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Table of Contents

Executive Summary	4
1. Walking and Cycling to Health	6
1.1. The Challenge	6
1.2. The Program	6
1.3. The Team	7
2. District & School Profile	12
2.1. Township of West Orange & Essex County Health Profile	13
2.2. West Orange High School	18
3. Journey to School	19
3.1. Current Student Travel Environment	21
3.2. Pedestrian Safety	23
3.3. Walkability Assessment	24
3.4. Route Maps.	25
3.5. Good Practices	28
3.6. General Areas Needing Improvement	29
3.7. Individual Route Assessments	29
Biking Route 1	29
Walking Route 2	44
Walking Route 3	47
4. Action Plan & Recommendations	49
4.1. Conclusion	53
5. Appendices	55
5.1. Appendix A: Typical Opportunities for Improvement	55
5.2. Appendix B: Funding and Building Resources to Build Infrastructure	60

Executive Summary

A Safe Routes to School (SRTS) Travel Plan is a resource to encourage and increase the number of students walking or bicycling to school. It provides directions for schools, students, families and the city to build a safer walking and biking environment. School Travel Plans are site specific and describe the needs of each school being studied. The plan includes observations, ideas and an action plan to address issues and problem areas.

The Plan covers five aspects of the Safe Routes to School program – Education, Encouragement, Enforcement, Evaluation, and Engineering. The School Travel Plan outlines the timeframe and funding priorities to support a coordinated schedule of streetscape improvements. In fact, the New Jersey Safe Routes to School (SRTS) infrastructure funding program requires applicants to have an approved School Travel Plan in order to apply for a grant.

1. Goals

The goals of the West Orange High School Travel Plan are:

- a. Identify any issues that impact safety on the key travel routes used by students
- b. Provide suggestions to improve safety in the travel environment around school
- c. Prioritize suggestions in terms of cost and time needed to make improvements
- d. Propose solutions to encourage more students to walk and bike to school

2. Task Force

This School Travel Plan is the product of a robust and productive partnership. The West Orange High School SRTS Task Force came together out of a shared community interest in improving the health of students and residents by encouraging more walking and biking. The involvement of local stakeholders is an important part of ensuring the sustainability of the SRTS initiative and the enactment of the Action Plan.

3. Community Barriers to Health

- Cost of living and housing is high in Essex County
- 12.4 percent of Essex County residents under 65 do not have health insurance
- NJ and Essex County residents have high rates of physical inactivity
- Essex County received a B grade, with 4 "orange alert" days; due to high ozone days and particle pollution, American Lung Association 2021
- Rates of uninsured, unemployed, and children in poverty are higher in Essex County than state averages (CountyHealthRankings.org)

4. School Travel Data

In 2023, West Orange High School conducted a School Travel Tally to determine how students travel to and from school. Tallies were submitted to the Voorhees Transportation Center (VTC). Twelve percent of students walk, five percent use bicycles, 40 percent ride the school bus, 18 percent travel by family car, 15 percent carpool, five percent use public transit, and five percent travel another way.

5. Barriers and Opportunities Identified for Safer Walking & Biking

The Safe Routes to School Taskforce, including EZ Ride and Community Partners conducted a detailed assessment of road conditions along the main routes used by students to walk and bike to school on May 3, 2022. Major roads and intersections surrounding the school include: Pleasant Valley Way & Eagle Rock Avenue, Prospect Avenue & Eagle Rock Avenue, and Pleasant Valley Way & Mt. Pleasant Avenue.

6. Action Plan

The Safe Routes to School program categorizes the Action Plan into the “Five E’s”: Education, Encouragement, Enforcement, Evaluation and Engineering. This is useful because it helps the school prioritize next steps. Some action items may be more urgently needed, so the school can execute the recommendations in any order they choose. This School Travel Plan recommends improvements that can be made to encourage safe walking and biking. The action plan can be used to support SRTS and other Federal or State grant applications to fund pedestrian and bicycle improvements.

Key Actions/Recommendations in Action Plan include:

- Start walking buses & bike trains to encourage families to travel in groups for safety
- Repair damaged sidewalks/potholes and replace trees that have uprooted sidewalks with smaller trees that will not uproot sidewalks
- Add lighting, bike lanes, sidewalks, high-visibility crosswalks, stop bars as needed
- Equip the school zone with speed limit, flashing stop, and no idling signs, school zone pavement markings, and set up kiss and drop areas two blocks from school
- Paint/restripe crosswalks with high-visibility designs, add pedestrian signal heads, push buttons, and Leading Pedestrian Interval signal phases to delay turning cars
- Prevent illegal parking on corners that obstructs drivers’ view of pedestrians
- Encourage residents and businesses to not block sidewalks and to repair damaged driveways/sidewalks in front of their property
- Add pedestrian lighting at corners for increased visibility at dawn & dusk

- Improve drainage near curb ramps and street corners – explore green infrastructure options (storm water gardens, permeable pavement)

1. Walking and Cycling to Health

1.1. The Challenge

Over the past few decades, a number of societal and environmental changes have limited children's access to safe places where they can walk, bike and play. For example, increased traffic, neighborhoods that lack sidewalks and urban sprawl have contributed to a sharp decline in the number of students who walk or bike to school. Nationally, while 42 percent of children walked or biked to school in 1969, only 13 percent of children did so in 2009. Additionally, the popularity of television and video games as a means to entertain children has contributed to a more sedentary lifestyle. As a result, children and adolescents are less physically active than they were several generations ago.

The decrease in walking and biking to school and less physical forms of play has resulted in an alarming increase in childhood obesity. During the past four decades, the obesity rate for children ages 6 to 11 has more than quadrupled (from 4.2 to 17 percent), and the obesity rate for adolescents ages 12 to 19 has more than tripled (from 4.6 to 17.6 percent).

Developing policies and practices to address these environmental and social barriers to daily physical activity are critical to reducing and preventing obesity among children. Supporting "active transport" (or walking and bicycling) to school presents an excellent opportunity to increase daily physical activity among youth.¹

1.2. The Program

Safe Routes to School (SRTS) is a federal program that encourages, teaches, and enables children to safely bicycle and walk to school. The program aims to help children be more physically active with the intent to reduce chronic disease and prevent and reduce obesity. SRTS focuses on increasing the number of children walking and bicycling to school by building and repairing infrastructure such as sidewalks, crosswalks, and bicycle lanes. The program also encourages changes in travel behavior, supports increased enforcement of traffic laws around schools, and educates communities on the benefits and safety aspects of active transport. This report summarizes research on active transport to school. It also explores the factors that influence walking and biking to school, including the impact of SRTS programs.

¹ Walking and Biking to School, Physical Activities and Health Outcomes, Robert Wood Johnson Foundation

In the 2013 book, Designing Healthy Communities, Dr. Richard Stockton and Stacey Sinclair note that “walking to school is good for children’s cognitive health and learning ability. It improves children’s concentration, boosts moods and alertness, and enhances memory, creativity and overall learning”.

The SRTS Program is a collaborative effort of multiple stakeholders that include community members, elected officials, city planners, and police departments. SRTS brings a community closer together by implementing programs such as walking school buses, walkability audits, bicycle rodeos and pedestrian safety presentations. The benefits of SRTS extend far beyond the schools into the community as a whole.

A SRTS School Travel Plan “maps out” specific ways to improve pedestrian and bicycle travel to increase the number of students who walk and bike to school and to improve safety. A School Travel Plan identifies the following:

- Where students currently walk and bike?
- Where students would walk and bike if they could?
- What changes need to be made so that students can and will walk and bike to school?

The School Travel Plan identifies short term solutions for immediate action and implementation as well as long term solutions that may require planning and additional funds. Benefits of developing a School Travel Plan include:

- Creating partnerships between the school and surrounding community
- Generating ideas and actions so walking and bicycling is safer
- Building community excitement and support
- Making an application for a SRTS grant more competitive by demonstrating a connection between goals, actions and targets

1.3. The Team

The New Jersey Department of Transportation (NJDOT) funds and administers the SRTS program in New Jersey, and the Voorhees Transportation Center (VTC) at Rutgers’ University provides technical and administrative support.

EZ Ride and SRTS

In New Jersey, Transportation Management Associations (TMAs) have taken the lead in coordinating the implementation of the SRTS programs. TMAs are non-profit organizations whose mission is to implement transportation programs and services like carpools, vanpools, shuttles, biking and walking that reduce congestion and improve air

quality. EZ Ride is one of eight Transportation Management Associations (TMAs) in New Jersey and serves Bergen, Essex, Monmouth, Passaic and Union counties.

West Orange Township

West Orange's Department of Public Works, West Orange Police Department, and members of the West Orange Pedestrian Safety Advisory Board have been instrumental in providing support, staff, and assistance to EZ Ride and the West Essex YMCA and to participate in walkability audits around Kelly and Redwood Elementary Schools. The Pedestrian Safety Advisory Board has been especially helpful in supporting SRTS and activities that encourage a safer walking and biking environment in West Orange.

- In May 2022, West Orange Twp. and Public Schools received a \$920,000 SRTS infrastructure grant based on the audits and activities done in partnership with the SRTS team at EZ Ride.

WOPSAB

The West Orange Pedestrian Safety Advisory Board (WOPSAB) in West Orange started May 12, 2015. Two years prior the City Council passed a Complete Streets policy in July 2013. The function of the WOPSAB is as followed:

- Investigation and analysis of issues affecting pedestrian safety.
- Recommendations to the Mayor and Council regarding initiatives and policies designated to enhance pedestrian safety.
- Participation when authorized by the Mayor, in appropriate regional pedestrian safety activities.
- Annual meeting to inform the Mayor, Township Council and the general public of the Board's activities and progress.

West Orange School District

EZ Ride garnered the support of the West Orange Board of Education, former Superintendent J. Scott Cascone, and several schools who are actively participating and are involved in SRTS and its recognition awards program. EZ Ride met with new Superintendent Dr. Lauren Schoen in November 2022 and the District passed a District SRTS policy. We are working with the PE Supervisor to get more schools involved.

The Safe Routes to School program has been active in the West Orange Public School system going back to 2012.

- We began our partnership with the District in 2012 with a Walking School Bus at Gregory Elementary School.

- In 2013, EZ Ride and West Orange organized a district-wide Walk to School Day.
- In 2018, EZ Ride joined the West Orange Pedestrian Safety Advisory Board (WOPSAB).
- In May 2019, EZ Ride worked with the West Essex YMCA to do a walk audit around Redwood Elementary School.
- On September 17, 2020, Sustainable Jersey, VTC did a virtual walkability workshop to assess the roads around Washington Elementary School with local stakeholders and EZ Ride.
- In 2020-21, EZ Ride conducted a Street Smart campaign at Main St./Eagle Rock Ave & Harrison Ave.
- On May 1-2, 2021 EZ Ride & WOPSAB created a pop-up bike lane on Woodland Avenue near Redwood School, and held a bike safety event at Redwood School.
- In fall 2021, the West Essex YMCA received a NJ Healthy Community Network grant and decided to focus on improving walkability and SRTS. The Executive Director approached EZ Ride for help to conduct a walkability audit around St. Cloud Elementary School on March 29, 2022 where they have a successful afterschool program. As a result we also prepared a School Travel Plan.

West Orange High School and surrounding area



Source: Google Maps

Background to the Walkability Assessment at West Orange High School

EZ Ride was asked by the WOHS Go Green Club to conduct a walk audit around the West Orange High School in spring 2022. The Bike and Pedestrian team worked with the Club and school to develop three routes frequently used by students to travel to and from high school. Routes also included a bike route to Verona and to St. Cloud Elementary School.

EZ Ride shared a recording of a virtual audit training entitled “How to Conduct a Walk Audit” done with the St. Cloud Elementary School Task Force to the West Orange High School Task Force including several students who gathered to do the walk and bike audit. The two schools are located within three miles of each other and the bike audit route included a ride on Pleasant Valley Way heading north from West Orange High School to Verona and south to St. Cloud Elementary School. We met with the students, Club advisor, and police to conduct the audit on Tuesday, May 3, 2022. The bike and walk audit began from WOHS after the school dismissal bell rang.

The Walk Audit Task Force



A list of the Task Force who either attended the Walk Assessment or who are crucial to the implementation of the project are included in the table below.

