

SAFE ROUTES TO SCHOOL ACTION PLAN

Highland Elementary and Middle Schools – Highland, NY



July 2014



Highland Central School District
Excellence in Education

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UCTC 2014 UPWP Project 44.23.02 - 01: Complete a Safe Routes to School Demonstration Project

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<http://ulstercountyny.gov/planning/transportation>.

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Section 1. Safe Routes to School Overview

1.1. Introduction

This project was funded by the Ulster County Transportation Council (UCTC) utilizing Federal Highway Administration funds and is part of a model Safe Routes to School (SRTS) program for Ulster County.¹ The information in this action plan will be compiled with other plans for schools from around the region and will be included in a Safe Routes to School Toolbox. This Safe Routes to School Action Plan is customized for the Highland Elementary and Middle School Campus located in the Town of Lloyd, NY. The document provides analysis of the existing conditions surrounding the school and suggests ‘next step’ projects and programs to improve the safety, health, and wellness of the schools’ students, faculty, staff, and visitors.

The goal of this action plan is to identify recommended physical improvements and operational measures for the school site and within one mile of the site, including conceptual design and cost estimates for the recommended physical improvements. The action plan also prioritizes follow-on activities to advance the recommendations. This action plan is intended to progress Safe Routes to School for the Highland Elementary and Middle School Campus. The key to success, however, is a dedicated and active Safe Routes to School team, inspired by a local school champion. The champion may be a teacher, an administrator, a parent, and/or a community volunteer. In order for that team to succeed, next step projects in this action plan should be implemented with community consent and reflect the team’s available time, skills, interests, and priorities.

This action plan will be available for use by the school team as a framework to guide actionable next steps, both short-term and long-term. Included with each recommended project or program in this document will be recommendations about which school team members should be involved in its implementation and the role each should play to help ensure its success.

1.2. Safe Routes to School Program Overview

“Safe Routes to School” was established as a national program in 2005 by the Federal Highway Administration (FHWA) in order to empower communities to make walking and bicycling to school a fun, safe and routine activity for children and their parents. The program established a framework that has been used successfully by schools, communities, and Metropolitan Planning Organizations across the United States to develop comprehensive approaches that encourage safe walking and biking to local schools. –Along with increasing pedestrian and cyclist safety, the framework also embraces the goals of improving student health and enhancing environmental quality. To

¹ Visit the Ulster County Transportation Council Safe Routes to School resource page at <http://ulstercountyny.gov/planning/transportation-council/safe-routes-to-school>

accomplish these goals, a comprehensive program must be established to create an environment that enhances, supports, and sustains walking and cycling as viable options for travel. With this in mind, SRTS emphasizes a holistic approach to create change that encompasses the five (5) E approach; Engineering, Education, Encouragement, Enforcement, and Evaluation.

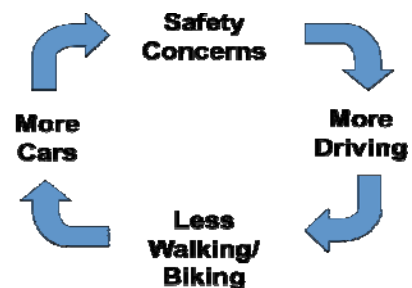
- **Engineering:** physical improvements to the environment such as crosswalks, sidewalks and signals.
- **Education:** methods to teach children, parents and neighbors about the benefits of walking and cycling to school as well as teaching appropriate walking, driving and cycling behaviors to support safe travel in the school zone.
- **Encouragement:** programs such as Walk to School Day, the Walking School Bus, contests and other initiatives to entice children, parents and others to walk or bicycle to school.
- **Enforcement:** incorporates law enforcement efforts to ensure drivers, bicyclists and pedestrians obey traffic laws and practice appropriate behaviors.
- **Evaluation:** uses measurements or indicators such as the number of children walking or bicycling to school to ascertain the success of any SRTS program.

1.3. Why are Safe Routes to School Important?

Although almost half of the students in the United States walked or biked to school prior to the 1980s, the number of students walking or bicycling to school has sharply declined since then. Statistics show that 48 percent of all K-8th grade students walked or bicycled to school in 1969 and 89 percent of those lived within a mile of the school they attended. In 2009 only 13 percent of K-8th grade students walked or bicycled any distance to get to school and only 35 percent of students that lived within one mile of school walked or bicycled². This decline is due to a number of factors, including urban growth patterns and school siting requirements that encourage school development in outlying areas, increased traffic, and parental concerns about safety. The situation is self-perpetuating: As more parents drive their children to school, there is increased traffic at the school site, resulting in more parents becoming concerned about traffic and driving their children to school.

According to a 2004 survey by the Center for Disease Control², parents whose children did not walk or bike to school cited the following barriers:

- Distance to school - 61.5%
- Traffic-related danger - 30.4%



The downward spiral of walking and bicycling to school

¹ National Center for Safe Routes to School, How Children Get to School, November 2011. Available: saferoutesinfo.org/sites/default/files/resources/NHTS_school_travel_report_2011_0.pdf. Accessed: March 2014

² U.S. Centers for Disease Control and Prevention. Barriers to Children Walking to or from School United States 2004, Morbidity and Mortality Weekly Report September 30, 2005. Available: www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a2.htm. Accessed: March 2014.

- Weather - 18.6%
- Crime danger - 11.7 %
- Opposing school policy - 6.0%
- Other reasons (not identified) - 15.0%

A comprehensive Safe Routes to School program addresses many of the reasons for reductions in walking and biking through a multi-faceted approach that uses education, encouragement, engineering and enforcement efforts to develop attitudes, behaviors and physical infrastructure that improve the walking and biking environment.

1.4. Benefits of a Safe Routes to School Program

Safe Routes to School programs directly benefit schoolchildren, parents, and teachers by creating a safer travel environment near schools and reducing motor vehicle congestion at school drop-off and pick-up zones. Students that choose to walk or bike to school are rewarded with the health benefits of a more active lifestyle, responsibility and independence that comes from being in charge of the way they travel, and learn at an early age that walking and biking can be safe, enjoyable and good for the environment. Safe Routes to School programs offer additional benefits to neighborhoods by helping to slow traffic and provide infrastructure improvements that facilitate walking and biking for everyone. Identifying and improving routes for students to safely walk and bicycle to school is one of the most cost-effective means of reducing weekday morning traffic congestion and can help reduce auto-related pollution.

In addition to safety and traffic improvements, a Safe Routes to School program helps integrate physical activity into the everyday routine of school children. Since 1980, the number of children who are overweight has more than doubled from 7 percent to 18 percent for children 6-11, and from 5 percent to nearly 21 percent for adolescents aged 12-19. Health concerns related to sedentary lifestyles have become the focus of statewide and national efforts to reduce health risks associated with being overweight. Children who walk or bike to school have an overall higher activity level than those who are driven to school, even though the journey to school makes only a small contribution to activity levels.³



The entire family can benefit from Safe Routes to School

³ Cooper A, Page A, Foster L, Qahwaji D. Commuting to school: are children who walk more physically active? *American Journal of Preventive Medicine*. 2003 November;25(4):273-6.

Cooper A, Andersen L, Wederkopp N, Page A, Frosberg K. Physical activity levels of children who walk, cycle, or are driven to school. *American Journal of Preventive Medicine*, 2005 October; 29(3):179-184.

Section 2. Existing Conditions

2.1. Policies and Programs

There are 810 students currently enrolled at the Highland Elementary School. Approximately 85% of the students ride the bus and 15% are dropped off and picked up by parents. There are currently very few students that walk or bike to school. Sidewalks are provided on campus but are not provided on adjacent roadways. There are no bicycle facilities or bike racks at the elementary school.

There are 435 students enrolled at the Highland Middle School. A SRTS survey was conducted by the school in March 2014. 388 students responded; of those students, 21 walked to school, 271 took the bus, 95 were driven by parents and 2 responses said “other”. The school is very supportive of a SRTS program with a desire to encourage active living among its students.

