

City of Passaic Bicycle Master Plan July 2024

Prepared for the City of Passaic

Prepared by the New Jersey Department of Community Affairs, Local Planning Services



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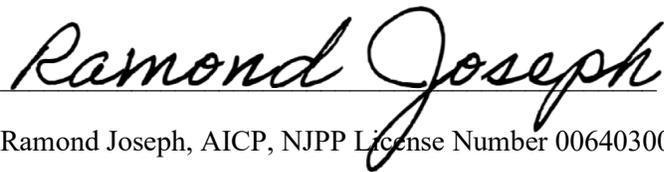
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The original document, on file with the State of New Jersey, has been appropriately signed and sealed in accordance with the provisions of N.J.S.A. 45:14A-12 by Ramond Joseph, AICP, P.P. – the Local Planning Services team leader for the preparation of this Bicycle Master Plan.

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Executive Summary

The Passaic City Bicycle Master Plan (the Plan) outlines the City’s vision to transform Passaic into a place where cycling and other forms of micromobility¹ are safe, accessible, convenient, comfortable, and secure for people of all ages and abilities. Moreover, the Plan facilitates the coordination of policies and programs aimed at enhancing bicycle connectivity and amenities, thus presenting a comprehensive strategy to enhance bicycle and micromobility infrastructure throughout Passaic City. Ultimately, this Plan will serve as a reference for Passaic City, Passaic County, and associated stakeholders in their efforts to invest in Passaic's active transportation infrastructure, encompassing improvements to roads, bridges, sidepaths, and shared-use paths/trails, among other initiatives.

Passaic City encompasses a network of roadways totaling over 70.1 miles, with jurisdiction divided among the City (78.8%), Passaic County (16.7%), and the New Jersey Department of Transportation (NJDOT) (4.4%). Additionally, within the city, there are 1.59 miles of multi-use trails, 0.34 miles of bicycle lanes, and 142.25 miles of sidewalks/sidepaths. Despite this infrastructure, Passaic currently lacks a cohesive bicycle/micromobility network that offers comprehensive accessibility to these transportation modes. This underscores the prevailing notion that reliance on personal vehicles remains necessary for navigating Passaic. To realize the vision of making Passaic a place where bicycling/micromobility use is safe, accessible, comfortable, convenient, and secure for everyone, this Plan aims to achieve the following objectives:

- **Enhancing safety & comfort:** By addressing identified safety concerns gleaned from crash data analysis, community surveys, public input sessions, and field assessments, this Plan aims to improve safety and comfort along Passaic’s transportation system.
- **Improving accessibility, mobility, community health, resiliency, and sustainability:** The Plan seeks to bridge existing gaps in micromobility/trail networks, as well as enhance bicycle facilities, while ensuring the proper maintenance of current infrastructure. Improving accessibility and mobility along with educational programming, events, and public awareness campaigns will encourage increased ridership.
- **Embracing Complete Streets principles:** To accommodate the needs of all road users—regardless of age, ability, or income—the Plan advocates for implementation of the Complete and Green Street Policy via the creation/adoption of a Circulation Plan Element that incorporates Complete Street Typologies, thereby fostering a more inclusive and equitable transportation environment. In developing a network of bike lanes, shared-use paths, and low-stress streets that connect key destinations throughout the city, embracing Complete Streets will lead to enhanced connectivity.

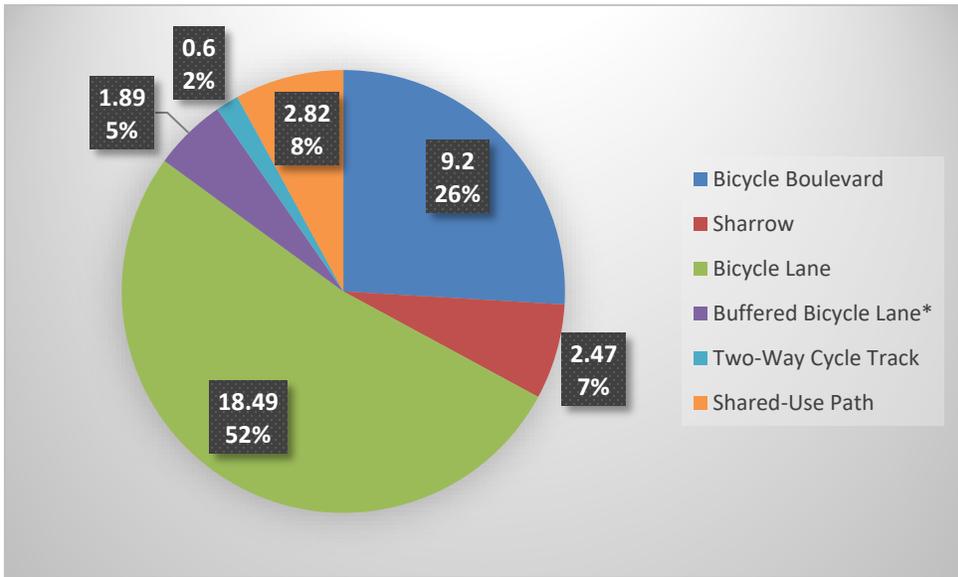
Local Planning Services (LPS) collaborated with Passaic City to form a Working Committee to guide the planning process. The LPS team met with the Working Committee on a monthly to quarterly basis for

¹ Micromobility pertains to compact, lightweight transportation devices, capable of low-speed travel, and adaptable for either motorized or human-powered propulsion, available for both shared and private ownership. Examples include bicycles, e-bikes, electric scooters, electric skateboards, and shared bicycles among others.

feedback on each phase of the project. In addition, the LPS project team and Working Committee solicited public outreach to help refine the community's vision and goals. Public outreach consisted of a Complete Streets demonstration project at the intersection of Hope Avenue and Monroe Street, workshop sessions, attendance at all but one of the 2023 City of Passaic Summer Concert Series, and an online survey and interactive map. Bicycle/micromobility safety, accessibility, mobility, and connectivity were critical factors identified by the public for improvement. The LPS project team also analyzed crash data, demand, and land uses; conducted a bicycle level of traffic stress evaluation; and reviewed compliance with the Americans with Disabilities Act (ADA) and Manual on Uniform Traffic Control Devices (MUTCD) standards, among others. The LPS project team's analysis provided greater clarity for the need for improvement in the critical factors identified by the public. The analysis, in turn, serves as the basis of the recommendations for improvements, which include programming and policy and bicycle/micromobility network improvements.

The recommendations regarding programming and policies are classified into categories such as Education, Encouragement, Enforcement, and Evaluation and Planning based on the specific objectives they address. Within this framework, proposed initiatives for Education focus on increasing awareness and preventive measures. This includes the introduction of a complimentary bicycle education program series named Bike Right Kids, which builds upon the City's current NJ Safe Routes to School program, and launching a Street-Smart Safety campaign. Encouragement efforts aim to promote bicycle/micromobility mode share through initiatives such as monthly social bicycle rides, bike & scooter library, open street events, utilization of National Bicycle Month events, and the establishment of an earn-a-bike program and a bicycle-friendly business program along established and proposed bicycle routes. Enforcement strategies involve community-based measures to mitigate negative motorist behaviors, including the implementation of Neighborhood Slow Zones and Driver Feedback Signs programs, as well as ordinances that implement bicycle/micromobility safety laws/policies. Finally, Evaluation and Planning programs encompass measures intended to monitor or guide the design and engineering of bicycle and other micromobility infrastructure. Recommended actions in this category include establishing a hotline or website for public reporting of unsafe conditions, adopting a Vision Zero Initiative/Policy, implementing policies mandating or promoting bicycle/micromobility parking, instituting bicycle maintenance and safety protocols, and forming a bicycle/micromobility/active transportation advisory committee.

The plan outlines enhancements to bicycle infrastructure that are poised to expand bicycle facilities along approximately 50% of Passaic's road network. Over 35 miles of both on-road and off-road bicycle facilities are suggested for implementation across the city, aligning with Passaic's overarching goals and objectives. Specifically, the proposal entails the incorporation of 18.49 miles of dedicated bicycle lanes (comprising 52% of the total), 9.2 miles of bicycle boulevards (26%), 2.82 miles of shared-use paths (8%), 2.47 miles of shared lane/road signs (7%), and 1.89 miles of buffered lanes (5%), and 0.6 miles of two-way cycle track (2%).



Passaic City is urged to remain steadfast in implementing the recommendations outlined for the bicycle/micromobility network in this Plan, a process anticipated to unfold over the span of 5 to 10 years following its adoption. It is recommended that the city prioritize the Plan's recommendations during ongoing resurfacing projects whenever possible. Projects posing greater challenges can be scheduled for execution over a medium to long-term timeframe. This phased approach ensures a systematic and efficient implementation of the proposed enhancements to the city's bicycle and micromobility infrastructure.

Introduction

The New Jersey Municipal Land Use Law (MLUL) authorizes municipal planning boards to “prepare and, after public hearing, adopt or amend a master plan or component parts thereof, to guide the use of lands within the municipality.” Pursuant to the MLUL (N.J.S.A. 40:55D-28b (4)), Passaic City last adopted a *Master Plan Element* on October 29, 2013. One of the goals of the *Master Plan Element* was to create a bicycle path network that connects residential neighborhoods to each other, to commercial corridors, and to recreational opportunities, including indoor and outdoor as well as passive recreation. The city is undertaking a Bicycle Master Plan to effectuate this goal. This provides recommendations for infrastructure (also referred to as facilities) improvements that create a comprehensive bicycle/micromobility network.

After the introduction section, the organization of this Plan continues in four main sections. The first section details the existing conditions for cyclists/micromobility travel in Passaic City. These details include descriptions of Passaic’s geography and demographics, existing road network, current levels of bicycling/micromobility usage, current accommodations for cyclists/micromobility users, current bicycle/micromobility policies and programs, and other bicycle/micromobility considerations. The second section provides an analysis of the need for bicycling/micromobility infrastructure. The needs analysis includes an examination of current and future demand for active transportation, identification of opportunities and constraints, identification of key bicycle/micromobility traffic attractors and generators, analysis of crash data, and analysis of the roadway network’s bicycle level of traffic stress. Based upon the existing conditions and needs analysis, a set of bicycle/micromobility network recommendations follows along with policies and programs to educate, encourage, and enforce safe biking and other micromobility use to enhance the overall experience of the bicycle/micromobility network. The fourth section includes implementation recommendations for building the recommended bicycle/micromobility infrastructure. Finally, the appendix incorporates all the procedural, technical, and analytical work that went into the completion of the Plan. These recommendations will improve mobility and safety for all travelers, especially those most vulnerable.

Plan Purpose

The purpose of this Plan is to coordinate policies and programs that address bicycle and other micromobility connections and amenities and provide a more comprehensive plan to improve bicycle and other micromobility infrastructure in Passaic City. This Plan builds on the County’s Bicycle Master Plan recommendations for the City and the City’s relevant transportation and land use related plans and ordinances, such as the streets ordinance which covers aspects such as parking regulations, street maintenance, signage requirements, and other matters related to the use and management of public/city owned rights-of-way. The programming and policy recommendations of this Plan offer a menu of educational, supportive, and enforcement activities that the City should undertake to reinforce safety and usage of current and planned bicycle and other micromobility facilities. The network recommendations of this Plan incorporate connections to activity generators and attractors such as schools, shopping centers and neighborhoods, which builds on the network outlined in the County’s Bicycle Master Plan network recommendations for the city. This Plan also recommends the adoption of a Complete Streets Typology

and Circulation Plan, which will help facilitate greater coordination between the State of New Jersey, Passaic County, and Passaic City agencies. Lastly, this Plan identifies funding sources to implement the recommended projects.

Benefits of Complete Streets

Complete Streets is a transportation policy and design approach that aims to make streets safe and accessible for all users, including pedestrians, cyclists/micromobility users, motorists, and public transportation users of all ages and abilities. The idea behind Complete Streets is to create streets that are designed to enable safe, convenient, and comfortable travel and access for all users, regardless of their mode of transportation.

Complete Streets policies typically require that new streets and significant renovations to existing streets consider the needs of all users and incorporate features such as sidewalks, bike lanes, crosswalks, bus lanes, and accessible public transportation stops. The goal is to create a transportation network that is safe, efficient, and accessible for everyone, promoting healthier, more sustainable, and more livable communities.

Complete Streets is also a fundamental component of the Safe System Approach² and serves as an implementation strategy for the United States Department of Transportation (USDOT) National Roadway Safety Strategy. This strategy underscores the idea that fatalities and serious injuries resulting from roadway crashes are unacceptable. The Safe System Approach shifts the focus of transportation system design and operation towards anticipating human errors and minimizing crash severity to save lives. Within this framework, transportation agencies are encouraged to establish proactive and redundant safety systems to prevent crash-related fatalities and serious injuries. Complete Streets specifically addresses two key elements of the Safe System Approach—Safe Roads and Safe Speeds—and promotes the proactive deployment of safety infrastructure.

Complete Streets offer several benefits to communities and individuals:

- **Improved Safety:** By accommodating all modes of transportation, including pedestrians, cyclists, and motorists, Complete Streets can reduce accidents and make streets safer for everyone.
- **Healthier Communities:** Complete Streets encourage walking and cycling, which can lead to increased physical activity, improved public health, and reduced rates of obesity and related diseases.
- **Enhanced Mobility:** By providing safe and accessible options for people of all ages and abilities, Complete Streets can improve access to jobs, schools, healthcare, and other essential services.
- **Environmental Benefits:** Complete Streets can reduce air pollution and greenhouse gas emissions by promoting walking, cycling, and the use of public transportation over driving.

² In the United States, the Safe System Approach has been adopted as a guiding principle behind the USDOT National Roadway Safety Strategy. This approach emphasizes that deaths and serious injuries due to roadway crashes are unacceptable and focuses on redesigning transportation systems to anticipate human errors and reduce impact forces to minimize crash severity and save lives (<https://highways.dot.gov/safety/zero-deaths/safe-system-approach-presentation-0>).

- **Economic Benefits:** Complete Streets can lead to increased property values, improved business vitality, and reduced healthcare costs associated with a more active population.
- **Social Equity:** Complete Streets ensure that all members of the community, including those with disabilities and those who cannot afford a car, have access to safe and reliable transportation options.

Overall, Complete Streets can create more livable, sustainable, and inclusive communities by promoting safe, accessible, and efficient transportation for all.



Figure 1. School children crossing a busy intersection left) and a man riding an e-scooter (right) against the grain of traffic in Passaic's East Side Neighborhood.

General Overview

Planning Process

The City of Passaic submitted an LPS Application dated September 27, 2021, later updated on August 18, 2022, requesting assistance with the preparation of a Bicycle Master Plan and a Pedestrian Master Plan. LPS met with City representatives on August 18, 2022, to discuss and agree upon the scope of the project. The City approved and adopted by resolution, Resolution 2022-02-218, the agreed upon scope of services, on September 6, 2022. The resolution authorized the creation of a working committee for the project. The working committee included:

- the City Administrator;
- the City's UEZ Project Manager;
- the City Engineer and Engineering Aid;
- the City's Traffic Safety Officer;
- the City's Director of Recreation & Cultural Affairs;
- the City's Zoning Code Official and Draft Technician;
- a Board Member from the City Board of Education;
- the CEO of the Boys and Girls Club of Paterson & Passaic;
- the Passaic County Department of Planning Director's representative;
- and the Deputy Director of Active Transportation for EZ-Ride.

Based upon the approved Scope of Work, LPS and the Project Working Committee held a kick-off meeting on December 6, 2022, which officially set in motion the work plan for the Bicycle and Pedestrian Master Plans. Passaic City seeks to prioritize improving bicycle/micromobility access, connectivity, and safety citywide, while addressing multimodal conflicts. Special attention to access/connectivity was given along the Passaic River, in the Neighborhood Business Districts, the Market Street Commercial Corridor, and in the Eastside Neighborhood. Concurrent priorities include wayfinding for cyclist cyclists and improving sidewalk conditions and pedestrian amenities. Through this project, LPS will create a Bicycle Master Plan and a Pedestrian Master Plan that will serve as the City's Circulation Subplan Element for non-motorized and/or micromobility users.

Project Working Committee

Forming a Project Working Committee is a best practice that will assist with project success by bringing together a variety of viewpoints and perspectives. PS requires that all municipal planning projects, regardless of the degree of project complexity, visibility and/or sensitivity, have a Project Working Committee. Local Planning Services provides recommendations for who the municipality should consider appointing to the Working Committee based on project type and scope. However, formal appointment of all team members is entirely at municipal discretion. Once appointed, team members must commit to

remain fully engaged through project completion. Following the kick-off meeting on December 6, 2022, the working committee met on the following dates to review and offer feedback on project milestones:

- December 14, 2022 (EZ-Ride Complete Streets Demonstration Project);
- January 23, 2023;
- February 23, 2023;
- April 28, 2023 (EZ-Ride Complete Streets Demonstration Project); and
- June 5, 2023.

Meeting summaries are provided in Appendix A.

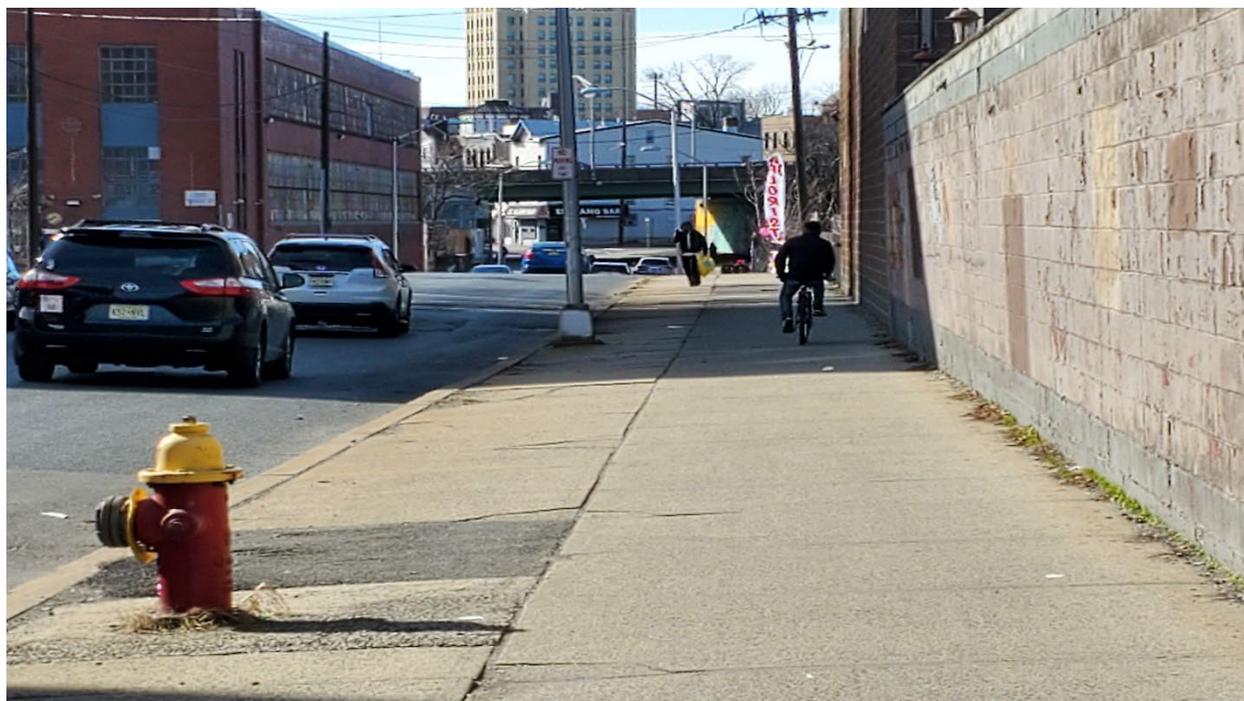


Figure 2. Cyclist using a wide sidewalk due to lack of on the road bicycle facilities.

Community Events

As part of public outreach and participation, in collaboration with EZ Ride a Complete Streets demonstration project was installed at the intersection of Hope Avenue and Monroe Street on May 1, 2023. Project team members painted an intersection mural, high visibility striped crosswalks, curb extensions, bus stop area, and installed delineators to prevent parking and daylight corners. The goals were to demonstrate updated infrastructure at the intersection, calm traffic, make drivers aware of pedestrians, improve visibility for pedestrians and motorists, and encourage community aesthetics. Tables were set up to collect community feedback and to elicit input on the City’s Bike and Pedestrian Plan. Online surveys in English and Spanish collected input regarding the community’s perception of safety at that the intersection of Hope Avenue and Monroe Street, as well as intersections and roadways across the

city. Survey results showed that 95% of respondents would like to make the temporary intersection improvements permanent (See Appendix A).

In addition to the Demonstration Project at the Hope Avenue and Monroe Street, members of the project team attended four events in the summer of 2023 to obtain additional feedback. At each of the events, the project team shared flyers in English and Spanish with QR codes to the survey and interactive map. EZ-Ride and LPS collaborated at one of the events with EZ-Ride providing biking and walking safety pamphlets and helmet giveaways at the event in addition to the LPS project promotion materials. Similar to the survey results discussed in this report, event participants shared a strong desire for safer and/or separate facilities for cyclists and pedestrians. Figures 3 and 4 capture a couple of the events that the LPS project team attended along with the event details (See Appendix A).



Figure 3. Participants interact with the project team at the August 28, 2023, Summer Concert at Christopher Columbus Park.



Figure 4. Mayor Lora visits the project team table during the August 17, 2023, Summer Concert at Dundee Island Park.

Community Survey

The project team prepared a Bicycle Master Plan survey for Passaic City to obtain data on bicycling reasons and frequency, barriers to bicycling, factors that increase bicycling safety and comfort, reasons they would bike more if conditions were favorable, stressful or hazardous bicycling locations, and recommendations for improvements to bicycling facilities. The public feedback provided via this survey critically assisted the development of the Bicycle Master Plan.

The Bicycle Plans' survey was available online and via a QR code. The project team and City staff marketed the online survey via the City's social media pages, email notification system, at the Complete Streets Demonstration Project with EZ-Ride, and at four of the in-person summer concert series. The survey was available online for over five months from May to September 2023. A total of 39 individuals completed and submitted the survey during that period. A brief summary of the survey results is below. A more detailed summary is available for review in Appendix A.

Survey results show that the majority of respondents primarily bike for exercise or recreation and non-work utilitarian trips. Safety concerns, particularly regarding intersections, crossings, and driver behaviors, hinder biking/micromobility use. Respondents seek improvements to create safer intersections, dedicated biking/micromobility facilities, policy enhancements, and better maintenance. Main Avenue is highlighted as a particularly hazardous area, with recommendations for separated/protected bike lanes. Other suggestions include Ciclovía events, increased enforcement of traffic laws, road/lane diets, curb extensions, bike share programs, and educational initiatives. When it comes to skill level, many respondents identified as intermediate riders comfortable in most traffic situations (33.3%), with approximately 20.5% as beginner riders preferring bike paths or trails, close to 15.4% expressing disinterest or physical inability to ride, and less than 13% divided between intermediate riders not fully comfortable in traffic and advanced riders comfortable in traffic, as depicted in *Figure 5* below.