Table 1: West Orange High School Travel Plan Task Force

Organization	Role/Responsibility	Contact
West Orange School District	Superintendent of Schools	Dr. Lauren Schoen 179 Eagle Rock Avenue West Orange, NJ 07052

		(973)-669-5400
West Orange High School	Teacher	Greg Saul 51 Conforti Avenue West Orange, NJ 07052 gsaul@westorangeschools.org
West Orange Police Department	Officer	Matt Reiss 60 Main Street West Orange, NJ 07052 mreiss@wopd.org
West Orange High School	Student	Gabrielle Payne gabriellepayne.22@gmail.com
West Orange High School	Student	Randy Stevens rstevens23@westorangeschools.org
West Orange High School	Student	Isabela Davis izzycd@icloud.com
West Orange High School	Student	Raimee rsvetvilas@gmail.com
West Orange High School	Student	Kimberly Figueroa kimberlyfigueroa23@westorangeschools.org
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EZ Ride Safe Routes to School Team	Manager, Bike & Pedestrian Program	Michael Johnson 144 Park Place East Wood-Ridge, NJ 07075 (201) 939-4242 ext. 130 mjohnson@ezride.org
EZ Ride Safe Routes to School Team	Sr. Transportation Coordinator Bike & Pedestrian Program	Erlea Maldonado 144 Park Place East Wood-Ridge, NJ 07075 (201) 939-4242 ext. 122 emaldonado@ezride.org
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EZ Ride Safe Routes to School Team	Intern Bike & Pedestrian Program	Eunice Hur 144 Park Place East Wood-Ridge, NJ 07075 (201) 939-4242, ext. 3
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2. District & School Profile

A school profile for West Orange High School was developed using data from the West Orange, NJ School District Website, and the NJ DOE School Performance Report site. West Orange NJ school district serves 6,780 students from Pre-Kindergarten – Grade 12. The district has 13 schools in total. There is one high school grade 9-12 and three middle school grades 6-8th grade. The district has seven elementary schools and two Early Learning Centers. The student demographics are displayed in the table below.

Table 2: West Orange School District – Student Demographics
Total Students in District: 6,780

Ethnicity*	% of Students
White	17.1%
Hispanic	37.4%
Black or African American	34.3%
Asian	4.1%
Native Hawaiian or Pacific Islander	0.3%
American Indian or Alaska Native	0.1%
Two or more Races	6.8%
Sex*	% of Students
Male	52%
Female	48%
Grade Level*	# of Students
Primary (Pre-Kindergarten – Grade 5)	3,131
Middle School (Grade 6 - 8)	1,519
High School (Grade 9 - 12)	2,210
Students with Disabilities	# of Students
Disabled Students	1,383

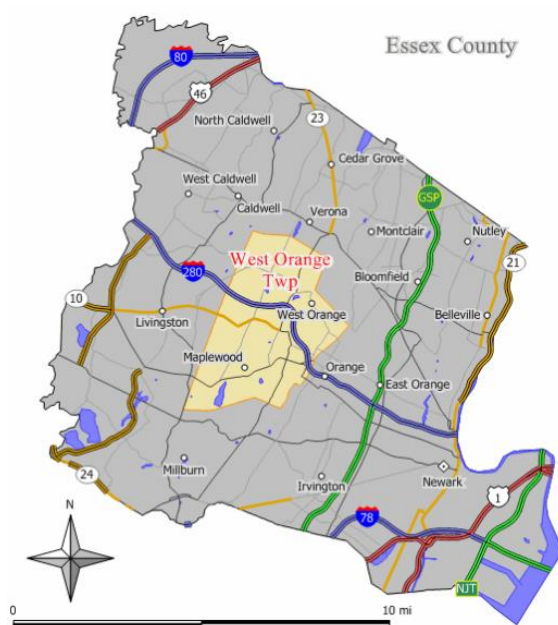
Source: NJ Performance Report | 2022-2023 Academic Year

Environmental Equity

An Overburdened Community (OBC), as defined by the law, is any census block group, as determined in accordance with the most recent United States Census, in which: at least 35 percent of the households qualify as low-income households (at or below twice the poverty threshold as determined by the United States Census Bureau); at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or at least 40 percent of the households have limited English proficiency (without an adult that speaks English “very well” according to the United States Census Bureau).

West Orange has several census block groups that meet the criteria for Overburdened Communities and which have large populations of minorities and low-income households. West Orange High School is located in an Overburdened Community with at least 60 percent of the population identifying as minorities.

2.1. Township of West Orange & Essex County Health Profile



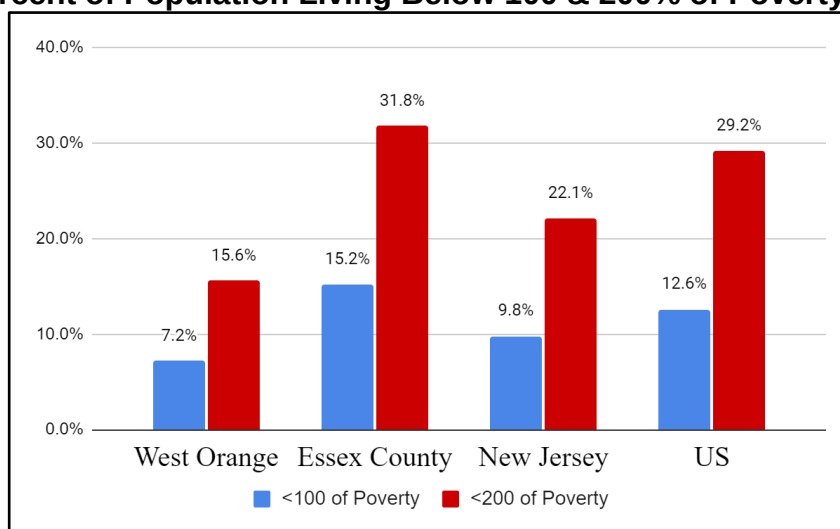
Essex County is the third most populated county in the state of New Jersey. Due to population density and its proximity to New York City, cost of living is high. There are many different health disparities that exist in the county. According to [countyhealthrankings.org](https://www.countyhealthrankings.org), the rates of uninsured, unemployed, and children in poverty are higher than the state average. Individuals in Essex County also have unusually high rates of physical inactivity. The violent crime rate is also high in Essex County. Furthermore, air quality throughout the county is slightly worse compared to the state average.

Understanding Social Determinants of Health

Conditions in the places where people live, learn, work, and play affect a wide range of health risks and outcomes. These conditions are known as social determinants of health. We know that poverty may limit healthy food access and coincide with unsafe neighborhoods and that more education is a predictor of better health. We also know

that differences in health are striking in communities with poor social determinants of health such as unstable housing, low income, unsafe neighborhoods, or substandard education. By applying what we know about social determinants of health, we can not only improve individual and population health but also advance health equity.

Chart 1: Percent of Population Living Below 100 & 200% of Poverty Level

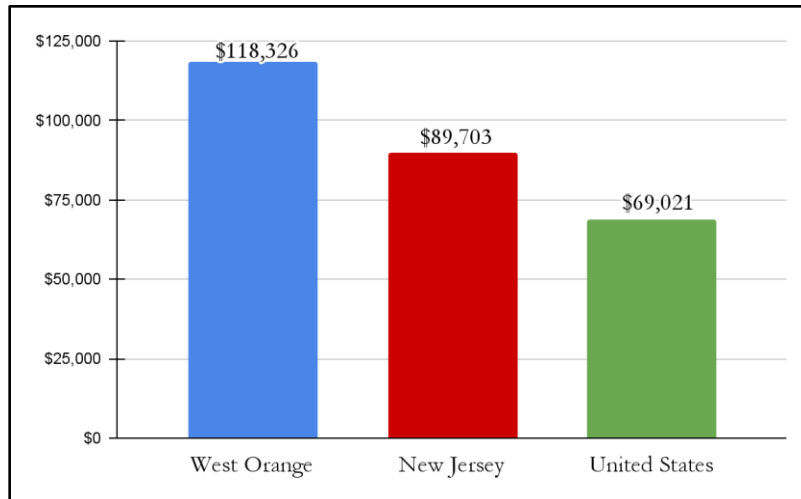


Source: US Census Bureau, 2020

The latest census estimate shows 15.2 percent of Essex County residents live below the federal poverty level and 31.8 percent of Essex County residents (approx. 264,152 individuals) live below 200 percent of the federal poverty level. This is much higher than state and national percentages.

Although Essex County poverty rates are higher than the state and national averages, West Orange poverty rates are lower. Only 7.2 percent of West Orange residents live below the federal poverty level and 15.6 percent of residents living below 200 percent of the federal poverty level.

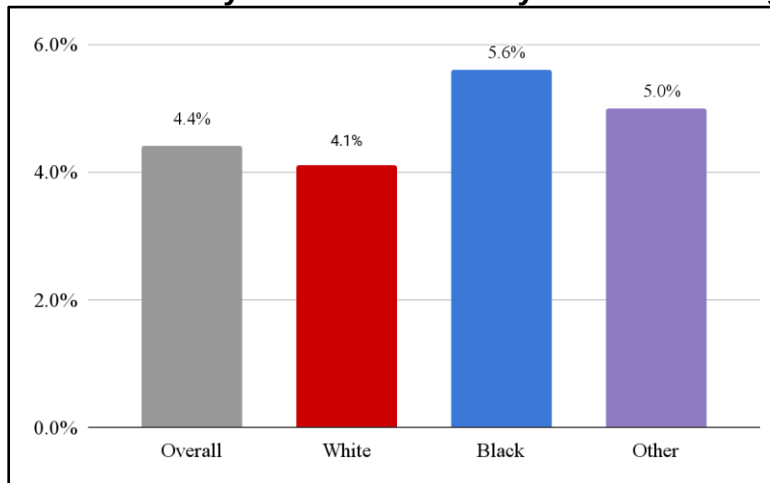
Chart 2: Estimated Median Household Income – West Orange, NJ



Source: US Census Bureau, 2020

West Orange families earned approximately \$45,000 more than the median U.S. household in 2021 and \$29,000 more than the median household income in NJ. The cost of living in Essex County and NJ is also higher than in the United States.

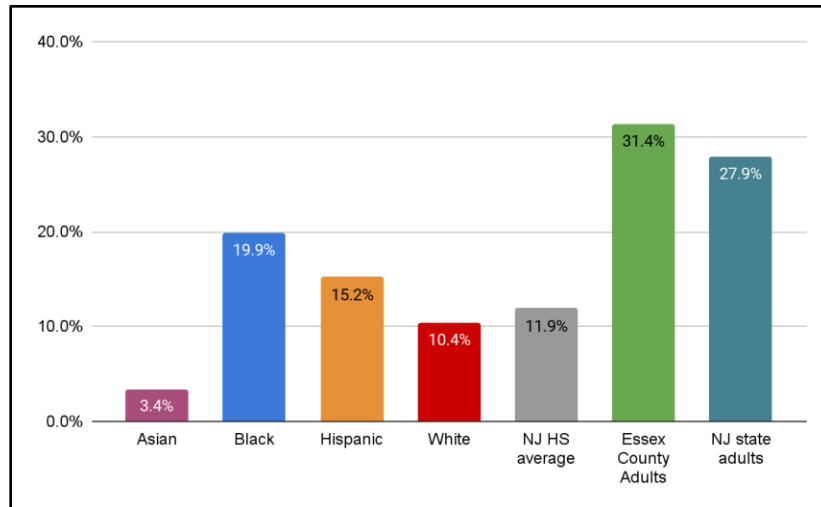
Chart 3: Percent Surveyed in Essex County Who Have Lung Disease



Source: Essex County Community Health Needs Assessment, 2023

As of 2023, 4.4 percent of Essex County residents have been told by their doctors that they have lung disease versus 6.6 percent in NJ. This is slightly less than the number of people who have been told by their doctor they had chronic obstructive pulmonary disease (C.O.P.D.), emphysema, or chronic bronchitis, which is 4.6 percent. The state rate of asthma is 8.4 percent in adults in NJ and 7.2 percent for children. African Americans in Essex County are nearly 37 percent as likely to report their doctor told them they have lung disease.

**Chart 4: Obesity Prevalence in High School Students
(Children 14-18 who are Obese; BMI in 95th Percentile of Higher)**



Source: NJ State Health Assessment Data [Health Indicator Report](#), 2020

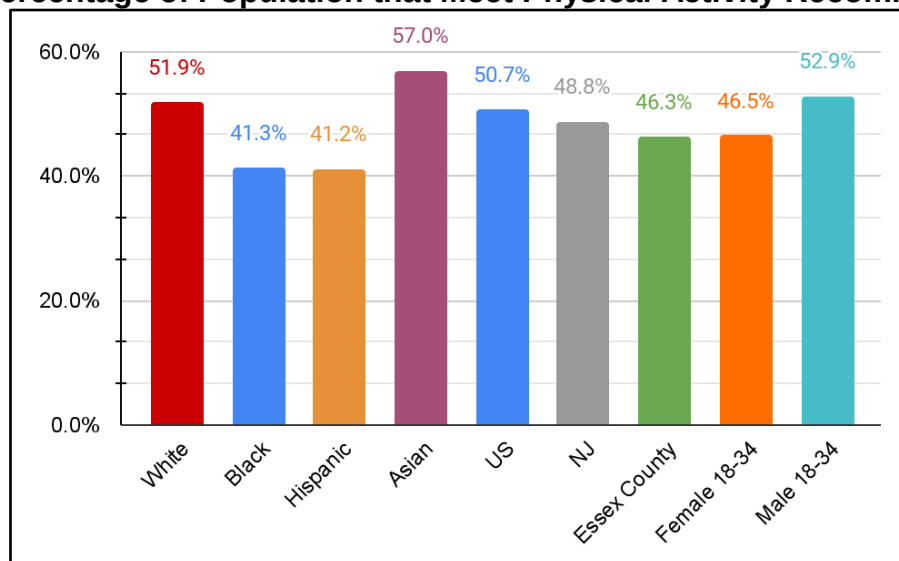
Media Viewing Habits

The American Academy of Pediatrics recommends that children spend a maximum of two hours per day on entertainment media like television, computers, and video games.