Sidewalks that exist between the Middle School and the center of town are limited to surrounding residential neighborhoods. The sidewalk network does not connect to the elementary school on the north side. A previous SRTS grant for sidewalk infrastructure and additional enforcement and encouragement programs was not successful. There are no crossing guards. School staff monitors internal crosswalks during dismissal times.

Although general sidewalk improvements are needed, a safe connection between the Middle School and the popular Hudson Valley Rail Trail is highly desired. School staff would like to incorporate the trail into school activities but currently has to bus students to the trail, even though the trail is located less than a mile from the school. A potential trail connection through Commercial Ave Extension was previously identified. A connection between the elementary and middle school is also a possibility.

There are no bicycle accommodations at or adjacent to the school. There is limited sight distance on the roadway in front of the school. A cyclist was involved in a crash with a motorist in June 2013 on the same roadway, about a mile and a half from the school.

2.2. Arrivals and Departures

2.2.a. Parent Drop-offs / Pickups

Elementary School:

The pick-up and drop-off zone for parents is located directly in front of the school with a separate driveway and circle. Parents are encouraged to utilize the specific drop-off area, although sometimes parents will park in the bus loop to go in the main entrance. Parents will often park around the circle and along the driveway and then go into the school to pick up children. The sidewalk along the driveway, however, is located on the other side from where parents park. This

creates a conflict with vehicles leaving the circle and those walking back to their vehicles along the driveway. Parents can exit using either driveway, to the north or south.

Middle School:

The middle school has a separate drop-off and pick-up zone along the driveway that circles the school. Morning drop-off has become much more efficient since a sidewalk was extended to the north of the school and the drop-off spot was moved. Afternoon pick-up occurs on the south side of the school. Vehicles line either side of the drive aisle/parking area waiting for children to exit. A teacher is stationed at the crosswalk across the school driveway during the afternoon pick-up period.



School staff monitors the crosswalk during dismissal

2.2.b. Bus Arrivals / Departures

At both the Elementary and Middle Schools, a circle in front of the school is reserved for the buses to drop off and pick up the students. Parents are generally respectful of the bus pull-up area. At the middle school, buses arrive and depart at one time. At the elementary school, since the same buses are used at a later dismissal time, buses arrive in waves and students are released from the school building as each bus arrives.



Buses line up in front of the school for afternoon dismissal

2.2.c. Pedestrian & Bicycle Arrivals / Departures

A small number of students are known to walk to the elementary school and no students are known to travel by bicycle. Sidewalks are provided to the main entrance.

Only a few students walk at the middle school but pedestrian flow across the parking lot and driveway is good. Students that walk south have a sidewalk with a direct connection to the school. Students that walk north have no crosswalk provided across the school driveway and there is no sidewalk along the roadway. There is no bicycle infrastructure around the school.



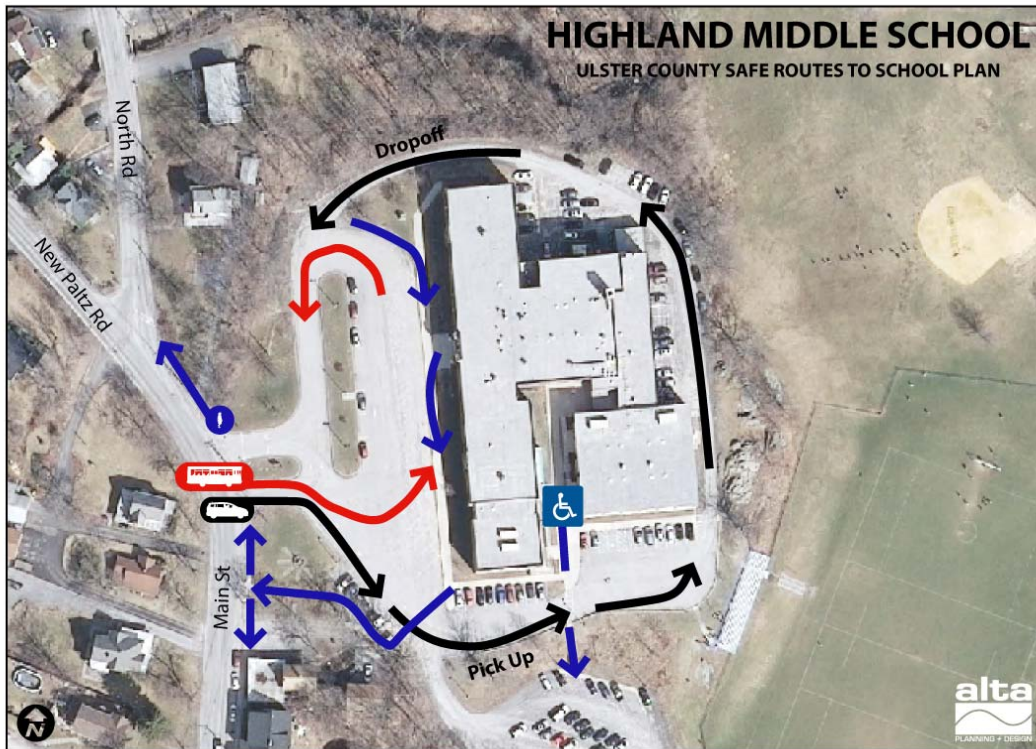
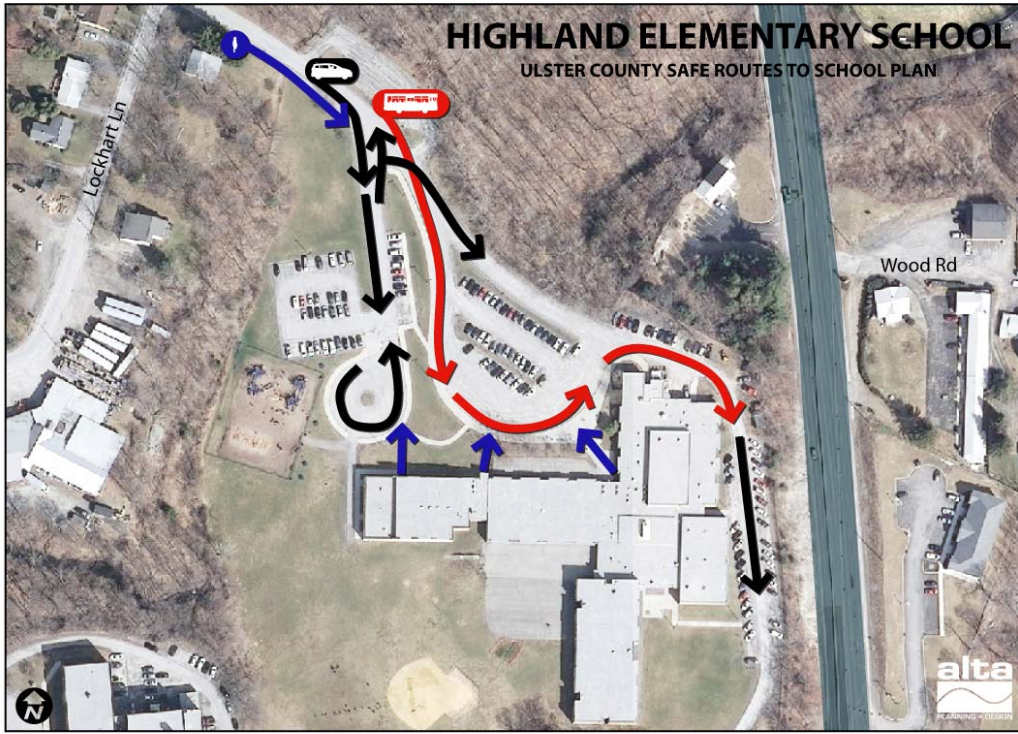
Middle School students walking north need to walk along the roadway because no sidewalks are available



Two driveways and “circles” provide for separate bus pick-up and parent pick-up at the Elementary School

The maps on the following page show the area around the school and existing conditions observed during the SRTS audit.