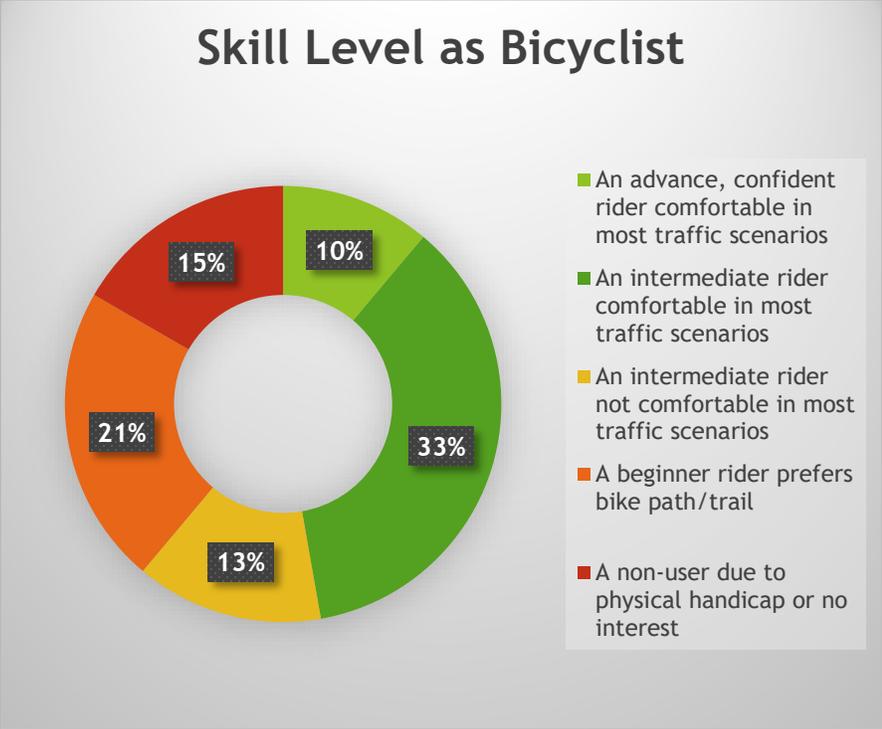


Figure 5. Skill level of cyclists in Passaic.

LPS Analysis

The project team reviewed planning and related documents previously completed on behalf of Passaic City leading to the current project. These documents include but are not limited to the Passaic County Bicycle Master Plan; the Main Avenue Redesign Project; the Market Street Streetscape Improvement Plan; the State Street & Hamilton Avenue Complete Streets Conceptualization report; Safe Routes to School Travel Plans; relevant redevelopment plans and zoning ordinances; and current neighborhood plans. The project team also reviewed planning documents of adjacent municipalities. A summary of each planning document is provided in Appendix B.

In addition, the project team conducted a variety of analyses including crash data, demand, land uses, and level of traffic stress; as well as reviewed compliance with Americans with Disabilities Act (ADA) and

Manual on Uniform Traffic Control Devices (MUTCD) standards. LPS synthesized the results from the public input and its analyses to create a set of recommendations for key goals, as well as bicycle and other micromobility network improvements and programming. Key goals emphasized in this plan are as follows:

- **Enhancing safety & comfort:** By addressing identified safety concerns gleaned from crash data analysis, community surveys, public input sessions, and field assessments, this Plan aims to improve safety and comfort along Passaic’s transportation system, especially the problematic routes and corridors.
- **Improving accessibility, mobility, community health, resiliency, and sustainability:** The Plan seeks to bridge existing gaps in micromobility/trail networks, as well as enhance bicycle facilities, while ensuring the proper maintenance of current infrastructure. Improving accessibility and mobility will encourage increased ridership. Increased ridership means that more residents will choose cycling for transportation and recreation through educational programs, events, and public awareness campaigns.
- **Embracing Complete Streets principles:** To accommodate the needs of all road users—regardless of age, ability, or income—the Plan advocates for implementation of the Complete and Green Street Policy via the creation/adoption of a Circulation Plan Element that incorporates Complete Street Typologies, thereby fostering a more inclusive and equitable transportation environment. In developing a network of bike lanes, shared-use paths, and low-stress streets that connect key destinations throughout the city, embracing Complete Streets will lead to enhanced connectivity.

Existing Conditions

This section describes relevant background information about the City of Passaic, including but not limited to information about its geographic setting, demographics, and transportation network. The project team conducted a review of pertinent background data/information relevant to the Project. These include but are not limited to previously completed Land Use Plan Element and zoning regulations, Economic Development Plan, Complete Streets Conceptual Rendering, Redevelopment Plan(s), collection of available crash data and pedestrian and bicycle counts, relevant GIS shapefiles/geodatabases, etc. In addition, site visits of bicycle and pedestrian network facilities to verify conditions on the ground were conducted.

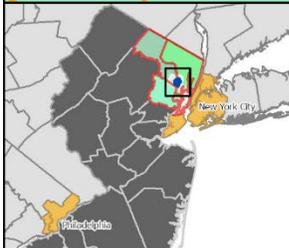
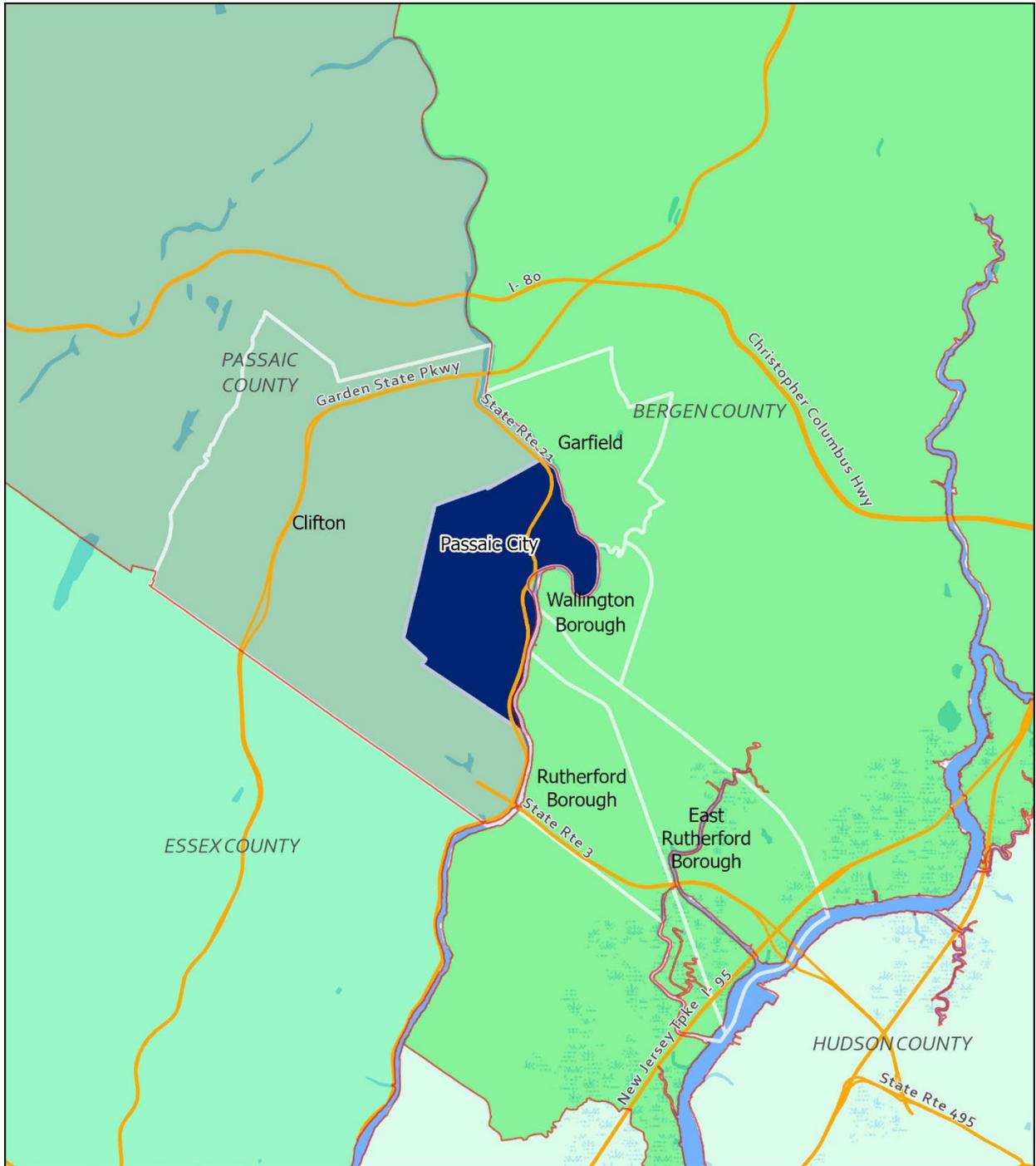
Geography, Demographics, and Health

Geography

Passaic City, located in the southeastern section of Passaic County, shares a boundary with the City of Clifton to the north, south and west. To the east, Passaic City is bounded by the Passaic River and the Bergen County municipalities of Garfield Borough, Wallington Borough, East Rutherford Borough, and Rutherford Borough. Passaic is connected to Wallington through three bridges - Gregory Avenue, Market Street, and Eighth Street. The city also has two bridges connecting it with Garfield - Monroe and Passaic

Street Bridges. Rutherford is accessible through the Union Avenue Bridge which is located on a northbound extension of Route 21. However, drivers, cyclists, and/or transit riders cannot directly cross from Passaic to East Rutherford as there is no bridge connecting the two municipalities. To get from Passaic to East Rutherford, cyclists, drivers, and/or transit riders must use either the Gregory Avenue or Union Avenue Bridge through Rutherford. Passaic is roughly 10 miles north of the City of Newark and 16 miles east of New York City. The city has a total area of 3.24 square miles of which 0.11 sq miles is water and is an ideal location for interconnected waterfront bicycle and pedestrian trails or greenways.

Map 1. Passaic City and the Surrounding Region



Map 1. Passaic City and Surrounding Region



2024

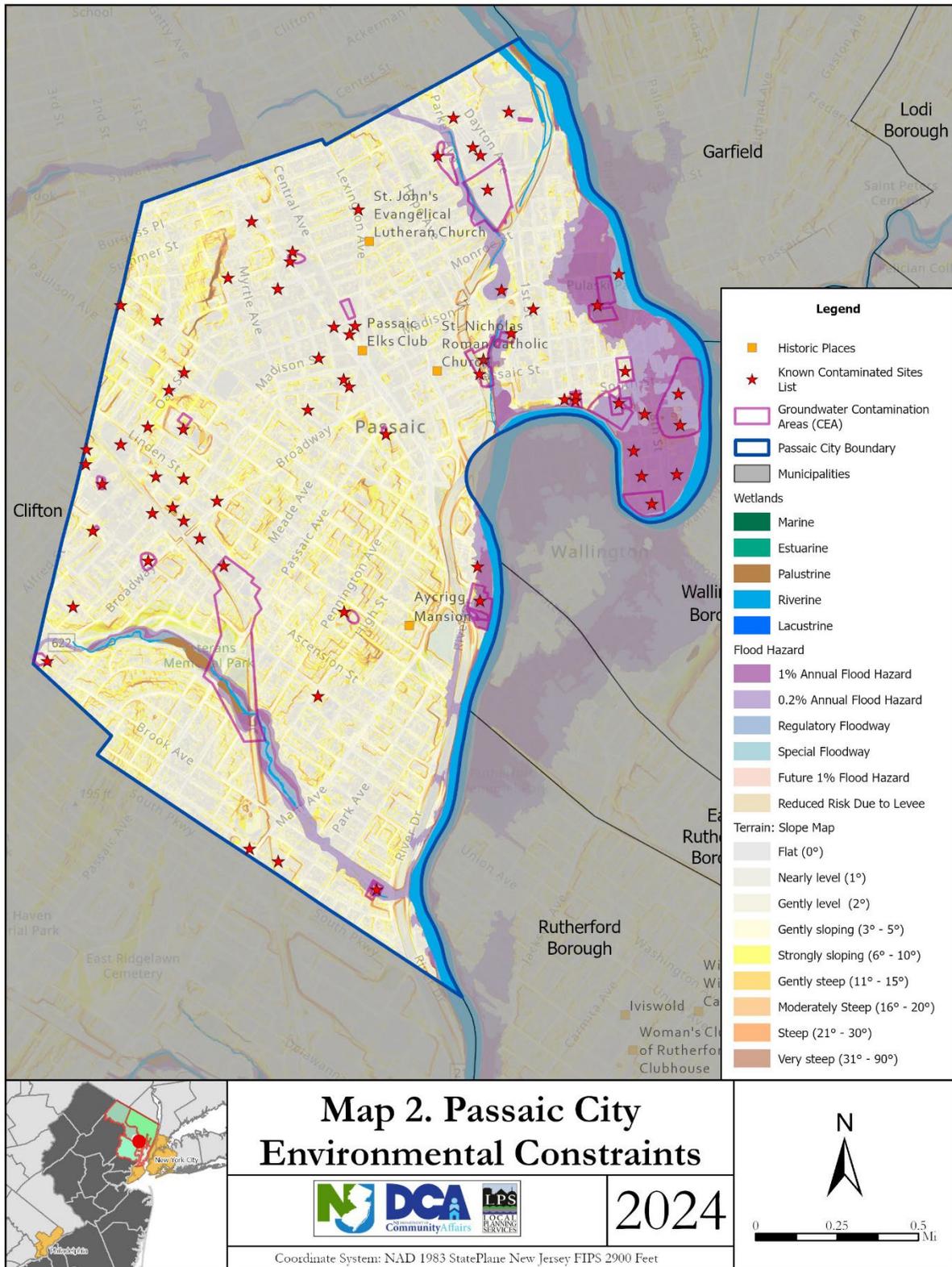
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Environmental Features

There are three major environmental constraints that will impact cyclists and micro-mobility users in Passaic City; flooding, steep slopes, and the availability of public open space/parks or recreational areas. Flooding is primarily found along the Passaic River and Hughes Lake, which is located within Third Ward Park. Steep slopes are areas of the city where the hillsides have a 15% or higher slope or grade. The City's western border with Clifton has the steepest slopes followed by the southern half of the City from Paulison Rd to the Clifton Border. Public open space/parks and recreational areas promote a more active lifestyle such as, as walking, biking, and micro-mobility use. As was the case for steep slopes, Passaic's western border with Clifton has the least number of open space/parks. Other constraints of concern for cyclists are locations of known contaminated sites, which impact their destination and origin trips. Map 2 shows some of the major and minor environmental constraints in the City of Passaic for cyclists and micro-mobility users.

Map 2. Types and Locations of Environmental Constraints in Passaic City.



Population Likely to Bike

As of the 2020 census, Passaic City has a population of 70,518. Per the 2022 American Community Survey (ACS), Passaic has a potential workforce population (16 or older) of 50,611 out of a population of 70,048, of which 66.7% is in the labor force. As such, Passaic has a high probability of expanding the number of commuters by bike/micromobility (2.4%), walking (12.4%), and public transit (11.8%). While multi-modal transportation options to work are in increasing demand, the groups who are most likely to travel by means other than personal vehicle are school-age children ages 17 years old or younger (31.3%), households with income below the poverty level (21.9%), zero vehicle households (26.2%), seniors 62 years or older (11.4%) and people with disability (7.9%). Retired residents have more free time to spend walking and biking, either for leisure or to access common neighborhood destinations. Older residents and people with disabilities display higher rates of physical mobility constraints and are less likely to drive themselves. As such, there is a greater need for infrastructure that meets ADA standards to accommodate that population. School-age children are likewise restricted in their transportation options. Younger children are also particularly vulnerable to the hazards of vehicle-to-pedestrian or vehicle-to-cyclist crashes as they are less experienced in navigating the interaction with vehicles. Finally, households with income below the poverty level and zero-vehicle households are financially constrained and are also more likely to seek alternative modes of transportation.

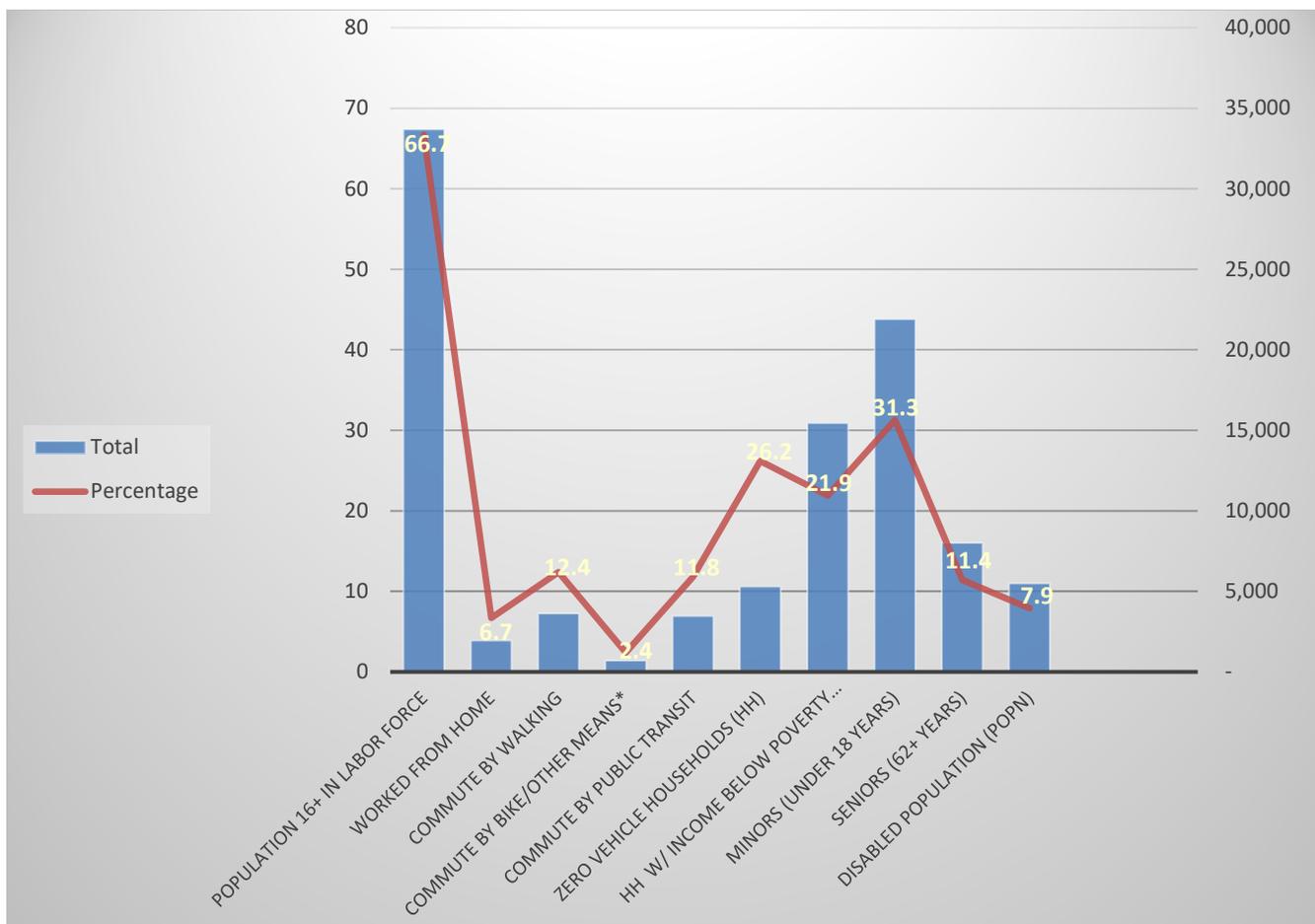


Figure 5. Key demographics likely to bike in Passaic.

* Other means include other micromobility vehicles & ridesharing.

Source: 2018-2022 American Community Survey (ACS)

Health Indicators³

According to the 2022 Healthy Community Planning Report (the Report), approximately 36.5% of Passaic City residents are considered obese. This is slightly higher than Passaic County’s obesity rate (31%) and the State’s (28.2%). 62.5% of City residents have asthma. This is lower than the County rate (68.3%), but higher than the statewide rate (55.7%). The higher incidence rate of obesity and asthma may be due to some of the environmental issues that Passaic residents face. As an example, the Report noted that 19.3% of Passaic residents live within 1000 feet of heavy traffic and that residents experience an average of seven days per year of unhealthy air quality (AQI > 100). In addition, 15.2% of adults aged 18 and older reported that their health was not good, while 44.1% reported that they had no leisure-time physical activity⁴. Lastly, high blood pressure is the most prevalent chronic disease (72.1%) in Passaic and 34.2% of adult residents do not have health insurance. Expanding the bicycle network infrastructure and bicycle programming and policies will go a long way in addressing some of these health indicators.

Street Network

Passaic City contains 70.12 miles of roadway, of which 55.26 miles are managed and maintained by the city. Another 11.74 miles of roadway are maintained by Passaic County. The Functional Classification System roadways in Passaic City is established by the Federal Highway Act. This Act sets forth a definition for each roadway designation according to its functional use, or according to the level of service that it is expected to provide. The functional classification system determines a roadway’s intended use as a function of access and movement and is also related to the proposed right-of-way and design standards for each road. Passaic uses the following functional classification system: freeways, principal arterials, minor arterials, major collectors, minor collectors, local streets, and paper streets. State Route 21, a 3.12-mile north-south freeway with three exits in Passaic (10, 11, and 12), is the city's only state-managed highway. Additionally, Main Avenue (CR 601) serves as the sole principal arterial in Passaic City.