Physical Activity/Exercise

The HHS 2020 Physical Activity Guidelines for Americans recommend that adults get at least thirty minutes of moderate to vigorous activity daily and that children get at least sixty minutes of moderate to vigorous physical activity daily. Chart 5 below indicates the percentage of Bergen County residents that meet physical activity recommendations.

Chart 5: Percentage of Population that Meet Physical Activity Recommendations



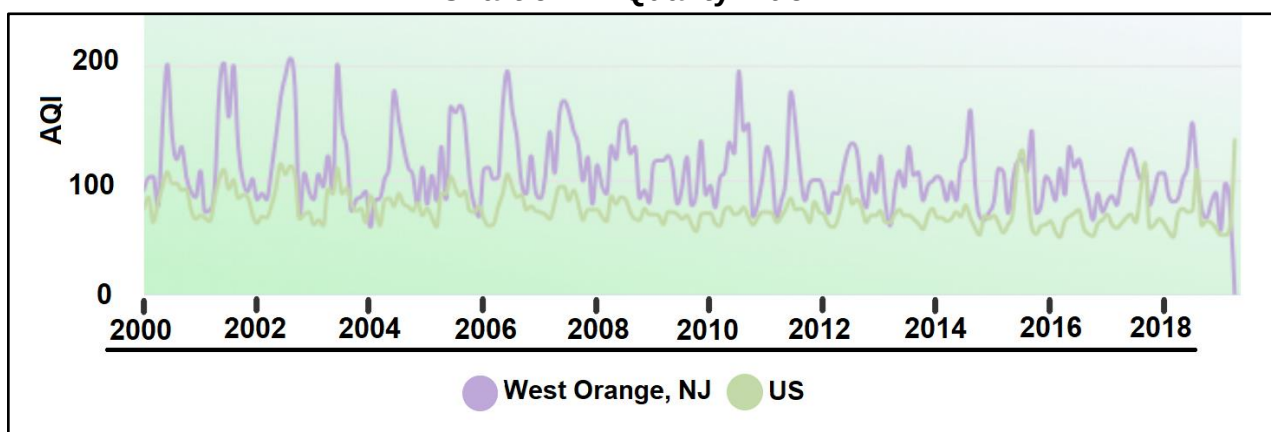
Source: NJ State Health Assessment Data, 2019

Those less likely to meet physical activity requirements in Essex County, NJ include: Women, Hispanics, and African Americans. The data from Chart 5 was not updated in 2020 most likely due to the Covid-19 pandemic.

Air Pollution

Air pollution is a risk factor for developing illnesses such as respiratory infections and asthma. Choosing to use “cleaner” modes of transportation (carpool, reduced trips, public transportation, walking or biking), conserving energy (ENERGY STAR label), and using clean products (house cleaning solutions & paint) may lower the air quality index and protect individuals from later developing an illness.

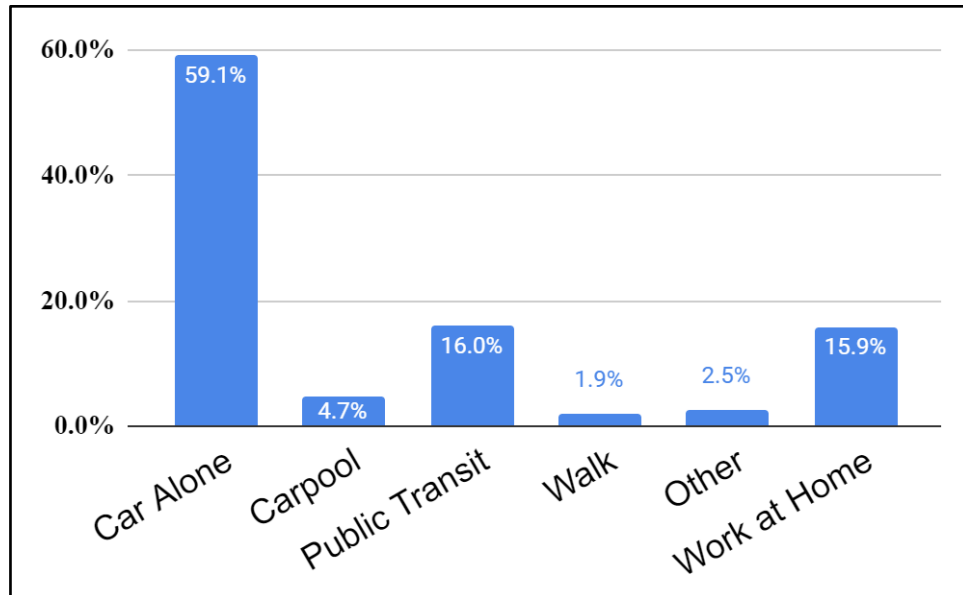
Chart 6: Air Quality Index



Source: City-Data.com, 2020

The Air Quality Index is measured for cleanliness and possible health effects to the population. A higher index average is associated with a greater chance of health disparities/illnesses. Moderate air quality may range from 50 to 100 AQI (Air Quality Index). West Orange’s air quality index is 44.1 on average, which is considerably better in comparison to the rest of the United States which was 74 on average in 2020.

Chart 7: Means of Transportation to Work



Source: U.S. Census Bureau - ACS, 2019-2023

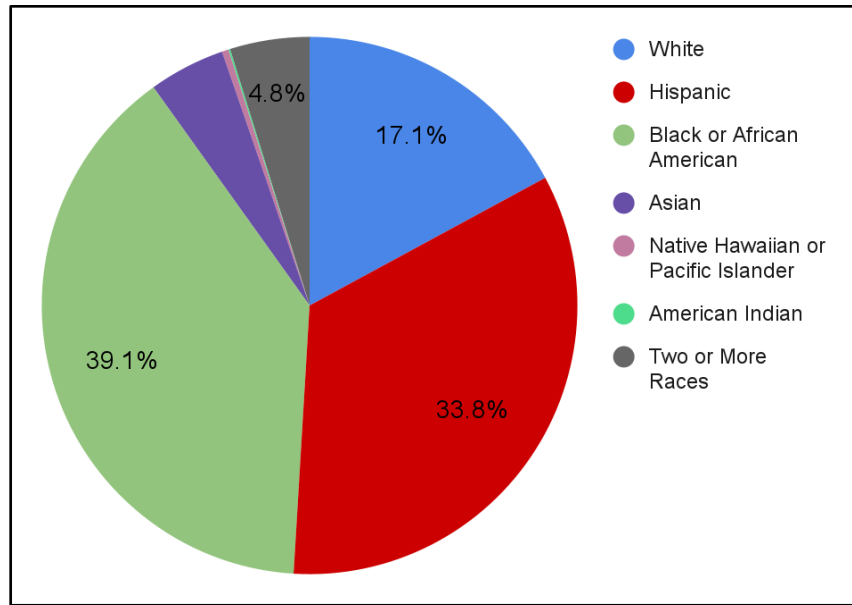
As shown in Chart 7, more than 75 percent of the West Orange population surveyed drive in their cars alone, and less than 25 percent use other modes of transportation that reduce air pollution (carpool, public transportation, walk, and other).

2.2. West Orange High School

Cultural and Social Impact on Educational Equity

As per the WOHS website, “West Orange High School, a vital part of a culturally and linguistically diverse community, challenges and encourages students to strive for excellence through rigorous and comprehensive programs, to become active members of their community, and to emerge as lifelong learners. To this end, we are committed to superior classroom instruction, a safe and nurturing environment, and a partnership with family and community. The mission of the West Orange Public Schools is to engage in an energetic partnership with all components of this culturally-diverse community, to marshal resources to assist all students to reach their full potential through an academic emphasis on the New Jersey Student Learning Standards, to promote the highest quality intellectual and human relations development of pupils, and to instill in all students the knowledge and decision-making skills essential to make appropriate choices and successfully meet the challenges they will encounter as productive members of society.”

Chart 8: West Orange High School Enrollment by Ethnicity, 2021-22



Source: NJ School Performance Report, 2021-2022

Chart 8 shows student ethnicity in 2021-2022. In 2022-23, the makeup changed a bit with Hispanics growing from 33.8 percent to 36.8 percent, and Black/African-American students decreased from 39.1 percent to 37.3 percent. White students also decreased slightly from 17.1 percent to 16.5 percent and Asian students decreased from 4.6 percent to four percent. Students that are two or more races increased slightly to five percent from 4.8 percent. The number of students in the 2022-23 academic year totaled 2,129. This is slightly more than the previous academic year 2021-22 with a total of 2,124 students.

Table 3 - Student Language Diversity (2022-2023)

Languages Spoken at Home	
English	76.8%
Spanish	17.1%
Haitian Creole	2.7%
Other	3.4%

Source: NJ School Performance Report, 2022-2023

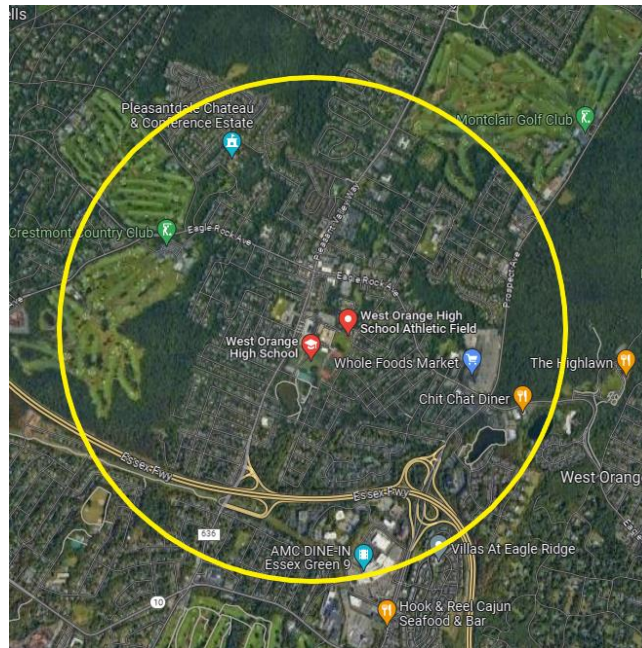
The main language spoken at home by students and their parents is English. The next most frequently spoken language is Spanish. The third most spoken language is Haitian Creole. The 'Other' category includes any other languages spoken at school which have a comparatively smaller presence at 3.4 percent.

