Safe Routes to School Program Redwood Elementary School Travel Plan

75 Redwood Ave, West Orange, NJ 07052



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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 municipality to build a safer walking and biking environment.

School Travel Plans are site specific and describe the needs of each particular 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 recommends applicants to have an approved School Travel Plan in order to apply for a grant.

1. Goals

The goals of the Redwood Elementary School Travel Plan are:

- a. Identify any issues that impact safety on the key travel routes used by students
- b. Provide suggestions to improve the safety of the travel environment
- c. Prioritize suggestions in terms of cost and time needed
- 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 Redwood Elementary School SRTS Task Force came together out of a shared community interest in improving the lives of students and residents. 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 is high in Essex County. Individuals have high rates of physical inactivity & increased violent crime rates.
- Rates of uninsured, unemployed, and children in poverty are higher in Essex County than state averages (CountyHealthRankings.org)
- Air quality in Essex County is slightly lower compared to the state average.

4. School Travel Data

In May 2019, Redwood Elementary School teachers conducted a School Travel Tally to determine how students travel to and from school and provide a benchmark measure.

Mode	Arrival	Dismissal
Walk	7%	13%
Bike	1%	1%
School Bus	41%	45%
Family Vehicle	46%	35%
Carpool	4.6%	5.6%
Transit	0.4%	0.4%

Table 1: Current Student Commute Mode

5. Barriers and Opportunities Identified for Safer Walking & Biking

The Safe Routes to School Taskforce and Community Partners conducted a detailed walkability assessment of the road conditions along the main routes used by the students to walk to school on May 15, 2019. The major roads and intersections surrounding the school include:

- Pleasant Valley Way & Woodlawn Avenue
- Prospect Avenue & Woodlawn Avenue
- Eagle Rock Avenue & Forest 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 a useful tool because it helps the school prioritize next steps. In a particular community, some of the action items may be more urgently needed than others, so the school can execute the recommendations in any order they choose. This School Travel Plan recommends a number of 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:

- 1. Repaint high visibility crosswalks and add pedestrian lighting at corners
- 2. Paint markings on roadway and add signs to identify the School Zone area
- 3. Repair/replace damaged sidewalks, misaligned dome pads
- 4. Add bike lanes, pedestrian signal heads with push buttons to help kids walking/biking
- 5. Devise better parent pickup/drop off plan as traffic congestion and idling is high
- 6. 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 2001. 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 fewer 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.

In the 2013 book, <u>Designing Healthy Communities</u>, 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".

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

The SRTS Program is a collaborative effort of multiple stakeholders that includes school staff, community members, elected officials, municipality staff, and the police department. SRTS brings a community closer together by implementing programs such as pedestrian and bike safety presentations, bicycle rodeo, walkability audits, and walking school buses. 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 are needed so students can and will walk/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 community for accountability
- 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 eight Transportation Management Associations in NJ implement the program locally. The Voorhees Transportation Center (VTC) at Rutgers' University provides technical and administrative support to NJDOT and the TMAs.

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

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

- We began our partnership with the Municipality in 2012 with a Walking School Bus at Gregory Elementary School.
- In 2013, EZ Ride collaborated with West Orange for a municipality-wide Walk to School Day.
- In May of 2015, the Bike and Pedestrian team met with administrators of the West Orange School District about the Safe Routes to School Grant. This meeting served as a catalyst for collaboration in coming years.
- On June 14, 2016 Kelly Elementary School hosted a Bike Rodeo at their school with 27 students who received free helmets from EZ Ride and Safe Routes to School.
- Kelly Elementary School held a Walk to School Day in the fall of 2016 with 200 students, and a 64 student participant poster contest also occurred at Gregory Elementary School. The Walk to School Day and Bike Rodeo helped Kelly Elementary achieve Silver SRTS Achievement. We provided technical assistance for the municipality in 2016.
- In 2017, EZ Ride visited Kelly Elementary School twice.
 - In June of 2017, Kelly Elementary held a Bike Rodeo.
 - $\circ~$ In October 2017, 100 students participated in a Walk to School Day event.
- In April 2018, EZ Ride gave a pedestrian safety talk for 446 students at Kelly ES.
- Also in April 2018, Liberty Middle School held two pedestrian safety presentations for 273 students.
- In December 2018, Kelly Elementary School collaborated with EZ Ride's Bike & Pedestrian team to do a walk audit, travel tallies, and EZ Ride wrote a School Travel Plan. In the same month, Redwood Elementary School hosted EZ Ride for pedestrian safety presentations in the YMCA's afterschool program.
- In 2019, Liberty Middle School hosted a safety poster contest for their students. In April of 2019, Redwood Elementary School conducted student travel tallies.
- In May 2019, EZ Ride worked with the West Essex YMCA to do a walk audit around Redwood Elementary School
- On August 11, 2020, EZ Ride conducted a bike safety talk, safe skills course and a community ride with girl scouts at Kelly Elementary School.
- On September 17, 2020, Sustainable Jersey, VTC did a virtual walkability workshop to assess the roads around Washington Elementary School in West Orange with local stakeholders and EZ Ride.
- On September 26, 2020 EZ Ride conducted two bike safe skill talks, safe skill courses, and community rides at Washington Elementary School.