Passaic County adopted Complete Streets Design Guidelines in 2012, impacting county managed roads in Passaic City. The comprehensive guidelines for implementing complete streets in Passaic County provide principles and strategies for designing streets that accommodate all users, including pedestrians, cyclists/micromobility users, motorists, and public transit riders, regardless of age or ability. The guidelines emphasize the importance of safety, accessibility, connectivity, and sustainability in street design, aiming to create a balanced transportation network that promotes active transportation and reduces reliance on single-occupancy vehicles. Key elements include sidewalk and crosswalk enhancements, bike lanes, traffic calming measures, transit facilities, and landscaping to enhance the pedestrian environment. The document also discusses the process for integrating complete streets principles into planning, design, construction, and maintenance practices, encouraging collaboration among stakeholders and adherence to

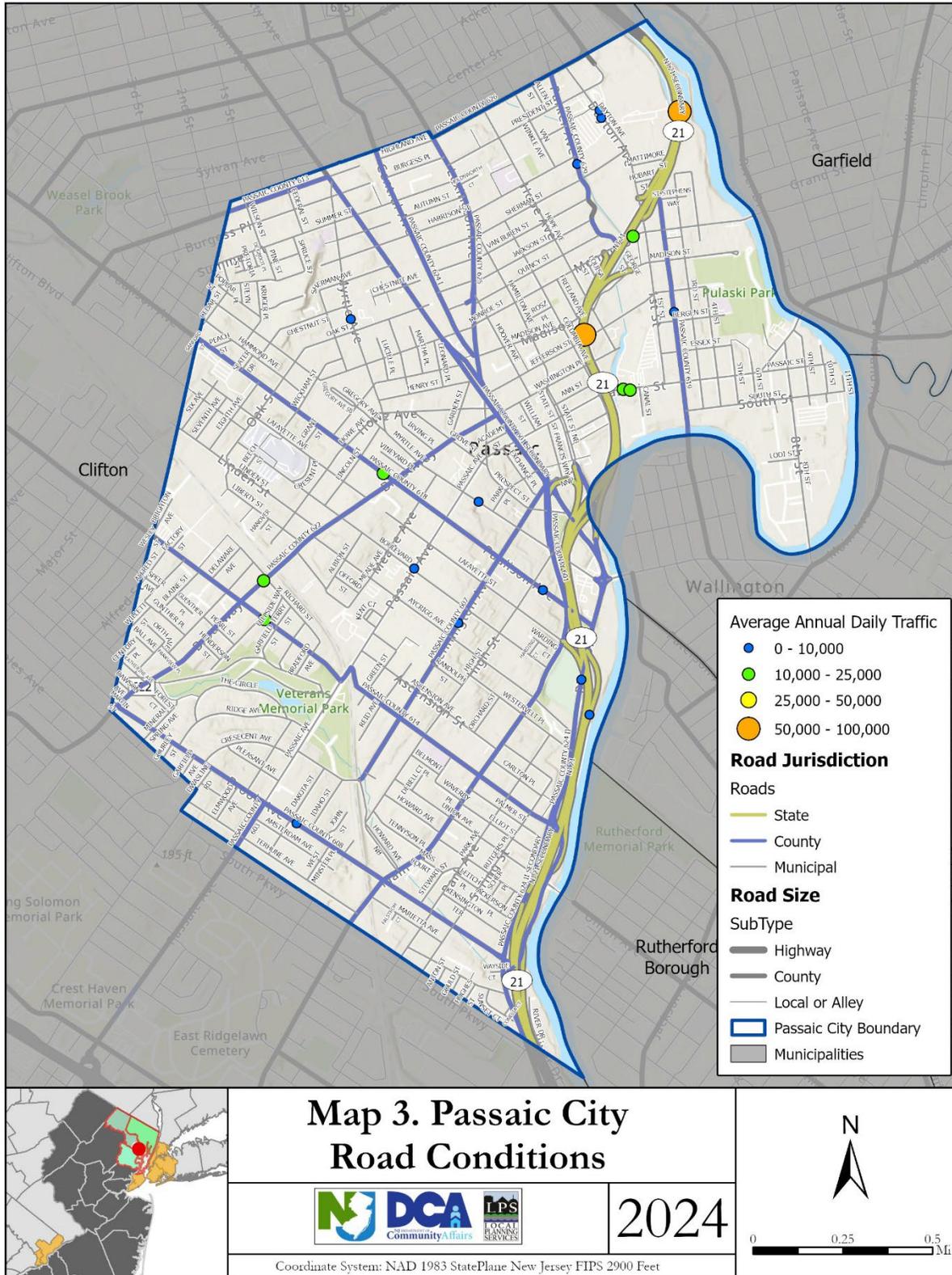
Sources:

³ 2017 County Health Rankings (<http://www.countyhealthrankings.org/measure/physical-inactivity>)

⁴ Center for Disease Control, PLACEs: Local Data for Better Health

best practices in transportation planning and engineering. A comprehensive description of the County's Complete Streets typology is provided in Appendix B, under the Previous Plan Review. In Passaic City, the Complete Streets typologies are primarily composed of Community Streets, including Brook Avenue, Broadway, Passaic Avenue, Pennington Avenue, River Drive, Paulison Avenue, Central Avenue, and Parker Avenue. These are followed by Downtown Streets such as Van Houten Avenue and Main Avenue, as well as a Neighborhood Street (Highland Avenue) and a Regional Street (Lexington Avenue).

Map 3. Existing Road Traffic Conditions in Passaic.



Principal Arterials⁵ & Downtown Streets

Principal arterials function as connector roads for long-distance trips, having trip length and travel density typical of inter-county or statewide travel. Principal arterial roads accommodate high-traffic volumes, measured by Annual Average Daily Traffic (AADT), and provide access roads to freeways. There are 5.75 miles of principal arterial roads in Passaic. Table 1 below lists the existing conditions of length, width, and traffic volume of principal arterial roads in Passaic City.

Downtown Streets are County managed roads, where the land use/zoning permits a mix of commercial and traditional downtown services and activities. These corridors usually serve as Central Business Districts (CBD) and Special Improvement Districts (SID), and are distinguished by unique streetscape treatments like lighting, plants/street trees, awnings/signage and/or street furniture. These streets are typically transit-oriented and bustling with pedestrian activity. They are characterized by high-volume, low-speed traffic, narrow lanes, and a mix of vehicles including cars, delivery trucks, and buses, with curbside parking often available and usually metered. In Passaic, Downtown Streets typologies are recommended for Principal and Minor Arterials only.



Figure 6. Birds eye view of Main Ave/ Downtown Passaic.
Photo Credit: Passaic County

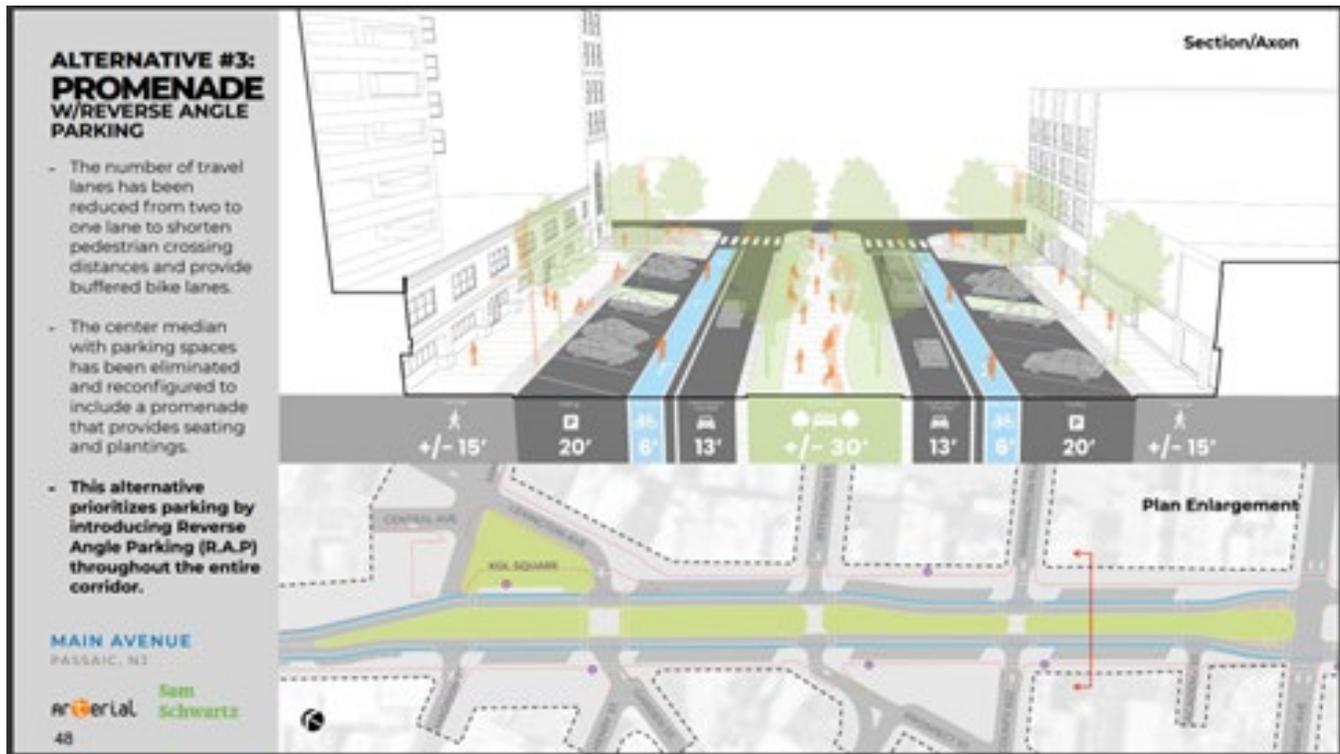


Figure 7. Proposed redesign concept for Main Ave. Credit: Main Ave Local Development Concept Study

⁵NJDOT Roadway Information and Traffic Monitoring System Program (2023). Retrieved from <http://www.state.nj.us/transportation/refdata/sldiag/> (2019 Straight Line Diagrams (SLD)) and http://www.state.nj.us/transportation/refdata/roadway/traffic_counts/ (Interactive Traffic Count Reports).

Table 1. Roadway Conditions on Principal Arterials in Passaic City

| | | |
|--|--------------------------------|----------------------|
| Principal Arterial | McCarter Highway (NJ Route 21) | Main Street (CR 601) |
| Start | Brook Avenue | Terhune Avenue |
| End | Dayton Avenue | Sheridan Avenue |
| Length (miles) | 3.12 | 3.61 |
| Speed (mph) | 55 | 35 |
| Traffic Volume (AADT) | 72,523 | 11,752 |
| Width (feet) | 80-100 | 34-130 |
| Lanes (#) | 6-7 | 2-4 |
| Existing or Planned Bike Facilities | No | Yes |
| Bicycle Level of Traffic Stress (LTS)* | IV | IV |
| Complete Street Typology (County) | N/A | Downtown Street |
| *LTS assesses the bicycle-friendliness of roads by categorizing them according to their suitability for cycling, using a scale ranging from LTS I (most suitable) to LTS IV. | | |



Figure 8. Six vehicle lanes and high traffic speeds on NJ 21. ⁶



Figure 9. Missing bicycle facilities at the intersection of Main Ave and Brook Ave. ⁷

Minor Arterials⁸ & Regional Streets

Minor arterials serve as connector roads between cities and towns and other traffic generators, but typically cover a smaller geographic area than principal arterials. Minor arterials also serve as access roads to the principal arterials and freeways. Table 2 below lists the length, width, and traffic volume of minor arterial roads in Passaic City.

Regional Streets in Passaic County handle the most traffic among all county roads and are designed to accommodate different types of transportation. Along these streets, you'll usually find areas dedicated to a single use, like residential or commercial, although some parts in more urban areas might mix things

⁶Photo Credit: [NJDOT](#)

⁷Photo Credit: [NJDOT](#)

⁸ NJDOT Roadway Information and Traffic Monitoring System Program (2023). Retrieved from <http://www.state.nj.us/transportation/refdata/sldiag/> (2019 Straight Line Diagrams (SLD)) and http://www.state.nj.us/transportation/refdata/roadway/traffic_counts/ (Interactive Traffic Count Reports).

up. They're important for longer trips within the county and traveling between counties, giving access to major highways and public transportation that connects key areas. These streets are crucial for moving freight. Regional Boulevards are similar but might have slower speeds, allow parking, and often have raised medians for safety.



Figure 10. Cross-Section example of a Regional Street.

Table 2. Roadway Conditions on East-West Minor Arterials in Passaic City⁹

| Minor Arterials | Brook Avenue (CR 608) | Van Houten Avenue (CR 614) | Paulison Avenue (CR 618) | Monroe Street (1214) |
|-------------------------------------|-----------------------|-------------------------------|--------------------------|----------------------|
| Start | Broadway | Brighton Avenue/Wesley Street | River Drive | Main Avenue |
| End | Main Avenue | Main Avenue | Sanford Street | Passaic River |
| Length (miles) | 0.89 | 1.17 | 1.36 | 0.95 |
| Speed (mph) | 25 | 25 | 25 | 25 |
| Traffic Volume (AADT) | 7,200 | 12,090 | 13,740 | 14,350 |
| Width (feet) | 40 | 36 | 34-46 | 32 |
| Lanes (#) | 2 | 2 | 2 | 2 |
| Existing or Planned Bike Facilities | Yes | No | Yes | No |
| Bicycle LTS | II | III | III | II |
| Complete Street Typology (County) | Community Street | Downtown Street | Community Street | N/A |
| Minor Arterials | Dayton Avenue (1217) | Market Street (CR 619) | Highland Avenue (626) | |
| Start | Monroe Street | South Street | Lexington Avenue | |
| End | Highland Avenue | Morris Street | Barbour Avenue | |
| Length (miles) | 0.52 | 0.68 | 0.49 | |

⁹ [Traffic Counts in the United States \(arcgis.com\)](https://arcgis.com) and <https://www.njtms.org/map/>.

| | | | | |
|--|-------|-------|--------------|--|
| Speed (mph) | 25 | 25 | 25 | |
| Traffic Volume (AADT) | 7,641 | 5,046 | 9,049 | |
| Width (feet) | 32 | 30 | 39 | |
| Lanes (#) | 2 | 2 | 2 | |
| Existing or Planned Bike Facilities | No | Yes | No | |
| Bicycle LTS (#) | II | II | II | |
| Complete Street Typology | N/A | N/A | Neighborhood | |

Table 3. Roadway Conditions on North-South Minor Arterials in Passaic City

| Minor Arterials | Broadway (CR 622) | Passaic Avenue (CR 603) | Passaic Avenue (1687) | Passaic Avenue (1687) |
|--|--------------------------------|----------------------------|--------------------------|---------------------------|
| Start | Brook Avenue/ Martin Avenue | Brook Avenue | Brook Avenue | Van Houten Avenue |
| End | Main Avenue | Terhune Avenue | Van Houten Avenue | Canal Street |
| Length (miles) | 1.36 | 0.11 | 0.45 | 1.18 |
| Speed (mph) | 25 | 25 | 25 | 25 |
| Traffic Volume (AADT) | 13,193 | 4,309 | 4,931 | 13,339 |
| Width (feet) | 26-32 | 30 | 20-30 | 30 |
| Lanes (#) | 2 | 2 | 2 | 2 |
| Existing or Planned Bike Facilities | Yes | Yes | Yes | Yes |
| Bicycle LTS | III | I | I | III |
| Complete Street Typology (County) | Community Street | Community Street | Community Street | Community Street |
| Minor Arterials | Passaic Street (1687) | Wall Street (1687) | Gregory Avenue (1212) | Parker Avenue (CR 629) |
| Start | Canal Street | Passaic Street (1103) | Gregory Avenue | Monroe Street |
| End | Passaic Street (1103) | Passaic River | River Drive | Highland Avenue |
| Length (miles) | 0.34 | 0.19 | 0.8 | 0.54 |
| Speed (mph) | 25 | 25 | 25 | 25 |
| Traffic Volume (AADT) | 16,494 | 13,772 | 6,856 | 5,546 |
| Width (feet) | 30 | 30 | 34-49 | 30 |
| Lanes (#) | 2 | 2 | 2 | 2 |
| Existing or Planned Bike Facilities | Yes | Yes | Yes | No |
| Bicycle LTS | IV | III | II | II |
| Complete Street Typology (County) | N/A | N/A | N/A | Community Street |



Figure 11. Eastbound view on Van Houten Ave at approach to Passaic Ave intersection. ¹⁰



Figure 12. A northbound view on Broadway at approach to Van Houten Ave intersection. ¹¹

Major Collectors¹² & Community Streets

Major collector roads carry intra-county traffic. Travel trips on major collector roads are typically shorter than arterial routes and vehicular speeds are lower. Major collector roads serve to connect traffic from the arterial roads to minor collector roads and/or local streets. Tables 4 and 5 below list the length, width, speed, and traffic volume of major collector roads in Passaic City.

Community Streets help link local communities with larger regional roads and nearby commercial areas, including downtown centers. Measures to calm traffic work to improve roadway safety, while also creating a network of connected bike paths across the county. By focusing on safe pedestrian crossings and access to public transportation, the emphasis shifts from cars to people, supporting the principles of the "Green Street" idea. This concept encourages more walking and biking, uses green methods to prevent flooding, and maintains a consistent canopy of trees along streets.



Figure 13. Cross-Section example of a Community Street.

¹⁰Photo Credit: [NJDOT](#)

¹¹Photo Credit: [NJDOT](#)

¹² NJDOT Roadway Information and Traffic Monitoring System Program (2017). Retrieved from <http://www.state.nj.us/transportation/refdata/sldiag/> (2015 Straight Line Diagrams (SLD)) and http://www.state.nj.us/transportation/refdata/roadway/traffic_counts/ (Interactive Traffic Count Reports).

Table 4. Roadway Conditions on North-South Major Collectors in Passaic City¹³

| | | | |
|--|-------------------------|-------------------------|-------------------------------|
| Major Collectors | Liberty Street (1213) | Oak Street (1213) | 8 th Street (1215) |
| Start | Broadway (622) | Linden Street | Wall Street |
| End | Oak Street | Paulison Avenue | Passaic River |
| Length (miles) | 0.33 | 0.24 | 0.59 |
| Speed | 25 | 25 | 25 |
| Traffic Volume (AADT) | 5,161 | 5,199 | 11,875 |
| Width (feet) | 30 | 30 | 28 |
| Lanes (#) | 2 | 2 | 2 |
| Existing or Planned Bike Facilities | No | No | No |
| Bicycle LTS | II | II | III |
| Complete Street Typology (County) | N/A | N/A | N/A |
| Major Collectors | Hamilton Avenue (1221) | Hoover Avenue (1222) | Pennington Avenue (CR 607) |
| Start | Washington Place | Lexington Avenue | Howard Avenue |
| End | Lexington Avenue | Washington Place | Main Avenue |
| Length (miles) | 0.5 | 0.32 | 0.97 |
| Speed | 25 | 25 | 25 |
| Traffic Volume (AADT) | 12,615 | 5,209 | 3,108 |
| Width (feet) | 32 | 30 | 30 |
| Lanes (#) | 2 | 1 | 2 |
| Existing or Planned Bike Facilities | Yes | Yes | Yes |
| Bicycle LTS | III | II | I |
| Complete Street Typology (County) | N/A | N/A | Community Street |
| Major Collectors | River Drive (CR 624 II) | Central Avenue (CR 624) | Lexington Avenue (CR 625) |
| Start | Carol Street | Lexington Avenue | Main Street |
| End | NJ 21 Ramp | Highland Avenue | Highland Avenue |
| Length (miles) | 1.67 | 0.61 | 0.72 |
| Speed (mph) | 25-40 | 30 | 25 |
| Traffic Volume (AADT) | 12,496 | 4,419 | 4,769 |
| Width (feet) | 20-32 | 32-40 | 30-36 |
| Lanes (#) | 2 | 2 | 2 |
| Existing or Planned Bike Facilities | No | Yes | Yes |
| Bicycle LTS | IV | II | I |

¹³ [Traffic Counts in the United States \(arcgis.com\)](https://www.arcgis.com) and <https://www.njtms.org/map/>.

| Complete Street Typology (County) | Community Street | Community Street | Regional Street |
|--|----------------------|------------------------|-----------------|
| Major Collectors | Myrtle Avenue (1212) | Columbia Avenue (1220) | |
| Start | Main Avenue | Washington Place | |
| End | Gregory Avenue | Madison Avenue | |
| Length (miles) | 0.71 | 0.12 | |
| Speed | 25 | 25 | |
| Traffic Volume (AADT) | 8,421 | 5,300 | |
| Width (feet) | 30 | 24-32 | |
| Lanes (#) | 2 | 2 | |
| Existing or Planned Bike Facilities | No | No | |
| Bicycle LTS | II | II | |
| Complete Street Typology (County) | N/A | N/A | |



Figure 14. Wide bike-friendly shoulders along River Dr just north of Brook Ave. ¹⁴



Figure 15. A cyclist competes with parked cars on River Dr across from Boverini Stadium in Passaic. ¹⁵

Table 5. Roadway Conditions on East-West Major Collectors in Passaic City

| Major Collectors | Brook Avenue (CR 608) | Highland Avenue (613) | Van Houten Avenue (CR 614) |
|--|-----------------------|-----------------------|----------------------------|
| Start | Main Avenue | Wilson/Pine Street | Main Avenue |
| End | River Drive | Main Avenue | River Drive |
| Length (miles) | 0.4 | 0.30 | 0.24 |
| Speed (mph) | 25 | 25 | 25 |
| Traffic Volume (AADT) | 7,200 | 1,359 | 7,070 |
| Width (feet) | 30 | 36 | 34 |
| Lanes (#) | 2 | 2 | 2 |
| Existing or Planned Bike Facilities | Yes | Yes | No |

¹⁴ Photo Credit: [NJDOT](#)

¹⁵ Photo Credit: [NJDOT](#)

| | | | |
|--|-----------------------|-------------------------|-------------------------|
| Bicycle LTS | II | I | II |
| Complete Street Typology (County) | Community Street | Neighborhood Street | Downtown Street |
| Major Collectors | Madison Avenue (1219) | Jefferson Street (1218) | Washington Place (1210) |
| Start | Lexington Avenue | Columbia Avenue | Main Avenue |
| End | Columbia Avenue | Prospect Street | Columbia Avenue |
| Length (miles) | 0.25 | 0.28 | 0.26 |
| Speed (mph) | 25 | 25 | 25 |
| Traffic Volume (AADT) | 6,044 | 5,880 | 6,809 |
| Width (feet) | 28 | 30 | 30 |
| Lanes (#) | 1 | 2 | 1 |
| Existing or Planned Bike Facilities | Yes | Yes | Yes |
| Bicycle LTS | II | II | II |
| Complete Street Typology (County) | N/A | N/A | N/A |
| Major Collectors | Howard Avenue (1211) | | |
| Start | Pennington Avenue | | |
| End | Passaic Avenue | | |
| Length (miles) | 0.2 | | |
| Speed (mph) | 25 | | |
| Traffic Volume (AADT) | 2,606 | | |
| Width (feet) | 28 | | |
| Lanes (#) | 2 | | |
| Existing or Planned Bike Facilities | No | | |
| Bicycle LTS | I | | |
| Complete Street Typology (County) | N/A | | |



Figure 16. Eastbound view on Highland Ave at approach to Main Ave intersection. ¹⁶



Figure 17. Eastbound view on Brook Ave at approach to River Dr intersection. ¹⁷

Minor Collectors¹⁸ / Neighborhood Streets

Minor collectors serve as land access roads and carry traffic from major traffic generating land uses and local streets to major collector and/or arterial roads. Table 6 below lists the length, width, speed, and traffic volume of minor collector roads in Passaic City.