3. Journey to School

In the 1960s, about 50 percent of children in the United States walked or biked to school. Over the last few decades, concerns about vehicle traffic, safety for children,

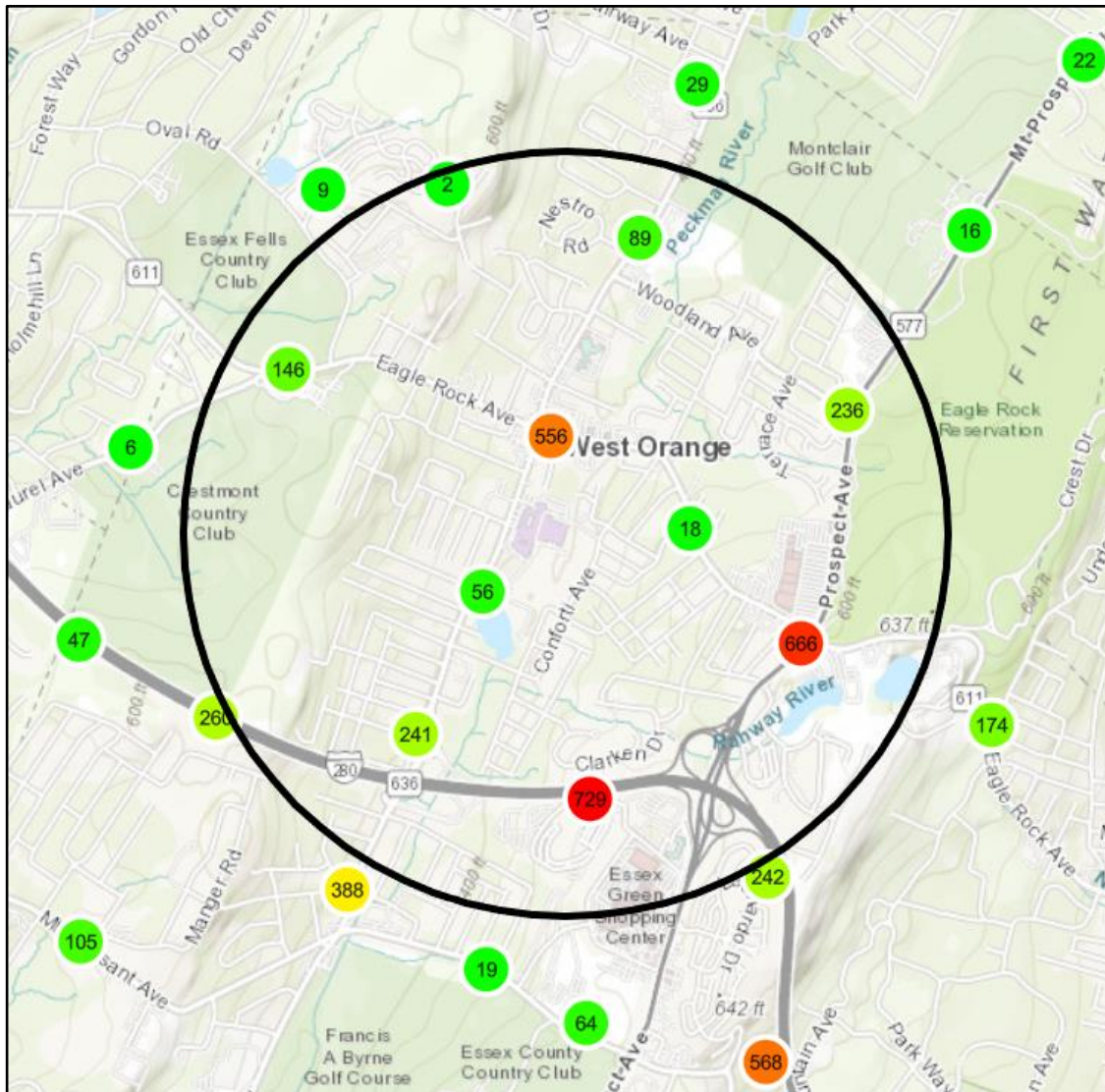
longer commutes, and convenience have led more parents to drive their children to school. This results in more traffic on the road and fewer children who walk to school. Today, on average, only about 15 percent of children walk or bike to school. Map 1 and Map 2 provide a broad overview of the residential area near West Orange High School.

Map 1: One Mile Radius Around West Orange High School



Source: Google Maps

Map 2: West Orange School – Vehicle Crash Map



Source: Safety Voyager, 2014-2023

EZ Ride analyzed all crashes within a one-mile radius of West Orange High School, over a 10-year period. Based on police incident reports via Safety Voyager, from 2014 to 2023 most vehicle crashes within one mile of West Orange High School happened on I-280. The locations with the second and third most crashes were Pleasant Valley Way and Prospect Avenue. The reported incidents are plotted on Map 2.

Map 2 displays all vehicle to vehicle crashes near West Orange High School. Each colored circle indicates the number of crashes, green indicating a low number. Circles turn yellow as the number of crashes increase and then turn red to indicate the highest number of crashes. In the area directly around the high school, Pleasant Valley Way and Eagle Rock Ave have the most crashes.

3.1. Current Student Travel Environment

School Hours

The school day for West Orange High School starts at 7:30am, and ends at 2:15pm. Detention is held from 2:20 pm - to 3:20 pm Tuesday - Thursday.

Crossing Guards

There are crossing guards stationed on Pleasant Valley Way & Eagle Rock Avenue, Pleasant Valley Way & Stanford Avenue, and Pleasant Valley Way & Hooper Avenue.

Drop-off/Pick-up Procedure

All parents enter the Pleasant Valley Way entrance in single file and drop their kids off in front of the auditorium entrance. There is no specific pick-up area, but parents pick up students from either the Conforti Avenue parking lot or the Pleasant Valley Way entrance.

Buses

Buses arrive at the school at different times, and drop off students at the Conforti Avenue entrance of the school. At the end of the day, buses line up along Conforti Avenue and students walk along the sidewalk to find their bus and board it.

Staff and Student Parking Procedure

Teachers have multiple parking lots including one in front of Tarnoff gym, one next to the Suriano Football stadium, and a large parking lot on Conforti Avenue nearest the main entrance to the school. Students are not allowed to park in any of the teacher parking lots. If they do, they receive a Saturday detention. Students may park in the lot next to Lincoln Soccer Field. There is no student parking permitted on Pleasant Valley Way or in the Conforti Avenue parking lot. Unauthorized cars in school parking lots may be ticketed and/or towed.



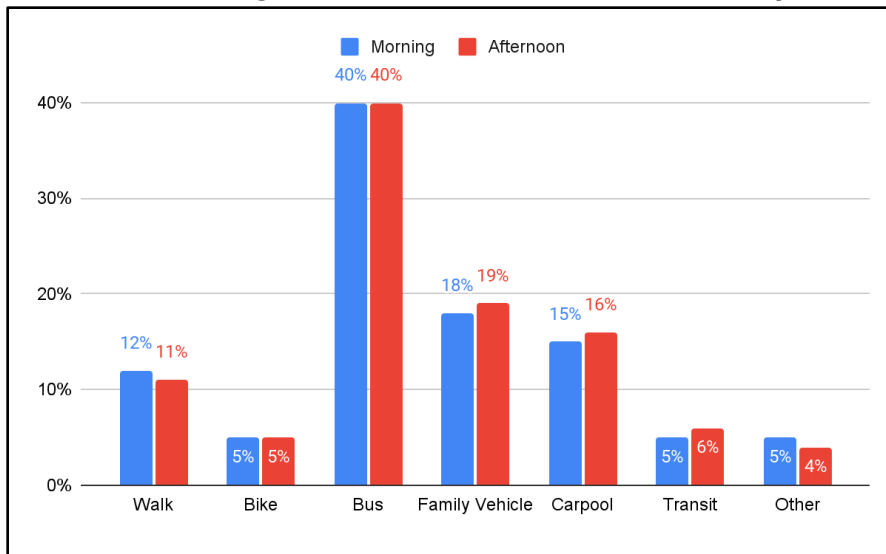
Table 4: Current Student Commute Mode

Mode	Arrival (Morning)	Dismissal (Afternoon)
Walk	12%	11%
Bike	5%	5%
School Bus	40%	40%
Family Vehicle	18%	19%
Carpool	15%	16%
Transit	5%	6%
Other	5%	4%

Source: NJ SRTS Travel Tally Analysis

Almost half the student population uses the school bus or public transit to travel to WOHS which is an excellent way to reduce the use of single occupancy vehicles. 16 to 17 percent of students walk or bike to school. The number of students being driven to school via a family vehicle is 18 percent in the morning and 19 percent in the afternoon. The number of students being driven to school via a carpool is 15 percent in the morning and 16 percent in the afternoon. It's suggested to encourage walking and biking to school or the use of carpools to reduce the amount of traffic and vehicle emissions at arrival and dismissal.

Chart 9: Morning and Afternoon Travel Mode Comparison



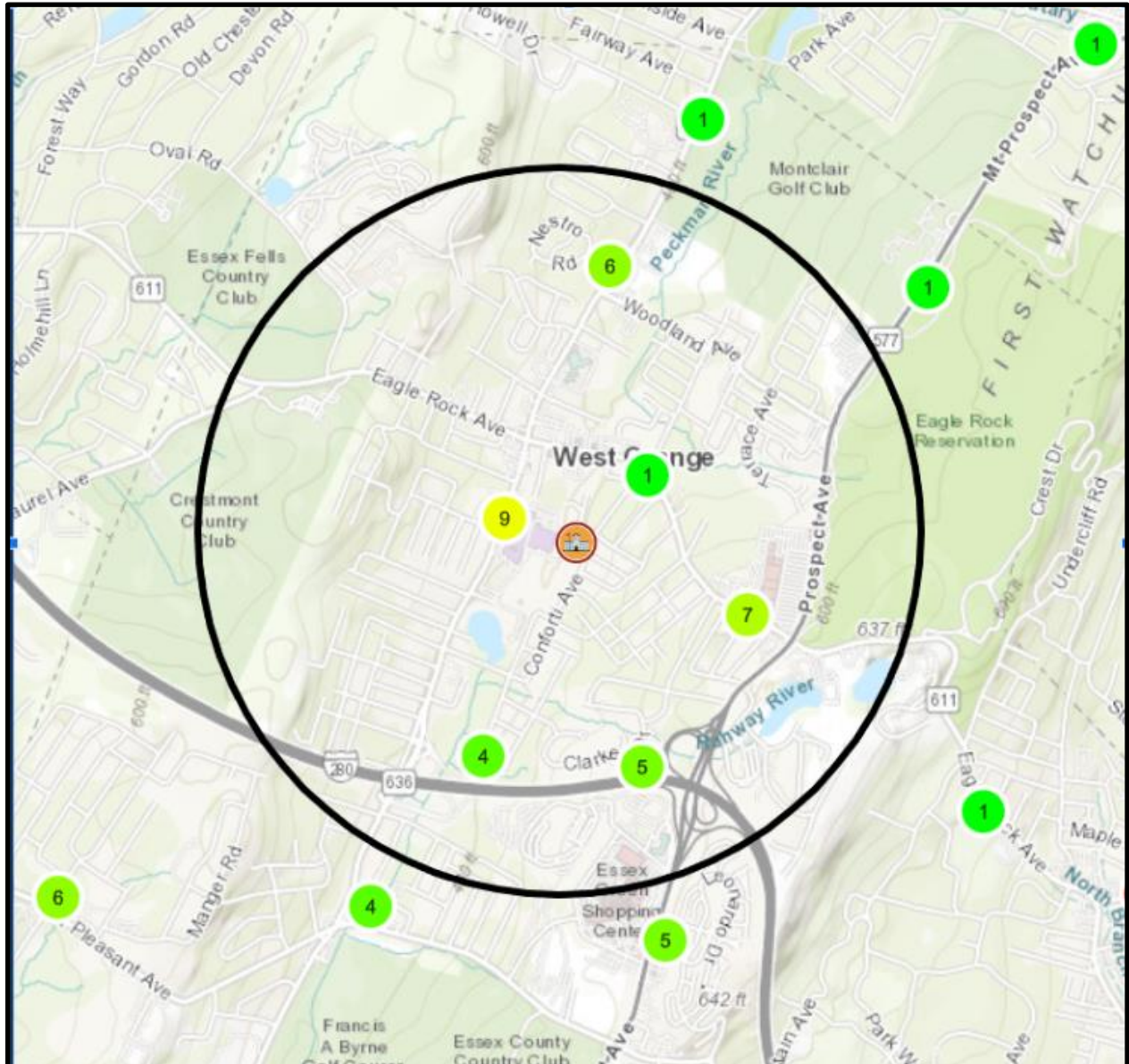
Source: NJ SRTS Travel Tally Analysis

Fewer students being driven to school can help to reduce the idling and air pollution around the schools and will help increase the alertness and test scores of students during school.

3.2. Pedestrian Safety

EZ Ride conducted an analysis of the pedestrian and bicycle related crashes within a one-mile radius of the school over a 10-year period from 2012 to 2021 based on police reports and the NJ Safety Voyager crash map system. The reported incidents are shown in Map 3.

Map 3: Pedestrian and Bicycle Crashes within One Mile of West Orange High School



Source: NJ Safety Voyager, 2012-2021,

Approximate site of pedestrian/bicycle crash ● WOHS 

EZ Ride analyzed all pedestrian and bicycle crashes within a one-mile radius of West Orange High School, over a 10-year period. Based on police incident reports via Safety Voyager, from 2012 to 2021 most pedestrian and bike crashes occurred in front of West Orange High School. The reported incidents were plotted on Map 3.

Safety Voyager is a crash map program created by the NJ Department of Transportation. The numbered circles on the map show the number of pedestrian and bicycle crashes that have occurred in that general area. Green circles indicate the lowest number of crashes at each location. Circles turn yellow as the number of crashes increases and to orange and red to indicate the highest number of crashes.

Table 5: Pedestrian & Bicyclist Crashes by Age in West Orange

Age of Victim	Number of Crashes
0-9	13
10-19	34
20-29	31
30-39	28
40-49	20
50-59	37
60-69	19
70+	23
Unknown	24
<u>TOTAL</u>	229

Source: Safety Voyager, 2010-2020

Using the program Safety Voyager, pedestrian crashes by age were determined for the Township of West Orange, and from 2010-2020 there were 229 pedestrians and bicyclists hit by cars. There were 47 crashes that involved children and teens under the age of twenty. Another 42 crashes involved seniors from 60+ which is a serious concern. 24 crashes did not record the age of the victim. It's suggested for the municipality and the School District to work with EZ Ride and Safe Routes to School to educate seniors and students about bike and pedestrian safety.

