setup are well-publicized. Additional health protocols, such as sanitizing school buses, can also be employed.

School streets work well for schools that serve vulnerable populations, run over capacity, or have limited ground space. They represent a flexible approach to health and safety in school zones, and contingency plans for inclement weather conditions or other needs should be discussed with schools and districts. After initial implementation, school streets' impact should be studied, including motorized traffic patterns and children's commuting behavior. Necessary improvements can be made after collecting feedback.

School streets are interventions that address pandemic-related health concerns, air quality, and road safety while promoting healthy lifestyles and active school travel.

New Jersey Case Studies

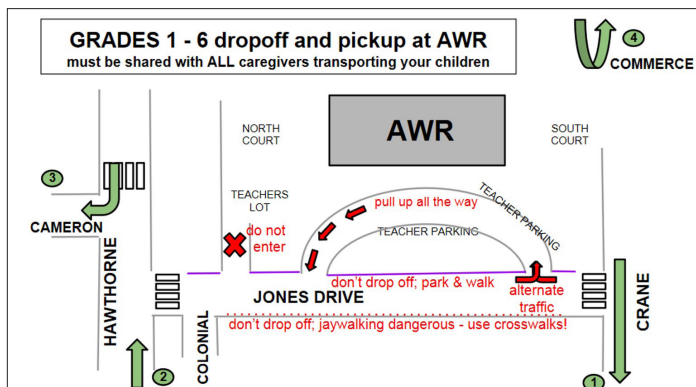
While the pandemic has intensified the need for school zone strategies, communities throughout New Jersey have for years been implementing satellite drop-off programs, school street closures, and temporary one-way streets to improve safety and encourage walking and bicycling to school. In the case studies below, we explore some of their stories and discuss what they did, how they did it, and why they started their programs in the first place. In most cases, programs have been supported or led by one of New Jersey's eight regional Transportation Management Associations, which are tasked with facilitating bicycle and pedestrian initiatives within their respective service areas. It is hoped that these highlighted stories will demonstrate the types of innovative projects being implemented throughout the State and inspire other New Jersey communities to pursue similar projects as a way to address their own school zone safety concerns.

Satellite Drop-Off

DROP-n-GO – New Providence

How it Works:

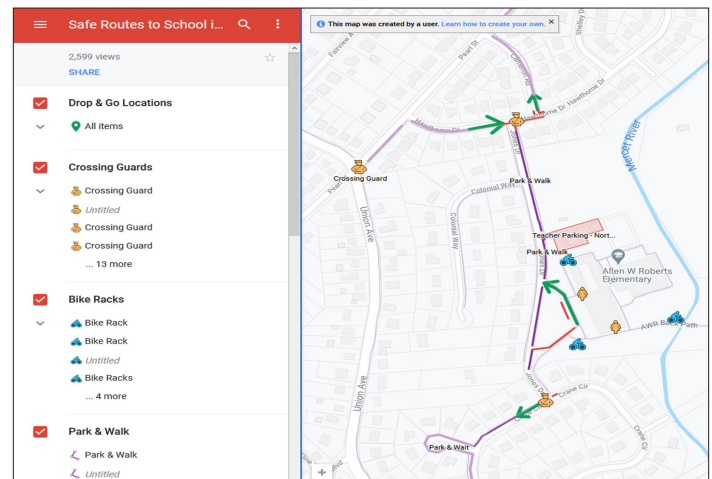
The New Providence satellite drop-off program, called DROP-n-GO, runs every day and in all seasons, both in the morning and in the afternoon. There are multiple locations per school, often located at designated crossing guard locations. Each site is approximately 500 feet from a school and never more than a quarter-mile away. Children usually walk to school from the DROP-n-GO locations by themselves or with friends, but parents will occasionally park and walk with them. Parent participation is not required as volunteers and crossing guards are present, and school is generally within sight-distance.



The DROP-n-GO program provides print and online maps displaying the locations of designated drop-off points, crossing guards, and bike racks.