Neighborhood Streets are created with pedestrians in mind, mainly serving residents and local businesses. They're meant for local travel within the community and aren't meant for passing through. Any enhancements to these streets are aimed at directly helping those who live or own property in the neighborhood, rather than improving travel to other areas within the town or region.



Figure 18. Cross-Section example of a Neighborhood Street.

¹⁶Photo Credit: [NJDOT](#)

¹⁷Photo Credit: [NJDOT](#)

¹⁸ NJDOT Roadway Information and Traffic Monitoring System Program (2017). Retrieved from <http://www.state.nj.us/transportation/refdata/sldiag/> (2015 Straight Line Diagrams (SLD)) and http://www.state.nj.us/transportation/refdata/roadway/traffic_counts/ (Interactive Traffic Count Reports).

Table 6. Roadway Conditions on North-South Minor Collectors in Passaic Cit

| Minor Collectors | Temple Place (1087) | Boulevard (1087) | Columbia Ave (1188) |
|--|---------------------|------------------|---------------------|
| Start | Main Ave | High St | Jefferson St |
| End | High St | Oak St | Sherman St |
| Length (miles) | 0.17 | 0.91 | 0.40 |
| Speed | 25 | 25 | 25 |
| Traffic Volume (AADT) | 4,484 | 4,484 | 4,679 |
| Width (feet) | 30 | 30 | 24 |
| Lanes (#) | 2 | 2 | 2 |
| Existing or Planned Bike Facilities | No | No | No |
| Bicycle LTS | I | I | I |

Table 7. Roadway Conditions on East-West Minor Collectors in Passaic City

| Minor Collectors | Passaic St (1103) |
|--|---------------------|
| Start | Wall St |
| End | 10 th St |
| Length (miles) | 0.17 |
| Speed | 25 |
| Traffic Volume (AADT) | 4,484 |
| Width (feet) | 24 |
| Lanes (#) | 2 |
| Existing or Planned Bike Facilities | No |
| Bicycle LTS | I |



*Figure 19. Southbound view on Passaic St. approaching the Amsterdam Ave intersection.*¹⁹

¹⁹ Ibid

Local Roads

Local roads serve to carry neighborhood traffic and make up the largest mileage of roads in Passaic City. Local roads are, by default, all roads that are not categorized as principal or minor arterials, and major or minor collectors. In Passaic City, all local roads are within the city's jurisdiction.



Figure 20. Veterans Court, a low-speed, low-volume, two-lane road through Dundee Island Park.

Current Levels of Biking

According to the U.S. Census 5-year ACS data, 18.5% of Passaic residents do not own a vehicle. Approximately 1.0% of Passaic's population commutes to work by biking (see Figure 21). This level is higher than both Passaic County (0.2%) and the State (0.3%). Although still a small percentage, the higher rate of biking in Passaic City suggests a growing or existing culture of cycling. Walking trips for commuting are even higher, at 12.4%, three times higher than the County (4.1%), and State (2.6%). Public transportation makes up 11.8% of commuting trips in Passaic, which is higher than the County (7%), and the State (9%). Because census figures only account for one transportation mode per user and most public transit users walk to their stops, the level of walking in Passaic is likely higher than what the commuting figures show. Consequently, the commuting patterns in Passaic City differ notably from those in Passaic County and the broader New Jersey state. Passaic City has lower solo driving rates and higher rates of carpooling, walking and public transportation use, indicating a more diverse transportation landscape. Figure 21 summarizes the commuting characteristics of Passaic residents while Table 8 presents a comparative analysis of the percentage of commuters in Passaic City, Passaic County, and New Jersey who utilize various modes of transportation for their work commutes.

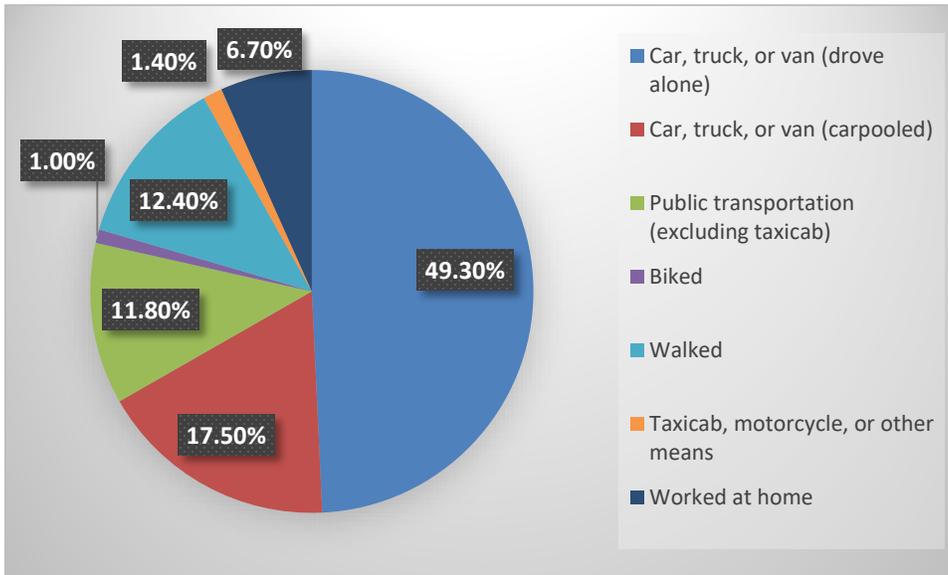


Figure 21. Passaic's Bicycle Mode Share

Table 8. Commuting Characteristics of Passaic Residents*

| Characteristic | Passaic City | Passaic County | New Jersey |
|---|--------------|----------------|------------|
| <i>Commuting to Work</i> | | | |
| Car, truck, or van (drove alone) | 49.3% | 68.3% | 65.4% |
| Car, truck, or van (carpooled) | 17.5% | 10.7% | 7.6% |
| Public transportation (excluding taxicab) | 11.8% | 7.0% | 9.0% |
| Biked | 1.0% | 0.2% | 0.3% |
| Walked | 12.4% | 4.1% | 2.6% |
| Taxicab, motorcycle, or other means | 1.4% | 1.1% | 2.0% |
| Worked at home | 6.7% | 8.6% | 13.1% |
| Mean travel time to work (minutes) | 25.1 | 27.2 | 31.1 |
| <i>Vehicles Available (Occupied Housing Units)</i> | | | |
| No Vehicles Available | 18.5% | 8.5% | 6.4% |
| 1 Vehicle Available | 37.3% | 25.5% | 22.9% |
| 2 Vehicles Available | 29.6% | 36.5% | 39.7% |
| 3 or More Vehicles Available | 14.5% | 29.4% | 31.0% |

*Percentages are rounded to the tenth place and may contain rounding errors.

Source: U.S. Census 5-Year ACS (2018-2022)

In addition to 5-year ACS data, the project team reviewed trip data from Strava Labs to assist with identifying current levels of bicycling in Passaic City. Strava Lab is a free mobile tracking application used by cyclists and other sports and recreation enthusiasts to track their exercise goals and monitor their progress. Strava Metro maps this information as heatmaps. The heatmaps are representations of concentrated recreational activity. The routes taken could serve to indicate biking/micromobility use

levels in the city. However, since users are self-selected, data from Strava users may or may not represent the larger population in Passaic. According to Strava Metro, 4,126 city residents, commuters, and visitors self-reported 30,503 bicycle trips in 2023. Of those trips, 96.3% used a classic (human-powered) bicycle and 3.7% used electric bicycles (E-bikes). Figure 22 shows the 5-year trend in total bicycle trips taken in the City of Passaic.

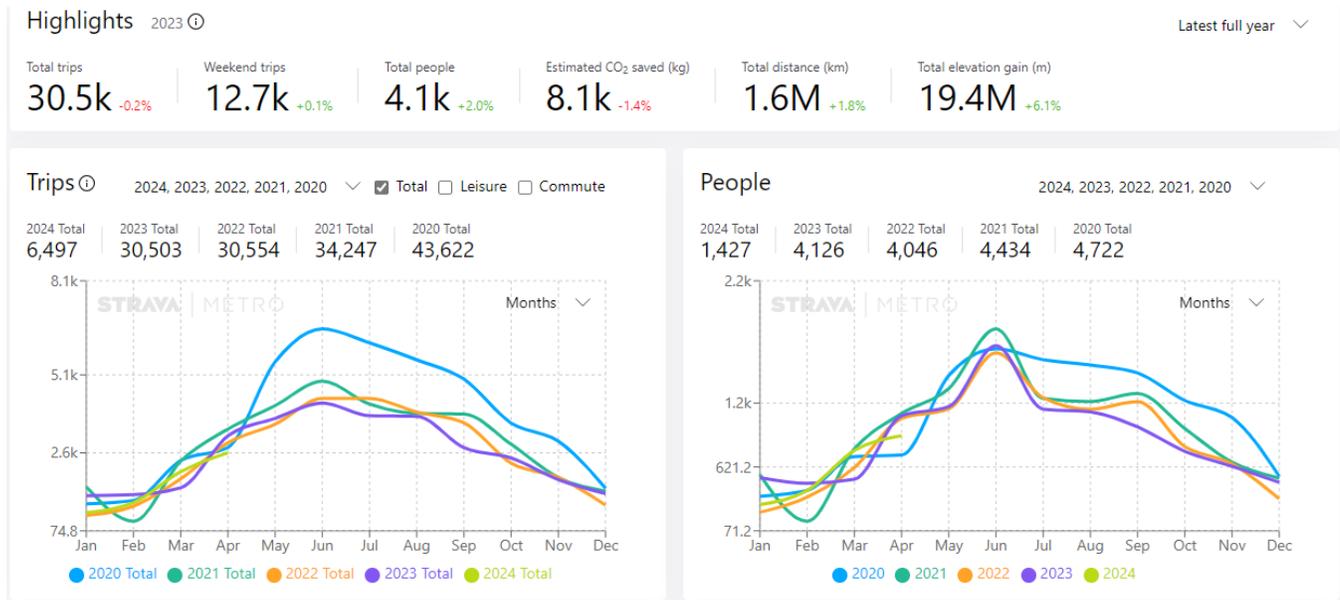


Figure 22. 5-year trend in total bicycle trips taken by self-reported riders in Passaic.

Source: Chart screenshot from <https://metroview.strava.com/>

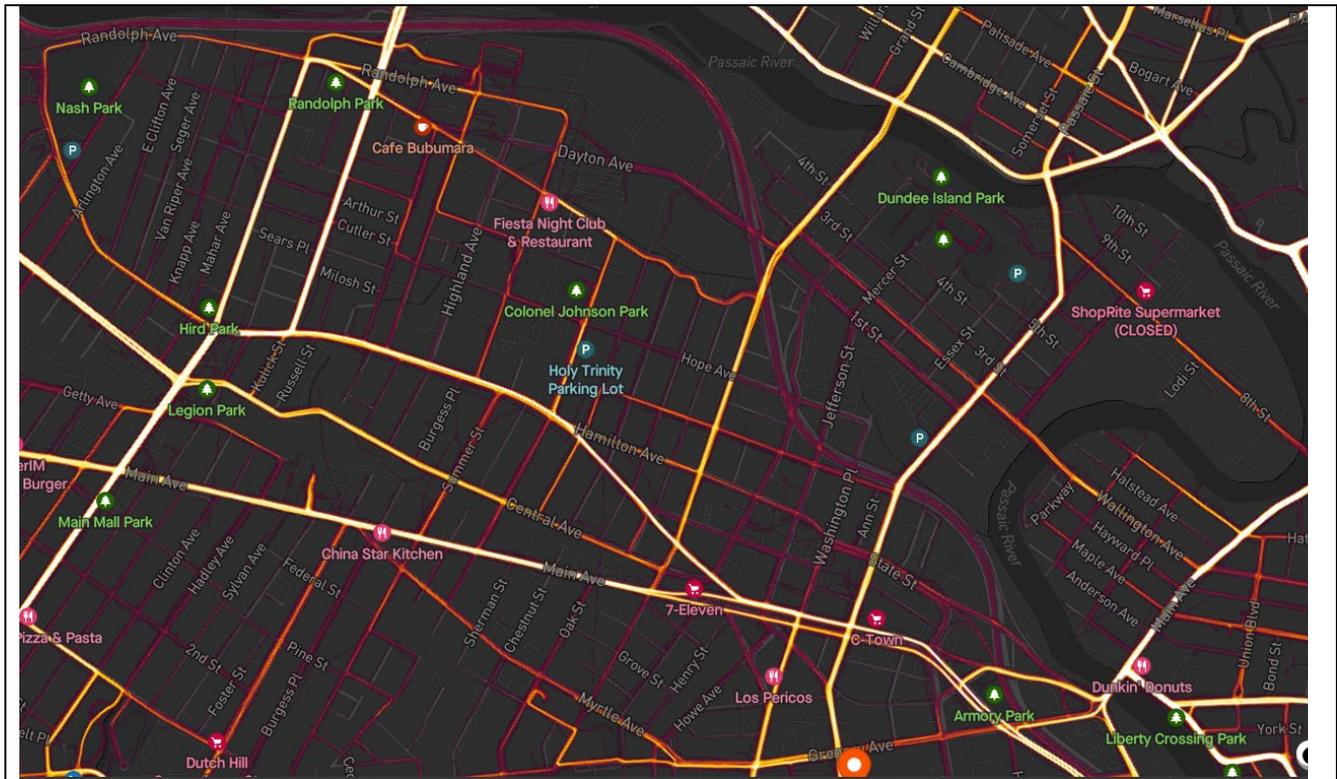


Figure 23. Heat map showing bicycle activity in Passaic City north of Gregory Ave.

Source: Map screenshot from <https://www.strava.com/heatmap#13.30/>.

Figure 23, bicycle riding heatmap, shows current levels of bicycle riding by Strava users in Passaic City north of Gregory Ave and includes adjacent municipalities. According to the heatmap colors, the bright light orange color represents higher levels of biking activity whereas the dark burgundy colors represent lower levels of biking activity. Based on this heatmap, the east to west roads, such as Brook Avenue, Van Houten Avenue, Main Avenue (from Pennington Avenue to Clifton border), Lexington Avenue, Central Avenue, Gregory Avenue, and Paulison Avenue are used more heavily by cyclists and other micromobility riders. South to north roads most frequently used by cyclists include Broadway, Passaic Avenue, Main Avenue (from Clifton border to Pennington Ave), River Drive, Monroe Street, and Park Avenue. Aside from Park Avenue, all of the roads that are heavily used by cyclists and other micromobility riders connect Passaic to an adjacent municipality. While some of the roads listed have proposed bicycle facilities through previous studies, only Lexington Avenue and a segment of Gregory Avenue have existing on-road bicycle lanes.

Figure 24 below shows current levels of bicycle riding by Strava users in Passaic south of Gregory Ave and includes segments of adjacent municipalities, i.e. Clifton and Rutherford Borough. In addition to the east to west and south to north clusters of biking activity noted above, the roads and trails within Third Ward Park are heavily used by cyclists and other micromobility riders.

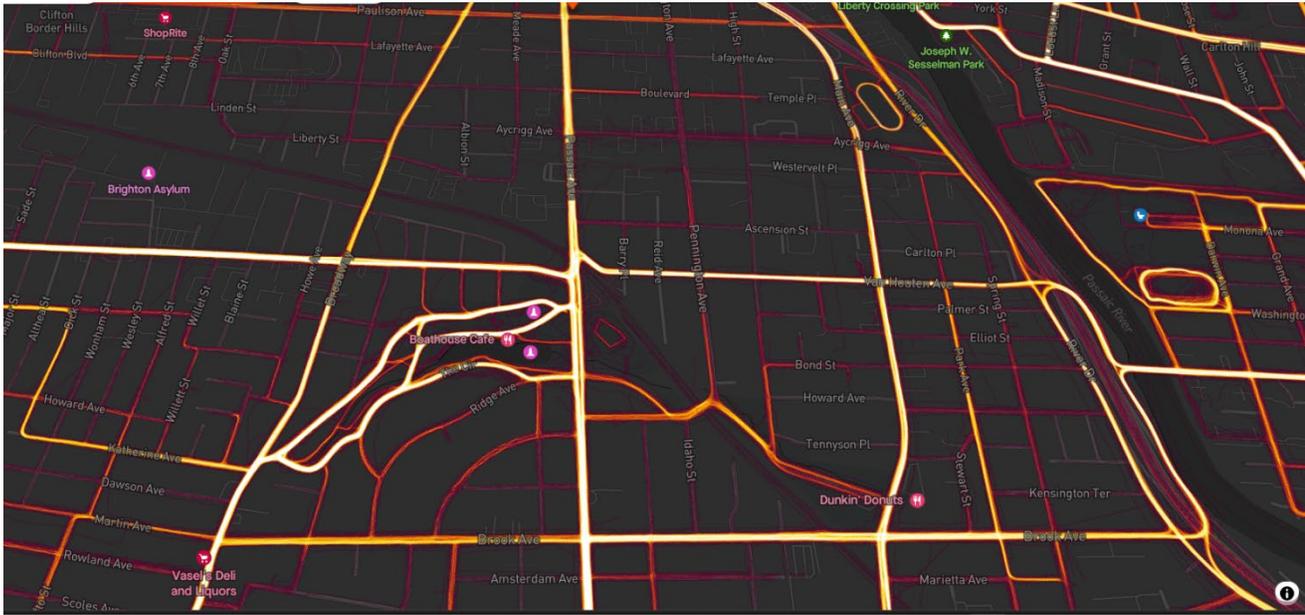


Figure 24. Heat map showing bicycle activity in Passaic City north of Gregory Ave.

Source: Map screenshot from <https://www.strava.com/heatmap#13.30/>.

Bicycle Accommodations

BIKEPassaicCounty, the County’s Bicycle Master Plan, recommended a Pattern Book for its respective municipalities to help plan the County’s approved bicycle network by setting consistent selection criteria, showing approved bicycle facilities to communicate effectively with stakeholders, and guiding concept plans for priority routes. The County’s Pattern Book is based on state and national design guides like the State of New Jersey Complete Streets Design Guide and the AASHTO Guide for the Development of Bicycle Facilities, with updates reflecting new practices. The book expands the definition of bicycle lanes and offers advice on shared-use paths and sidepath facilities. It ensures bicycle facilities blend well with green streets, focusing on safe engineering and following regulations.

Bicycle Boulevard



Figure 25. Bicycle boulevard with traffic management measures to discourage through traffic.

Photo Credit: Glen Koorev. ViaStrada Ltd.

Bicycle boulevards, also referred to as neighborhood greenways, are shared traffic-calmed streets. These are typically interconnected neighborhood streets that provide enhanced safety and comfort for cyclists. Bicycle boulevards are best used on low volume residential streets with a posted speed limit of 20 mph or less. A combination of signs, sharrow markings, traffic calming, and traffic management measures are used on bicycle boulevards. The benefits of bicycle boulevards for residential neighborhoods include limiting traffic to local access and increased ride comfort for cyclists of all ages and abilities. Table 9 below shows the roadways where bicycle boulevards are proposed per the County’s Bicycle Master Plan.

Table 9. Proposed Bicycle Boulevards

| Roadway | Start | End | Length (miles) |
|--------------------------------|-----------------------------|-----------------|----------------|
| Minor Arterials | | | |
| <i>Broadway (CR 622)</i> | Brook Avenue/ Martin Avenue | Main Avenue | 1.36 |
| <i>Market Street (CR 619)</i> | South Street | E Monroe Street | 0.68 |
| <i>Passaic Avenue (CR 603)</i> | Clifton Boundary | Brook Avenue | 0.11 |
| <i>Passaic Avenue (1687)</i> | Brook Avenue | Main Avenue | 1.2 |

| Roadway | Start | End | Length (miles) |
|---|------------------------|-----------------|----------------|
| Major Collectors | | | |
| <i>Madison Street (one-way eastbound)</i> | Paulison Avenue | Main Avenue | 0.42 |
| <i>Madison/Hudson Street</i> | 1 st Avenue | Pulaski Park | 0.28 |
| <i>Washington Place (1210)</i> | Hamilton Avenue | Hope Avenue | 0.20 |
| <i>Howard Avenue (1211)</i> | Pennington Avenue | Passaic Avenue | 0.2 |
| <i>Pennington Avenue (CR 607)</i> | Howard Avenue | Main Avenue | 0.97 |
| <i>Highland Avenue (613)</i> | Wilson/Pine Street | Main Avenue | 0.30 |
| Local Roads | | | |
| <i>Harrison Street/McKinley Street/Cedar Street</i> | Parker Avenue | Paulison Avenue | 1.20 |

Shared Lanes (Sharrow)



Figure 26. Sharrow on Lexington Ave near the Van Buren St intersection.

Photo Credit: NJDOT

Shared lanes, also referred to as sharrows, are on-road markings typically used on single-lane, low speed, lower volume roads (posted speed limit of 25 mph or less and less than 2,500 AADT). These are roads where it is generally not feasible or appropriate to provide dedicated bicycle facilities. Sharrows are also used at intersections, where the roadway is constrained, to connect and provide a designated route between dedicated bicycle facilities. Sharrows are preferably placed at the center of the travel lane (4 ft from curb without parking/11 ft with). The main benefits of the sharrow are that it guides cyclists as to the best position on the roadway and asserts their

right to use it. Sharrows currently exist on Lexington Avenue between Quincy Street and Harrison Avenue.

Bicycle Lanes



Figure 27. Bicycle lanes. Photo Credit: National Complete Streets Coalition.

Bicycle lanes are on-road pavement markings and signage designating exclusive travel space for cyclists, with no buffer or separation between the travel and bicycle lanes. According to the NJDOT *Complete Streets Design Guide*, bicycle lanes are typically five feet wide when adjacent to a curb or four feet wide when no curb exists. When placed next to on-street parking, the recommended width for a bicycle lane is seven feet. This Guide also recommends bicycle lanes on roads with posted speed limits of 25 mph and less than 10,000 average daily traffic (ADT) or 35 mph and less than 5,000 ADT. Table 10 below shows the roadways where bicycle lanes are proposed per the County’s Bicycle Master Plan.

Table 10. Proposed Bicycle Lanes

| Roadway | Start | End | Length (miles) |
|---|-----------------------|--------------------|----------------|
| Minor Arterials | | | |
| <i>Brook Avenue (CR 608)</i> | Broadway Avenue | River Drive | 1.29 |
| <i>Paulison Avenue (CR 618)</i> | Sanford Street | River Drive | 1.36 |
| <i>Gregory Avenue (1212)</i> | Broadway | River Drive | 0.6 |
| <i>Passaic Street (1687)</i> | Main Avenue | Wall Street (1687) | 0.70 |
| <i>Wall Street (1687)</i> | Passaic Street (1103) | Passaic River | 0.19 |
| Major Collectors | | | |
| <i>Madison Street (one-way eastbound)</i> | Main Avenue | 1st Street | 0.60 |
| <i>Henry Street (one-way westbound)</i> | Myrtle Avenue | Main Avenue | 0.30 |
| <i>Jefferson Street (1218)</i> | Columbia Avenue | Main Avenue | 0.28 |
| <i>Washington Place (1210)</i> | Main Avenue | Hamilton Avenue | 0.02 |
| <i>Hoover Avenue (1222)</i> | Lexington Avenue | Broadway | 0.03 |
| Local Roads | | | |
| <i>Quincy Street (one-way westbound)</i> | Lexington Avenue | Central Avenue | .07 |

Buffered Bicycle Lanes



Figure 28. Buffered bicycle lane on Lexington Avenue.