3.3. Walkability Assessment

The SRTS Task Force conducted a walkability and bikeability assessment of the major routes used by students to get to West Orange School on May 3, 2022. School children

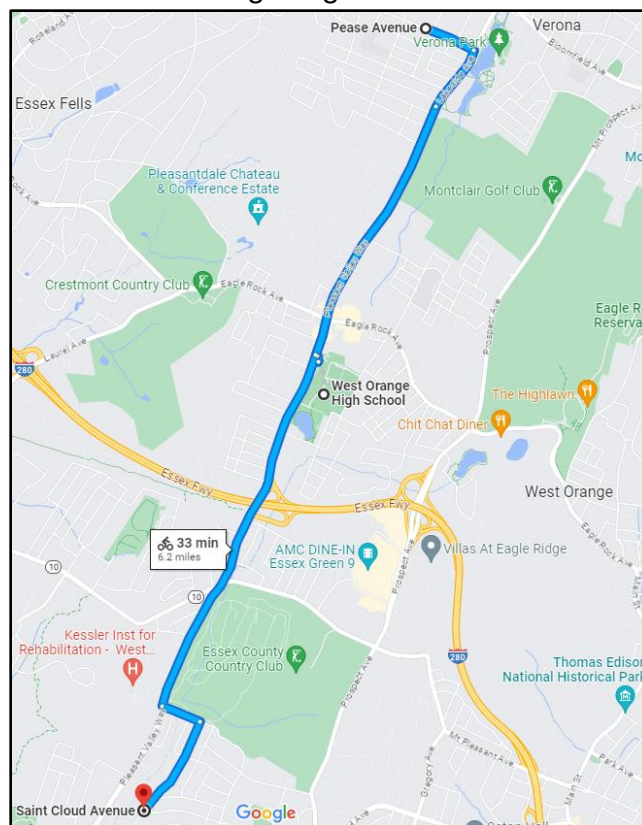
and residents of all ages and abilities walk in and through the neighborhood. Route maps show the walking and biking routes that were assessed in the audit.

A walkability and bikeability assessment evaluates the sidewalks, roads, crosswalks, lighting, signs, signals, and walking environment along a predetermined route and identifies road improvements that can be made and notes what is currently done well and what improvements can be made.

We divided into three groups: two walking groups (including a wheelchair) and one biking group. Our audit started soon after the dismissal bell rang at 2:30 pm so that we could follow students as they made their way home and see the issues they faced. The SRTS Task Force took photos of good practices and issues on each route. Comments and recommendations are listed with each photo and are summarized in the Action Plan at the end.

Route 1 Map

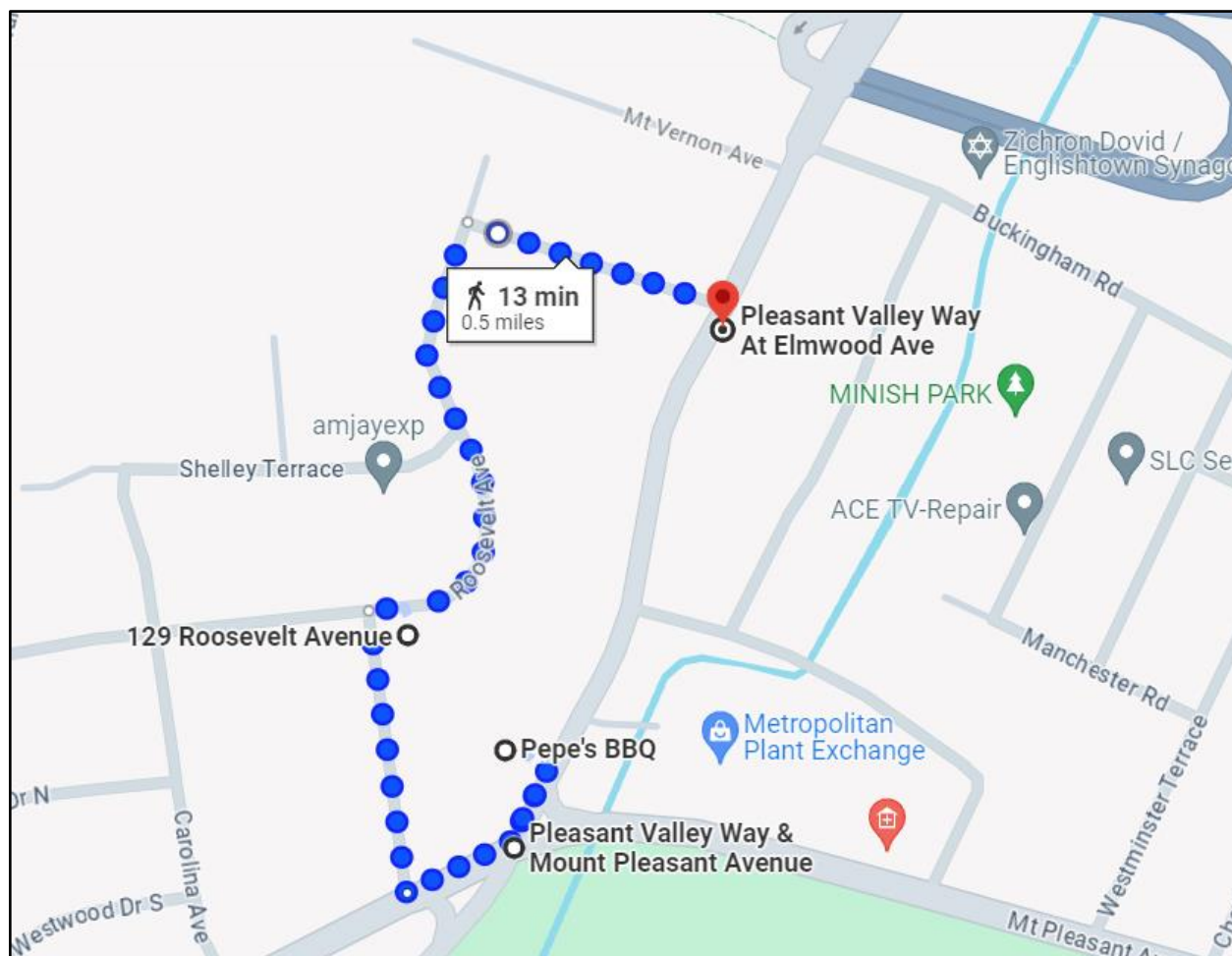
Biking Route 1: Start at WOHS, right and head north on Pleasant Valley Way (PVW) to Verona border, cross PVW at Pease Avenue, head south on Pleasant Valley Way, left on Old Indian Road, right on St. Cloud Avenue to St Cloud Elementary School, and return on the same route to West Orange High School on Pleasant Valley Way.



Source: Google Maps

Route 2 Map

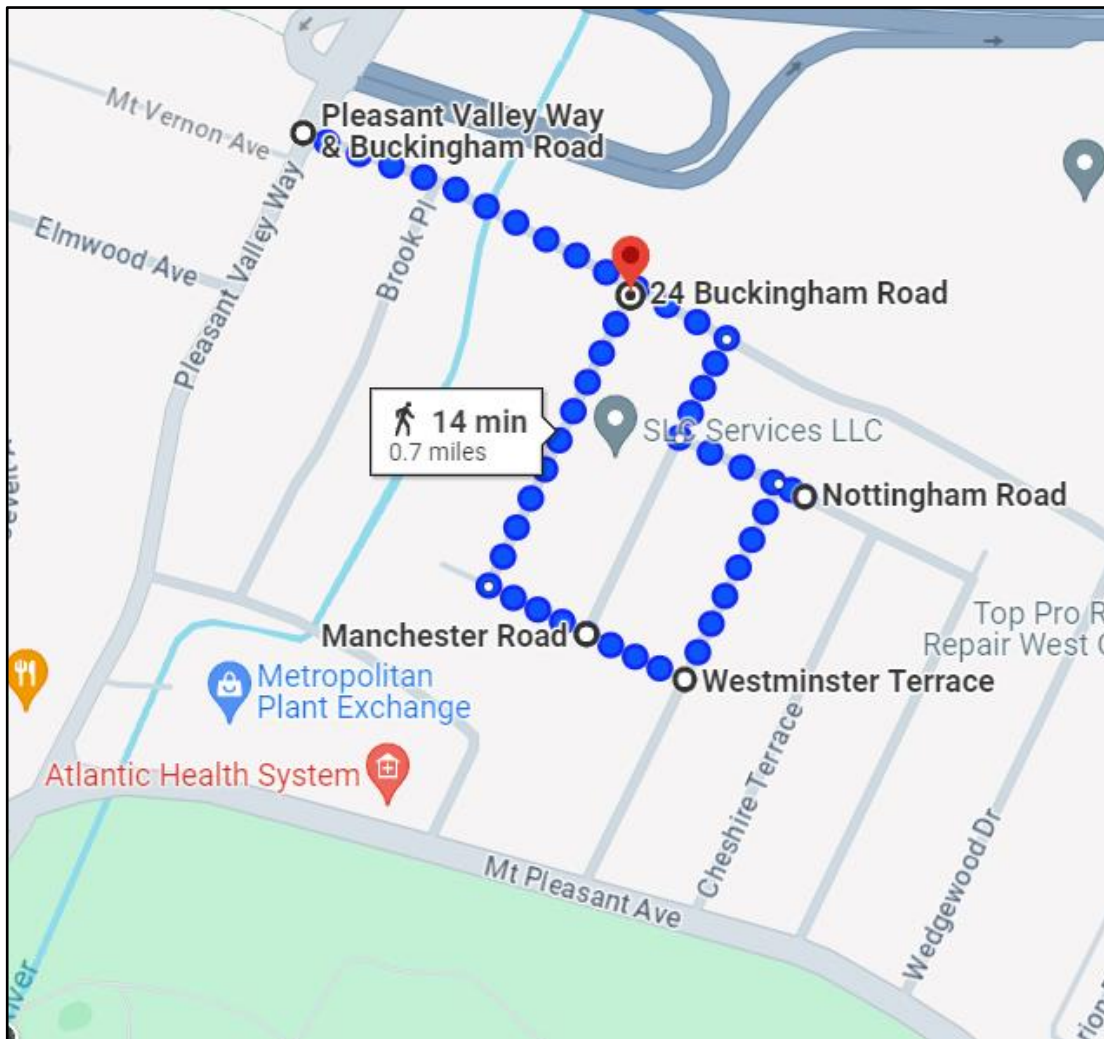
Walking Route 2: Start at Mt. Pleasant Avenue, right on Lorelei Avenue, right on Roosevelt Avenue, right on Elmwood Avenue, left on Pleasant Valley Way, and return to school.



Source: Google Maps

Route 3 Map

Walking Route 3: Start at Buckingham Road, Right on Normandy Terrace, left on Nottingham Road, right on Westminster Terrace, right on Manchester Road, right on Lancaster Road, left on Buckingham Road, right Pleasant Valley Way, and return to school.



Source: Google Maps

3.5. Good Practices

The following pictures show good safety practices we observed during the walk and roll assessment. These should be encouraged in the school vicinity, near parks, libraries, businesses, and along the routes where students/residents walk, bike, study and play.

Pleasant Valley Way & Woodland Ave.



High-visibility crosswalk and pedestrian signal present across street.

Old Indian Rd.



Speed bump to slow down car speeds.

Marmon Terrace & Pleasant Valley Way



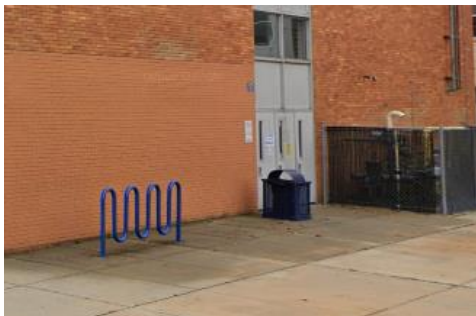
"No Right Turn" sign lists times 7-9 am and 4-6 pm when right turns are not allowed to keep pedestrians and students entering and leaving school safe.

Pleasant Valley Way & Stanford Avenue



Students and families waiting at an intersection with a crossing guard, high-visibility crosswalk, and crossing sign.

WOHS



Bike Rack

Pleasant Valley Way & Lakeview Dr.



Crossing Guard for students crossing.

3.6. General Areas Needing Improvement

Pleasant Valley Way & Dawson Ave  Low-visibility crosswalk.	Pleasant Valley Way heading to Mt Pleasant Ave.  Debris on sidewalk. Pole obstructs wheelchair use
Buckingham Road  Many driveways are damaged from years of use.	Buckingham Road  Uneven sidewalk are tripping hazard and make travel difficult for strollers & wheelchairs.