- In 2020-21, EZ Ride conducted a Street Smart campaign at Main St./Eagle Rock Ave & Harrison Ave.
- EZ Ride joined the West Orange Pedestrian Safety Advisory Board (WOPSAB)
- On May 1-2, 2021 EZ Ride and the WOPSAB created a pop up bike lane on Woodland Ave near Redwood Elementary and held a two day bike safety event at Redwood School.

West Essex YMCA

The West Essex YMCA received a NJ Healthy Community Network grant for the period of 2018-19 and decided to focus on improving walkability and SRTS. The Executive Director approached EZ Ride for help to conduct a walkability audit in West Orange and to promote walking around Redwood Elementary School where they have a successful afterschool program.

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.

West Orange School District

EZ Ride garnered the support of the West Orange Board of Education, 2019 Acting Superintendent Eveny de Mendez, and several schools who are actively participating and are involved in SRTS and the recognition awards program. EZ Ride will be meeting with new Superintendent J. Scott Cascone in November 2020 to see if the District will pass a District SRTS policy and get more schools involved.

Background to Walkability Assessment

The SRTS team agreed to work with the West Essex YMCA to do a walk audit in West Orange to assess safety and walkability for students, resident pedestrians, and cyclists. The team chose Redwood Elementary School based on the crash statistics from the area surrounding the school's neighborhood.

EZ Ride made a presentation entitled "How to Conduct a Walk Audit" to the Task Force group below who gathered to do the walk audit on Wednesday, May 15, 2019.

Members of the group including school staff and students then conducted an SRTS walk audit to assess the neighborhood walking routes that students use.



A list of the Task Force who attended or gave input into the Walkability Assessment and who are crucial to the implementation of the project are included in the table below.

Organization	Role/Responsibility	Contact
Redwood Elementary	Principal	Tim Beaumont
School		75 Redwood Ave.
		West Orange, NJ 07052
		973-669-5457
Redwood Elementary	Teacher	Melissa Halter
School		973-669-5457
		West Orange, NJ
Redwood Elementary	Teacher	Irene Fiory
School		973-669-5459
		West Orange, NJ
Redwood Elementary	Teacher	Gerald Power
School		973-669-5459
		West Orange, NJ
Redwood Elementary	Teacher	Cara Dock
School		973-669-5459
		West Orange, NJ
		cdock@westorange.org
Redwood Elementary	Teacher	Chris Yonitch

Redwood Elementary School Travel Plan Task Force

School		973-669-5459
		West Orange, NJ
Redwood Elementary	5 th Grade Student	Sadie Zwerman
School	5 Grade Gradeni	Gadie Zwerman
Redwood Elementary	5 th Grade Student	Alicia Otero
School		
Redwood Elementary	5 th Grade Student	Bryce Robbins
School	-th o	
Redwood Elementary	5 th Grade Student	Leonardo McCormick
School West Orange Pedestrian	Member, Resident	Lori Kapforor
Safety Advisory Board	Member, Resident	Lori Kapferer West Orange, NJ
Salety Advisory Board		-
West Orenge Dedestrien	Mombor Dresident Desident	lorikapferer@gmail.com Roz Moskowitz Bielski
West Orange Pedestrian	Member, President, Resident	
Safety Advisory Board &		West Orange, NJ
Pleasant Valley Civic		ROZ3464@gmail.com
Association		
West Orange Dept. of	Assistant Director	Nick Salese
Public Works		Asst. Director
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		West Orange, NJ 07052
		973-325-4067
		nsalese@westorange.org
West Orange Police	Police Officer	Scott Smarsh
Department		60 Main Street
		West Orange, NJ 07052
		973-325-4045
NJ Bike & Walk Coalition	Walking Program Manager	Liz Brady
		West Orange, NJ 201-745-6055
West Essex YMCA	Executive Director	Helen Flores
WEST LOSEA TWICA		321 South Livingston Ave
		C
		Lyndhurst, NJ 973-992-7500
		Hfloresatmetroymcas.org
NJDOT	SRTS Coordinator	William Riviere
		1035 Parkway Ave
		Trenton, NJ 08618
		609-963-2230
Redwood PTA	PTA President	Patricia Gomes
		29 Kenz Terrace
		973-669-5457