Buffered bicycle lanes are bicycle lanes combined with a marked buffer space, typically diagonal cross hatching, to separate the bicycle travel lane from motor vehicle travel. The marked buffer space should be at least 1.5 feet wide but ideally three feet wide. Depending on traffic volume, NJDOT recommends buffered lanes on roads with speed limits between 25 and 35 mph ($\leq 15,000$ ADT), and between 40 and 45 mph ($\leq 5,000$ ADT). When combined with the three-foot buffer, these lanes are typically a minimum of eight feet wide. Buffered bicycle lanes exist on Gregory Avenue between Pennington and Main Avenue and on Lexington Avenue between Main Avenue and Quincy Street. Buffered bicycle lanes are proposed by the County along Central Avenue (one-way southbound) between Quincy Street and S Kol Square/Madison Street; and Main Avenue (CR 601) between Monroe Avenue and Gregory Avenue.

Two-way Cycle Track/Separated/Protected Bicycle Lanes



*Figure 29. A two-way cycle track in Jersey City.
Photo Credit: Hudson County View.*

Two-way separated/protected bicycle lanes or cycle tracks are physically separated bicycle lanes, accommodating movement in both directions on one side of the road. These lanes employ design elements like bollards, planters, raised curbs, or on-street parking to create a barrier between cyclists and vehicular traffic. Typically implemented on streets with additional cartway width where space constraints prevent the installation of one-way separated lanes on both sides, these lanes are favored for routes with minimal driveways or cross-street conflicts. They are particularly suited for streets with high traffic volumes, speeds, or intricate traffic patterns, including those with frequent parking turnovers or situated as contra-flow lanes on one-way streets. These lanes are strategically positioned along arterial and collector road corridors to grant access to key destinations such as schools. Two-way cycle tracks are proposed in the County plan for Hamilton Avenue and State Street.

Shared-Use Paths



Figure 30. Shared-use paths at Third Ward Park.

Photo Credit: hispanonewjersey.com

Shared-use paths are two-way bicycle facilities that are separated from/closed off to motor vehicular traffic and that pedestrians, joggers, wheelchair users, inline/roller skaters, skateboarders, standing scooter riders, cyclists, and other micromobility riders use for commuting and/or for recreation. Shared-use paths must comply with ADA design standards and typically range in width from ten feet to 14 feet depending on user volume. A shared-use path may be reduced to eight feet in cases of physical constraints, low bicycle traffic volume, infrequent pedestrian use, and frequent passing opportunities.

When located alongside the roadway in place of a bicycle lane and sidewalk, shared-use paths are called sidepaths. The AASHTO Bicycle Facilities Guide, among others, provides design standards for shared-use paths. Off-road paths or trails are shared-use paths that are unpaved and are primarily used for recreational activity. Unlike sidepaths, which are located adjacent to the roadway, off-road paths are typically found in parks and nature preserves away from motor vehicular traffic. In Passaic, Shared-use

paths exist within Third Ward Park and are proposed in the County plan for Pulaski/Dundee Island Park and along the Passaic Riverfront between Market Street and 11th & South Street.

Signage for cyclists

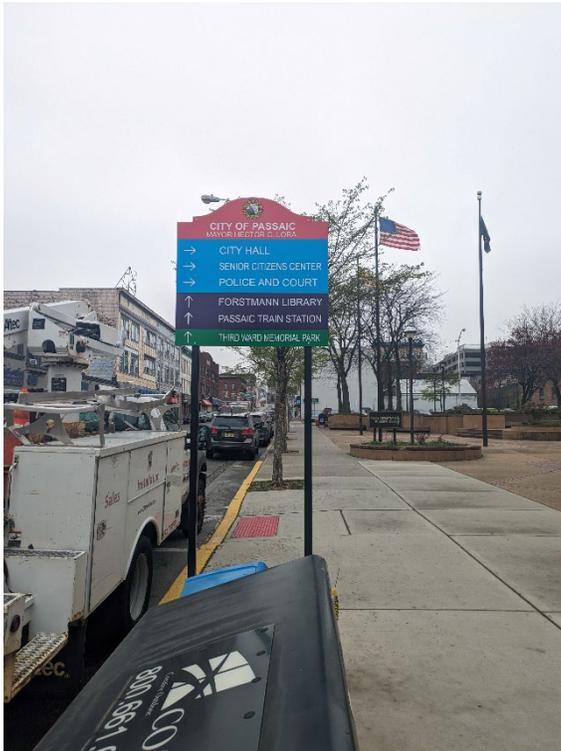


Figure 31. Informational signage at Passaic’s City Hall.

Within the City, Lexington Avenue and Gregory Avenue are the only roads with bicycle signage demarcating these roads as bicycle friendly. However, the existing signage system does not provide wayfinding directions to cyclists. Wayfinding signs for cyclists guide cyclist riders to their destinations while at the same time alerting motorists as to the presence of cyclists on the road. Per the *National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide*, the types of signage typically found for cyclists are confirmation signs, turn signs, and decision signs. The MUTCD provides signage regulations and design guidelines for wayfinding systems for bicycle networks. Passaic City currently has a limited number of informational signage for wayfinding in its downtown.

Bicycle Parking and Other End-of-Trip Facilities



Figure 32. Bicycle parking at Dundee Island Park.

End-of-trip facilities for cyclists are amenities provided at destinations to support cyclists when they complete their journey. Secure bicycle parking and other end-of-trip facilities are key to increasing the number and frequency of people bicycling for recreation and commuting. Bicycle parking facilities include:

- **Bike Parking Racks:** Secure racks or stands where cyclists can lock their bikes safely. Short-term bicycle parking racks exist at Dundee Island/Pulaski Park, the Passaic Train Station and Bus Terminal.
- **Bike Lockers:** Enclosed lockers or cages for storing bicycles securely, often with additional space for gear or accessories.
- **Bike Shelters:** Covered shelters or canopies that protect bicycles from the elements, such as rain or sun.

Other end-of-trip facilities include:

- **Bike Repair Stations:** Equipped with tools and equipment for basic bicycle repairs and maintenance, such as tire pumps, wrenches, and tire levers.
- **Information Boards/Kiosks:** Boards/kiosks or displays providing information about cycling routes, local amenities, and nearby attractions.
- **Changing Rooms:** Facilities with space for cyclists to change clothes or freshen up after their ride, particularly useful for commuters.
- **Showers:** Facilities that provide showers for cyclists to freshen up and wash off after biking, commonly found in workplaces or fitness centers.

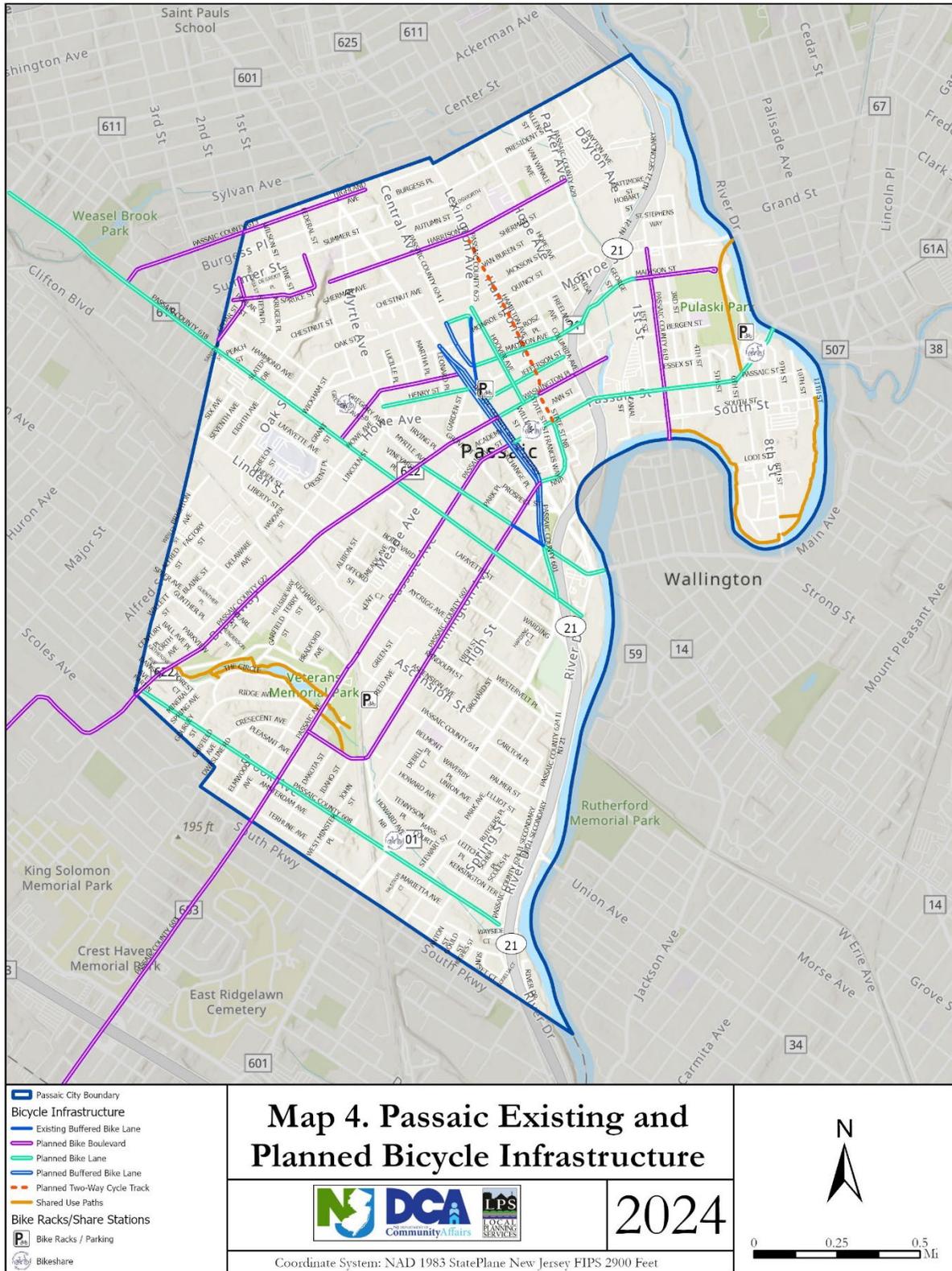
- **Lockers or Storage:** Secure storage areas for cyclists to store their helmets, bags, or other belongings while they are at their destination.
- **Bike Rental or Sharing Stations:** Stations where cyclists can rent or share bicycles for short-term use. In particular, bike share programs offer a hassle-free option for riding bicycles, eliminating concerns about theft, parking, or upkeep. They are particularly beneficial for quick journeys to and from public transit, i.e. first- and last-mile journeys. Effective bike share systems require an ample supply of bicycles, designated parking areas, and interconnected streets suitable for cycling that link key destinations. Passaic City is currently negotiating a bike share program with On Bike Share. Sharing stations are underway at Third Ward Park (Benson Avenue), Pulaski/Dundee Island Park (Wall Street), Christopher Columbus Park (Gregory Avenue), and in front of City Hall (Passaic Street).



Figure 33. On Bike Share Station in Woodbridge NJ. Credit: Woodbridge Township.

These end-of-trip facilities help promote cycling as a viable and sustainable mode of transportation by providing convenience, security, and support for cyclists at their destinations.

Map 4. Passaic City Existing & Planned Bicycle Infrastructure



Existing Programs & Policies

Safe Routes to School (SRTS)²⁰

The Safe Routes to School (SRTS) program is a federal, state, and local effort to enable and encourage children in kindergarten through 8th grade to walk and bicycle to school where it is comfortable and to improve the areas where it is uncomfortable. SRTS activities include The Walking School Bus, Frequent Walker Program, Golden Sneaker Award, Bicycle Train, various math/science classroom activities, School Travel Plans, K-8 Traffic Safety Curriculum, and a walking audit around schools to find problem areas.

Passaic participates in an existing SRTS Program through EZ Ride. EZ-Ride is the Transportation Management Association (TMA) for Bergen and Monmouth counties and the urban areas of Essex, Passaic, and Union counties. EZ Ride partners with counties, municipalities, schools, and other community stakeholders to promote walking, biking, safety, and health. EZ Ride partnered with Casimir Pulaski School No. 8, George Washington School No. 2, and Passaic School No. 9 to prepare walkability audits and School Travel Plans for those schools. Passaic was a silver level recipient of the NJ SRTS Recognition Program for its SRTS work at the three elementary schools noted above. Recipients are selected based on their level of involvement and commitment to the SRTS Program. Selected recipients receive a certificate or award and are listed in the NJ SRTS website: <http://www.saferoutesnj.org/current-nj-safe-routes-to-school-recognition-program-winners>.



Figure 34. School Children crossing at an SRTS funded crosswalk.

Photo Credit: <http://www.saferoutesnj.org/>

Bike/Walk to Work/School Challenges

According to Safe Routes NJ, walk and bike to school events support SRTS programs by creating activities and buzz aimed at getting students and/or their parents to walk or bike to school. The goal of these events is to foster a culture of active transportation to school. Passaic City schools hold walk to school challenges as part of their continued implementation of the SRTS program. In addition, EZ Ride hosts bike to work safety classes and tours for City employees during National Bike Month.

Bicycle Rodeos/Skill Clinics

Bicycle rodeos are typically one-day events that offer bicycle safety inspections, talks about state bicycle laws, policies and efforts, and give the participants a chance to practice their skills via activity stations in a safe and controlled environment. Small group stations cover topics such as starting and stopping, balancing on a bicycle, rules of the road, and courses to practice skills like sudden swerves, emergency stops, and hand signals. Passaic held



Figure 35. Bicycle Rodeo/Skill Clinic.

Photo Credit: <http://www.actionforhealthykids.org>

²⁰ [Safe Routes NJ](http://www.saferoutesnj.org/)

a one-day bicycle rodeo at Third Ward Park as part of the annual Family Bike Ride event in 2023.

Transit Bicycle Policy

Improving bicycle access to transit greatly improves the rates of both bicycling and transit use and allows people to travel through the region without having to get in a car. This is accomplished by providing bikeways and bicycle accommodations, such as bicycle parking at transit stops and park and ride locations and on-vehicle storage of bicycles, such as allowing bicycles on trains and bicycle racks on buses.

Current Service

NJ TRANSIT is the primary public transit provider in the state and in the City of Passaic. NJ TRANSIT operates 11 bus routes that service the city. In addition, NJ TRANSIT operates/maintains the Passaic Train and Bus Stations as well as all the bus shelters and stops in the city. The bus service is available to the general public. Discounted fares are available for seniors (age 60 and over), persons with disabilities, and college students. The fixed schedule routes are designed to connect key residential areas with popular destinations such as local governmental facilities, healthcare, shopping, employment, social services, and other transit connections.

The following bus services are available in Passaic:

NJ TRANSIT Bus Routes:

- 74** - Paterson City > Nutley Twp > Newark City
- 161** - Paterson City > Passaic City > New York City
- 190** – Paterson City > Rutherford Boro > New York City
- 702** – Paterson City > Elmwood Park Boro
- 703** – Haledon Boro > Paterson City > East Rutherford Boro
- 705** – Passaic City > Willowbrook Mall
- 707** – Paterson City > Paramus Boro
- 709** – Bloomfield Twp > Passaic City > Paramus Boro
- 744** - Passaic City > Paterson City > Wayne Twp
- 758** – Passaic City > Paramus Park Mall
- 780** - Passaic City > Hackensack City > Englewood City

Community Coach and Spanish Transportation Express Service buses also provide commuter trips in Passaic and Bergen County communities to New York City from the Passaic Bus Terminal.

Folding bicycles/micromobility vehicles are always permitted on NJ TRANSIT trains and buses. Non-folding bicycles/micromobility vehicles are permitted on trains only during off-peak hours. Non-folding bicycle/micromobility vehicles are always permitted on NJ TRANSIT buses subject to capacity limitations. The majority of NJ TRANSIT buses are equipped with bicycle racks mounted on the front of the vehicles. Each rack stores two standard bicycles. Child carrier seats and tandem bicycles are not permitted on a bus bicycle rack. All cruiser buses offer undercarriage storage for bicycles, limited to two bicycles per bus. NJ TRANSIT does not have information on the usage of the undercarriage storage for bicycles and there are no plans to expand the storage capacity at this time.

Passaic has train service through the Main-Bergen County rail line, which starts in Suffern, NY and terminates in Hoboken, Hudson County. The Passaic Train station (in Third Ward Park) is accessible by car, bus, bike/other micromobility and on foot.

Passaic Transit Locations

Passaic has two transit stations (see Map 5 below).

Passaic Station

Van Houten St & Passaic Ave, Passaic, NJ 07055

Lot 1 (Lackawanna Pl & Barry Pl)

Lot 2 & 3 (Passaic Ave & Tom Saba Sq)

92 parking spaces (free parking)

Bike racks or lockers are available for first/last mile connections.

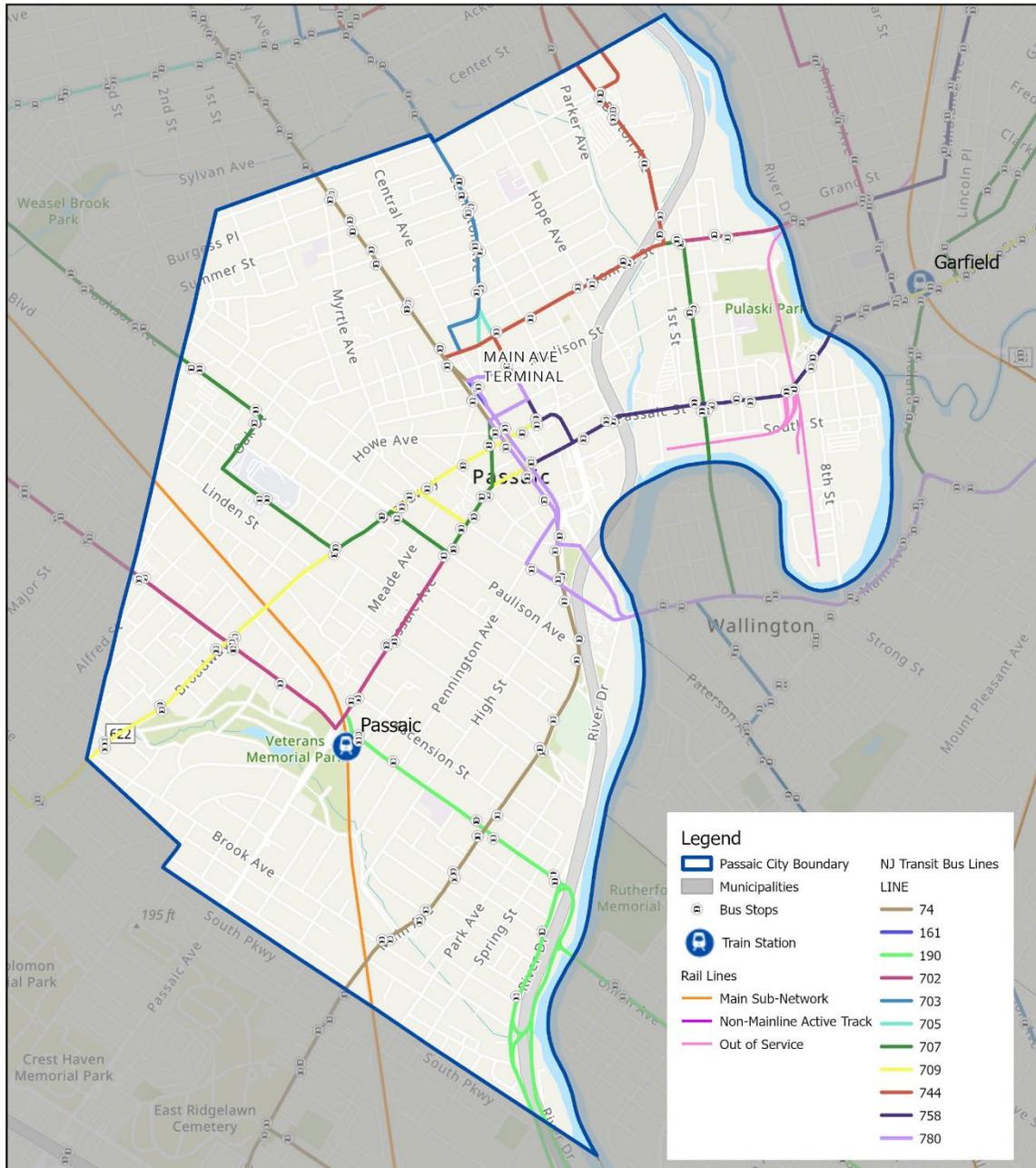
Passaic Bus Terminal (Main Avenue Terminal)

Main Avenue, Passaic, NJ

0 parking spaces (parking garage under construction)

Bike racks are available.

Map 5. Passaic City Transit Connections



Legend

| | |
|---------------------------|----------------------|
| Passaic City Boundary | NJ Transit Bus Lines |
| Municipalities | LINE |
| Bus Stops | 74 |
| Train Station | 161 |
| Rail Lines | 190 |
| Main Sub-Network | 702 |
| Non-Mainline Active Track | 703 |
| Out of Service | 705 |
| | 707 |
| | 709 |
| | 744 |
| | 758 |
| | 780 |

Map 5. Passaic City Transit Connections



2024

Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet



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Other Bicycle Considerations

Freight Routes

Large trucks must abide by a hierarchy of roads consisting of the National Network, the New Jersey Access Network, and unrestricted local roads. Large trucks are expected to travel along the National Network “unless seeking food, fuel, rest, repairs or to reach a terminal by the direct route, which entails the shortest travel distance.”²¹ The National Network does not extend within Passaic. The closest National Network Road is Interstate 80 in Paterson City to the north.

Roads that are part of the New Jersey Access Network within Passaic include:

- NJ 21 from Passaic’s southern boundary to its northern boundary with Clifton City.

Freight roads tend to be heavily used by cyclists/micromobility users due to the various activity generators and attractors on those roads. As a result, separate facilities for both cyclists and other micromobility users are needed to separate them from truck traffic.