2.3. Campus Circulation Maps

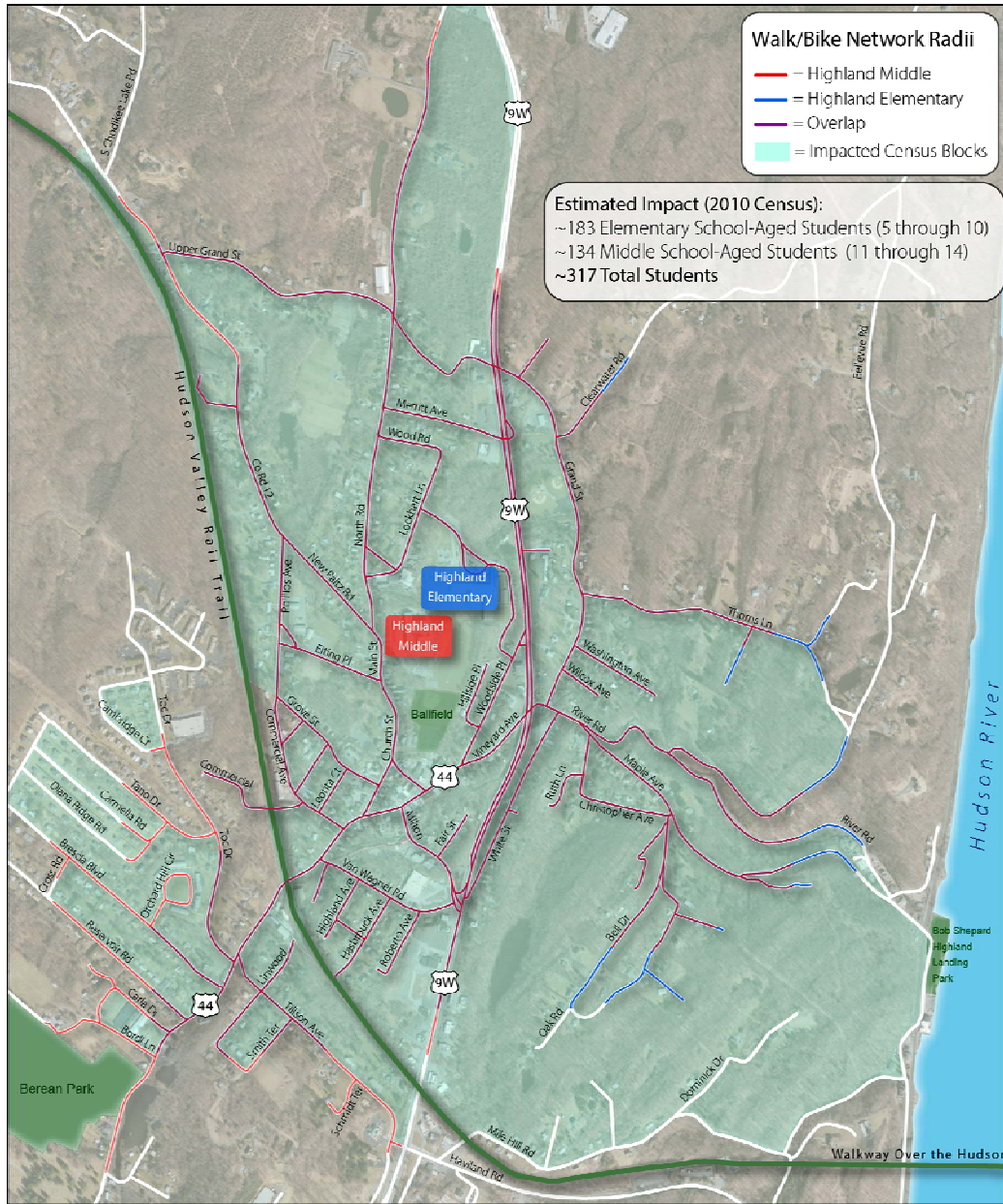


2.4 Existing Conditions Map



2.5. Potential Influence

In order to understand the potential impact of safe routes to school improvements for the Highland Elementary and Middle Schools, an analysis was conducted to determine approximately how many students live within the defined one-mile walking/bicycling radius of the school. These estimates are based on available 2010 census data. The following proposed safe routes to school program has the potential to impact up to 317 students.



alta **Ulster County Safe Routes to School**
Potential Walking & Bicycling Estimates for SRTS
 Highland Middle School & Elementary

North ↑
 0 0.5 Miles

Section 3. Recommendations

3.1. Physical Improvements

Engineering measures for Safe Routes to School include the design, construction and maintenance of physical infrastructure that can improve the safety and comfort of students that are walking and biking to school. This infrastructure includes signage, stenciling, and traffic control devices such as stop signs, bulb-outs, sidewalks, paths, bike lanes, and trails.

Specific engineering strategies that can be applied within the School Zone, in areas along the school route, at street crossings, and to slow traffic down

are provided below. Many of the strategies -- such as on-street warning signs -- are most effective if they are only used during school commute hours. Although some engineering solutions entail higher-cost infrastructure improvements, many engineering tools can be implemented without large expenditures, such as posting signs, modifying signal timings, or striping crosswalks or bike lanes. The engineering strategies listed below may also be utilized by the community to improve pedestrian and bicycle safety in projects other than this Safe Routes to School Action Plan.

The following specific recommendations for the Highland Middle and Elementary School Campus should be considered by the school administration. Note that some of the recommendations will require participation by partner agencies such as the Town of Lloyd, the Department of Transportation, and local Police Department for their implementation. The map at the end of this section visually displays the recommendations and their respective locations.

3.1.a. Signage and School Zone Recommendations

In New York State, school zones can be designated on all roadways contiguous to a school serving K through 12th grade. A New York School Speed Limit assembly (see figure to right) shall be used to indicate the speed limit where a reduced speed zone for a school area has been established or where a speed limit is specified for such areas by statute. The New York School Speed Limit assembly shall be placed at or as near as practical to the point where the reduced speed zone begins. In order for a school speed limit to be established, the school and the jurisdiction



Simple engineering measures such as pedestrian refuges can improve real and perceived safety.



This image shows a New York State MUTCD approved school speed limit sign, figure number 7B 100.

responsible for the highway must provide written documentation of their support for a school speed limit.⁴

The 85th percentile speed is the speed at which 85% of drivers travel at or below. 15% of drivers travel above this speed.

As dictated by NYS Vehicle and Traffic Law, the numerical value of a school speed limit should be approximately 10 MPH below the normally prevailing 85th percentile speed on the highway, or at approximately the actual 85th percentile speed within the zone during school crossing periods. School speed limits shall not be set below 15 MPH and the maximum length of a school speed zone shall not be greater than 1320 feet (0.25 mile) on a highway passing a school building, entrance or exit of a school abutting on the highway. With School Zones signed and delineated, focused traffic enforcement can occur to target speeding and other moving violations.

A school zone speed limit of 20 mph (10 mph below the current roadway speed limit) is recommended. School zones should be delineated on Main Street, in front of the Middle School, and on Woodside Place, North Road, and Lockhart Lane for the access points to the Elementary School. These recommended school zones are shown on Map 3.2, on page 19.

School Area Signage

The Manual on Uniform Traffic Control Devices (MUTCD) provides guidance on the use of school area signs and markings. The key signs should include the School Advance Warning Assembly, the School Crosswalk Warning Assembly, and the School Speed Limit Assembly. One way of increasing the visibility of school area signage is through the use of Fluorescent Yellow-Green signs.



School advance warning assembly from the MUTCD figure S1-1.