3.7. Individual Route Assessments

Bicycle Route 1: Start at WOHS, right and head north on Pleasant Valley Way (PVW), Cross PVW at crosswalk between Hillside Ave. and Morningside Rd., and head South towards St Cloud School. Left turn on Old Indian Road, right on St. Cloud Avenue, and ride to St. Cloud School. Return to West Orange High School via St. Cloud Ave., Old Indian Rd., and Pleasant Valley Way heading north to WOHS.

Front of WOHS	Exiting WOHS to Pleasant Valley Way
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Good crosswalk & dropoff area



30 mph on north side vs.25 mph on south side

Pleasant Valley Way & Eagle Rock Ave.



Dedicated left turn signal is good

Pleasant Valley Way & Eagle Rock Ave.



High-visibility crosswalk with pedestrian signal and crossing guard. Lacks lighting and dome pad is directed toward the intersection.

Eagle Rock & Pleasant Valley Way (PVW)



Students cross for snacks at DD/Burger King

448 Pleasant Valley Way



Suggest road diet with bike lanes, Parking on PVW is not needed - parking is avail. behind Dunkin Donuts

Sidewalk/Driveway by DD, BK, Wells Fargo



Suggest painting crosswalk on driveways

PVW and Kenz Terrace



Shoulder is good for cyclists >> add a bike lane

PVW & Ronald Terrace



Shoulder ends after Ronald Terrace

PVW & Woodland Ave. by Redwood ES & Sr. Ctr



Good high-visibility crosswalk & Ped. Signal

Midblock Crossing - Hillside & Morningside



Good crosswalk & ped crossing signs

Pleasant Valley Way (PVW) Heading South



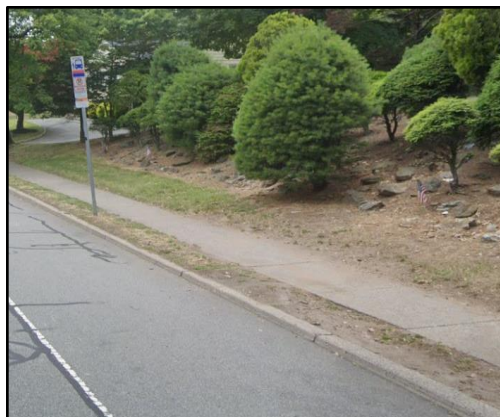
Paint shoulder/bike lane for cyclists - slow traffic

Gerdes Ave & PVW

Past Fairway Ave & PVW



Needs high vis. crosswalk, shoulder begins



Add a bus shelter & make shoulder>bike lane

PVW & Cunningham Dr



Need high-visibility crosswalk

PVW & Rosemont Terrace



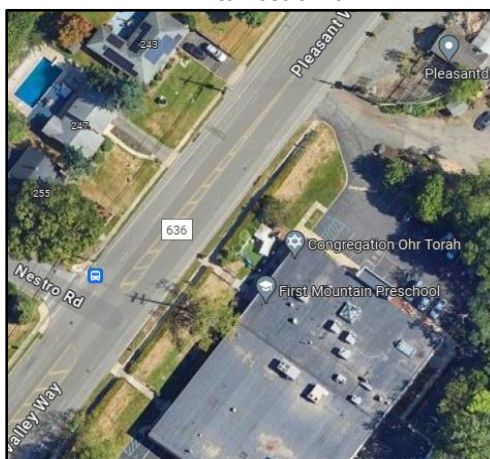
Need high-visibility crosswalk

PVW & MayFair Drive



Need high-visibility crosswalk

PVW & Nestro Rd.



Consider a crosswalk across PVW for Synagogue members to cross

PVW & Woodland Ave

Shortly After PVW & Woodland Ave



Left turn lane removes shoulder for cyclists Consider one thru lane & shoulder/bike lane



Remove painted island, add shoulder/bike lane Add a bus shelter

Southside PVW & Sullivan Dr. (Passing Woodlands)



Good shoulder - make a bike lane

395 PVW (Near Chabad of WO)



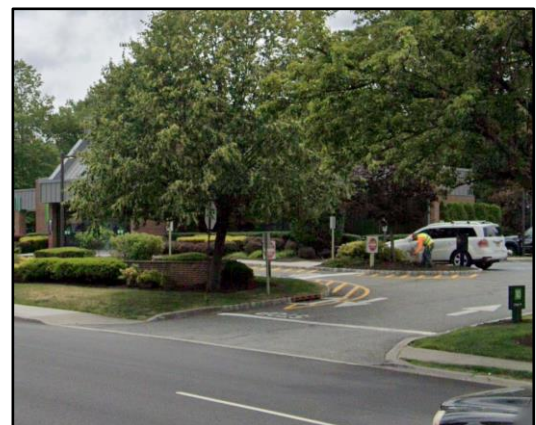
Good shoulder - make a bike lane

PVW & Marmon Terrace



Why restrict RT turns during commute hours?

In front of TD Bank on PVW



Paint crosswalks over both driveways

Pleasant Valley Way & Marmon Terrace

PVW



Shoulder ends at corner of TD Bank



No shoulder approaching Eagle Rock Ave.

PVW & Eagle Rock (Chase Bank)



Good bus shelter

Kearny Bank (PVW southbound)



Paint crosswalks on both Banks' driveways

Pleasant Valley Way



Kids walk North on Pleasant Valley Way

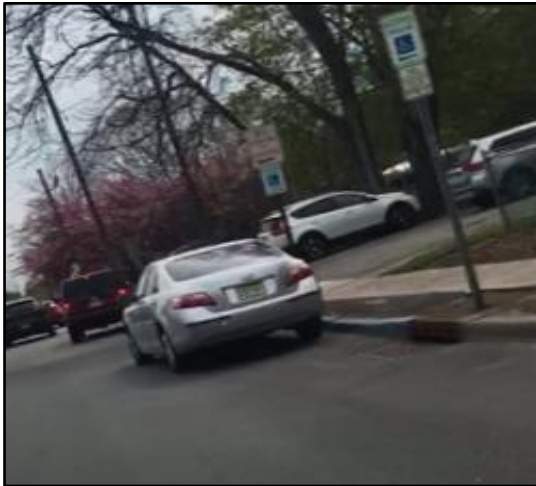
Pleasant Valley Way & Greenwood Ave



Paint high visibility crosswalk-Greenwood Ave

PVW at Kelly School

PVW near Kelly School

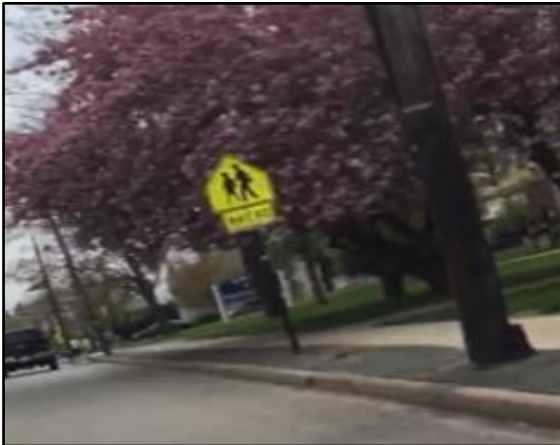


Cars waiting for students parked in ADA zone



Cars obstruct views of staff exiting Kelly onto PVW

Front of Kelly School



Ped Crossing Sign in front of Kelly School

PVW & Stanford (Corner of Kelly ES)



Crossing Guard helps students cross PVW

PVW



Students walking after school

PVW



Traffic from light

PVW and Alisa Drive heading South (across from WOHS)



Add a bike lane approaching Kelly School

PVW and Alisa Drive heading South (across from WOHS)



Good Ped Crossing Sign

Lakeview Drive & Pleasant Valley Way



Crossing guard on duty wearing high-visibility vest

PVW & Lakeview Ave



No pedestrian signal head at Lakeview Dr.

PVW & Lincoln Ave



Road widens approaching rte. 208

PVW



No crosswalk to access Bus stop on median

Belle Terre Rd & PVW

Pleasant Valley Way & Lincoln Ave



No pedestrian crossings



Road isn't safe for biking or walking. Sidewalk ends, and there is no access to bus stop in median.

PVW under RT 280 Underpass



No shoulder under RT 280

PVW under RT 280 Underpass



No crosswalk through the jughandle.

PVW



Jughandle exit

PVW



Repeat- page 42: faded crosswalk

PVW



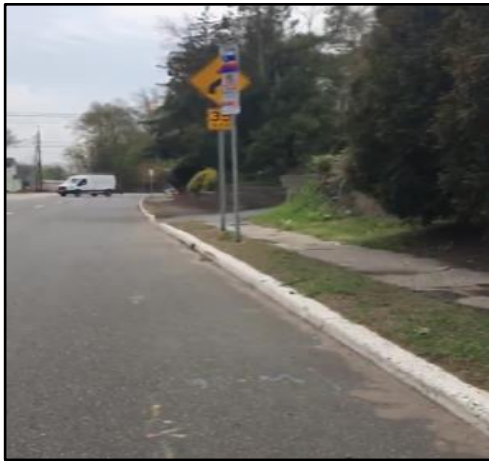
Sign indicating median ends

PVW & Mt Vernon Ave



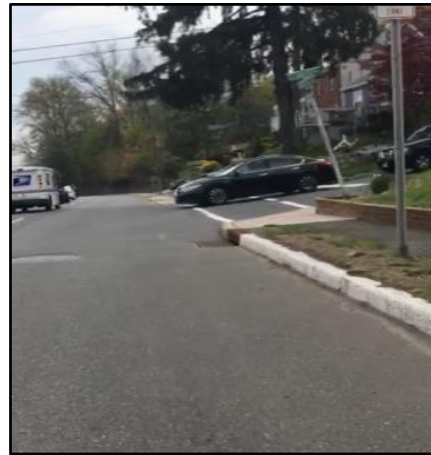
No strips in crosswalk

PVW



Curves ahead sign behind bus stop

PVW & Elmwood Ave



Car stopped in crosswalk with no stripes

PVW



No shoulder

PVW



Debris and water building up on sidewalk

PVW

PVW & Mt. Pleasant Ave



Road widens approaching Intersection with Mt. Pleasant Ave



Long crossing distance and no stripes in crosswalk

PVW & Mt. Pleasant Ave



Long crossing distance and no stripes in crosswalk

PVW



Approaching slip lane from Mt. Pleasant Ave

PVW



Very wide/long driveway entrance/exit

PVW & Rand Dr.



No stripes in crosswalk

172 Old Indian Road to St. Cloud Ave

PVW northbound



Speed bump to slow down car speeds:
Rode to St. Cloud School in residential area then back
to WOHS via PVW. No improvements needed in
residential area.



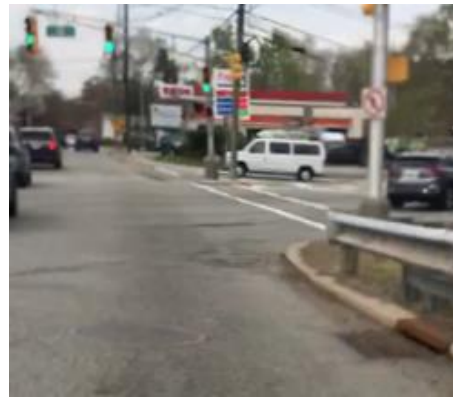
No sidewalk on northbound side

PVW



Road widens approaching Intersection with Mt.
Pleasant Ave. No sidewalk available.

PVW & Mt. Pleasant Ave



Long crossing distance and no stripes in crosswalk

PVW



Approaching slip lane from Mt. Pleasant Ave

PVW & Mt. Pleasant Place



No painted crosswalk and sidewalk ends at the corner
(no sidewalk on northbound side)

PVW

PVW



No stripes in crosswalk



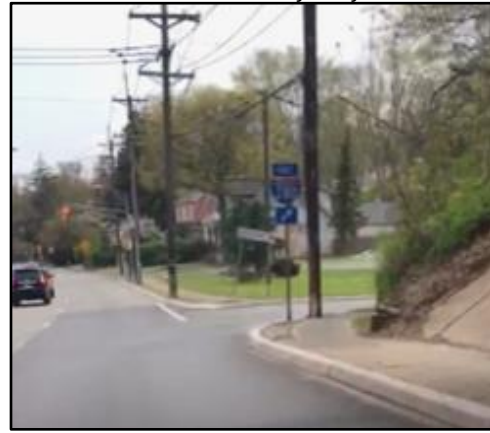
Bus stop - Add lighting for pedestrians and a bike lane or sharrow

Pleasant Valley Way



Sidewalk and road continue under RT 280 - add lighting

Pleasant Valley Way



Faded crosswalk - no ADA curb ramps

Rt. 280 off ramp & PVW



Low visibility crosswalk. The median curb is slightly raised higher than the street.