EZ Ride - Transportation	SRTS Program Assistance,	Lisa Lee
Management Association	Community Resource, Safety	Deputy Director, Bike & Pedestrian
management / teocolation	Education	Programs/ Safe Routes to School
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EZ Ride - Transportation	SRTS Program Assistance,	Eric Angeles
Management Association	Community Resource, Safety	Safe Routes to School Asst.
Management Association	Education	Coordinator, EZ Ride
	Education	144 Park Place East
		Wood-Ridge, NJ 07075
		201-939-4242 ext. 122
EZ Ride - Transportation	SRTS Program Assistance,	eangeles@ezride.org Victoria Alizo
Management Association	Community Resource, Safety	Safe Routes to School Asst.
Management Association	Education	
	Education	Coordinator, EZ Ride 144 Park Place East
		Wood-Ridge, NJ 07075
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EZ Ride - Transportation	SRTS Program Assistance,	Priti Dhungel
Management Association	Community Resource, Safety	Safe Routes to School Asst.
	Education	Coordinator, EZ Ride
		144 Park Place East
		Wood-Ridge, NJ 07075
		201-939-4242 ext. 130
		pdhungel@ezride.org

2. District & School Profile

A school profile for Redwood Elementary School was developed using data from the West Orange Public Schools District website, the Redwood Elementary School website, the New Jersey School Performance Report, and the National Center for Education Statistics.

West Orange Public Schools serve approximately 6,653 students from Pre-Kindergarten – Grade 12 from 2016-2017. The district has 12 schools (Preschool–Grade 8), and three high schools (Grades 9–12). Student demographics are shown in Table 2 below.

Table 2: West Orange Public Schools- Student Demographics
Total Students in District: 6,653

Ethnicity*	# of Students
African-American	2,588
Hispanic	2,003
Caucasian	1,410
Asian/Pacific Islander	379
American Indian/Native American	7
Two or More Races	266
Sex*	# of Students
Male	3,460
Female	3,193
Grade Level*	# of Students
Primary (Pre-Kindergarten – Grade 4)	2,376
Middle School (Grade 5 - 8)	1,978
High School (Grade 9 - 12)	1,906
Special Needs Students/Individualized Education	393
Program/Ungraded	

Source: NJ School Performance Report | *Information from 2016-2017 Academic Year

Academic Performance

A District Factor Group (DFG) is an indicator of the socioeconomic status of citizens in school districts of New Jersey. DFGs were first developed by the New Jersey Department of Education in 1975 for the purpose of comparing student performance on statewide assessments across demographically similar school districts. The school district is then given a letter rating between A-I (A indicating the most disadvantaged). The West Orange School District is classified by the NJ Department of Education as District Factor Group "GH."

2.1 West Orange & Essex County Health Profile – Community Health Needs Assessment

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, rates of uninsured, unemployed, and children in poverty are higher than state averages. Individuals in Essex County 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 lower 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. *Source: Centers for Disease Control and Prevention.*



Chart 1: Percent of Persons Living in Poverty

Source: Census.gov, 2018

West Orange has a considerably lower percentage rate of persons living in poverty compared to the County and state of NJ. While Essex County has a higher rate of persons living in poverty as compared to the rest of the state, West Orange Township has lower rates than both the County and State.



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

West Orange has an estimated median household income of \$93,954 which is higher than both the county and state. Essex County is lower than the NJ State average by a fairly significant margin.

Source: Census.gov, 2018



Chart 3: Percent of Residents with Obesity

Source: City-data.com, 2000-2016

Thirty six and a half percent of people living in West Orange are obese which is similar to the NJ state average. The percentage of obese people in Essex County is a few percentage points higher than both the township and NJ rate.



Chart 4: Percent Residents Diagnosed with Diabetes

Source: City-data.com, 2000-2016

Ten percent of people living in West Orange have been told by a doctor or health professional that they have diabetes which is similar to the state data. The percentage of people with diabetes who live in Essex County is slightly higher than the percentage of people in West Orange. This shows that those living in West Orange are slightly healthier than the average Essex County resident.