In the afternoon, the program functions more as a “park and walk” program. Parents are guided where to park to meet up with their children. Many students meet their parents at crossing guard locations after school instead of being picked up directly at the school, although the main school entrance is still available as a drop-off point. Information about the DROP-n-GO program is communicated through the [program's website](#). Additionally, an [interactive map](#) displays the locations of crossing guards, bike racks, and designated drop-off points.

The program is meant to be informal and seen as a choice with benefits rather than a regulation. There is no registration for the program, and attendance is not taken. The program is solely about creating safer travel options for students.



Program History:

The program emerged as an alternative solution to two well-known traffic concerns at New Providence's two elementary schools, Allen W. Roberts Elementary School and Salt Brook Elementary School. Parents dropping students off at Roberts Elementary School often sat in traffic for 45 minutes before arriving at the school. Many parents admitted to waiting to enter the drop-off line until after 8:30 am to avoid long waiting time, making their children late to school daily in an effort to save time.

While everyone agreed that vehicle congestion in school neighborhoods was a problem, the community lacked consensus on an adequate solution. An early proposal focused on providing more room for vehicles on school property by increasing parking lot and blacktop space. Implementing this plan would have involved purchasing and demolishing neighboring homes through eminent domain, which many felt would be disruptive, time-consuming, and expensive. Therefore, a satellite drop-off program

was seen as an alternative that focused on reducing and redistributing traffic instead of accommodating it at the community's expense.

The DROP-n-GO program, created in response to these concerns, was immediately supported as a favored alternative by principals, the Board of Education, the Police Department, and the municipal government. The DROP-n-GO program, which has now been in place for six years, functions as a separate program at each school and supports the more comprehensive Safe Routes to School program, which has been operating in New Providence since 2006. Program coordinators credit the DROP-n-GO program's success to the long history of successful volunteer-driven projects in New Providence, including Safe Routes events like Walk to School Days.

They also attribute their success to using the "Golden Retriever Method," which involves having a strong point of view but approaching leaders prepared with a potential



Parents and children walking to school as part of New Providence's DROP-n-GO program.

solution and a positive attitude. This type of friendly enthusiasm can counteract certain community members who approach local and school leadership as “attack dogs,” complaining about issues loudly and burying valid concerns in noise and negativity. Armed with enthusiasm, a good reputation for helping their community, and an idea that required very little expense, the program coordinators were granted permission from the municipality to implement the DROP-n-GO program with the assistance of school principals and the traffic safety officer. The ability to work through existing channels was critical to the program’s initial success. The municipal government, police department, school board, school administration, and PTA leadership were all consulted and included in the project’s planning and launch.

Benefits of the Program:

According to Lisa Leone, the SRTS Regional Coordinator from TransOptions TMA, the DROP-n-GO program has worked very well in New Providence. While there are still sometimes traffic lines, they are spread between the Drop-n-Go locations, reducing congestion and pollution around schools. Ms. Leone noted that the drop-off process at Allen W. Roberts Elementary is one of the most orderly she has seen.

Ms. Leone also noted that the program has resulted in stronger relationships between students, parents, and crossing guards. Students interact more regularly with their crossing guards, who have become trusted neighborhood figures. Parents no longer need to worry if they are late to meet their children since they know crossing guards will keep them protected and safe.

The DROP-n-Go program, along with other Safe Routes events, has profoundly impacted community culture, with walking becoming a significant part of the way people both travel and interact socially. Children especially have benefited from increased travel independence throughout the school year and the summer. Moreover, program coordinators have witnessed a sustained reliance on

The screenshot shows a webpage for 'STEMshools' with a green header and navigation menu. The main content is titled 'Safe routes to Salt Brook School' and includes a list of three drop-off locations: 1. SALT BROOK FRONT CIRCLE - NO PARKING, 2. WILLOW, and 3. BROOKSIDE. It also includes a section for 'Other useful New Providence Interactive Map features' and 'In a hurry? Our tips'.

Information about DROP-n-GO is communicated through the program’s website.

walking as a transportation mode as children in the community grow and move beyond New Providence to attend college. They also noted a change in local politics, with candidates from both major political parties embracing walking as part of their platforms.