3.1.b. Sidewalk, Path and Crossing Recommendations

Sidewalks

Sidewalks are the most fundamental element of the walking network, as they provide an area for pedestrian travel that is separated from vehicle traffic. Installing new sidewalks can be costly, but fixing short gaps in an existing sidewalk network is important to ensure the continuity of the system and can be a relatively low-cost fix. The sidewalk infrastructure around the school is well-developed and well-utilized by the current walking population. The installation of sidewalks on the

⁴ NYS Supplement to the Manual for Uniform Traffic Control Devices, page 163, <https://www.dot.ny.gov/divisions/operating/oom/transportation-systems/repository/B-2011Supplement-adopted.pdf>

following streets is proposed as part of the Safe Routes to School program and are shown on Map 3.2.

- Elting Place
- Tano Drive – Commercial Avenue Extension
- Commercial Avenue (to Church Street)
- Toc Drive
- Sunny Brook Circle
- Woodside Avenue
- Linwood Avenue
- Lockhart Lane / Wood Road

Crossings

School crosswalks denote the preferred location for children to cross the street. High visibility crosswalks should be installed at key locations around the schools and along walking routes to and from the schools. Many of the intersections around the schools are lacking crosswalks or the paint has faded. The “SLOW SCHOOL XING” marking can be used in advance of uncontrolled school crosswalks, as shown in the image to the right.



Advanced School Crossing Pavement Marking

Various striping patterns can be used. The standard crosswalk striping pattern consists of two parallel lines, called the “transverse” pattern. Higher-visibility patterns can also be used, such as longitudinal and combination markings, which add bars for increased visibility. High visibility markings should be considered for all high-volume crossings near schools, and where conditions demonstrate a need for an increased visibility marking (e.g., a mid-block location). Yellow crosswalks can also be used in immediate proximity to the school (within 500 feet) to further delineate that it is a school zone crosswalk. Locations for recommended crosswalk installation are listed below and shown on Map 3.2, on page 19. The leg(s) of the intersection where the crosswalk is recommended is indicated in parenthesis such as (N) for the northern leg of the intersection.



High Visibility Crosswalks

- Elting Place / Main Street (W)
- Commercial Avenue / Commercial Avenue Extension (W)
- Woodside Place / Vineyard Avenue (W)



Yellow School Zone Crosswalks

- Tano Drive / Toc Drive (N and W)
- Cambridge Center / Toc Drive (S)
- Vineyard Avenue / Grand Avenue (N and W)
- Grand Avenue / Washington Avenue (E)
- Linwood Avenue / Tillson Avenue (W)

In-Street Yield-to-Pedestrian Signs

In-Street Yield-to-Pedestrian Signs are flexible signs installed in the median to enhance a crosswalk at uncontrolled crossing locations. These signs communicate variations of the basic message ‘State Law: Yield to Pedestrians.’ At school crosswalks, these signs are sometimes installed on a portable base and brought out in the morning and back in at the end of each day by school staff, which may reduce the chance that the sign will become “invisible” to motorists by being left out all the time. For permanently-installed signs, maintenance can be an issue as the signs may be run over by vehicles and need to be replaced occasionally. Installing the signs in a raised median can help extend their lifetime.



“Yield to Pedestrian” Sign

3.1.c. On-Street Bicycle Facility Recommendations

Although it may be appropriate for younger children to bicycle on the sidewalk, designated on-street bicycle facilities can provide a space for older or more experienced children and adults (including parents, faculty, staff and visitors) to bicycle on-street. Particularly for older grade levels, as children become more confident in their cycling skills and ride at faster speeds, designated on-street facilities may help to reduce bicycle/pedestrian conflicts on congested walkways near schools. Use of on-street facilities is more appropriate for children with better bike handling skills, as they need to be aware to stay within the bike lane (if striped) or to the right of traffic (on signed routes), obey stop signs and other traffic signals, and watch for traffic pulling out of side streets or driveways.

Marked Shared Roadway

A marked shared roadway is a general purpose travel lane marked with shared lane markings (SLM) used to encourage bicycle travel and proper positioning within the lane. In constrained conditions, the SLMs are placed in the middle of the lane to discourage unsafe passing by motor vehicles. On a wide outside



Shared Lane Markings

lane, the SLMs can be used to promote bicycle travel to the right of motor vehicles. In all conditions, SLMs should be placed outside of the door zone of parked cars. Marked Shared Roadways may be signed with Bike Route and/or May Use Full Lane signage. Shared lane markings could be provided on Main Street to connect the Middle School entrance to the adjacent neighborhood streets.



Range of possible treatments to create a Bicycle Boulevards



Proposed Shared Lane Markings on Main Street

Bicycle Boulevards

Bicycle boulevards are low-volume, low-speed streets modified to enhance bicyclist comfort by using treatments such as signage, pavement markings, traffic calming and/or traffic reduction, and intersection modifications. These treatments allow through movements of bicyclists while discouraging similar through-trips by non-local motorized traffic. Streets should contain a minimum of three traffic calming enhancements if they are to be considered bicycle boulevards and should include a variety of traffic calming treatments. These traffic calming enhancements can include, but are not limited to, speed humps, curb extensions, mini traffic circles, and stop signs. The following roadways are potential bicycle boulevards:

- Elting Place
- Commercial Avenue
- Phillips Avenue
- Toc Drive
- Tano Drive
- Hilltop Lane
- Reservoir Road
- Linwood Lane
- Tillson Avenue
- Lockhart Lane
- Wood Road
- North Road
- Woodside Place
- Vineyard Avenue
- Grand Avenue
- Washington Avenue

3.1.d. Bicycle Parking Recommendations

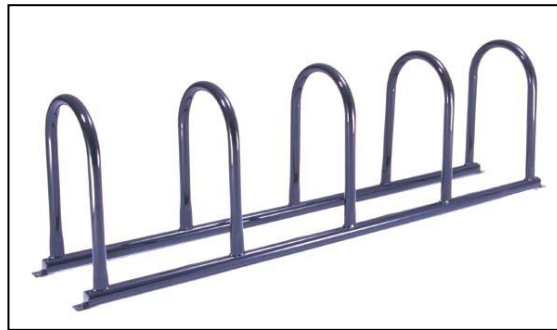
There are currently no bike racks present at either the Middle or Elementary Schools in Highland. Providing a secure and convenient location for bicycle parking is one way to help encourage more children to bicycle to school. Attributes of good bike parking include:

- Protection from vandalism/theft
- Protection from damage to the bicycle
- Protection from weather
- Convenient to destination



Bike Racks at the school encourage more students to ride.

A sufficient amount of parking must be made available so that bicycles are not crowded. The location must be convenient to the end destination, i.e. close to the building entrance. The location should also provide the owner with a sense



The bike rack photos show model examples of the preferred design to support the bicycle in an upright position without placing additional strain on the wheels.

that their property will be secure. If possible, racks should be covered to keep them free of rain and snow. Many schools use “wheel holder” type racks which only support the bicycle by the wheel and can damage the bicycle, and also do not allow the bike to be locked up by the frame with a U-lock. The preferred bike rack design should keep the bike upright by supporting the frame, allow the bike to be locked by the frame, and allow one or both wheels to be secured.

3.1.e. Other Recommendations

Shared Use Paths

Shared use paths may be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. These facilities are frequently found in parks, or as neighborhood cut-throughs to shorten connections and offer an alternative to busy streets. Shared use paths should be a minimum of 8 feet wide to allow for two-way bicycle travel. Three shared use paths are proposed to provide safe routes to and between the schools. The first is a short segment of shared use path between Toc Drive and the Hudson Valley Rail Trail where there is an existing dirt path. The second short segment would connect Sunny Brook Drive to the Hudson Valley Rail Trail.

The third shared use path is proposed between the Middle School and Elementary School. This path can be further extended around the sports fields to create a loop within the campus. Grading should be considered closely when connecting the loop trail to the south of the Middle School. Stairs may need to be maintained but can include a Dutch rail for bicycles.

While the driveway behind the elementary school is too steep and narrow to accommodate an adjacent sidewalk, the driveway is approximately 20 feet wide and could accommodate a striped side-path on the south side. An 8 foot wide path is recommended with a 2 foot striped buffer. To offer students additional protection, flexible bollards can be installed in this buffer area and removed for plowing during the winter months. Due to the sharp bend in the driveway, the installation of a mirror is recommended to vehicles can see students walking up the hill and vice versa.