Chart 5: Percent Residents Diagnosed with High Blood Pressure

Source: City-data.com, 2000-2016

Twenty four percent of people living in West Orange have been told by a doctor or health professional that they have hypertension (high blood pressure). This is slightly above the County and State rate of hypertension.



Chart 6: Percent Residents Diagnosed with High Blood Cholesterol

About twenty percent of people in West Orange have been told by a doctor or other health professional that their blood cholesterol level is high. The County rate is almost eighteen percent and the state rate is almost nineteen percent.

Source: City-data.com, 2000-2016

Increasing levels of physical activity and encouraging activities such as walking and biking can help students and residents lose or maintain weight and lower their blood sugar, blood pressure, and blood cholesterol levels. Promoting walking and biking can potentially help residents and students with long term health outcomes.

Physical Activity & Media Viewing Habits

Many students do not get enough physical activity as they are spending more time online. 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. The HHS 2008 Physical Activity Guidelines for Americans recommend that children get at least sixty minutes of moderate to vigorous physical activity daily.

2.2 Redwood Elementary School

Excerpt edited from the Redwood Elementary School Welcome page:

Redwood School is proud of its harmonious relationship between our highly qualified teachers, parents and students. Our efforts are designed to create a safe, engaging and productive school environment which values the unique qualities of each student. Interaction with students is designed to enhance self-esteem and promote responsible, respectful conduct. Students feel important and discover that the educational process is exciting, rewarding, and never-ending. Redwood School is committed to developing each child's abilities to the fullest. We aspire to instill in all our students, the knowledge and decision making skills to make appropriate choices and thoughtfully address challenges in their lives. Notable school activities include: Family Math & Literacy Events, School Spirit Days, School Store, School Enrichment Program, Third, Fourth, and Fifth Grade Spelling Bees, Book Fairs and Science Fairs, Nature's Heart Garden, Health, Science, Language Arts and Math concepts, Chorus, Student Government, and Talent Shows.

Chart 8: Redwood Elementary Enrollment by Student Ethnicity in (2017 – 18)



Source: NJ School Performance Report, 2017-18

rubio of ordiaont Language Diversity (Loni Lono)						
Language Spoken at Home						
English 87.3%						
Spanish 8.4%						
Other 4.3%						

Table 3. Student Language	Diversity (2017 – 2018)
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Source: NJ School Performance Report, 2017-18

The main language spoken at home by students and their parents is English. The next most frequently spoken language is Spanish. Other languages have a presence at Redwood Elementary School, but have a comparatively smaller presence.

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 the children, and longer commutes have forced more and 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. Maps 1 and 2 provide a broad overview of the residential area near Redwood Elementary School.

Map 1: One Mile Radius Around Redwood Elementary School



Source: NJ Safety Voyager, 2019



Map 2: Area Around Redwood Elementary School

Source: NJ Safety Voyager, 2019

3.1. Current Student Travel Environment

School Hours

Drop off begins at 8:35am. All staff exits the building to supervise students. Students dropped off before 8:35am are under the responsibility of their parents. All students are inside of the building by 8:45am for the start of the school day. Dismissal is at 3:23pm.

Drop-off/Pick-up Procedure

There are 11 school busses that service Redwood Elementary, load and unload students from the bus loop in the front of the school. Bussed students are dismissed under staff supervision from the New Gym at 3:18pm with the last bus leaving by 3:45pm.

Students walking or being picked up by parents are dismissed at 3:23pm from various exits according to grade. Parents pick up and drop students off by double parking on surrounding roads, or using the bus loop in front of the school. There is a lot of traffic parked all around school at dismissal.



Crossing Guards

Five crossing guards are stationed at the intersections of Pleasant Valley Way & Woodlawn Ave., Woodlawn Ave. & Forest Ave., Woodlawn Ave. & Redwood Ave., Redwood Ave. & Cannon St., and Forest Ave. & Eagle Rock Ave.

Student Travel Mode

In May 2019, the teachers conducted a SRTS Student Travel Tally Survey to document how the children in their classes get to and from school. A total of 2,445 trips were documented and the data was analyzed by the NJ Safe Routes to School Resource Center at the Voorhees Transportation Center (VTC), Rutgers University. The Travel Tally report was processed by Voorhees Transportation Center (VTC) and received in July 2019.