Perceptions of the Program:

There are three main stakeholders of the DROP-n-GO program: parents, school staff and administration, and students. Parents were very frustrated by the traffic situation and have generally been happy with the coordinators’ efforts to alleviate the situation. New Providence maintains a [School Travel Plan website](#), which identifies opportunities to improve safety and increase the number of students who walk and bike to school. The coordinators have encouraged parents to be part of the School Travel Plan process and the Safe Routes

to School program through the website. They have been able to show how all these efforts are interrelated and how having a School Travel Plan and a Safe Routes to School program can position their community for stronger grant applications that can fund critical infrastructure projects. School staff and administration have been supportive of the program from the beginning. They have seen the program as an inexpensive solution to a problem that had frustrated them as well as parents. Easing traffic congestion also has the added benefit of making it easier for students to arrive on-time each day for school. School staff and administration have supported and grown the program through their willingness to make changes, their assistance in spreading the word, and their active daily participation.

Student involvement has always been an important part of Safe Routes programs in New Providence. The coordinators have always strived to involve the students and empower them to have ownership of the program. Students have embraced the program with noticeable changes in how they travel in the community and are proud of their independence.

Future of the Program:

The DROP-n-GO program has become a part of New Providence's community and culture and has helped change the community's relationship with walking. Program coordinators expect the DROP-n-GO program to continue, especially since its physical separation of students aligns with pandemic-related health protocols. Because of this, other communities should consider implementing a similar type of satellite drop-off program to help with social distancing.

Active Transportation Hubs – Metuchen

How it Works:

In response to the COVID-19 pandemic, a new satellite drop-off program was begun at Campbell Elementary School in Metuchen at the start of the 2020-2021 school year. As part of the program, parents and students are invited to use one of the three identified Active Transportation Hubs: Center Street Park on Center Street, East Chestnut Avenue, and Vidas Park on Hampton Street. Instead of driving students directly to the school, parents are asked to increase safety while decreasing congestion and pollution at the school by using off-site transportation hubs to either drop their children off or to park and enjoy a short walk to school with them. The program operates every school day and is designed primarily to work in the morning, but can be used effectively in the afternoons as well. No registration or mandatory attendance is required for the program. Participation is voluntary, and parents still have the option to drop their child directly off at school.

Program History:

The Campbell Elementary School Active Transportation Hubs program started with an idea from Keep Middlesex Moving (KMM), the Transportation Management Association serving Metuchen. With decreased busing capacity due to social distancing measures, KMM anticipated an increase in vehicular traffic as children returned to school in the fall and began to examine ways to encourage walking and bicycling to school and minimize traffic congestion. When Metuchen canceled school busing for fall 2020, KMM reached out to Campbell Elementary school principal Ed Porowski to discuss their satellite drop-off idea. Principal Porowski was very supportive of the program, and planning began in the summer with support not only from Principal Porowski but representatives from the Metuchen Borough Council and the Borough Police Department as well.

Chris Gonda, KMM's Safe Routes Coordinator, is the program's principal architect. His search for Active Transportation Hubs considered locations less than a mile from schools served by good pedestrian infrastructure, including complete sidewalks and well-marked crosswalks. Potential drop-off sites also needed plenty of available parking to allow parents to park and walk with their children. Mr. Gonda focused on areas where crossing guards would be available along the route to school to help keep students safe as they crossed busy streets. Three Active Transportation Hub locations were ultimately identified: Center Street Park on Center Street, East Chestnut Avenue, and Vidas Park on Hampton Street. Local parks were seen as ideal hub locations as they offered both parking for parents looking to walk with children and an opportunity to encourage increased use of parks within the community.

To ensure each location was appropriate, KMM conducted an assessment of the Active Transportation Hubs and specified walking routes from each location to Campbell Elementary School. Each route was evaluated to minimize major intersection crossings and to limit traffic conflicts. After sites and walking routes were selected and tested, they were confirmed with representatives from the Metuchen Borough Council and the Borough Police Department.