Rt. 280 off ramp & PVW



Crosswalk is placed 10 feet before the stop sign and stop bar, meaning pedestrians cross before cars stop. Suggest moving crosswalk in front so stopped cars will see pedestrians cross - add lights/Ped Crossing Sign.

Hooper Avenue & Pleasant Valley Way

PVW



High-visibility Pedestrian Crossing sign next to bus shelter, high-visibility crosswalks in both directions, and pedestrian signals present. Add lighting and sharrow.



No stripes in crosswalk across Hooper Ave

PVW



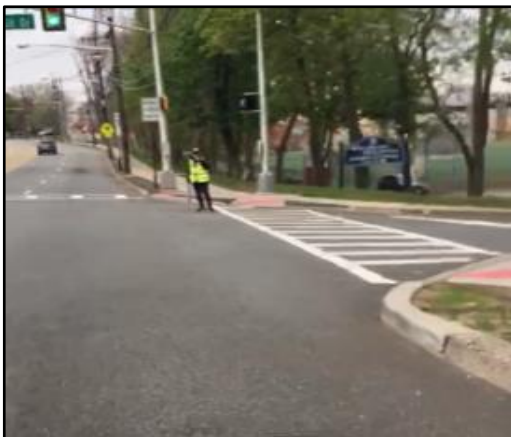
Utility pole obstructs sidewalk

PVW



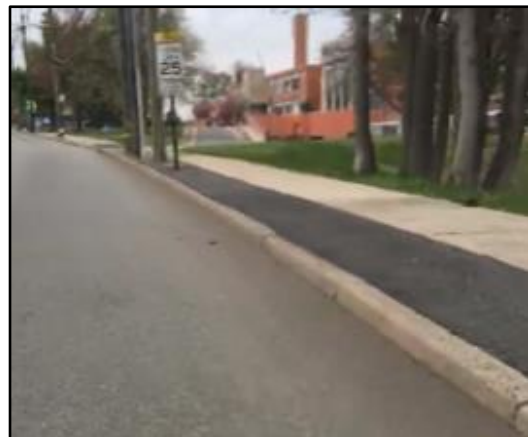
Family waiting to cross at crossing/intersection

PVW



Crossing guard, high visibility crosswalk

PVW



Sidewalk widens near school, add a bike lane or sharrow on PVW

WOHS & PVW

WOHS



One-way entrance to WOHS, add a bike lane



High visibility shoulder/ no parking area. Sidewalk is a narrow, add bike lane in place of striped area

WOHS



High visibility shoulder/ no parking area

Walking Route 2: Start at Mt. Pleasant Avenue, right on Lorelei Avenue, right on Roosevelt Avenue, right on Elmwood Avenue, and left on Pleasant Valley Way.

575 Pleasant Valley Way



Sidewalk partly covered in dirt/debris

597 Pleasant Valley Way



Sidewalk is very close to street, no shoulder

Pleasant Valley Way & Sunnyside Road



Dome pad aligned correctly, no stripes in crosswalk

Pleasant Valley Way & Curtis Ave/Hooper Ave.



High visibility crosswalk, but long distance to cross

Entrance to Pleasant Valley Way from RT 280



Sidewalk curb ramp is behind stop sign/bar. Repaint stop bar and STOP pavement marking and reposition stop sign so cars stop in front of a painted crosswalk.

Entrance to Pleasant Valley Way from RT 280



No crosswalk, water/debris accumulating at ramp

726 Pleasant Valley Way- across Hoover Ave



Sidewalk is slanting downhill, uneven, and obstructed by the top of the railing. Dangerous for children.

700 Pleasant Valley Way- across Dawson Ave



Good sidewalk, Post obstructs part of sidewalk

692 Pleasant Valley Way



Driveway is uneven. Paint crosswalk on driveway

Mt Pleasant Ave & Pleasant Valley Way



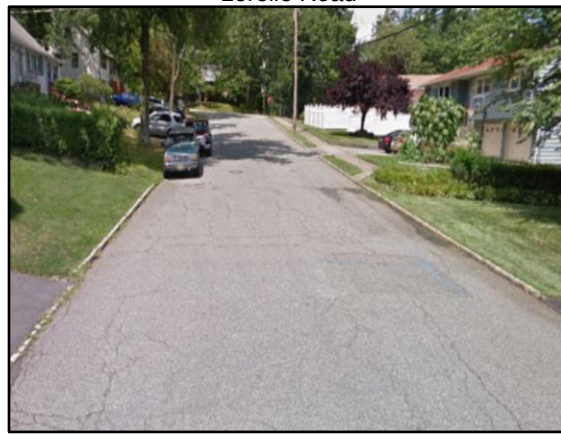
Road widens at intersection and increases the pedestrian crossing distance. Need a high visibility crosswalk and a median

Lorelei Road & Mt Pleasant Ave



Overgrown grass, no lighting, low-visibility crosswalk, and sidewalk ends at curb.

Lorelie Road



Sidewalk ends. There is little street lighting and no pedestrian lighting.

Roosevelt Avenue & Lorelei Road



High visibility stop sign present, sidewalk continues on to the next street.

Roosevelt Ave



Sidewalks on both sides of the street, some street lights but no pedestrian lighting

Elmwood Ave & Roosevelt Ave



No crosswalk

Elmwood Ave



Sidewalk only on one side of the street

Pleasant Valley Way & Elmwood Ave



High visibility stop sign and stop bar, and low-visibility crosswalk. Paint stripes in crosswalk.

Walking Route 3: Start at Buckingham Road, right on Normandy Road, left on Nottingham Road, right on Westminster Terrace, right on Manchester Road, right on Lancaster Road, left on Buckingham Road, right on Pleasant Valley Way, and back to WOHS.

Buckingham Road



The uprooted sidewalk is a tripping hazard and difficult for strollers and wheelchairs.

45 Buckingham Road



The sidewalk is broken, narrow and worn.

35 Buckingham Road



The sunken sidewalk makes wheelchair travel difficult.

Buckingham Road



"Watch Children" sign with speed limit posted.

17 Buckingham Road



Many older driveways are moderately to severely damaged from years of use.

15 Buckingham Road



Owner attempted to fix the cracks and raised sidewalks.

1 Normandy Terrace



No sidewalk present which means pedestrians must walk on the street.

1 Normandy Terrace



Wheelchairs//strollers must use a cracked driveway to access the sidewalk.

Normandy Terrace



Very few street lights are present.

19 Normandy Terrace



Driveway deteriorated when meeting the sidewalk.

23 Normandy Terrace



Uneven sidewalk makes travel in a wheelchair or with strollers difficult.

Nottingham Terrace



All of the sidewalks end on Normandy Terrace. The rest of the surrounding streets did not have sidewalks or crosswalks.

4. Action Plan & Recommendations

The Safe Routes to School Action Plan is organized into the “Five E’s”: Education, Encouragement, Enforcement, Engineering, and Evaluation. Additionally, each element of the Action Plan considers two parameters – time and cost, as shown below. Together, they comprise a set of directions to help the community prioritize their action steps to increase student safety. The tables below identify preliminary recommendations specific to this school and its immediate area. To realize the full benefit of the SRTS program, it is suggested that this School Travel Plan be used to apply for SRTS grant funds to thoroughly implement all the action steps.

Time Frame Definition	Cost Definition
Short-term = less than 3 months	Low = Less than \$2,000
Mid-term = between 3 to 6 months	Medium = between \$2,000 and \$10,000
Long-term = longer than 6 months	High = more than \$10,000

- 1. Education:** Programs to educate students, parents and the public about safe walking and biking

Education Actions	Responsibility	Time Frame	Cost
Invite EZ Ride to provide bicycle and pedestrian safety education presentations, and bicycle rodeos for students and community (seniors, library, etc.).	School, EZ Ride, Township, Senior Center	Short-term, Mid-term, Long-term	No Cost
Remind parents where and when to pick up and drop off students via Robo Call twice a year annually.	School	Short-term, Mid-term, Long-term	No cost
Create and/or update Student/Parent Handbook that defines arrival and dismissal procedures with a map of the area and text that defines drop-off/pick-up areas, the rules such as no U-turns, parking, no engine idling, and 25 mph speed limit within the school zone.	School, PTA	Short-term	No Cost
Integrate walking and safety education (wear helmets, use crosswalks) into classroom education.	School, Health/PE teacher	Short-term, Mid-term, Long-term	No Cost
Leverage Social Media to spread awareness of school zones and enforcement activities.	School/District, PTA, Township, Police	Short-term, Mid-term, Long-term	No Cost

Perform a crossing guard training in town.	NJ SRTS Resource Center/VTC, Police	Short-term, Mid-term, Long- term	No Cost
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2. Encouragement: Programs to encourage or promote walking, biking, and driving safety

Encouragement Actions	Responsibility	Time Frame	Cost
Work with Twp. to designate a safe drop-off and pick up area 2-3 blocks from the school for cars/buses. This will encourage kids to walk a short distance, keep the area near school traffic-free for cyclists and walking students, and eliminate air pollution in the school building from cars/buses idling outside and waiting for students.	BOE, Township, PTA	Short Term, Mid-Term	No cost
The school or district has a SRTS, Walking or Biking Policy to encourage walking and biking to school so schools should implement it. EZ Ride can assist with ideas.	School, District, EZ Ride	Short-term, Mid-term	No cost
Encourage the Twp to update and implement Complete and Green Streets Policy to provide safety for all road users, not just drivers, but pedestrians and cyclists. Ez Ride can assist with templates.	Township, County	Mid-term	No cost
Provide 5 minute earlier dismissal for those who walk or bike home, so they can avoid traffic from cars/buses.	School, District	Short-term, Mid-term	No cost
Hold a student poster or bookmark contest about Walking and Biking to school.	School, EZ Ride	Short-term	No cost
Hold annual Bike/Walk to School or Work Days throughout the year - on International Walk to School Day (Oct.), Ruby Bridges W2SD in Nov., NJ Bike to School Day (May).	School, PTA, EZ Ride	Short-term, Mid-term, Long-term	No cost
Utilize the school website and newsletters to promote walking/biking to school or carpools annually.	School Tech Coordinator	Short-term, Mid-term, Long-term	No cost
Establish and organize carpools to connect students and families who could carpool to decrease traffic at arrival and dismissal.	School, PTA	Short-term, Mid-term, Long-term	No cost
Be sure to provide space for bike racks and for students to store bike helmets.	School, PTA	Short-term	Low cost

Establish and organize Walking School Buses or Bike Trains to connect students and families who can walk together to decrease traffic at arrival and dismissal.	School, PTA, EZ Ride	Short-term, Mid-term, Long-term	No cost
Encourage safety club students to enter BIANJ's High School Champions Contest	School	Annually	No Cost

3. Enforcement: Activities to improve safety and security for those walking and biking to school

Enforcement Actions	Responsibility	Time Frame	Cost
Conduct bicycle registration and helmet giveaways at Bike Events.	School, Police, EZ Ride	Short-term	Low
Investigate training Walking School Bus volunteers to do crossing guard training.	School Liaison, Police	Mid-term, Long-term	Low
Ask police to set up radar signs to conduct speed studies, post driver speeds, and remind drivers to slow down in the school zone.	Police, School Liaison	Short-term, Long-term	Low
Pedestrian Decoy Operation – target unsafe drivers, especially during school commute time.	Police	Long-term	Low
Conduct Street Smart campaign near school at hot spot intersections.	Police, NJTPA, EZ Ride	Short-term, Mid-term, Long-term	Low
Ensure sidewalks and road near curbs are clear of snow and leaf piles on school days for pedestrians and cyclists.	Township, DPW and School can remind parents, residents to shovel	Winter	Low

4. Engineering: Infrastructure upgrades that improve walking and biking environment.

Engineering Actions	Responsibility	Time Frame	Cost
Repaint/paint all crosswalks along and across Pleasant Valley with high visibility ladder designs to slow and alert drivers to crossing pedestrians	County, Engineering	Short-term	Low
Repair/install sidewalks on Pleasant Valley Way, Buckingham Road, Normandy Terrace, and Nottingham Road.	Township, Engineering	Mid-term, Long term	High