Flexible bollards can delineate a path along the Elementary School driveway



A shared use path could be constructed between the elementary school and middle school

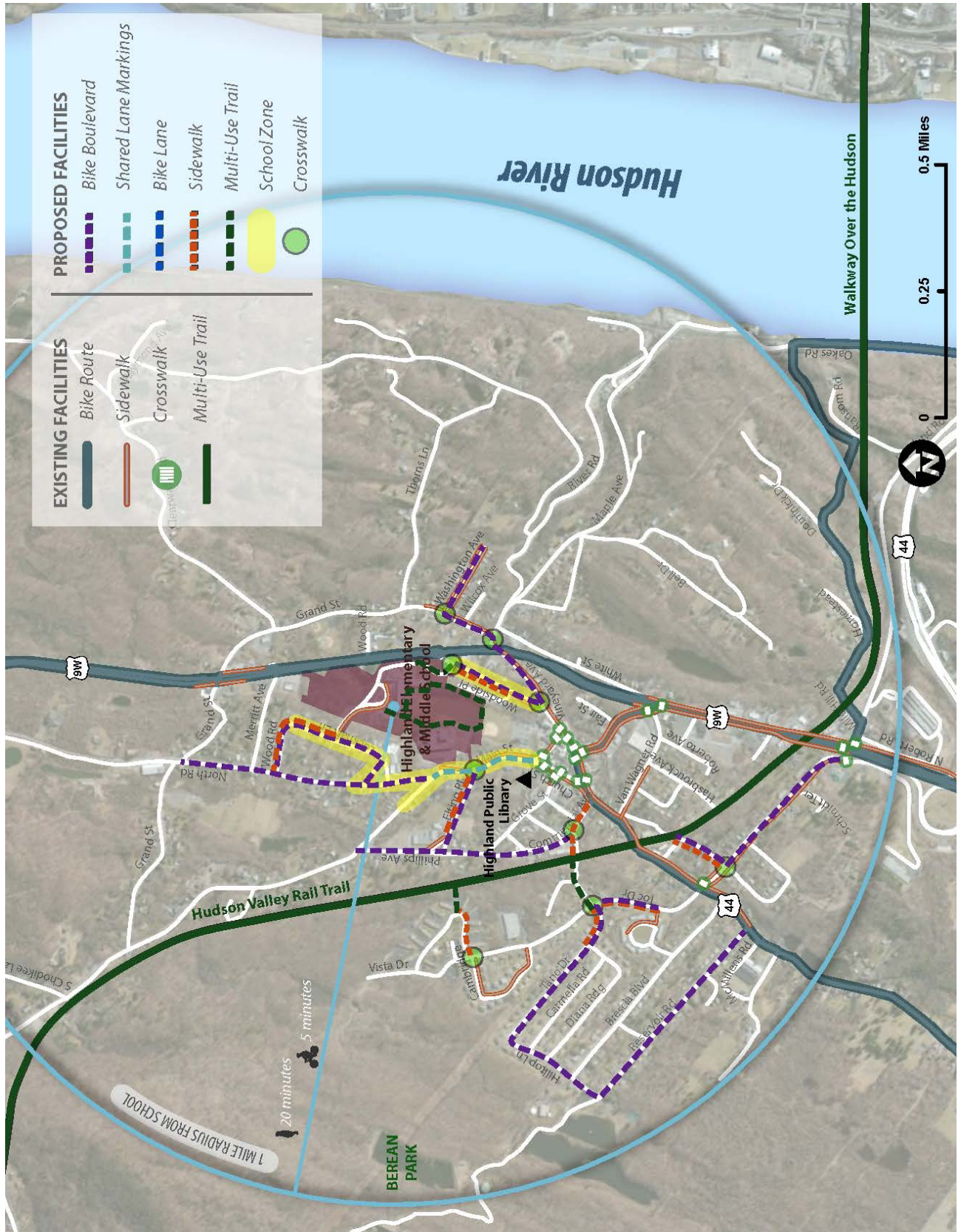
Crossing Guards

Adult crossing guards are used to help create gaps in traffic at uncontrolled intersections, and to “platoon” children across the street at controlled intersections. The presence of a crossing guard in the roadway serves as an easily recognized indication to drivers that pedestrians are about to use the crosswalk and that all traffic must stop. When all traffic has stopped, the adult guard can allow the children to cross. The school should ensure that they are trained consistently with the guidance provided in Section 7E of the Manual of Uniform Traffic Control Devices (MUTCD). Crossing guards should be located at the crosswalk on Main Street at Elting Place and the proposed crosswalk at Woodside Place and Vineyard Avenue.



Crossing guard assists students crossing the street

3.2. School Improvement Plan Map



3.3. Program Recommendations

3.3.a. Education Programs

Bike Rodeo

Both the Highland Elementary School and Middle School should conduct annual bike rodeos. These could be conducted as after school or Saturday events. A bicycle rodeo provides children with a basic understanding of the rules of the road; educates those children and their parents about elementary bike safety; gives trained personnel a chance to look over the equipment the kids are riding; and involves parents, teachers, and/or local civic organizations in a worthwhile activity. A bicycle rodeo involves "stations" that teach skills, such as:

- Looking over a shoulder without weaving
- Fast-braking without skidding
- Dealing with traffic at intersections

Cornell University offers an organizers guide to conducting a bike rodeo which can be found here:

http://www.bike.cornell.edu/pdfs/Bike_Rodeo_404.2.pdf

School Bikes

Starting with the Middle School, the school district should invest in school bikes or pursue sponsorships or grant funding to supply and store approximately 30 bikes for school use. Having bikes on campus would allow bicycle education during PE classes, assist in field trips to the Hudson Valley Rail Trail, and after school activities on the proposed campus loop trail and surrounding area. Students could also enter a program to borrow the bikes for short periods of time while they are not in use by the school. The approximate cost is \$15,000.

As interest grows in cycling, and as bikes are used more on campus, the development of a mountain biking skills park could be considered. A skills park could be developed in a small area of the campus or along the perimeter.

School Zone Traffic Safety / Share the Road Campaign

A School Zone Traffic Safety Campaign creates awareness of students walking and bicycling to school. A safety campaign is an effective way to reach the general public and encourage drivers to slow down and look for students walking and biking to school. A School Zone Traffic Safety Campaign uses signs and banners located near schools (for



Students help with a Share the Road campaign

example, in windows of businesses, yards of people’s homes and print publications) to remind drivers to slow down and use caution in school zones. This can also be coupled with a “share the road” campaign, which is a commonly known phrase in New York. This campaign can be kicked off at the start of each school year or in conjunction with special events, such as Walk and Bike to School Month, which takes place in October.

Banners and signs can be effective tools to remind motorists about traffic safety in school zones. Large banners can be hung over or along roadways near schools with readable letters cautioning traffic to slow down, stop at stop signs or watch for students in crosswalks with memorable messages such as:

- Give Our Kids a Brake
- Drive 25, Keep Kids Alive (<http://www.keepkidsalivedrive25.org/>)
- Share the Road (<http://sharetheroad.org/>)

Walk/Bike Lesson Plans

A variety of existing lessons and classroom activities are available to help teach students about walking, bicycling, health and traffic safety. These can include lessons given by law enforcement officers or other trained professionals or as a lesson plan developed by teachers. Example topic lessons are: Safe Street Crossing; Helmet Safety; Rules of the Road for Bicycles; and Health and Environmental Benefits of Walking and Biking.

The lessons should be grade-appropriate and can be incorporated into the subjects of health, environment, social science, math and physics.