To help inform families about the program, KMM created a flier with information about the new Active Transportation Hubs. The flier provided details on the program, Hub locations, one-way and round-trip walking time from each Hub to Campbell School, and tips for walking and driving for safety. A map showing each Hub location, the location of marked crosswalks, crossing guards' location, and the path of the assessed walking routes to school from each Hub was also included in the flier. The flier was provided to parents and students as part of Campbell's back to school kit and was made available as part of the school's online information portal.

Benefits of the Program:

The Active Transportation Hubs program was designed to provide an attractive alternative that allows parents and students to avoid traffic and enjoy physical exercise, regardless of the distance between their home and the school. By using the Active Transportation Hubs, parents help limit congestion and improve air quality in the area around Campbell Elementary School.

Future of the Program:

Though the program is just kicking off, KMM noted that the principal, Borough Council, and Borough Police Department have been very supportive and enthusiastic about the program. Once the Active Transportation Hubs are more established, signage may be added to mark the routes to school from the Hub locations. KMM expects that as the program moves forward, some tweaking and adjustment may be required, but they hope that this program can serve as a model for other schools and communities in their service area and throughout the State.

Street Closures

Clinton Avenue – Ridgewood

How it Works:

The temporary street closure of Clinton Avenue in Ridgewood, NJ, has helped local students travel safely to and from school since the 1950s. Clinton Avenue has long been a narrow street without sidewalks that is also the most convenient link from an otherwise walkable neighborhood to Ridge Elementary School. The street is perpendicular to the front of the school on West Ridgewood Avenue and is, therefore, the main pedestrian artery to pass through the neighborhood to the school.

To protect neighborhood students who walk and bike to school along this route, Clinton Avenue is closed to all but resident traffic during school arrival and departure. Each school day, crossing guards put up barriers to block the street from 7:30 to 9:00 am and from 2:00 to 4:00 pm. No parking is allowed on the street during this period, and students walk in the closed roadway to travel to and from school.

Students using Clinton Avenue to walk to school are mostly from the local neighborhood, but there is potential for parents to drop students along Godwin Avenue (South of Clinton Avenue), allowing them to walk the rest of the way to school along Clinton Avenue. Clinton Avenue is the only street closed in the school neighborhood, and while walking is encouraged, parents have the option of dropping students directly at school.

Program History:

The temporary street closure of Clinton Avenue in Ridgewood, NJ, has been in place since the 1950s. While there are no reliable records as to the reasoning behind starting the program, long-time local advocate and Safe Routes Champion Jeanne Johnson notes that the Clinton Avenue area's geography has not changed much since the 1950s, and many of the safety concerns of that time persist. Due to the narrow width of South Murray Avenue and Clinton Avenue, as well as other physical constraints, the Village of Ridgewood has determined that the construction of sidewalks on these streets would be extremely difficult. In response, the closure of Clinton



To protect neighborhood students who walk and bike to school along this route, Clinton Avenue in Ridgewood is closed to all but resident traffic during school arrival and departure.

Avenue during school arrival and departure was proposed as a solution to protect students who use the route to walk and bike to school.

Though the temporary street closure has been in place along Clinton Avenue since the 1950s, there have recently been some changes. Until 2018, Clinton Avenue remained closed to through-traffic all day from 7:30 am to 4:00 pm. There were concerns from some residents about encouraging students to walk in the street, and funding was sought to build sidewalks. When it was determined that sidewalks were not a viable option, there was a push to open the street to parking for parents. Residents who lived on and near Clinton Avenue were opposed to opening the street as it had long been closed, and they saw a benefit to prohibiting through-traffic when children were traveling to and from school. In a compromise, the change was made to have the street closed from 7:30 to 9:00 am and 2:00 to 4:00 pm every school day, allowing Clinton Avenue to remain open during the school day for parents who need to drive to the school.

Benefits of the Program:

The Clinton Avenue street closure allows children to safely walk to school and experience the benefits of walking, including more physical activity and increased alertness once they arrive at school. The ability to walk also allows students to become more independent and build healthy lifelong habits. Additionally, by allowing more students to walk, this street closure reduces traffic and pollution that would otherwise be generated by parents driving students to school.