Install traffic calming measures to slow car traffic such as curb extensions, speed humps, bike lanes, shoulders and mini roundabouts. Examples: Pleasant Valley Way, Buckingham Road, Normandy Terrace, and Nottingham Road.	Township, Engineering	Mid-term, Long-term	Medium
Add a crosswalk for pedestrians to access bus stop in the island on Pleasant Valley Way near RT 280 overpass.	County, Engineering	Mid-term	Low Cost
Add pedestrian lighting on corners on Pleasant Valley Way and where noted.	County, Engineering	Mid-term	Medium
Identify areas where most senior and student pedestrian crashes are occurring. Add pedestrian signal heads, push buttons, LPIs, and lengthen time on countdown signal timers. Add more and brighter street lighting and pedestrian lighting.	Township, County Engineering	Short-term, Mid-term	Medium for light, ped. signals, no cost to adjust signal timer
Post "School Zone" signs and paint "school zone" on roadways surrounding WOHS.	Township, County, Engineering	Short-term, Mid-term	Medium
Investigate traffic speeds around the school and post speed limit signs/ speed radar as traffic calming concepts.	Township, County, Engineering, Police	Short-term, Mid-term	Medium
Install additional School Zone signs outside the school perimeter; install more signs with augmented flashing beacons.	Township, County, Engineering	Mid-term	Medium
Consider converting Pleasant Valley Way into a two-lane road diet with a turning lane in the middle, and bike lanes on both sides.	County Engineering	Short-term	Low
Trim bushes and tree branches obstructing sidewalks on streets, example: Normandy Terrace, Nottingham Road.	DPW, Homeowner(s)	Short-term	None
Consider infrastructure changes such as narrowing lanes, painted/protected bike lanes on Pleasant Valley Way to slow traffic, and reduce road length for those crossing.	County, Engineering,	Long-term	High
Install "No turn on red" signs during the timeframe when students are walking to and from school.	Township, County	Short-term	Low

Install a “pedestrian only interval” or “leading pedestrian interval (LPI) phase at traffic signals” for pedestrians and cyclists to cross at intersections along Pleasant Valley Way, especially the intersection of Pleasant Valley Way & Eagle Rock Avenue.	County	Short-term, Mid-term	No cost
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5. Evaluation: Efforts to monitor and evaluate progress towards the achievement of SRTS goals

Evaluation Actions	Responsibility	Time Frame	Cost
Improve communications between school officials and families, establishing a convenient mechanism to share information and get feedback.	School, PTA, School Tech Coordinator	Short-term, Mid-term, Long-term	No cost
Conduct speed study on roadways to evaluate if the speed limit is being complied with. EZ Ride can assist.	Township, County, Police, EZ Ride	Short-Term, Mid-Term	Low cost

4.1 Conclusion

The walking and cycling audit assessed the safety of walking and biking in the different neighborhoods surrounding West Orange High School. The task force found that it is a beautiful and walkable community but is made less pleasant and less safe due to faded and/or non-existent crosswalks, lack of bike lanes and sharrows, pedestrian signal heads, good pedestrian lighting, and high speeds mainly on Pleasant Valley Way.

Community priorities around West Orange High School should include tasks such as painting/repainting high visibility crosswalks and stop bars, adding bike lanes for micro mobility users to get to school, setting up a pickup/dropoff zone a few blocks away from the school for all buses so that students can walk to the campus and prevent congestion near the campus, and installing pedestrian lighting at or near areas where students and seniors frequently walk or bike. The township can reduce the number of drivers who are speeding by installing speed limit radar signs and narrowing lanes. This can help to prevent cars from speeding in the school zone from both directions on Pleasant Valley Way; as well as increase the alertness of drivers and encourage more students to walk and bike to school. If parents decide it is safe enough to allow their children to bike or walk to school, it can reduce the amount of pollution due to less driving from not having to drop off or pick up their children every day.

Traffic congestion in the school zone can be greatly reduced by implementing staggered dismissal times to allow walkers and cyclists to leave earlier. This will create more safety for walkers and cyclists since they will not have to maneuver around vehicle traffic. There are two bike racks at the school, so installing bike lanes near school on one side of the road would be a helpful resource for students biking to school. This could also motivate other students to begin riding their bikes to school making them feel safer riding along Pleasant Valley Way. Through increased use of active transportation practices like walking and bicycling, residents can help to make West Orange a more appealing community to live in and reduce air pollution and heavy traffic congestion.

EZ Ride is proud to work with the community to improve safety and bring SRTS programs to the schools. EZ Ride's Safe Routes to School team has provided important information and incentives for students to walk and bicycle to school. This is the second School Travel Plan prepared for West Orange High School and EZ Ride hopes that WOHS will continue to educate their students on walking and biking safety, as it is vital that the students have this information. This report should be used by the District, Township and County to apply for SRTS infrastructure and TA Set Aside grants to make the sidewalks, streets, and neighborhood safer for students, residents and seniors to walk and bicycle to school and community programs.

5. Appendices

5.1 Appendix A: Typical Opportunities for Improvement



LONG CROSSING DISTANCES

Long crossing distances prolong the exposure time of pedestrians to motorists and make it difficult to see the pedestrian signal head on the other side of the road.



PEDESTRIAN OBSTRUCTIONS

Obstructions in the pedestrian right-of-way impede pedestrian movement and safety.



LACK OF CURB CUTS

Sidewalks without curb cuts are an obstacle to parents with baby carriages as well as people with disabilities.



POOR MAINTENANCE

Without maintenance pedestrians can trip, it can be a liability issue, and people with disabilities can have trouble negotiating the area.

Typical Bicycle/Pedestrian Treatments



SHARED-USE ROADWAY

Can be a safe for bicyclists when:

- Width is sufficient
- Speeds are low
- Traffic volumes are low



BICYCLE LANE

- Provides a safe and comfortable environment for bicyclists
- An area that is delineated, but not separated from the roadway
- Typically 4' wide with a bicycle stencil



SHARED USE PATH (TRAIL)

- Offers connections and opportunities not provided in the roadway system
- Can provide valuable connections and recreational opportunities
- Typically 8'-10' wide



OTHER FACILITIES

- Bicycle Lockers
- Bicycle Racks on Transit
- Bicycle Racks
- Bicycle Safety Programs

Typical Bicycle/Pedestrian Treatments



SIDEWALKS

- A portion of the road ROW for the preferential or exclusive use of pedestrians
- Typically at least 5' wide
- Should be free of obstructions along its width and 80" high



CROSSWALKS

- Provides a designated crossing point
- Helps provide more predictable pedestrian movements
- Alerts drivers to pedestrian areas



SIGNAGE AND STRIPING

- Can help define pedestrian realm
- Provide visual cues for pedestrians and motorists
- Can augment other facilities



AMENITIES AND AESTHETICS

- Lets pedestrians know area was designed for their use
- Helps provide a safe and comfortable environment
- Helps provide sense of "place"

Typical Bicycle/Pedestrian Treatments



GATEWAY

- Provides Defined Entry
- Provides Cue to a Transition Area
- Aesthetically Pleasing



FULL CLOSURE

- Can be used to eliminate neighborhood cut-throughs
- Eliminates vehicular access
- Allows pedestrian and bicycle access and egress



MID-BLOCK CROSSING

- Reduces Vehicle Speeds
- Increases Pedestrians Visibility
- Reduces Pedestrian Crossing Distance
- Connects Pedestrian Generators



RAISED MEDIAN GATEWAY

- Provides Defined Entry
- Provides Cue to a Transition Area
- Aesthetically Pleasing
- Provides Pedestrian Refuge
- Reduction in Vehicle Speeds

Typical Traffic Calming Devices



RAISED

- Reduces Vehicle Speeds
- Increases Pedestrians Visibility
- Reduces Pedestrian Crossing Distance
- Provides Pedestrian Refuge



BIKELANE

- Reduces Vehicle Speeds
- Produces Designated Lane for Bicyclists
- Provides Additional Buffer for Pedestrians



CURB EXTENSION

- Reduces Vehicle Speeds
- Reduces Pedestrian Crossing Distance
- Increases Pedestrian Visibility
- Protects Parking Area & Prevents Parking Close to Intersection



MEDIAN REFUGE

- Reduces Vehicle Speeds
- Reduces Pedestrian- Vehicle Conflict
- Reduces Pedestrian Crossing Distance
- Improves Aesthetics if well-maintained

5.2 Appendix B: Funding and Building Resources to Build Infrastructure

Source: Together North Jersey (TNJ): Funding and Resources Database,

https://togethernorthjersey.com/?page_id=24974#home/

Program Name	Program Description	Eligibility Description	Eligibility	Source
21st Century Redevelopment Program	To provide municipalities and counties with the funding necessary to redevelop "stranded assets," which are underutilized or vacant office or retail spaces, usually located far from transit	New Jersey municipal or county governments, and redevelopment agencies	County, Municipal	New Jersey Economic Development Authority
Biking in New Jersey - Planning Resources	NJDOT offers engineering guidelines, a Master Plan for roadways that are compatible with bicyclists and walkers and a resource center for statewide projects	New Jersey communities	Municipal	New Jersey Department of Transportation
Community Development Block Grants	The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs	Larger cities and urban counties	County, Municipal	US Housing and Urban Development
Congestion Mitigation and Air Quality Initiatives Program	To advance readily implementable and innovative projects and services that improve air quality and reduce congestion in the NJTPA's air quality maintenance and non-attainment areas	Local, County, State, and Regional governments	County, Municipal, State	NJTPA
Environmental Workforce Development and Job Training Grants	Eligible entities, including nonprofit organizations, to deliver environmental workforce development and job training programs that recruit, train, and place local, unemployed and under-employed residents with the skills needed to secure full-time employment in the environmental field	Non-profit organizations and local government agencies in communities historically affected by economic disinvestment, health disparities, and environmental contamination, including low-	County, Municipal, Non-profit organizations	US EPA Environmental Workforce Development and Job Training Grant Fund

		income, minority, and tribal communities		
Future in Transportation	NJFIT changed the way NJDOT does business in New Jersey by using a comprehensive and cooperative approach to transportation and land use planning. Working with community planners, we can keep jobs, goods and services within reach of every New Jersey citizen and reinvest in our infrastructure by shaping transportation to fit into the environment of our communities	New Jersey Communities.	Municipal	New Jersey Department of Transportation
Geraldine R. Dodge Foundation	Funds Arts, Education, Environment and Informed Communities initiatives that are innovative and promote collaboration and community-driven decision making	no restrictions	State, County, Municipal, Private, Non-profit organizations, Other	Geraldine R. Dodge Foundation
Local Planning Services	Local Planning Services (LPS), an office within DCA, works with communities to achieve local land use and planning goals. As part of DCA's commitment to provide technical assistance to municipalities, our professional planning staff offers comprehensive planning services at no-cost to local governments. LPS Can provide a variety of planning services: master plans and redevelopment plans, land use mapping, economic development plans, and special municipal projects	Municipalities	Municipal	New Jersey Department of Community Affairs
Neighborhood	This program provides direct financial and technical	Municipalities	Municipal	New Jersey Department

Preservation Program	assistance to municipalities over a three to five year period to conduct activities associated with the preservation of designated neighborhoods based on strategic revitalization's plans within those municipalities.			of Community Affairs
New Jersey Healthy Communities Network - Community Grants Program	The aim of the initiative is to prevent chronic disease and improve health by advancing environment, policy, and system change; and enhancing the built environment to support healthy eating and active living. Supported projects are creating a culture of health by increasing food access and opportunities for physical activity in communities, schools, places of worship, early care and education, neighborhoods, and municipalities. The Network also facilitates a statewide community of practice to share best practices, provide networking and professional development opportunities, and encourage collaboration. Within this community of practice, grantees will be connected to people and organizations with shared goals and agendas and be recognized as a leader in building healthy communities		Non-profit organizations, Other	New Jersey Healthy Communities Network
Our Town Grants	The Our Town grant program supports creative place making projects that help to transform communities into lively, beautiful, and resilient places with the arts at their core.	Communities	Municipal	National Endowment for the Arts

People for Bikes Community Grants	The People For Bikes Community Grant Program provides funding for important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives	Communities across the US	Municipal	People for Bikes - Community Grants
Safe Routes to Schools	Provides federal and state funding to projects that enable children in grades K-8 to walk and bicycle more safely to school.	County, municipal governments, school districts, and schools	County, Municipal	New Jersey Department of Transportation
Safe Routes to Schools	Safe Routes to School (SRTS) is a federal, state and local effort to enable and encourage children, including those with disabilities, to walk and bicycle to school. SRTS facilitates the planning, development and implementation of projects that improve safety and air quality, as well as reduce traffic and fuel consumption around school	Communities in New Jersey	County, Municipal	New Jersey Department of Transportation
Safe Routes to Transit	The Safe Routes to Transit program was established in 2006 with state funding to enable counties and municipalities to improve safety in the vicinity of transit facilities and to make routes to bus stops and rail stations safer for bicyclists and pedestrians	Counties and municipalities.	County, Municipal	New Jersey Department of Transportation
Street Smart Program	Communities that participate in the Street Smart Program work to raise awareness of pedestrian safety laws by hosting events, handing out information, and through social	Municipalities and communities in New Jersey	Municipal	North Jersey Transportation Planning Agency

	media. Local police step up enforcement during the campaign to ensure motorists and pedestrians are obeying the laws. All communities are urged to participate			
Sustainable Jersey Grants and Resources	Sustainable Jersey identifies resources to help municipalities develop a comprehensive sustainable community program. This includes financial resources in the form of grants and incentives, and technical support in the form of trainings, access to support organizations, and guidance material	New Jersey municipalities	Municipal	Sustainable New Jersey