Sample lesson plans are available at a number of Safe Routes to School program websites:

The National Highway Traffic Safety Administration:
<http://www.nhtsa.gov/people/injury/pedbimot/bike/Safe-Routes-2002/classact.html>

New York State Department of Transportation:
<https://www.dot.ny.gov/divisions/operating/opdm/local-programs-bureau/srts/srts-curriculum>

Alameda County SRTS Educator Guide:
<http://www.alamedacountysr2s.org/tools-and-resources/#educatorguide>



Traffic safety education

grade school vs. middle school) to compete against each other in a mobility challenge.

Programs can be modified for students who live too far away from school to walk or bike. Modification can include walking or biking at lunch time or gym class. Also, students can count the miles walked or biked to the bus stop or with parents and guardians outside of the school day.



Example of a Pollution Punchcard

Suggested Route to School Maps

Suggested Route to School maps show stop signs, signals, crosswalks, sidewalks, trails, overcrossings and crossing guard locations around a school. These can be used by families to identify the best way to walk or bike to school.

Liability concerns are sometimes cited by cities or school districts as reasons not to publish walking route maps. While no walking route will ever be completely free of safety concerns, a well-defined route should provide the greatest physical separation between walking students and traffic, expose students to the lowest traffic speeds and have the fewest roadway crossings. Route to school maps should be updated annually, especially in the first few years of implementation and as infrastructure improvements are made.

Walking School Buses

Parents and guardians often cite distrust of strangers and the dangers of traffic as reasons why they do not allow their students to walk to school. Walking School Buses are a way to make sure that children have adult supervision as they walk to school. Walking School Buses are formed when a group of children walk together to school and are accompanied by one or two adults (usually parents or guardians of the children on the “bus”). As the walking school bus continues on the route to school they pick up students at designated meeting locations.



Students participate in a walking school bus

Walking school buses can be informal arrangements between neighbors with children attending the same school or official school-wide endeavours with trained volunteers and structured meeting points with a pick-up timetable. More information about Walking School Buses is available at the end of this document. Additionally, a Walking School Bus “how to” guide is available from the National Center for Safe Routes to School (http://www.saferoutesinfo.org/guide/walking_school_bus/index.cfm).

Bike Trains

A bicycle train is very similar to a walking school bus; groups of students accompanied by adults bicycle together on a pre-planned route to school. Routes can originate from a particular neighborhood or, in order to include children who live too far to bicycle, begin from a park, parking lot or other meeting place. They may operate daily, weekly or monthly. Bike trains help address parents' concerns about traffic and personal safety while providing a chance for parents and children to socialize and be active. Bike trains are best suited for older students that have undergone bicycle safety training. Also, helmets and parent waivers should be required before participating in a bike train.



Students participate in a bike train

3.3.c. Enforcement Programs

Radar Trailer

Speed Radar Trailers can be used to reduce speeds and enforce speed limit violations in known speeding problem areas. In areas with speeding problems, police set up an unmanned trailer that displays the speed of approaching motorists along with a speed limit sign.

Speed radar trailers can be used as both an educational and enforcement tool. By itself, the unmanned trailer serves as effective education to motorists about their current speed compared to the speed limit, especially in school zones. As an alternative enforcement measure, the police department may choose to station an officer near the trailer to issue citations to motorists exceeding the speed limit. Because they can be easily moved, radar trailers are often deployed on streets where local residents have complained about speeding problems. If frequently left in the same location without officer presence, motorists may learn that speeding in that location will not result in a citation and the strategy can lose its benefits. For that reason, radar trailers should be moved frequently.



Example of a radar Trailer

Radar trailers and police enforcement are recommended on Main Street and Woodside Place after the school zone speed limit is recommended.

3.3.d. Evaluation Programs

Perform Annual Hand Tally and Parent Surveys

Since 2005, the federal Safe Routes to School program has set aside federal funding to help states, cities, towns and schools increase the number of students walking and biking to school. One requirement of receiving this money is that schools must perform annual hand tally and parent surveys so that the national program can track the effectiveness of the various programs across the country.

The National Center for Safe Routes to School has developed a recommended methodology, survey and count forms and reporting forms (<http://www.saferoutesinfo.org/guide/evaluation/index.cfm>). A teacher administers the hand tally survey to the students in their classroom. The parent surveys are either mailed or sent home to parents or guardians. The National Database (<http://www.saferoutesdata.org/>) stores the data and provides simple analysis reports. The Highland Elementary and Middle School should perform annual counts to assist in future grant applications and comply with future funding sources.

Section 4. Next Steps

The next steps presented below are intended to allow for a flexible approach to implementation. The decision to undertake a project or program should be made based on the available resources of the school team, the municipality, UCTC, and the NYSDOT.

\$	= Minimal to \$500	Volunteer effort and low funding required
\$\$	= \$500 to \$10,000	Moderate amounts of funding required
\$\$\$	= \$10,000 +	High amounts of funding required

Priority Recommendation # 1	Identification of SRTS Facilitator & Initiation of Basic Bicycling and Walking Safety Education
Cost	\$
Groups	School Administration, Local Advisory Committee, and UCTC
Description	The school should identify a staff member or volunteer (possibly an interested parent) to facilitate the initiation of the Safe Routes to School Program for the school.

Priority Recommendation # 2	Formation of Safe Routes to School Task Force & Program Promotion
Cost	\$
Groups	Safe Routes to School Facilitator and School Administration
Description	The facilitator should reach out to interested persons to begin the formation of an informal SRTS taskforce for the school. The taskforce should include members of the local advisory committee, parents, teachers, school administration and local residents.

Priority Recommendation # 3	School Zone Signage and School Speed Limit
Cost	\$\$
Groups	Safe Routes to School Facilitator and School Administration
Description	The school, through the SRTS Taskforce, should work with the Town of Lloyd to seek written permission to install a school speed zone on the recommended roadway segments. After this approval is granted, high-visibility fluorescent yellow green signs designating the school zone and school zone speed should be installed. Police enforcement and temporary radar trailers can also be used to promote and enforce the new speed limit.

Priority Recommendation # 4	International Walk and Bike to School Day Event
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Cost	\$-\$\$
Groups	Safe Routes to School Taskforce, School Administration, PTA, and the Town of Lloyd Police Department
Description	International Walk to School Day is held annually on the first Wednesday in October. This event can serve as a kick-off event to generate awareness and enthusiasm for a Safe Routes to School program. Events may include a special Walking School Bus lead by local politicians or school administrators, school assembly, and contest. Schools may find additional information and register for the event at www.walktoschool.org . Events such as these tend to attract increased attention and excitement that can be tapped to attract volunteers to maintain efforts year-round.

Priority Recommendation # 5	School connection to HVRT
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Cost	\$\$\$
Groups	Safe Routes to School Taskforce, School Administration, PTA, and the Town of Lloyd
Description	Sign and install shared lane markings on Main Street. Implement the bicycle boulevard on Elting Place and Commercial Avenue (signage, pavement markings, and traffic calming). Install the sidewalk segment on Commercial Avenue Extension and the crosswalk to the HVRT. This improvement would be an early win for neighborhoods to be able to connect to the school and provide a designated walking and bicycling route to the HVRT from the School.

Priority Recommendation # 6	Shared Use path between Highland Elementary and Middle Schools
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Cost	\$\$\$
Groups	Safe Routes to School Taskforce, School Administration, PTA, and Highland School Board
Description	Construct a shared use path along the slope behind the middle school and to the southeast of the elementary school playground to connect the Middle School to the Elementary School. This is important access for emergency evacuations of either school and also allows students to walk between Main Street and Lockhart Lane without walking in the roadway.