Future of the Program:

This long-standing program is so well accepted within the community that Ms. Johnson feels that Clinton Avenue will never again be opened to traffic during school arrival and dismissal. She feels that the only potential change would be an all-day street closure, which many residents within the local neighborhood support.

Third Street – Fair Haven

How it Works:

Fair Haven, New Jersey, is a small community that does not provide busing to its two schools, Viola L Sickles School (Pre-K –3rd Grade) and Knollwood School (4th-8th grades). To encourage students and their families to safely walk and bike to school instead of driving, the school district and municipality have worked together to support Third Street's daily temporary closure.

Each day, the police department and crossing guards close Third Street to vehicular traffic from 7:30 to 8:30 am and 2:30 to 3:30 pm by erecting barricades and signage. Third Street is an ideal choice for a road closure as it is in the center of the community, connecting the east and west sides of town. Third Street intersects with many other local roads, providing access to the closed street corridor for much of the community. Third Street is also not the only connecting road between the east and west sides of town, so vehicular traffic is easily diverted to other routes without causing delay or traffic backups.

The school district takes an active role in encouraging children to walk and bike to school. Each year, the community celebrates "Transition Day" as third graders at Viola L. Sickles school prepare to become 4th graders at Knollwood School. As part of this celebratory event, current 4th graders at Knollwood ride their bikes to Sickles school to greet the 3rd graders and ride back to Knollwood School with them to welcome the students to their new school for orientation. Along the way, parents and other community members cheer and congratulate the students as they transition to their new school. Bicycling to school has become an expectation of the community.



Signage indicates to motorists the closure of Third Street in Fair Haven during school arrival and departure.



Street closures introduce students to active transportation and encourage bicycling as a primary method for traveling within the community.

Program History:

The daily temporary street closure of Third Street was established by ordinance nearly 20 years ago. The temporary closure aims to ensure students have a safe corridor to travel to and from school actively. Third Street is a key corridor in Fair Haven, connecting each side of town and connecting both of the community's schools. Every morning and afternoon during school arrival and dismissal periods, Third Street is closed to vehicle traffic, leaving the street open for children to walk or bike to school without interacting with vehicles.

Benefits of the Program:

While "Transition Day" is a celebration with music, decoration, and parents cheering students from the sidewalks, it is much more than just a fun event. The celebration helps alleviate the anxiety of going to a new school and introduces students to active transportation, and encourages bicycling as a primary method for traveling within the community. The event helps establish bicycling to school as a feasible and enjoyable activity and promotes a bicycling culture within the community as a whole.

Perception of the Program:

The Third Street closure has been in place for 18 years and has truly become part of the community. Residents are familiar with the road closure and are willing to take a different route to help keep local children safe. Multiple residents have cited the bicycling culture fostered by the street closure and Transition Day as a deciding factor in choosing Fair Haven as a place to raise their family.

Temporary One-Ways

Cherry Avenue – Bound Brook

How it Works:

The Cherry Avenue one-way is meant to improve safety for students traveling to and from Smalley School, which is located on the street. During arrival and dismissal, Cherry Avenue is limited to one-way travel. The eastbound lane of Cherry Avenue is closed to traffic. Vehicles enter from Windsor Street and travel in a westbound direction. Parents drop students off, then continue west to Hayward Street. Parking in front of the school and making a U-turn back toward Windsor Street are prohibited. “No Parking” signage and new striping have been added to the school’s front, designated bus drop-off locations are delineated with signage and paint markings, and accessible parking spots have been added along the street in front of the school to facilitate better ADA access. Parking lot access is limited to school staff, and all parent drop-offs are limited to Cherry Avenue’s curbside.



Temporary one-ways improve safety for students traveling to and from school.



Temporary one-ways improve safety for students traveling to and from school.

Program History:

Smalley School’s Principal Edwards initiated the project in response to concern about safety issues during student arrival. The situation that greeted the new principal when he started was chaotic and he was concerned for students’ safety as he witnessed parents triple parking and letting students off in the middle of the street. In addition to parent behavior, he was also concerned by both regular school buses and private school buses discharging students with little order.