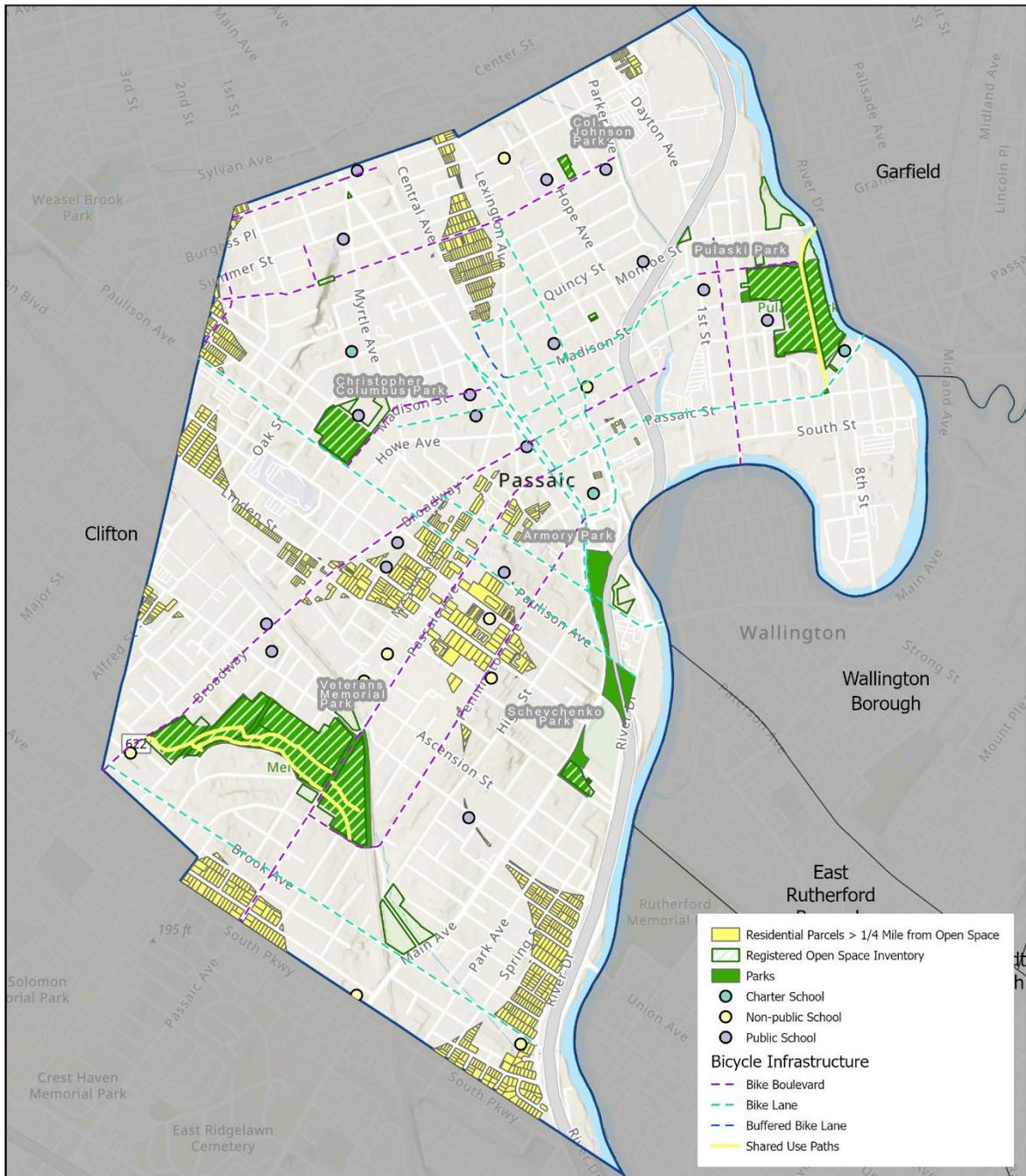
Park/Open Space Access

Bicycle infrastructure plays a crucial role in ensuring equitable access to parks and green spaces. Parks serve as vital green spaces for recreation, relaxation, and connection with nature, but their accessibility can be limited by car-centric designs. By investing in dedicated bicycle lanes, paths, and racks, Passaic City can encourage more people to utilize active transportation modes reducing traffic congestion and carbon emissions while improving public health. Additionally, well-designed bike infrastructure enhances safety for cyclists, making it more feasible for families and individuals of all ages to enjoy outdoor activities in parks. This approach not only prioritizes environmental stewardship and physical well-being but also contributes to building vibrant, inclusive communities where everyone can easily access and enjoy the benefits of green spaces.

The utilization of GIS spatial analysis by the project team has proven invaluable in identifying areas within the city that currently face challenges in accessing parks and open spaces. By focusing on residential dwellings situated more than a quarter mile away from existing green areas, the analysis highlighted several key regions where accessibility is limited. Map 6 vividly portrays these findings, showcasing clusters of residences in the southeastern, west central, and northeastern borders with Clifton, as well as in the central City area south of Main Ave and north of Linden Ave, all lacking nearby access to parks and open spaces. Consequently, the forthcoming plan aims to address this disparity by prioritizing the establishment of dedicated bicycle lanes and paths, along with the installation of bike racks, to seamlessly connect these residential clusters to the existing parks and open spaces, thereby fostering inclusivity and enhancing community well-being.

²¹ <https://www.nj.gov/transportation/freight/trucking/routing.shtm>

Map 6. Residences Greater Than ¼ Mile from Open Space



Map 6. Residences > 1/4 mile from open space



2024

Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet



Needs Analysis

Land Use Attractors and Generators

The project team identified seven categories of attractors and generators that exist within Passaic: commercial corridors, medical services corridors, recreation, government services, social or religious organizations, and schools. Most of the land use generators and attractors presented here are primarily accessible by vehicle and/or on foot due to widespread sidewalk coverage. Table 11 shows the different uses included within each category. Map 7 shows the location of these uses.

Table 11. Attractors and Generators Categories

| Category | Included Uses |
|----------------------------------|---|
| Commercial Corridor | Roads with a high concentration of commercial/retail |
| Medical Services | Roads with a high concentration of hospitals, primary care physicians, and/or medical specialists |
| Recreation | Parks, public open space, golf courses, and recreational facilities |
| Schools | Elementary, middle, and high schools |
| Government Services | Municipal buildings, library, and post office |
| Social or Religious Organization | Places of worship, community centers, social clubs |
| Transit Stop | Train and/or bus stops for NJ Transit lines |

Though not specifically called out, residential areas serve as significant trip generators within the city, forming the backbone of daily mobility patterns. While parks and open spaces are crucial attractors for recreational activities and leisure, residential neighborhoods act as primary origins and destinations for a multitude of trips. These areas not only generate a high volume of trips as homes to residents but also serve as secondary attractors for visitors, whether for social gatherings, services, or other purposes. Understanding the pivotal role of residential neighborhoods in shaping travel demand is essential for ensuring that future bicycle infrastructure meets the needs of residents and visitors alike.

The presence of restaurants, retail establishments, and other businesses along major and minor commercial corridors in the city underscores their importance as hubs of economic activity and community life. These corridors, such as Main Avenue, parts of Passaic Avenue, Broadway, Market Street, Monroe Street, and sections of Parker and Dayton Avenue, serve as vital arteries where residents and visitors alike can access a diverse range of goods and services. Additionally, they host a significant portion of the city's employment opportunities across various industries. Despite the varying speeds along these corridors, with the majority having a 25-mile per hour limit or unposted limits, they provide essential pedestrian infrastructure with full sidewalk coverage, albeit often interrupted by frequent curb cuts. However, the lack of dedicated bicycle facilities along many of these routes underscores the need for

improved infrastructure to accommodate cyclists safely and efficiently, thereby enhancing accessibility and promoting sustainable transportation options within the city.

The concentration of in-patient medical services at the Saint Mary's General Hospital and Kindred Hospital of East New Jersey complex on Lafayette Avenue and Boulevard, between Oak Street and Crescent Place, underscores the importance of accessible healthcare facilities within the community. Alongside these hospitals, there exists a significant amount of office space dedicated to medical-related care and services, further solidifying this area as a healthcare hub within the city. Additionally, a cluster of outpatient doctor's offices is situated in or near the Main Avenue commercial corridor, providing convenient access to healthcare services for residents and visitors alike. Despite the critical role these medical facilities play, bicycle infrastructure currently falls short in providing adequate access to many of these services. However, plans and approvals for bicycle infrastructure along the Main Avenue corridor signal a positive step towards improving accessibility to essential medical care via sustainable transportation options, ultimately contributing to the overall health and well-being of the community.

The Passaic City Hall, known as the Robert C. Hare Municipal Complex, serves as the primary government services facility in the city, situated on Passaic Street between State Street and William Street. As a central hub for civic engagement and administrative functions, accessibility to this complex is paramount for residents. Surrounding roads, including Passaic Street, State Street, and Washington Place, have either planned or approved bicycle infrastructure, enhancing connectivity and accessibility to the municipal complex. However, William Street, which runs adjacent to the complex, currently lacks such infrastructure. Fortunately, planned bicycle improvements along Main Avenue, parallel to William Street and intersecting with Passaic Street and Washington Place, indicate a concerted effort to enhance accessibility to government services via sustainable transportation options. This strategic approach aligns with the broader goal of fostering inclusive and accessible civic spaces within the community.

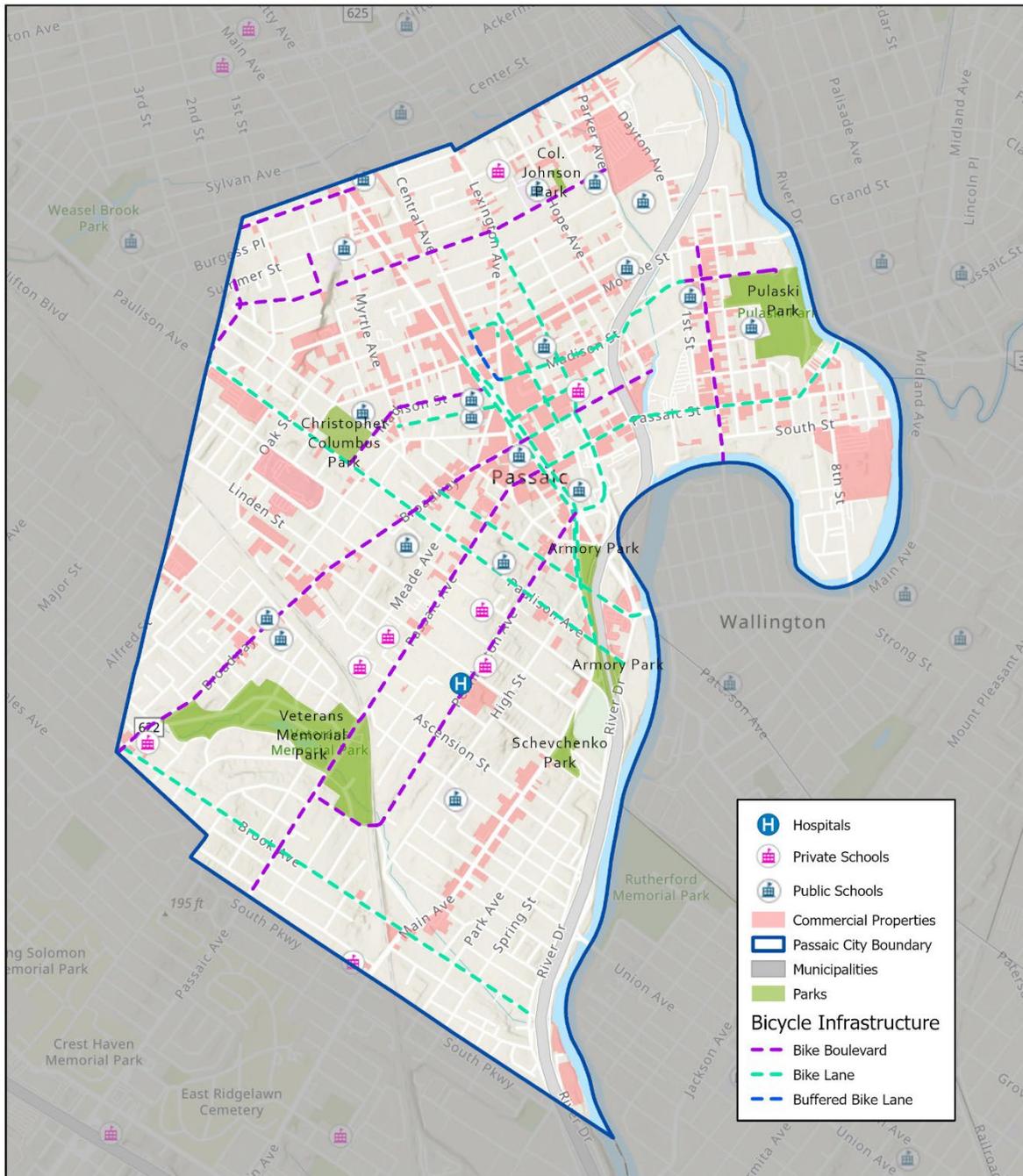
Bicycle infrastructure plays a pivotal role in promoting safe and sustainable transportation options for students attending neighborhood schools in Passaic City. Most schools currently do not have comfortable and accessible bicycle options for their students. By providing dedicated bike lanes, paths, and racks near schools, the city can encourage more students to cycle to and from school, reducing traffic congestion and promoting physical activity. Additionally, well-planned bicycle infrastructure enhances the overall safety of students commuting by bike, creating a conducive environment for active transportation. By integrating bike-friendly infrastructure into the vicinity of neighborhood schools, Passaic will not only promote healthier lifestyles but will also foster a sense of community and connectivity among students, parents, and educators.

Recreation destinations include parks, public open space, and recreational facilities. The city has three major parks, i.e. Third Ward Park, Columbus Park, and Dundee Island/Pulaski Park, each respectively located in the southern, central, and northern sections of the city. Of the three, Third Ward Park is the only one with existing dedicated bicycle paths and racks. Dundee Island/Pulaski Park has existing bicycle racks and proposed shared-use paths and Columbus Park has none. Internal paths within Third Ward and Dundee Island/Pulaski parks offer the potential to be utilized for transportation in addition to leisure. All three major parks are adjacent to schools and/or roads with proposed bicycle improvements. Other parks within the city, such as Colonel Johnson Park, serve as neighborhood playgrounds and are dispersed in

different sections of the city. Social and religious organizations are similarly dispersed geographically throughout the city.

Access to public transit is crucial for certain segments of the population, particularly those unable or unwilling to drive a vehicle. As previously noted, the Passaic Train Station and Main Avenue Bus terminal are major land use attractors. In addition, bus stops for the NJ TRANSIT lines connect land use attractors from different parts of the city to each other and to destinations beyond the city. While the two major transit stations provide bicycle racks, many if not all of the other bus stops lack bicycle racks for riders hoping to safely leave their bicycles when they transfer to the bus.

Map 7. Land Use Attractors in Passaic City



**Map 7. Passaic City
Land Use Attractors**



2024

Coordinate System: NAD 1983 StatePlane New Jersey FIPS 2900 Feet



Crash Analysis

Crash analysis is an essential element of transportation safety and urban planning, providing crucial insights into the underlying causes of road accidents. Through the systematic examination of crash data, city analysts can identify patterns, risk factors, and high-risk locations, enabling the development of targeted interventions to reduce both the frequency and severity of accidents. This analysis not only bolsters public safety but also guides policy decisions, informs bicycle and micromobility infrastructure improvements, and supports educational initiatives. In essence, crash analysis is fundamental to the creation of safer Complete Streets for all road users.

City Crash Statistics

The Passaic City Police Department (Passaic PD) provided cyclist-vehicle crash data for this analysis. Map 8 below shows the location of reported vehicle crashes involving cyclists from January 1, 2014, to December 31, 2023. Please note that this dataset includes only crashes that were published by the police. Minor crashes or crashes that were not reported to the police are not shown.

During this period, the Passaic PD reported 293 crashes involving cyclists. As shown in Figure 36, the number of annual cyclist-vehicle crashes averaged 29.3 crashes per year over the ten years where data was available (2014-2023), with a low of 18 crashes reported in 2018 and a high of 45 crashes in 2022.

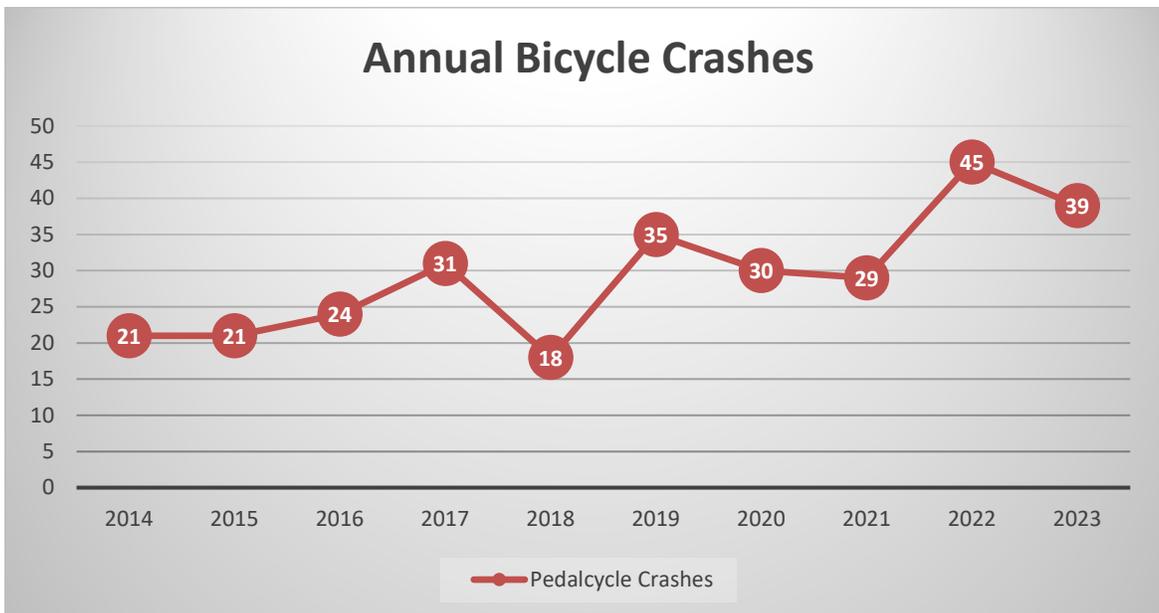
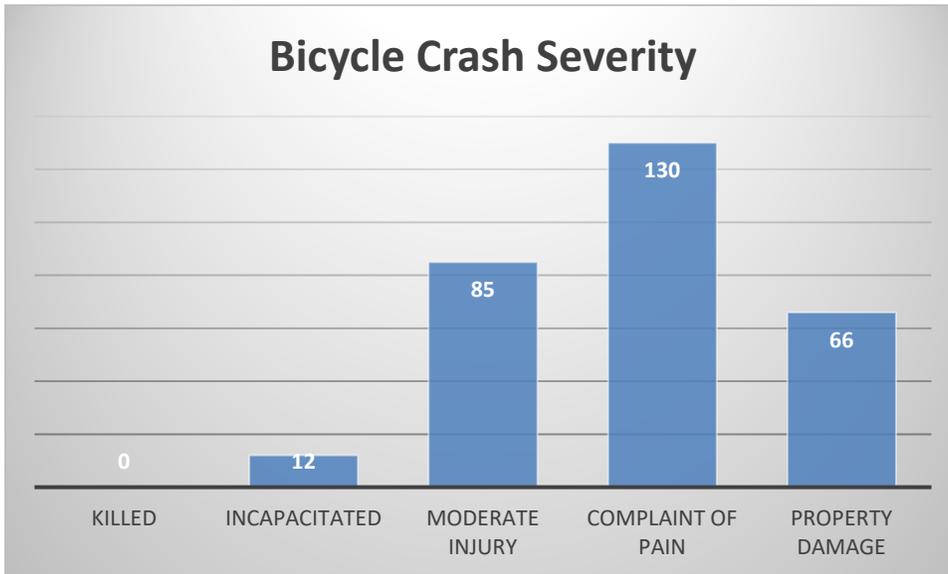


Figure 36. Bicycle Crashes per Year in Passaic City.

Of the 245 cyclist-vehicle crashes where the level of crash severity was available, victims suffered at least moderate injuries in 85 (34.7% of total cyclist crashes) cases (see Figure 37). Additionally, 12 cyclists were incapacitated during the review period. There were no known cyclist fatalities during the review period.

Figure 37. Severity of Crashes



Another factor to consider when reviewing crash data is the lighting conditions. 201 cyclist crashes (66.5%) occurred during daylight while 78 cyclist crashes (28.7%) occurred when it was dark, but the streetlights were on. Only seven cyclist crashes (2.4%) occurred when it was dusk or dark and the streetlights were not on. This suggests that lighting was not a primary factor behind many of the crashes.

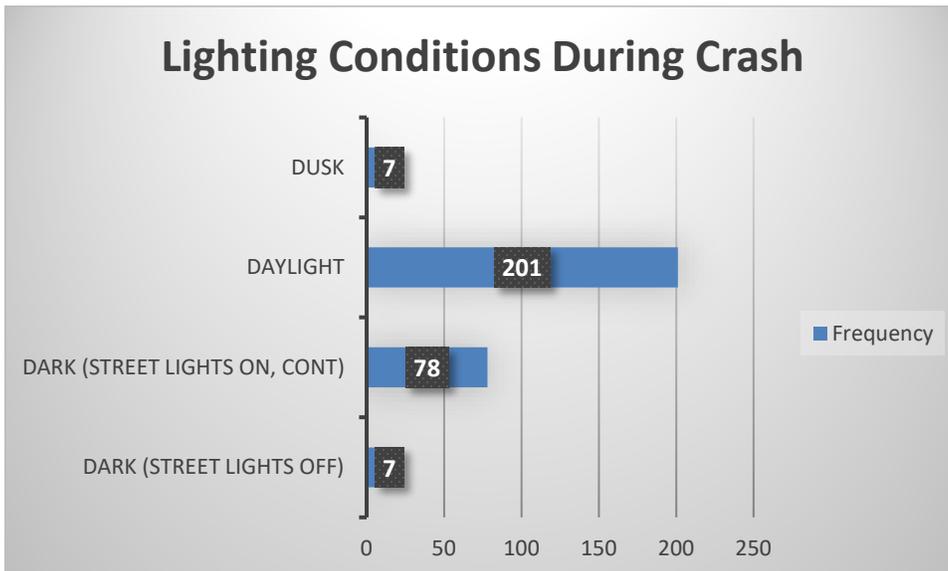


Figure 38. Light Conditions at Time of Crash

Crash Distribution

The project team conducted a spatial analysis of crash locations using XY coordinates, and address points provided by Passaic PD. Location data for crashes were assigned to the closest street address. Crashes that occurred within private property – in the parking lots or internal roads of commercial shopping plazas, for example, were also identified based on the property’s street address. Not only could a low crash rate indicate a certain level of safety along the roadway, but it could also mean that active transportation users are not utilizing the roadway. Therefore, it is important to further investigate each roadway to obtain a comprehensive understanding of the environment. cyclist

The pie chart below outlines the crashes by roadway jurisdiction. 151 cyclist crashes (60%) occurred on municipal roads while 98 cyclist crashes (39%) occurred on County roads. Only one cyclist crash (0.4%) occurred on a State or private road. Given that less than 17% of Passaic’s roads are maintained by the County, the fact that nearly 40% of the crashes occurred on these roadways highlights a need for improved bicycle facilities on county roads.