Priority Recommendation # 7 **Bike parking at Highland Elementary and Middle Schools**

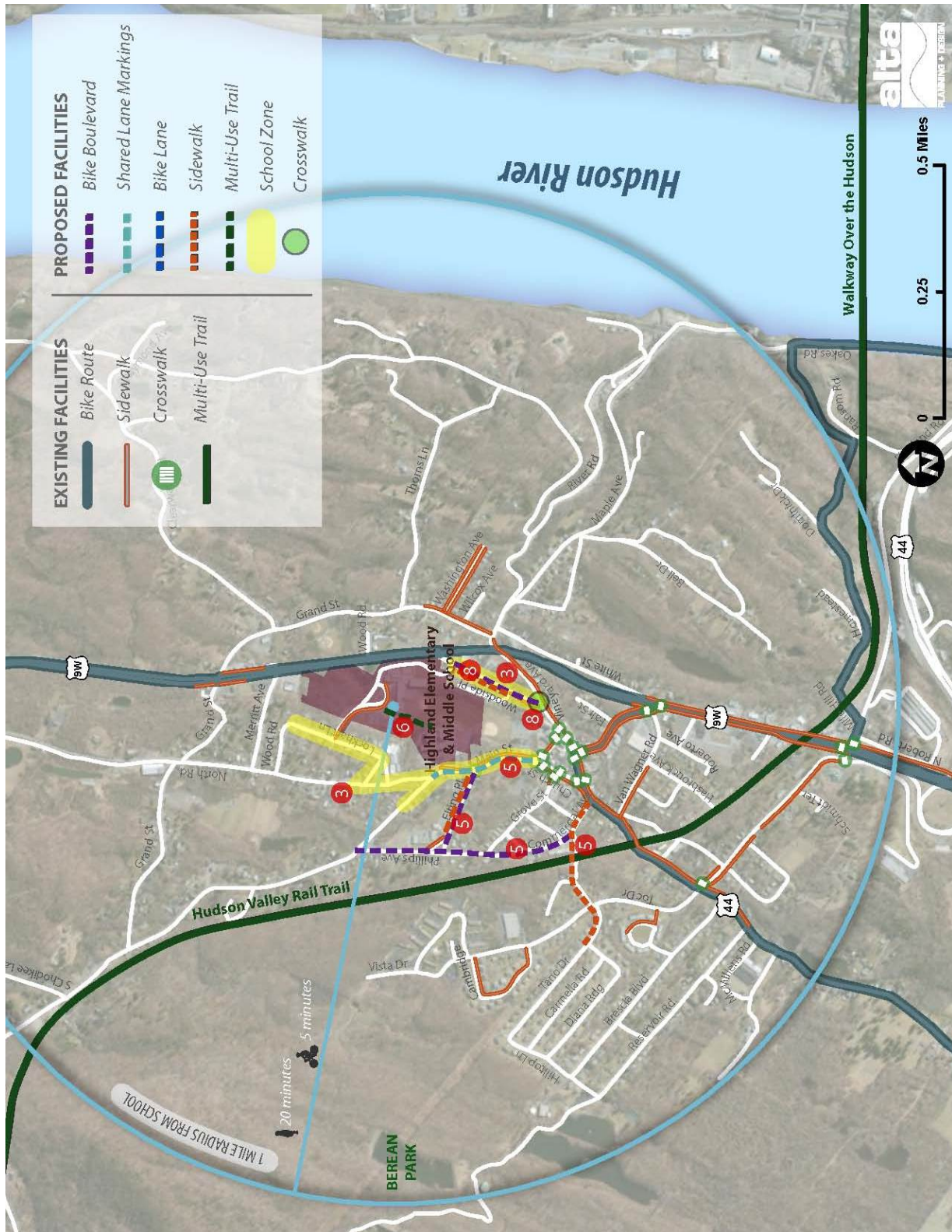
Cost	\$\$
Groups	Safe Routes to School Taskforce, School Administration, PTA, and Highland School Board
Description	Purchase and install bike racks at each school, located near the entrance in a secure and visible location. Underneath an overhang or some other type of roof structure would be beneficial.

Priority Recommendation # 8 **Construct pedestrian and bicycle connection between Elementary School and Vineyard Avenue**

Cost	\$\$\$
Groups	Safe Routes to School Taskforce, School Administration, PTA, and Highland School Board, Town of Lloyd
Description	Stripe the sidepath on the driveway, install bollards and mirror. Complete the sidewalk gap between the school driveway and the existing sidewalk. Install traffic calming measures, signage and pavement markings for bicycle boulevard. Install high visibility crosswalks at the school driveway and the intersection of Vineyard Avenue and Woodside Place.

Planning Level Costs and Potential Funding Sources				
Recommendations	Unit	Quantity	Cost	Total
School Zone Signage	Each	10	\$500	\$5,000
Sidewalks	Linear foot	5,200	\$65	\$338,000
High Visibility Crosswalks	Each	8	\$1,500	\$12,000
School Zone Crosswalks	Each	2	\$3,000	\$6,000
Shared Lanes	Linear foot	1,050	\$8	\$8,400
Bicycle Boulevards	Linear foot	19,000	\$20	\$380,000
Shared Use Path (paved)	Linear foot	2,590	\$100	\$259,000
Bike racks	Each	2	\$500	\$1000
School bikes + storage	Each	30	\$300	\$15,000

4.1. Priority Project Map



Section 5. Funding Sources

The following section outlines sources of funding for bicycle, pedestrian, and safe routes to school projects in New York State. Federal, state, local, and private sources of funding are identified. The following descriptions are intended to provide an overview of available options and do not represent a comprehensive list. Funding sources can be used for a variety of activities, including: planning, design, implementation, encouragement, and maintenance. Additionally, the School District should work with the Town of Lloyd to take advantage of funding provided for other roadway projects, such as repaving and water/sewer main replacement to install bicycle and pedestrian accommodations. It should be noted that this section reflects the funding available at the time of writing. The funding amounts, fund cycles, and even the programs themselves are susceptible to change without notice.

Federal transportation funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations, independent from state budgets. Federal funding typically requires a local match of 20%, although there are sometimes exceptions, such as the recent American Recovery and Reinvestment Act stimulus funds, which did not require a match.

The following is a list of possible Federal funding sources that could be used to support construction of many pedestrian and bicycle improvements. Most of these are competitive and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. However, it should be noted that the FHWA encourages the construction of pedestrian and bicycle facilities as an incidental element of larger ongoing projects. Examples include providing paved shoulders on new and reconstructed roads, or building sidewalks, on-street bikeways, trails and marked crosswalks as part of new highways.

MOVING AHEAD FOR PROGRESS IN THE TWENTY-FIRST CENTURY (MAP-21)

The largest source of federal funding for bicycle and pedestrian is the US DOT's Federal-Aid Highway Program, which Congress has reauthorized roughly every six years since the passage of the Federal-Aid Road Act of 1916. The latest act, Moving Ahead for Progress in the Twenty-First Century (MAP-21) was enacted in July 2012 as Public Law 112-141. The Act replaces the Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU), which was valid from August 2005 - June 2012.

MAP-21 authorizes funding for federal surface transportation programs including highways and transit for the 27 month period between July 2012 and September 2014. It is not possible to guarantee the continued availability of any listed MAP-21 programs, or to predict their future funding levels or policy guidance. Nevertheless, many of these programs have been included in some form since the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, and thus will be likely to continue to provide funds for active transportation projects and programs into the foreseeable future.

In New York State, federal monies are administered through the New York State Department of Transportation (NYSDOT) and metropolitan planning organizations (MPOs). The Ulster County

Transportation Council (UCTC) serves as a Metropolitan Planning Organization (MPO) for the Kingston Urbanized area as well as the entirety of Ulster County.⁵ Most, but not all, of these programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing intermodal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system. There are a number of programs identified within MAP-21 that are applicable to bicycle, pedestrian, and safe routes to school projects. These programs are discussed below. More information: <http://www.fhwa.dot.gov/map21/summaryinfo.cfm>. Further, UCTC regularly posts notices regarding the availability of Federal funds on its website, listed below.