Principal Edwards approached the Bound Brook Police Department and RideWise TMA to discuss his concerns and brainstorm solutions. Working together, they came up with the idea to limit traffic to one direction on Cherry Avenue during arrival and dismissal. Each morning the principal and physical education teacher stand in front of the school to greet students and ensure that parents obey the rules and keep moving.

Benefits of the Program:

The changes to Cherry Avenue have resulted in a more consistent environment during arrival and departure in front of the school. There are fewer delays, fewer idling vehicles, and safer conditions for students as they exit and enter vehicles.

Multiple Streets – Ridgewood

How it Works:

Temporary one-way streets are implemented during school arrival and departure at Travell Elementary School, Willard Elementary School, and Ridgewood High School. At Travell Elementary School, Fairfield Avenue becomes a one-way street from Meadowbrook Avenue to East Glen Avenue. At Willard Elementary School, California Street becomes one-way from Morningside Road to Heights Road. At Ridgewood High School, Heermance Place is permanently a one-way road.

On these streets, vehicle traffic moves in a one-way direction, turns are prohibited, and drop-off occurs only on one side of the street. Streets are marked with permanent signage indicating the times when one-way travel is in effect. Parents are informed of the one-way streets and arrival and departure procedures through the parent manual. The Village Citizen Safety Advisory Committee also helps to spread information about the one-way streets throughout the community.

Program History:

The idea to create temporary one-way streets near schools in Ridgewood dates back ten years. The idea was motivated by the desire to streamline arrival and departure for the safety of all students. Prior to implementing temporary one-way streets, parents were traveling in both directions and dropping students off on both sides of the street, sometimes releasing children in the middle of the street without pulling over. Parents often attempted turning around by making U-turns in the middle of the road, creating additional danger. These disorderly conditions resulted in dangerous crossing and pedestrian behavior that often caused traffic delay issues as well.

In response, the temporary one-way streets program was initiated through a combined effort of school administrators, the Village of Ridgewood's engineering department, the Ridgewood police, and the Village Citizen Safety Advisory Committee. Each temporary one-way street was started independently, with the idea originating at Willard Elementary School. Willard Elementary had the same safety concerns as other Village schools, but conditions were further complicated at Willard due to the location of NJ Transit bus stops within close proximity to the school. After implementing a temporary one-way street near Willard Elementary helped improve safety conditions and traffic flow in the school neighborhood, the program expanded to other schools throughout Ridgewood.

Benefits of the Program:

Ridgewood's one-way streets restrict travel to a single direction and drop-off to one side of the street, making the student arrival and departure process safer and more predictable. Since the program was implemented, there have been fewer complaints from parents to school authorities.

Future of the Program:

According to Jeanne Johnson, the implementation of one-way streets in school neighborhoods is likely to continue in Ridgewood and may continue to be expanded to other village schools depending on where they are situated and the roadway conditions in the school neighborhood.

Conclusion

In general, school zone strategies represent an inexpensive yet effective approach to improving safety. The four strategies discussed in this paper (school streets, satellite drop-off, street closures, and temporary one-ways) benefit from their simplicity and flexibility, allowing school administrators and municipal officials to tailor strategies to their particular communities and make constant adjustments that ensure programs are successful in improving student safety.

While the COVID-19 pandemic has highlighted the need for increased safety in school zones and drawn attention to strategies that can accomplish this, school zone safety has been and will continue to be a concern long after this public health crisis subsides. Pandemic or not, children will still need to navigate the streets and neighborhoods around their schools safely. Communities throughout New Jersey have recognized this, and while some have employed school zone strategies as a response to the pandemic, many have effectively implemented satellite drop-off programs, street closures, and temporary one-ways for years. The case studies presented in this paper are meant to serve as models for other municipalities, schools, and districts seeking to improve safety conditions for children walking and bicycling in school zones.