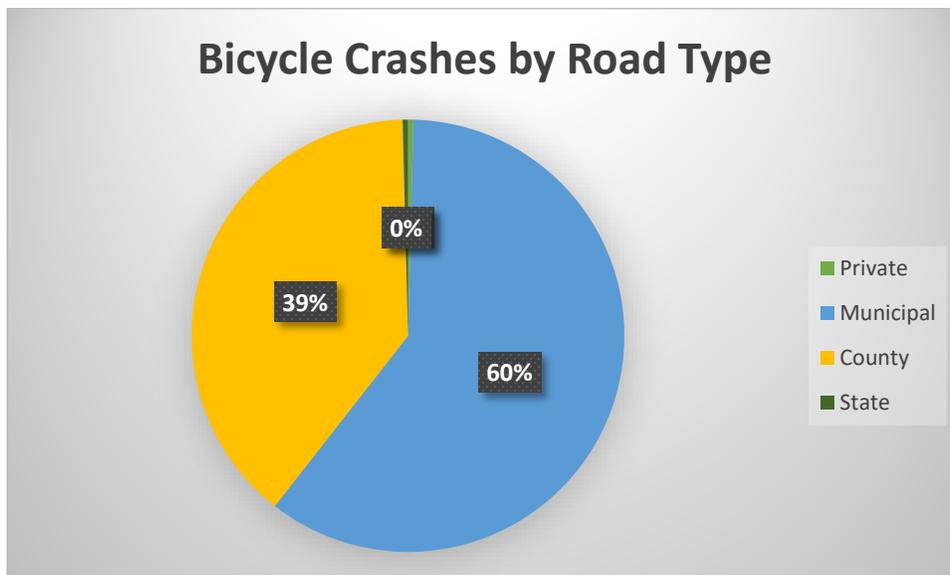
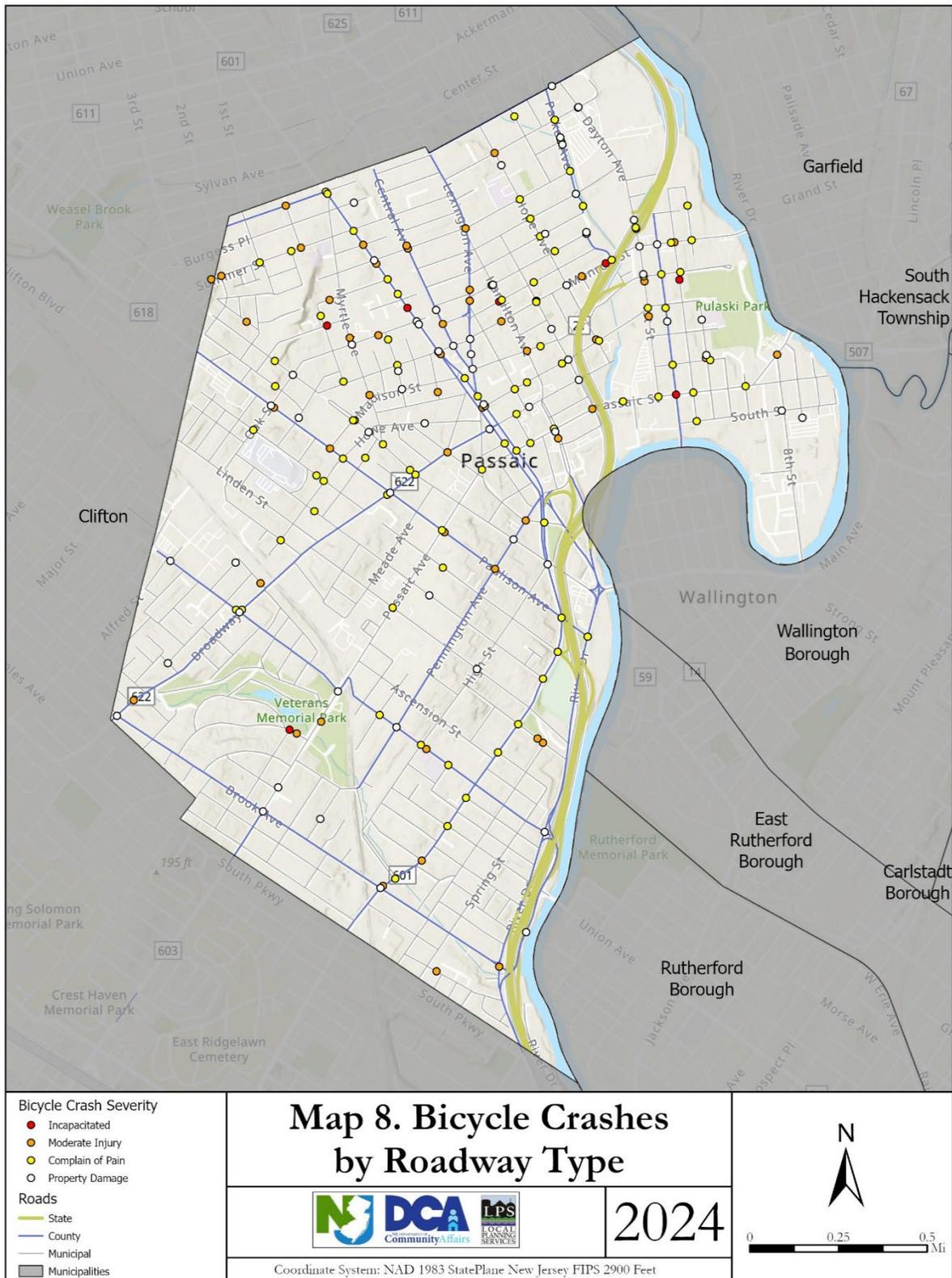


Figure 39. Frequency of Crashes by Jurisdiction

The project team also analyzed the spatial relationship of crashes along road segments and at intersections. Taken together, these two indicators provide insight into areas with high incidences of crashes.

Map 8. Bicycle Crashes by Road Type.



Bicycle Level of Traffic Stress Analysis

A Bicycle Level of Traffic Stress (LTS) analysis evaluates the bike-ability of routes based on what users deem to be acceptable riding conditions. Adapted from a metric created by the Mineta Transportation Institute,²² the analysis designates four categories of traffic stress corresponding to different types of cyclists. The most significant factors are vehicle speed and the number of vehicle lanes, with a road's level of stress increasing as either vehicle speed (measured by speed limit in lieu of 85 percentile speed data) or the number of lanes increases. Other factors that contribute to LTS include traffic volume (measured by annual average daily traffic – AADT), the presence of obstacles or riding hazards, and intersections, among other factors.

LTS I roads are appropriate for almost all cyclists. Bicycle paths that are physically separated from vehicle traffic fit into this category. For cyclists riding in vehicle travel lanes, this designation is limited to low-speed (25 mph or less) streets that are either two-lanes without centerlines or residential streets that are three lanes or less. When bicycle lanes not alongside a parking lane are present, the acceptable criteria increase to two lanes per direction and 30 mph.

LTS II roads are appropriate for “interested but concerned” cyclists, a group who would like to bike but are intimidated by proximity to traffic and other perceptions of safety risks. This group is generally considered to comprise a majority of cyclists and potential cyclists. LTS II roads for mixed traffic (bicyclists riding in vehicle travel lanes) have a maximum of 30 mph in two-lane unmarked streets or residential streets with three lanes or less. LTS II allows for up to four lanes per direction on roads with bicycle lanes, as long as the directions are separated by a raised median. Given that most riders feel comfortable riding along LTS II routes, a road network consisting of LTS II roads will encourage a high level of use. Any roads with AADT over 5,000 daily vehicle trips are also considered LTS II.

LTS III is appropriate for “enthused and confident” riders. Within mixed traffic, LTS III roads are either four to five lanes with a speed limit of up to 25 mph or two to three lanes and 30 mph. A bicycle lane is considered LTS III alongside traffic of up to 35 mph. Any roads with AADT over 10,000 daily vehicle trips are considered LTS III. Bicycle lanes that are frequently blocked by parked cars or other obstacles are LTS III.

LTS IV is considered the highest level of traffic stress. Only the most experienced riders who are “strong and fearless” feel comfortable on LTSIV roads. Any road with mixed traffic over 35 mph is considered LTS IV. Bicycle lanes along traffic are considered LTS IV at speeds of 40 mph or higher. Any roads with AADT over 15,000 daily vehicle trips are considered LTS IV.

Roads are assigned an LTS score using the “weakest link principle,” based on the variable with the highest LTS value. For example, for a two-lane residential road with a 25-mph speed limit and an AADT of 10,000 daily vehicle trips, even though the lane width and speed limit are characteristic of LTS I, this road will be LTS III because of the high traffic volume.

²² Mekura et al. (2012), “Low-Stress Bicycling and Network Connectivity.” *Mineta Transportation Institute*

Table 12. Bicycle Level of Traffic Stress Metric

| | | Street Width (number of total lanes) | | |
|-------------|----------|--------------------------------------|---------|--------|
| | | 2-3 | 4-5 | 6 + |
| Speed Limit | ≤ 25 mph | LTS I or II * | LTS III | LTS IV |
| | 30 mph | LTS II or III * | LTS IV | LTS IV |
| | ≥ 35 mph | LTS IV | LTS IV | LTS IV |

Table 13. Criteria for Level of Traffic Stress in Mixed Traffic

| | LTS ≥ I | LTS ≥ II | LTS ≥ III | LTS ≥ IV |
|---|----------|--|----------------------------------|-------------|
| Street Width (through lanes per direction) | 1 | 2 if raised median separating directions | > 2 or 2 without a raised median | no effect * |
| Bicycle lane width (including marked buffer and paved gutter) | ≥ 6 ft | ≥ 5.5 ft | no effect * | no effect * |
| Speed limit or prevailing speed | ≤ 30 mph | no effect * | 35 mph | ≥ 40 mph |
| Bicycle lane blockage (typically applies in commercial areas) | rare | no effect * | frequent | no effect * |
| * No effect = factor does not cause an increase to LTS | | | | |

Table 14. Criteria for Level of Traffic Service Volume Adjustment

| Volume Threshold | Min. LTS |
|------------------|----------|
| - | I |
| 5,000 | II |
| 10,000 | III |
| 15,000 | IV |

Level of Traffic Stress Analysis

Table 15. Existing Bicycle Level of Stress (LTS) in Passaic.

| Bicycle Level of Stress | Total Mileage | Percentage |
|-------------------------|---------------|------------|
| I | 46.25 | 63.2% |
| II | 8.90 | 12.2% |
| III | 6.30 | 8.6% |
| IV | 11.70 | 16.0% |

The LTS Analysis shows that 63.2% of City roads meet the speed and/or volume criteria for LTS I roads. Another 12.2% of City roads meet the speed/volume criteria of LTS II roads (see Table 13). This means that over 80% of Passaic's roads meet the speed and/or volume criteria for LTS I and II roads cyclist. Most of these roads are one lane in either direction with side street parking. While some have centerlines, most of the roads in residential neighborhoods do not. Unfortunately, the remaining 20% that are LTS III and IV are the south to north and east to west cross City corridors that lead to adjacent municipalities (see Map 9). These roads are, on the surface, not suitable for mixed traffic cyclist use due to either speed, volume, or both. Due to current street widths, accommodating both on-street parking and designated bicycle lanes on most of these roads will pose a challenge. As previously noted, there are a few physically separated bikeways in Passaic, notably within Third Ward Park and as proposed in Dundee Island Park. Given that these paths are physically separated from vehicle traffic, they are LTS I.

Points where traffic volume data has been collected align with those road segments' LTS scores (see Map 9). No road segments required volume adjustment where traffic volume suggested a higher LTS score than other variables suggested. However, for road segments that lack traffic volume data (this was only collected on a handful of local roads), these roads may exhibit a higher LTS score than what is shown.

Passaic's road network is ideal for implementing city-wide bicycle infrastructure as it consists mostly of LTS I and LTS II routes (80.4%). However, some key south-north and east-west roads are LTS III and IV (19.6%) (see Table 13). Starting from the south, these east to west roads are:

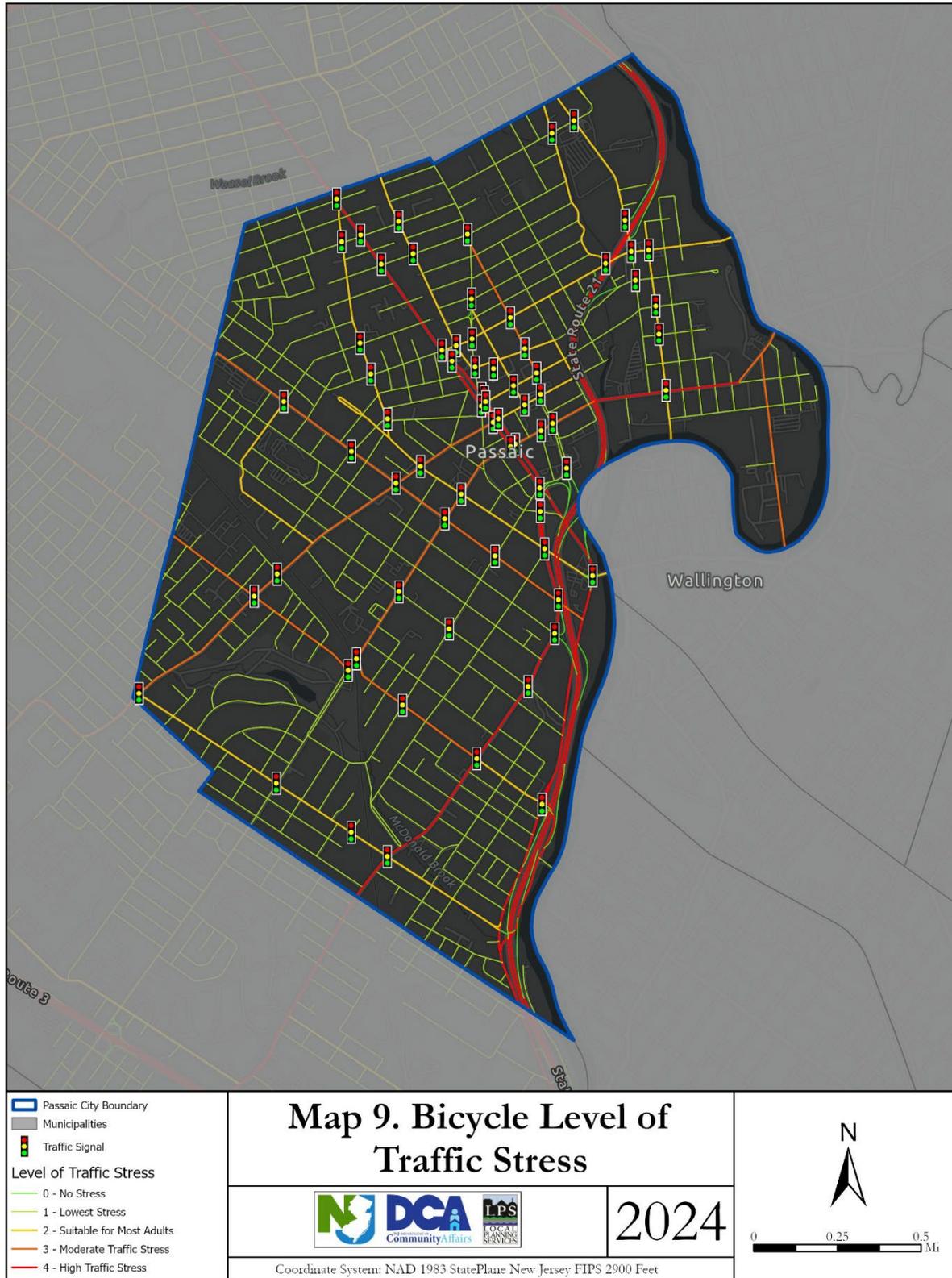
- Van Houten Ave (LTS III);
- Paulison Ave (LTS III);
- Main Ave (LTS IV); and
- Hamilton Ave (LTS III).

The south-north routes that are the most dangerous for bicycle/micromobility travel (see Map 9) are as follows:

- 8th St (LTS III);
- NJ 21 (LTS IV);
- River Dr (LTS IV);
- Wall St (LTS III);
- Passaic Ave (LTS III & IV); and
- Broadway (LTS III).

NJ 21, however, is a limited access highway where bicycle riding is not permitted but is still used. Please note that an LTS I score does not mean that road segments cannot be further improved, nor does this reflect certain characteristics that were not included in this analysis, most notably the presence of obstacles to safe bicycle passage such as heavy truck traffic. Furthermore, the threat of cyclist-vehicle collisions on LTS I roads can be decreased by increasing driver awareness of cyclists, for example, with sharrow road markings and "share the road" signs.

Map 9. Bicycle Level of Traffic Stress in Passaic City.



Recommendations

The recommendations section is divided into two parts: programming and policy, along with the proposed bicycle/micromobility network enhancements. It offers four types of programming and policy suggestions: Education, Encouragement, Engineering, and Enforcement. The recommendations for the bicycle/micromobility network suggest infrastructure enhancements to improve connectivity and mobility for cyclists and other micromobility users. These infrastructure improvements are proposed to be rolled out over a period of 5 years.

Bicycle/Micromobility Programming and Policy Recommendations

To implement the goals of this Bicycle Master Plan and make Passaic a place where bicycling and micromobility use is safe, enjoyable, and convenient, programs and policies must also be implemented in addition to the presence of infrastructure and facilities. These programmatic and policy recommendations address four key areas of the holistic "5E" approach (Education, Encouragement, Engineering, Enforcement, and Evaluation & Planning) to improving cyclist/micromobility users' safety. By improving the safety of bicycling/micromobility travel, you will also increase the frequency and enjoyment of it. Programs and activities that are currently being implemented are described in more detail in the Existing Conditions section. The following programs and policies are recommended based on best practices:

Education

To motivate a change in behavior, strategies should aim to educate students and community members about walking, biking/micromobility use, and driving safely. Prevention and awareness campaigns help educate all transport system users on their rights and responsibilities.

1. Street Smart Safety Campaign

Street Smart NJ is a public education, awareness, and behavioral change pedestrian/bicycle/micromobility safety campaign first piloted in 2013-2014 by five New Jersey municipalities. Since its inception, more than 60 communities have participated in Street Smart NJ in various capacities. The public education campaign aims to raise awareness of pedestrian/bicycle/micromobility

Figure 40. Street Smart Vision Zero Logo.



Credit: <http://bestreetsmartnj.org>

and motorist laws and change the behaviors that lead to pedestrian and cyclist crashes and fatalities. Participating communities work to raise awareness of pedestrian safety laws by hosting events, handing out information, and utilizing social media. Its purpose is to remind vehicle operators and pedestrians/bicyclists/micromobility users of the dangers of distracted driving, biking/micromobility use with headphones/earpieces, riding against traffic, and other unsafe practices. Local police step up enforcement during the campaign to ensure motorists and pedestrians/bicyclists/micromobility users are obeying the laws. All communities are urged to participate.

Passaic last implemented the Street-Smart Safety Campaign in 2016. It is recommended that the city incorporate the campaign into its annual programming budget for National Bike Month activities. The Campaign has a "How To" Guide & Checklist and a digital toolkit, which includes Twitter and

Facebook content. Downloadable materials and training webinars are available on the [Resources](#) page and may be reproduced and used without permission: <http://beststreetsmartnj.org/>.

2. Bike Right® | Kids

Bike Right Kids is a free bicycle education program series offered through the Transportation Management Organizations (TMAs). In Passaic, Bike Right Kids is offered through EZ Ride. Bike Right Kids includes the following course series:

Kids Learn To Ride (Ages 5-13) – In this 2 ½ hour outdoor class, participant children learn balance, control, and essential bike handling skills like starting, stopping, and steering to upbeat music and positive reinforcement.

Bike Rodeo (Ages 8-13) – In this class, larger groups of children participate in interactive learning sessions within a customizable outdoor bicycle course, covering basic bike safety skills, helmet fit, seat adjustment, maintenance checks, and other essentials, all enhanced by the backdrop of games, music, and sidewalk chalk to create a festive and enjoyable learning experience.

Cycling Scouts (Girl and Boy Scouts) – In this class, instructors assist scout groups make progress toward fulfilling their bicycling merit requirements by teaching them about bicycles, safety gear, and how to ride safely and enjoyably.

Adventure Cycling: Where Rubber Meets Dirt (Ages 11-14) – In this class for intermediate and advanced riders, instructors teach mountain biking safety while nurturing cycling as a hobby and fostering a deeper connection with nature.

Ride Right (Ages 5-10) – In this off-bike class, students engage in interactive activities such as games, relay races, roleplaying, crafts, and challenges to learn smart cycling and the rules of the road.

Traffic Safety Town (Ages 8-11) – In this class, bike safety instructors create an immersive streetscape within a standard school gym, allowing students to review traffic signs, signals, and laws before navigating as drivers, bike/micromobility riders, and pedestrians. Guided exercises and independent decision-making enable students to practice nonverbal communication, act predictably in traffic, and respond to hazards, illustrating the responsibilities of each road user for a safer environment.

Bike Driver's Ed (Ages 11-14) - In this off-bike curriculum, students in grades 6th-8th acquire essential skills for safe cycling, including identifying traffic signs and laws through movement activities and games. They also engage in discussions and role play to understand common bike-related hazards and practice safe responses, while participating in engineering challenges to emphasize the importance of wearing a helmet and ensuring proper fit.

Bike Friendly Motorist (Ages 15-18) – This high school level curriculum for new car drivers includes interactive discussions and videos to educate participants on safely sharing the road with cyclists, encompassing local laws for both motorists and cyclists, strategies to prevent common crashes, safe passing techniques, and navigating bicycle infrastructure.

3. Traffic Garden

Traffic gardens (aka traffic parks), are miniature city streetscapes featuring reduced-sized streets, scaled traffic elements like roundabouts, intersections, and parking spaces, often built on underutilized parking lots, community spaces, recreational facilities, and school playgrounds. These spaces serve as community amenities where children can learn traffic rules, safe city navigation, conflict resolution, and appropriate interactions with other travelers, allowing them to walk, maneuver wheelchairs, ride bikes, steer scooters, drive pedal cars, and navigate a simulated community environment.



Figure 41. A brand-new Traffic Garden at Westside Elementary in Roanoke City, VA.

Credit: City of Roanoke

Encouragement

Programs, events, and policies can promote and celebrate walking and bicycling.