Chart 9: Morning and Afternoon Travel Mode Comparison

	# of Trips	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	1256	7%	1%	41%	45.6%	5%	0.4%	0%
Afternoon	1189	13%	1%	45%	35.6%	5%	0.4%	0







The number of students being driven to or from school is fairly high at 35-46%. It's suggested to encourage walking/biking or carpools to school to reduce the amount of vehicle traffic at arrival and dismissal times.

3.2 Pedestrian Safety

EZ Ride conducted an analysis of the pedestrian-related crashes within a one-mile radius of the school over a 4-year period from 2014 to 2018 based on police incident Reports via NJ Safety Voyager. The reported incidents were plotted on Map 3.



Map 3: Pedestrian Crashes Within One Mile of Redwood Elementary School

Source: NJ Safety Voyager, 2014-2018



= Redwood Elementary School

= Approximate Site of pedestrian/bicycle crash

NJ Safety Voyager is a crash map data program created by the NJ Department of Transportation. The circle on the map indicates the approximate site of a pedestrian/bicycle crash. The crash in the map above was non-fatal.

			,				•			5
Ag	je	2012	2013	2014	2015	2016	2017	2018	Total	Percent
0-1	10	4	1	0	1	0	2	0	8	6.4%
11-	·17	3	0	3	2	2	3	1	14	11.2%
18-	-35	3	0	9	7	6	8	8	41	32.8%
36-	·60	6	0	9	8	8	5	6	42	33.6%
Ove	r 60	0	0	4	4	6	3	3	20	16%
То	tal	16	1	25	22	22	21	18	125	100%

Table 5: Pedestrian/Bicycle Crashes by Age, In Municipality of West Orange

Source: Numetric, 2012-2018

Using the Numetric program, pedestrian crashes by age were determined for West Orange. From 2012-2018, there were 125 pedestrian crashes. On average, the Municipality of West Orange had 17.8 pedestrian crashes per year. While the majority of crashes occurred within the age range of 18-60 years old (66.4%), there were 15 crashes (17.6%) that involved children under the age of seventeen and 20 crashes (16%) involved seniors over age 60 which is a concern. One observation made during our audit was that students are riding bicycles and not wearing helmets. It's suggested to bring in EZ Ride's Bike & Ped team to talk to students about bike safety.



3.3 Walkability Assessment

The SRTS Task Force conducted a walkability assessment of the major routes used by students to get to Redwood Elementary School on May 15, 2019. School children and residents of all ages and abilities walk in and through the neighborhood.

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

done well. The SRTS Task force took photos of areas on each route. Comments and recommendations are listed with photos and are summarized in the Action Plan at the end.



Map 4 shows all four of the walking routes which were assessed.



Map 4: Main Walking Routes

1. Good Practices

The following pictures show good safety practices we observed. These types of infrastructure improvements should be encouraged in the school vicinity as well as along the routes where students walk.



Crossing Guards

Blue Route

• Redwood Ave. & Woodlawn Ave.

Orange Route

• Forest Ave. & Eagle Rock Ave.

Peach Route

• Redwood Ave. & Cannon St.

Red Route

- Pleasant Valley Way & Woodlawn Ave.
- Forest Ave. & Woodlawn Ave.



Crosswalks

Multiple Routes

- Forest Ave. & Woodlawn Ave.
- Redwood Ave. & Woodlawn Ave.
- Forest Ave. & Nicholas Ave.
- Forest Ave. & Bromley Dr.

Blue Route

• Woodlawn Ave. & Prospect Ave.

Orange Route

- Eagle Rock Ave. & Forest Ave.
- Ellis St. & Forest Ave.
- Eagle Rock Ave. & Dunn Rd.

Peach Route

- Redwood Ave. & Nicholas Ave.
- Redwood Ave. & Cannon St.

Red Route

- Pleasant Valley Way & Woodlawn Ave.
- Steven Terr. & Woodlawn Ave.



High Visibility Pedestrian Signage Around School Zone

Red Route

• Forest Dr.

- Peach Route
 - Woodlawn Ave.
 - Redwood Ave.



Signage That Suggests to Cross Using Crosswalks

Red Route

• Woodland & Pleasant Valley Way

2. Common Problems – The following pictures show different infrastructure issues that need to be addressed to encourage walking and improve safety, mobility, and accessibility.