Find Your TMA

Many of the New Jersey Case Studies we have discussed involved assistance from one of the eight Transportation Management Associations (TMAs) serving our State. TMAs are non-profit, public/private partnerships established to work with businesses and local government on a variety of programs that help reduce traffic congestion and air pollution. Through funding from the New Jersey Department of Transportation, Safe Routes Regional Coordinators from each TMA throughout New Jersey are offer information, advice, and free technical assistance to develop and enhance Safe Routes programs in communities from all 21 counties. To find your TMA and learn how they can help your community, visit the [“Find your Safe Routes Coordinator”](#) page on the [New Jersey Safe Routes Resource Center website](#).

References

1. Snyder, T. (2012). September Brings 'Back to School' Jump in Traffic Congestion [Blog]. Retrieved from <https://usa.streetsblog.org/2012/09/05/september-brings-back-to-school-jump-in-traffic-congestion/>
2. McDonald, N., Steiner, R., Lee, C., Rhoulac Smith, T., Zhu, X., & Yang, Y. (2014). Impact of the Safe Routes to School Program on Walking and Bicycling. *Journal Of The American Planning Association*, 80(2), 153-167. doi: 10.1080/01944363.2014.956654
3. Rivas, I., Viana, M., Moreno, T., Pandolfi, M., Amato, F., & Reche, C. et al. (2014). Child exposure to indoor and outdoor air pollutants in schools in Barcelona, Spain. *Environment International*, 69, 200-212. doi: 10.1016/j.envint.2014.04.009
4. Rothman, L., Buliung, R., Howard, A., Macarthur, C., & Macpherson, A. (2017). The school environment and student car drop-off at elementary schools. *Travel Behaviour And Society*, 9, 50-57. doi: 10.1016/j.tbs.2017.03.001
5. McDonald, N., & Aalborg, A. (2009). Why Parents Drive Children to School: Implications for Safe Routes to School Programs. *Journal Of The American Planning Association*, 75(3), 331-342. doi: 10.1080/01944360902988794
6. McAuley, T., & Pedroso, M. (2012). Safe Routes to School and Traffic Pollution Get Children Moving and Reduce Exposure to Unhealthy Air. Retrieved from https://www.saferoutespartnership.org/sites/default/files/pdf/Air_Source_Guide_web.pdf
7. Wert, M. (2013). Report: Idling buses, cars outside schools dangerous. USA TODAY. Retrieved from <https://www.usatoday.com/story/news/nation/2013/11/04/report-idling-cars-outside-schools-dangerous/3430749/>
8. Beatty, T., & Shimshack, J. (2014). Air pollution and children's respiratory health: A cohort analysis. *Journal Of Environmental Economics And Management*, 67(1), 39-57. doi: 10.1016/j.jeem.2013.10.002
9. Fryar, C. D., Carroll, M. D., & Ogden, C. L. (2016). Prevalence of overweight and obesity among children and adolescents aged 2-19 years: United States, 1963-1965 through 2013-2014. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Retrieved from https://www.cdc.gov/nchs/data/hestat/obesity_child_13_14/obesity_child_13_14.pdf
10. Wang, L., Chyen, D., Lee, S., & Lowry, R. (2008). The Association Between Body Mass Index in Adolescence and Obesity in Adulthood. *Journal Of Adolescent Health*, 42(5), 512-518. doi: 10.1016/j.jadohealth.2007.10.010
11. Declining Childhood Obesity Rates. (2016). Retrieved from <https://www.rwjf.org/en/library/research/2016/06/declining-childhood-obesity-rates.html>
12. Rutgers University-Edward J. Bloustein School of Planning and Public Policy. (2019). Jersey City School Travel Plan. New Jersey Safe Routes to School. Retrieved from http://www.saferoutesnj.org/wp-content/uploads/2019/10/Jersey-City-School-Travel-Plan_Part3.pdf
13. The RBA Group, Fitzgerald & Halliday, Inc. (2014). New Jersey School Zone Design Guide. The New Jersey Department of Transportation. Retrieved from <https://www.state.nj.us/transportation/community/srts/pdf/schoolzonedesignguide2014.pdf>