TRANSPORTATION ALTERNATIVES

Transportation Alternatives Program (TAP) is a new funding source under MAP-21 that consolidates three formerly separate programs under SAFETEA-LU: Transportation Enhancements Program (TEP), Safe Routes to School (SR2S), and the Recreational Trails Program (RTP). These funds may be used for a variety of pedestrian, bicycle, and streetscape projects including sidewalks, bikeways, multi-use paths, and rail-trails. TAP funds may also be used for selected education and encouragement programming such as Safe Routes to School, despite the fact that TAP does not provide a guaranteed set-aside for this activity as SAFETEA-LU did. Unless the Governor of a given state chooses to opt out of Recreational Trails Program funds, dedicated funds for recreational trails continue to be provided as a subset of TAP. MAP-21 provides \$85 million nationally for the RTP. Complete eligibilities for TAP include:

1. Transportation Alternatives as defined by Section 1103 (a)(29). This category includes the construction, planning, and design of a range of bicycle and pedestrian infrastructure including “on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.” Infrastructure projects and systems that provide “Safe Routes for Non-Drivers” is a new eligible activity. For the complete list of eligible activities, visit:

http://www.fhwa.dot.gov/environment/transportation_enhancements/legislation/map21.cfm

2. Recreational Trails. TAP funds may be used to develop and maintain recreational trails and trail related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized and motorized uses. These funds are available for both paved and unpaved trails, but may not be used to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads. Recreational Trails Program (RTP) funds may be used for:

- Maintenance and restoration of existing trails

⁵ Visit <http://ulstercountyny.gov/planning/transportation> to learn more about the Ulster County Transportation Council

- Purchase and lease of trail construction and maintenance equipment
- Construction of new trails, including unpaved trails
- Acquisition or easements of property for trails
- State administrative costs related to this program (limited to seven percent of a state's funds)
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a state's funds)

3. Safe Routes to School: The purpose of the Safe Routes to Schools eligibility is to promote safe, healthy alternatives to riding the bus or being driven to school. Education and enforcement projects must be within two miles of primary or middle schools (K-8). Eligible projects may include:

- Education Efforts: These programs are designed to teach children safe bicycling and walking skills while educating them about the health benefits, and environmental impacts. Projects and programs may include creation, distribution and implementation of educational materials; safety based field trips; interactive bicycle/pedestrian safety video games; and promotional events and activities (e.g., assemblies, bicycle rodeos, walking school buses).
- Enforcement Efforts: These programs aim to ensure that traffic laws near schools are obeyed. Law enforcement activities apply to cyclists, pedestrians and motor vehicles alike. Projects may include development of a crossing guard program, enforcement equipment, photo enforcement, and pedestrian sting operations.

4. Planning, designing, or constructing roadways within the right-of-way of former Interstate routes or divided highways.

Average annual funds available through TAP over the life of MAP-21 equal \$814 million nationally, which is based on a 2% set-aside of total MAP-21 authorizations. Projected apportionments for New York State total \$25.8 million for FY 2013 and \$32.7 million for FY 2014. Note that state DOT's may elect to transfer up to 50% of TAP funds to other highway programs, so the amount listed above represents the maximum potential funding. To date, however, New York State has supported full funding of the TAP program. Remaining TAP funds (those monies not re-directed to other highway programs) are disbursed through a separate competitive grant program administered by NYSDOT. Local governments, school districts, tribal governments, and public lands agencies are permitted to compete for these funds.

SURFACE TRANSPORTATION PROGRAM

The Surface Transportation Program (STP) provides states with flexible funds which may be used for a variety of highway, road, bridge, and transit projects. A wide variety of bicycle and pedestrian improvements are eligible, including on-street bicycle facilities, off-street trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. Modification of sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA) is also an eligible activity. Unlike most highway projects, STP funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. 50% of

each state's STP funds are sub allocated geographically by population; the remaining 50% may be spent in any area of the state.

MAP-21 doubles the amount of funding available through the Highway Safety Improvement Program (HSIP) relative to SAFETEA-LU. HSIP provides \$2.4 billion nationally for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways. MAP-21 preserves the Railway-Highway Crossings Program within HSIP but discontinues the High-Risk Rural roads set-aside unless safety statistics demonstrate that fatalities are increasing on these roads.

Bicycle and pedestrian safety improvements, enforcement activities, traffic calming projects, and crossing treatments for non-motorized users in school zones are eligible for these funds. NYSDOT estimates that they will receive an average of \$92.8 million annually for this program through the lifetime of MAP-21.

The programming of these funds is coordinated by NYSDOT and the local MPO – Ulster County Transportation Council. When funding is available for programming toward new projects, UCTC will typically conduct an extensive “call for projects” public process in an effort to solicit potential projects for inclusion on the Transportation Improvement Program (TIP). The TIP is typically updated every 2 years and is due for its next update cycle during the 2016 Federal Fiscal Year. Contact UCTC staff at uctc@co.ulster.ny.us to learn more about this process, available funding and associated schedules. The current UCTC 2014 – 2018 TIP can be viewed online at the following address: <http://ulstercountyny.gov/planning/transportation-improvement-plan>

COMMUNITY DEVELOPMENT BLOCK GRANTS

The Community Development Block Grants (CDBG) program provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal CDBG grantees may “use Community Development Block Grants funds for activities that include (but are not limited to): acquiring real property; reconstructing or rehabilitating housing and other property; building public facilities and improvements, such as streets, sidewalks, community and senior citizen centers and recreational facilities; paying for planning and administrative expenses, such as costs related to developing a consolidated plan and managing Community Development Block Grants funds; provide public services for youths, seniors, or the disabled; and initiatives such as neighborhood watch programs.” Safe Routes to School projects that enhance accessibility are the best fit for this funding source. More information: www.hud.gov/cdbg

ADDITIONAL FEDERAL FUNDING

The landscape of federal funding opportunities for bicycle and pedestrian programs and projects is always changing. A number of Federal agencies, including the Bureau of Land Management, the Department of Health and Human Services, the Department of Energy, and the Environmental Protection Agency have offered grant programs amenable to bicycle and pedestrian planning and implementation, and may do so again in the future. For up-to-date information about grant programs through all federal agencies: <http://www.grants.gov/>

NEW YORK STATE FUNDING

Several specific NYS funding sources are detailed below; however, the best source of state funding is the consolidated funding application (CFA). The CFA's are typically due in August of each year and the application applies for a variety of state programs and funding.

CONSOLIDATED LOCAL STREET AND HIGHWAY IMPROVEMENT PROGRAM (CHIPS)

A New York State-funded program administered through the NYSDOT to assist localities in financing the construction, reconstruction or improvement of local highways, bridges, highway-railroad crossings and other local facilities. Eligible CHIPS bicycle and pedestrian projects include: bike lanes and wide curb lanes, shoulder improvements, roundabouts, new signs, new or upgraded traffic signals and traffic calming installations (www.dot.ny.gov/programs/chips).

CHIPS funds are administered by local municipalities after they are apportioned to them by the New York State Legislature through the annual NYS budget process. These funds are then used to address necessary road improvements which are prioritized by the local highway department or department of public works in consultation with elected officials through a capital improvement program or other local budgetary structure. Many municipalities rely heavily on these funds for routine annual maintenance of local streets and such work is typically planned several years in advance. Local citizens should therefore contact their elected officials to begin a discussion as to how these funds may be used to address possible pedestrian and bicycle improvements in the future.

NYS DEPARTMENT OF HEALTH- PREVENTATIVE HEALTH AND HEALTH SERVICES (PHHS) BLOCK GRANT

The Preventive Health and Health Services (PHHS) Block Grant provides funding for health problems in the state of New York that range from tuberculosis to adult physical activity. PHHS Block Grant dollars fund a total of 19 different New York State health programs, including the Healthy Heart Program. PHHS Block Grant funds are used to promote and evaluate increases in the number of adults participating in regular sustained physical activity. From 1995-2004, nearly 1.2 million New York State residents received help from local HHP contractors to increase their physical activity levels (www.health.ny.gov/funding/grants/block_grant.htm).

PRIVATE FOUNDATIONS

Private foundations are an increasingly important source of funds safe routes to school planning and implementation. More info: <http://www.foundationcenter.org/>