Damaged Sidewalks	Poor Drainage
Blue Route	Blue Route
Woodlawn Ave.	Woodlawn Ave.
Orange Route	Orange Route
Forest Ave.	Forest Ave.
• Dunn Rd.	• Dunn Rd.
Peach Route	Peach Route
Harper St.	Nicholas Ave. & Redwood Ave.
Redwood Ave.	Red Route
Nicholas Ave.	Woodland Ave.
Cannon St.	Forest Ave.
	Dunn Rd.
Ellis St. Starran	
Steven Terr.	
•	





Trees/Garbage Obstructing Path

Seen on all routes

Branches, shrubs must be cut and cans removed so students can use sidewalk



Missing Sidewalk and misaligned domes

Red Route

 Woodland Avenue (crosswalks are not high visibility and traffic is speeding on this road)



Busy Intersection Outside School

Red Route

 Need another crossing guard as one guard trying to cross kids on Woodland Ave. and Redwood Ave.





No crosswalk across school entrance or in parking lot where kids walk

 Repaint crosswalks across school driveway and in school parking lot



Busy Intersection Outside School

- Parents double-parked and idling around the intersection impeding crosswalks and pedestrian view of coming traffic
- Suggest lighting and a pedestrian/traffic signal here as traffic coming from three directions and it is hard for kids to cross safely without a crossing guard present



Sidewalk Ends and Stop Sign Too Low

Red Route

Steven Terrace & Woodland Ave
 Sidewalk ends on one side
 Stop Sign is too short
 Drainage issues along road



Misaligned Dome Pad & Drainage Issue

Red Route

- Paint high vis crosswalk
- Fix drainage issues
- Fix dome pad direction



Repaint high visibility crosswalks all around school as many are faded and no longer visible.

3. Engineering Recommendations



- Municipal roads make this idea easier to implement and can be part of the schools PE program and provide infrastructure for cycling away from busy roads
- Suggest bike lane along Woodland Avenue as well

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 safety for students. 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 this School Travel Plan be used to apply for SRTS grant funds to fully implement all action steps.

Timeframe 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 the public about safe walking and biking

Education Actions	Responsibility	Time Frame	Cost
Invite EZ Ride to provide SRTS bicycle	School, EZ Ride	Short-term, Mid-	No Cost
safety presentations, pedestrian safety		term, Long-term	
presentations, and bike safe skills			
events/rodeos at school annually			
Remind parents where and when to pick	School	Short-term, Mid-	No cost
up and drop off students via Robo Call		term, Long-term	
twice a year annually.	School, PTO	Long torm	No cost
Create and/or update Family Handbook that defines arrival and dismissal		Long-term	NO COSI
procedures with map and text that defines			
drop-off/pick-up areas, the rules such as			
no parking/double-parking near			
crosswalks, no idling, no dropping off kids			
on street across from school (forcing kids			
to cross traffic not using crosswalks), and			
25 mph speed limit within the school zone			
Ask Police to give a talk at Back to School	Police, School,	Short-term, Mid-	No cost
Night or PTO meetings to educate parents	PTO,	term, Long-term	
on the importance of driving safely in			
school zone and the health, safety and			
environmental benefits of walking/biking to			
school			
Integrate walking and safety education	School,	Short-term, Mid-	No Cost

(wear helmets, use crosswalks) into	Health/PE	term, Long-term	
classroom education	teacher		
Leverage Social Media to spread	School/District,	Short-term, Mid-	No cost
awareness of school zone and	PTO,	term, Long-term	
enforcement activities	Municipality,		
	Police		
Perform a crossing guard training	VTC, Police	Short-term, Mid-	No cost
		term, Long-term	

2. Encouragement: Programs to encourage or promote walking and biking

Encouragement Actions	Responsibility	Time Frame	Cost
School or District can pass a SRTS, Walking or Biking Policy to encourage walking and biking to school and protect	School, District	Short-term, Mid- term	No cost
against liability Encourage Municipality and County to pass and implement Complete Streets Policy and Plan	Municipality, County	Mid-term	No cost
Hold a student poster or bookmark contest about Walking and Biking to school and anti-idling	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.), National Bike to School Day (May), NJ Walk and Bike to School Day in Spring	School, PTO, 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, PTO	Short-term, Mid- term, Long-term	No cost
Establish and organize Walking School Buses to connect students and families who can walk or are already walking to decrease traffic at arrival and dismissal	School, PTO	Short-term, Mid- term, Long-term	No cost

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

Enforcement Actions	Responsibility	Time Frame	Cost
Add a crossing guard Redwood Ave & woodland Ave corners as not enough coverage for both crossings before/after school	Municipality, Traffic police	Short-term	Low
Conduct bicycle registration and helmet giveaways at Back to School night	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
Conduct speed and traffic study on local roads where speeding is an issue	Police, County, DOT	Short-term, Mid- term, Long-term	Low
Ask police to set up radar signs that post driver speeds and remind people to not speed in school zone	Police, School Liaison	Short-term, Long- term	Low
Pedestrian Decoy Operation – target unsafe drivers, especially during school commute time	Police, Board of Education	Long-term	Low
Conduct Street Smart campaign near school at hot spot intersections	Police, NJTPA, EZ Ride	Mid-term, Long- term	Low
Ensure sidewalks are shoveled and cleared of snow on school days	Municipality DPW and School can remind parents, residents to shovel	Winter	No cost

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

Engineering Actions	Responsibility	Time Frame	Cost
Repaint/paint high visibility crosswalks: -Forest Ave. & Woodlawn Ave. -Steven Terr. & Woodlawn Ave. -Redwood Ave. & Woodlawn Ave. -Terrace Ave. & Woodlawn Ave. -Nicholas Ave. & Prospect Ave. -Terrace Ave. & Cannon St. -Redwood Ave. & Cannon St.	Municipality, County, Engineering	Short-term	Low
-Ellis St. & Redwood Ave. -Mann Ave. & Eagle Rock Ave. -Forest Ave. & Nicholas Ave. -Forest Ave. & Bromley -Steven Terrace & Bromley			

Install sidewalk through field to back of school as kids use that route, paint crosswalks from back of school off Woodland Ave near dumpsters and by trailers as kids walk through staff parking lot daily	BOE	Short to Mid-term	Low- Medium
Repair/(Re)install sidewalks/curb ramps at: -Ellis St. -Redwood Ave. -Nicholas Ave. -Woodland Ave. -Steven Terrace (off Woodland) -Seaman Rd. -70 Woodland Ave. (tree root issue)	Municipality, County, Engineering	Mid-term, Long term	High
Paint bike lanes on: Redwood Ave. and Woodland Ave. heading to and from school to protect cyclists and slow traffic	Municipality, County, Engineering	Short-term, Mid-term	Low
Install pedestrian signals & crosswalk signs at corners on: -Pleasant Valley Way & Woodland Ave. -Woodland Ave & Redwood Ave	Municipality, County Engineering	Mid-term	Medium - High
Add pedestrian level lighting at: -Nicholas Ave. & Steven Terrace - Woodland Ave. & Redwood Ave - Along school routes for kids to see and be seen at corners - School parking lot	Municipality, County, School Engineering	Mid-term	Medium - High
Pleasant Valley Way & Woodland -Add "No Turn on Red" signs on overhead signal pole where cars will see them (rather than on corners) -Add crossing button on NE corner for pedestrians - Add countdown timer for pedestrians - Repaint crosswalks - Add dome pads	Municipality, County Engineering	Mid-term	Low- Medium
Repair or add misaligned dome pads on: -Woodland Ave. -Ellis St. & Redwood Ave -Forest Ave. & Nicholas Ave. -Corner of Steven Terrace & Woodland	Municipality, County Engineering	Mid-term	Low- Medium
Install additional School Zone signs outside the school perimeter; install signs with augmented flashing beacons Forest Ave. Ellis St. Redwood Ave. Woodlawn Ave.	Municipality, County, Engineering	Mid-term	Medium
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Repair drainage issues along: - Woodland Ave - Steven Terrace In Winter creates slippery ice at curb ramps and on sidewalks	Municipality, County, Engineering	Mid-term	Medium
Install bike racks at the front of school to promote biking to school & security	School	Short-term	Low
Trim overgrown bushes along: -Redwood Ave. -Terrace Ave. -Woodland Ave. -By synagogue -76 Woodland Ave.	DPW, Homeowner(s)	Short-term	None

Evaluation: Efforts to monitor and evaluate progress towards the achievement of SRTS goals

Evaluation Actions	Responsibility	Time Frame	Cost
Continue to conduct student travel	School, EZ Ride	Short-term, Mid-	Low
tallies to measure how effective the		term, Long-term	
SRTS program has been in increasing			
the number of students walking, biking			
or carpooling			
Improve communications between	School, PTO School	Short-term, Mid-	Low
school officials and families	Tech Coordinator	term, Long-term	
establishing a convenient mechanism			
to share information and get feedback			
Conduct speed study on roadways to	Municipality, Police	Short-Term, Mid-	Medium
evaluate if speed limit is being		Term	
complied with.			

Conclusion

The walkability audit demonstrated that the area around Redwood Elementary School is a beautiful area but is not so safe or pleasant for walking and bicycle riding due to faded or non-existent crosswalks, little lighting, poor drainage, unsafe curb ramps, and damaged sidewalks.

Community priorities around Redwood Elementary School should include adding pedestrian lights on corners, adding bike lanes, painting/repainting high visibility crosswalks and stop bars, repairing sidewalks, repairing dome pads and curb ramps, improving drainage, and adding more speed limit signs, no turn on red signs, and school zone signs/ pavement markings. This will hopefully slow traffic near the school, along Pleasant Valley Way, Woodland Ave., and around the neighborhood to encourage more students to walk and bike to school by making it safer to walk and easier to cross.

Another recommendation is to place a bike rack near the drop off/pick up lane and paint a bike lane around the perimeter of the school. Many students live in the neighborhood and would benefit from improved infrastructure around the school. It is suggested that the crosswalks around the school be repainted to be high visibility so they are better marked for children to walk on and near school property. Drainage needs to be improved in the neighborhood around the school as it's causing flooding and frozen ice on sidewalks and in crosswalks during the Winter. Traffic congestion and idling in the school zone can be reduced by implementing staggered dismissal times to allow walkers and bicyclists to leave earlier and by setting up designated pick up zones where parents can park and wait. Through increased use of active transportation practices like walking and biking, residents will make West Orange a more appealing community to live in and visit by reducing air pollution and 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 incentives to students to walk to school. This is the first School Travel Plan prepared for Redwood Elementary School and it is hoped the school will schedule biking and pedestrian safety programs for students in the coming years. This report should be used by the District, Municipality and County to apply for NJDOT infrastructure grants to make the sidewalks and neighborhood safer for students, residents and seniors to walk and bike to the school and community programs.

<u>Appendix A</u>

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.
COLLEGE	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



Typical Bicycle/Pedestrian Treatments



Typical Bicycle/Pedestrian Treatments



Typical Traffic Calming Devices



Typical Traffic Calming Devices







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 wellmaintained

MID-BLOCK CROSSING

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



Sidewalks and Access

- Simplifies Crossing Movement
- Reinforces pedestrian priority
- Improves visibility
- Provides safe accessibility

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	Program Description	Eligibility	Eligibility	Source
Name		Description	5	
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- income, minority, and tribal	County, Municipal, Non-profit organizations	US EPA Environmental Workforce Development and Job Training Grant Fund

		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 us land mapping, economic development plans, and special municipal projects	Municipalities	Municipal	New Jersey Department of Community Affairs
Neighborhood Preservation Program	This program provides direct financial and technical 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.	Municipalities	Municipal	New Jersey Department of Community Affairs
New Jersey Healthy	The aim of the initiative is to prevent chronic disease and		Non-profit organizations,	New Jersey Healthy

Communities	improve health by advancing		Other	Communities
Network -	environment, policy, and system		Outer	Network
Community	change; and enhancing the built			Notwork
Grants Program	environment to support healthy			
Granits i Tograni	eating and active living.			
	5 5			
	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			
Our Town	The Our Town grant program	Communities	Municipal	National
Grants	supports creative place making	Communities	Manicipai	Endowment for
Cranto	projects that help to transform			the Arts
	communities into lively, beautiful,			
	and resilient places with the arts			
	at their core.			
People for	The People For Bikes Community	Communities	Municipal	People for
Bikes	Grant Program provides funding	across the US	manopai	Bikes -
Community	for important and influential			Community
Grants	projects that leverage federal			Grants
Crunto	funding and build momentum for			Cranto
	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			
Safe Routes to	Provides federal and state	County, municipal	County,	New Jersey
Schools	funding to projects that enable	governments,	Municipal	Department of
	children in grades K-8 to walk	school districts, and	•	Transportation
	and bicycle more safely to school.	schools		-
Safe Routes to	Safe Routes to School (SRTS) is	Communities in	County,	New Jersey
Safe Routes to Schools		Communities in New Jersey	County, Municipal	New Jersey Department of
	Safe Routes to School (SRTS) is			

	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			
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 media. Local police step up enforcement during the campaign to ensure motorists and pedestrians are obeying the laws. All communities are urged to participate	Municipalities and communities in New Jersey	Municipal	North Jersey Transportation Planning Agency
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