1. Social Bicycle Rides:

Municipalities can host and sponsor monthly social rides. The rides can target groups of people (e.g. novice riders), have themes (e.g. vintage bicycle rides), and change routes every month. Social bicycle rides teach safety skills and encourage bicycling as a means of transportation. Partnering with the existing bicycle shops in Passaic could be one way to begin organizing these types of social rides.



Figure 42. New Jersey Rail-Trail Riders Social Bike Ride.

Credit: <http://www.meetup.com/New-Jersey-Rail-Trail-Riders/>

2. Launch a Bike & Scooter Library:

Bike and tool libraries let you borrow bicycles, bike gear, and tools for a short time at no charge to the users. Passaic should consider partnering with EZ Ride or a bicycle advocacy and/or youth development organization to launch a bike and tool library in the city.

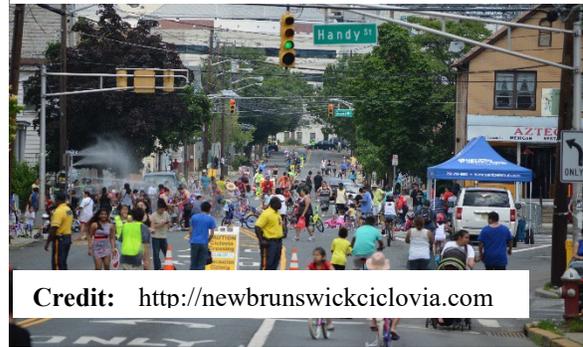
3. Open Street Events:

Open street events or “Ciclovias”, named after the weekly event, held in Bogota, Colombia, are scheduled closings of designated streets to vehicular traffic, i.e. cars, trucks, motorcycles, etc. for pedestrian and cyclist use. Open street events provide an opportunity for residents and visitors alike to experience active and healthy living while learning to do it safely without the stress of traffic.

Passaic does not currently have any open street events. It is recommended that the City investigates potential locations, some ideas include:

- a. A street adjacent to a park or by the river; or
- b. The internal ring road at Third Ward Park.

Figure 43. New Brunswick's Ciclovía is a popular open street event.



4. Events during National Bike Months:

National Bike Month is held annually in May. Passaic should encourage more active bicycling/micromobility use by holding special bicycling/micromobility use events and encouraging municipal employees to bike to work. A prize could be offered to municipal employees who participate during this month. The city should pass a resolution declaring May to be National Bike Month. In conjunction with the City's SRTS Program, all of Passaic Schools should be encouraged to participate in the International Bike to School Day, held on the third Friday in May of each year. All events should be promoted on the City's website and social media.

Figure 44. Bike Month Promotion



Credit: <http://www.bikeleague.org/bikemonth>

5. Bicycle-Friendly Business Program & Earn-a-Bike Programs:

Vendors and business owners along existing bicycle routes should be encouraged to give in-store discounts to cyclists (e.g. show your helmet and get 3% off). Make destinations along the commercial corridors, e.g. Main Ave, Market St, etc. more bicycle-friendly by giving in-store discounts to those who ride their bicycles during National Bike Month.

Earn-a-bike programs reward kids with a free bicycle and helmet by getting involved in activities such as volunteering, summer reading programs, or bike mechanic classes. Passaic can partner with EZ Ride or a bicycle advocacy and/or youth development organization to launch an Earn-a-Bike Program in the City.

Enforcement

Community-based or law enforcement measures to enforce laws and regulations can reduce negative behaviors such as speeding, double parking, distracted driving, or disobeying crosswalk laws and traffic signals.

1. Neighborhood Slow Zones & Driver Feedback Signs:

Neighborhood Slow Zones is a community-based program that reduces the speed limit from 25 mph to 20 mph on local streets and adds safety measures within a select area to change driver behavior. The goal of the Neighborhood Slow Zone program is to lower the incidence and severity of crashes and to enhance quality of life by reducing cut-through traffic and traffic noise in residential neighborhoods. In New York City areas where Neighborhood Slow Zones have been implemented, there has been a 10-15% decrease in speed, a 14% reduction in crashes with injuries, and a 31% reduction in vehicle-related injuries.

Figure 45. Slow zone street.



Photo Credit: <https://nacto.org>

Passaic should seek public input and work with the police department on determining focus areas in the city where speeding in neighborhoods is prevalent and use those neighborhoods as pilot slow zones. Strong candidate roads include those recommended as bicycle boulevards or sharrows (shared lanes), as described in greater detail in the bicycle network section. Alternatively, signs that encourage slower speeds can be posted on highly traveled neighborhood streets, such as “Keep Kids Alive-Drive 25” and “20 is Plenty.”

As part of the Pedestrian Safety Enforcement Program and Neighborhood Slow Zones, the city should increase its use of temporary driver feedback signs, also known as radar speed signs on streets that are known to have high incidents of speeding. Feedback signs are traffic calming devices that are proven to be highly effective at slowing speeders down by alerting them of their speed and the road’s legal speed limit. <http://www.nyc.gov/html/dot/html/motorist/slowzones.shtml>

2. Adopt Bicycle/Micromobility Safety Policies Via Ordinance:

Passaic should enforce NJ laws for bicycle/micromobility safety via ordinance. The following are examples of bicycle safety policies that the City should adopt:

- **Helmet Laws:** NJ statute [NJSA 39:4-10.1](#) requires helmet use for cyclists/micromobility users under 17 years of age. Consistent with the statute, Passaic has the option of mandating the use of helmets for cyclists/micromobility users for minors. Alternatively, it could require helmet wear for all cyclists/micromobility users regardless of age. Following standards such as those outlined by the American National Standards Institute (ANSI), or the Snell Memorial Foundation helps promote safety and reduces the risk of head injuries while cycling. The ordinance may also specify any fines or other penalties resulting from violations of the regulations.
- **Traffic Laws:** Ordinances can establish specific traffic regulations for cyclists, such as obeying traffic signals and signs, yielding to pedestrians, using designated bike lanes where available, and riding in the same direction as traffic. NJ statute [NJSA 39:4-14.1](#) grants cyclists/micromobility users the same rights and responsibilities of a motor vehicle driver when riding on the road. [NJSA 39:4-14.2](#) specifies the conditions whereby a cyclist/micromobility rider is to ride on the left side of the travel lane.

- **Distracted Riding:** Passaic can prohibit cyclists from using electronic devices or engaging in other activities that may distract them while riding, similar to distracted driving laws for motorists, by ordinance.
- **Speed Limits:** Passaic may establish speed limits for cyclists in certain areas, particularly in shared spaces with pedestrians or areas of high pedestrian activity by ordinance. NJ's [Title 39:4-14.16 "Low-speed electric bicycle"](#) acknowledges e-bikes as a type of bicycle that must follow the same laws and regulations. However, it limits e-bike speeds to 20 mph with a maximum 750 watts. Motorized bicycles, those with speeds of 20-28 mph are treated the same as motorcycles.
- **Bicycle Registration:** To assist with theft recovery and identification of bicycles involved in accidents or violations, Passaic may want to adopt an ordinance requiring bicycle registration. The ordinances may specify the process for registration and any associated fees.
- **Lighting, Reflectors and Other Safe Biking Equipment:** Ordinances can mandate the use of lights and reflectors on bicycles, particularly during low-light conditions or nighttime riding, to enhance visibility and safety. [NJSA 39:4-10](#), [NJSA 39:4-11](#), and [NJSA 39:4-12](#) specifies how bicycles should be equipped for safe riding in different road conditions. Regulations for how a bicycle/micromobility device should be equipped for safe on-road travel can be incorporated here.
- **Sidewalk Riding Restrictions:** Passaic should adopt an ordinance to regulate or restrict the riding of bicycles/micromobility devices on sidewalks, particularly in densely populated areas or areas with high pedestrian traffic. In New Jersey, there is no explicit law prohibiting cyclists from riding on sidewalks. Sidewalks serve as crucial pathways for pedestrian movement, particularly for the safety of children and other vulnerable road users. Passaic should establish clear guidelines, emphasizing that cyclists must yield to pedestrians to maintain safety. Additionally, Passaic may consider age restrictions, mandating slower speeds for cyclists, and implementing outright bans on sidewalk biking in heavily congested downtown areas. Effective communication of these regulations is paramount to ensure widespread understanding and adherence. Discrepancies in rules across municipalities regarding sidewalk biking, helmet usage, and registration requirements can lead to confusion among residents and visitors alike.
- **Safe Passing Distance:** The [New Jersey Safe Passing Law](#) requires drivers to approach with due caution, change lanes or pass with 4 feet of space if possible, or otherwise slow to 25 mph and be prepared to stop, when passing vulnerable road users. To reenforce this law, Passaic should adopt an ordinance that establish minimum passing distances for motor vehicles when overtaking cyclists/micromobility users on the road. This will further enhance safety and reduce the risk of collisions.

3. Police Bicycle Patrol:

Passaic currently has a limited number of Police Bicycle Patrol. The city should expand the use of Police Bicycle Patrols during warm weather months to provide a more mobile and visible police presence. Police on bicycles are excellent role models, especially for children and other cyclists. Cyclists may be more receptive to education and/or enforcement efforts related to cycling behavior. Police on bicycles can also enforce laws and regulations for safety and deter lawbreakers just by having a more pronounced visual presence. Police on bicycles have more contact with the public and can make the police officers more easily approachable than vehicle patrols, encouraging community-oriented policing.

Evaluation and Planning

Evaluation means examining the results and assessing the efficacy of actions taken. Planning means adopting plans, policies, and measures, including the assignment of staff responsibilities, necessary for implementation and prioritization of projects.

1. Hotline or Website – Report Unsafe Conditions:

A hotline, e.g. 311, and/or website for reporting unsafe road conditions for bicycling/micromobility use would go a long way in improving usage. This would be a municipally run toll-free number, website, or app where residents can report issues such as sidewalk repairs or hazards, faded pavement markings, obstructions in designated bicycle lanes, speeding issues, sign visibility, etc.



Figure 46. Obstacles creating unsafe conditions in bicycle lane.

Credit: <http://thesource.metro.net/>

2. Adopt a Circulation Plan Element that incorporates the Complete Streets Typologies:

Complete Streets is a national movement that fundamentally changes how we view our communities and how we design, build, and use our streets. New Jersey has become a national leader in the Complete Streets transformation, being among the first states in the nation to adopt a Complete Streets policy in December 2009. Under its policy, NJDOT seeks to create and promote “safe access for all users by designing and operating a comprehensive, integrated, connected multi-modal network of transportation options.” Complete Streets Policies ensure that when projects are proposed, pedestrian, bicycle/micromobility mediums, and transit accommodations are no longer an afterthought - they become an integral feature of the overall investment plan.

NJDOT encourages local municipalities and counties to adopt their own Complete Streets Policies. Adopting its own Complete Streets Policy earns the municipality 1 point towards the 20 points required for NJDOT Local Aid grants, which help advance projects that enhance safety, renew aging infrastructure, and support new transportation opportunities. Policy adoption can also help New Jersey municipalities achieve Sustainable Jersey certification. Passaic County adopted a Complete and Green Streets Policy in 2012 and Passaic City followed suit in 2024. Adopting a Circulation Plan Element that incorporates the Complete Street Typologies will ensure that all streets are designed and operated to enable safe access for all users, including pedestrians, cyclists, motorists, and transit riders of all ages and abilities. In addition, adopting a Circulation Plan Element that incorporates the Complete Street Typologies will allow the city to waive the Residential Site Improvement Standards in all instances where it conflicts with the Complete Street typologies in the Circulation Plan Element.



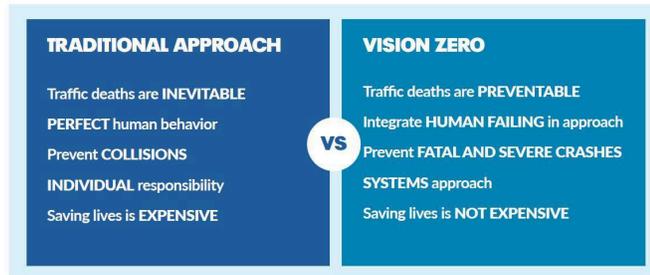
Figure 47. Jersey City's Marin Blvd is an example of a Complete Street.

Credit: City of Hoboken

3. Adopt a Vision Zero Action Plan:

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries while increasing safe, healthy, and equitable mobility among all road users (including people walking, biking/using micromobility vehicles, using transit, and driving) within a set timeframe. Vision Zero was first implemented in the 1990's by officials in Sweden when they adopted a set of traffic management policies and set a goal of eliminating traffic-related deaths and severe injuries. Vision Zero's guiding principle is that deaths and injuries caused by traffic crashes should be treated as a public health problem, which can be eliminated through better planning, not as an inevitable by-product of the vehicle-based transportation system.

Figure 48. Vision Zero Promotional Poster



Credit: <https://visionzeronetwork.org/>

There are five fundamental principles shared by the Vision Zero Network which include: 1) deaths and severe injuries caused by traffic crashes are preventable; 2) human life and health should be prioritized in all transportation systems and in all aspects of transportation planning; 3) human error is inevitable and transportation systems should be forgiving; 4) transportation planning should focus on systems-level changes above influencing individual behavior; and 5) speed is the single most important factor in crash severity. www.visionzeronetwork.org

Since officials in Sweden began Vision Zero, officials in cities all over the world, including 59 cities in the United States, have adopted their own versions of the Vision Zero initiative. Major cities that have adopted the Vision Zero Initiative include New York, Chicago, Los Angeles, and Philadelphia. New York City, which adopted Vision Zero in 2014 and has pledged \$1.6 billion to traffic safety initiatives, has seen a decline in traffic fatalities four years in a row with pedestrian deaths down 45% in that time.

For the Vision Zero Initiative to be effective, there needs to be a strong political commitment to making it work. The highest-ranking local officials (Mayor, City Council, City Manager) must make an official and public commitment to a Vision Zero goal. This should include passage of a local policy laying out goals, timeline, stakeholders, and a commitment to community engagement, transparency, and equitable outcomes. The process should be transparent to city stakeholders and the community, including regular updates on the progress of the Action Plan and performance measures, and a yearly report (at minimum) to the local governing body (i.e., City Council).

Jersey City became the first New Jersey municipality to implement a Vision Zero initiative when its mayor signed an Executive Order on February 9, 2018.²³ Hoboken's mayor followed suit on August 28, 2019.²⁴ Jersey City's Executive Order establishes a 13-member task force charged with leading

²³ <http://www.jerseycitynj.gov/news/VisionZero>

²⁴ <https://www.hobokennj.gov/news/mayor-bhalla-signs-executive-order-launching-vision-zero-safety-campaign>

the planning effort and creating an official Vision Zero Action Plan to eliminate crashes that result in fatalities and severe injuries by 2026, while Hoboken’s establishes an 18-member task force and a 2030 Vision Zero goal. For Jersey City, the task force members include representatives from the Division of Engineering, the Division of Planning, the Law Department, the Jersey City Police Department, the Division of Fire, the Department of Public Work, the Department of Health & Human Services, the Division of Parking Enforcement, the Mayor’s Office, Jersey City schools, and local community groups: Bike JC and Safe Streets JC. The task force solicits information and input from the public, report annually on findings, and create a public website (<http://www.visionzerojc.com/>) that includes crash data and provide a feature to solicit feedback from the public on safety concerns. Jersey City’s Municipal Council adopted a Vision Zero Action Plan on February 14, 2019. Hoboken’s City Council adopted a Vision Zero Action Plan on July 21, 2021 (<https://www.vzhoboken.com/>).

Passaic should adopt a similar Executive Order to Jersey City and Hoboken, implementing a Vision Zero Initiative and establishing a task force to create the official Vision Zero Action Plan, a plan to eliminate crashes that result in fatalities and severe injuries by a set timeframe. A map of Passaic’s high crash corridors and intersections along with a sample Executive Order and Jersey City’s Vision Zero Action Plan are attached in Appendix C. By adopting the Vision Zero Initiative, Passaic will develop a strategy to eliminate all traffic fatalities and severe injuries in the city, while increasing safe, healthy, and equitable mobility among all road users.

4. Integrate Bicycle needs into Zoning, Land Use, and Development Regulations:

a. Adopt a City-Wide Bicycle Parking Ordinance:

Adopt a bicycle parking ordinance that includes bicycle parking standards that must be addressed during the site plan application process for new construction, reconstruction, and rehabilitation, and is consistent with the Association of Pedestrian and Bicycle Professionals (APBP) Bicycle Parking Guidelines/Standards. The bicycle parking ordinance must have provisions for both short-term and long-term bicycle parking, with short-term parking focusing on proximity and ease of use, and long-term parking prioritizing security and shelter. The ordinance may also have bicycle amenity standards for incentivizing amenities in exchange for certain benefits.

Figure 49. Bicycle corral-collection of 4- 8 bicycle racks per five-foot section of sidewalk or parking space.



Credit: <http://www.fs.illinois.edu/>

In addition to the parking ordinance, the City should adopt the following policies that promote bicycle parking:

- Initiate a program to install and/or upgrade existing public bicycle parking so that it is consistent with the APBP Bicycle Parking Guidelines.

- Initiate a program to incentivize high-security bicycle parking at private worksites, schools/childcare centers, and high-density residential developments.
- Secure both short- and long-term bicycle parking at the proposed Passaic Bus Terminal parking garage to make bicycling a viable mode of daily travel for users of NJ Transit bus services.
- Install fix it stations next to short- and long-term bicycle parking at the proposed Passaic Bus Terminal parking garage and the Passaic Train Station.

b. Create a curbside management action plan to manage and minimize curbside conflicts:

Limited curb space causes some vehicles to double-park or block through lanes, bike lanes and sidewalks, making it hard for buses, bicycles/micromobility vehicles and pedestrians to move freely. Designating areas for different activities like loading, deliveries, and pick-up/drop-off zones can help traffic flow better and keep streets safer. As more vehicles vie for curb space with online shopping, micromobility options, and self-driving cars, the need for organized pick-up/drop-off zones and efficient curb management will only grow. A curbside management action plan will assist Passaic with minimizing these conflicts.



Figure 50. Truck illegally parked on sidewalk.

5. Bicycle Facility Maintenance Policies & Procedures:

Regular maintenance of bicycle facilities is essential to ensure their safety and accessibility, as inadequate upkeep can lead to hazardous conditions and disrupt connectivity. These facilities, vulnerable to debris accumulation and overgrown vegetation, pose serious obstacles and hazards to cyclists/micromobility users, particularly on trails and multi-use paths where vegetation encroachment narrows usable surfaces. Maintenance tasks include repainting lines, replacing or maintaining bollards, and addressing snow removal challenges, which may necessitate specialized equipment and consideration of design features for effective snow clearance and storage. Clear maintenance policies, involving relevant agencies and mechanisms for reporting issues, should be established, with costs and financial responsibility considerations integrated into project budgets to ensure ongoing upkeep. The following agencies should develop and implement bicycle facility maintenance policies and procedures in Passaic:

- Department of Public Works
- Department of Recreation and Cultural Affairs



Figure 51. Wet leaves on bike lanes are a common maintenance issue for bicyclists. Credit: BikePortland

Chapter 7 of The Guide for the Development of Bicycle Facilities by AASHTO offers model maintenance policy language to assist in the creation of effective maintenance policies for bicycle facilities. A sample bicycle facilities maintenance policy manual for Passaic is provided in Appendix D.

6. Bicycle/Micromobility or Complete Streets Advisory Committee:

Upon adoption of the Bicycle Master Plan, the City should establish a municipal Bicycle/Micromobility or Complete Streets Advisory Committee tasked with advising the Mayor, City Council, and pertinent agencies such as the Planning Board and Zoning Board on the character, safety, and location of future pedestrian and bicycle facilities and/or accommodations. Additionally, the Advisory Committee could assist in identifying and collaborating with City staff to pursue grants and external funding programs aimed at facilitating the development of Complete Streets infrastructure in Passaic.

The Advisory Committee should also conduct regular bicycle/micromobility use counts along key corridors and routes and annually evaluate crash locations using the NJDOT's Safety Voyager (<https://www.njvoyager.org/App/>). The NJDOT's Safety Voyager is an online application that allows users to view crash reports visually on a map as well as to run different analysis of the data. The Complete Street Advisory Committee can be incorporated into the Vision Zero Task Force when the city follows suit on the Vision Zero recommendations.

Bicycle Network Recommendations

The project team incorporated the research findings and public input to create a comprehensive set of bicycle/micromobility network recommendations. The proposed bicycle/micromobility network focuses on safety and connectivity in recommending bicycle facilities that can be used by all travelers. The network provides for every City ward to be connected via low stress on-road and/or off-road facilities to the rest of the city, allowing access to work, schools, parks, basic services, retail, transit, and other destinations. Using safety, connectivity, demand, and feasibility as the leading criteria, the bicycle/micromobility network will address the Plan's vision of making Passaic City a place where bicycling is safe, convenient, and enjoyable for residents, commuters, and visitors of all ages, abilities, and income.

The recommended bicycle/micromobility networks align with the desired routes expressed during the public input process. Specific details of the bicycle/micromobility network and crossing improvement recommendations are stored in a GIS database and include information about each road segment, such as dimensions, speed, volume, existing facilities, and a description of the proposed facility. Prior to implementation, the city, Passaic County and their partners will be tasked with engineering and designing each recommendation, as appropriate.

Proposed Bicycle Network and Concepts

Proposed Bicycle Facility Overview

Passaic cyclists, from beginner to advanced riders, value highly bicycle facilities that create separation between the rider and motor vehicular traffic. As noted in previous sections, the majority of Passaic residents consider themselves as beginner to intermediate riders who are not comfortable riding in most traffic situations. To address the needs of these riders, the project team reviewed a menu of bicycle facilities and recommendations from the Passaic County Bicycle Master Plan (BikePassaic), the New Jersey Department of Transportation (NJDOT)'s *2017 State of New Jersey Complete Streets Design Guide*, the 2012 AASHTO *Guide for the Development of Bicycle Facilities*, and the National Association

of City Transportation Officials (NACTO) *Urban Bikeway Design Guide* for their application, use, and benefits. Complete Streets infrastructure for bicycles/micromobility vehicles typically fall under three categories: conventional, low-stress, and spot improvements. The following bicycle/micromobility facilities, grouped by improvement type, are recommended for Passaic City in this current Plan:

Conventional Improvements

- Bicycle Lanes
- Shared Lanes (Sharrows)
- Bicycle Boulevards

Low-Stress Improvements

- Shared-Use Paths (multiuse trails)
- Buffered Bicycle Lanes
- One-way or two-way cycle tracks/separated/protected bicycle lanes

Spot Improvements

- Bicycle Parking and other End-of-Trip Facilities
- Bike Boxes
- Bicycle Lane Intersection Markings

Of the above list, Passaic City already has existing and/or approved bicycle lanes, buffered bicycle lanes, bicycle boulevards, shared lane markings, shared-use paths (multi-use trails), and bicycle parking facilities. For a reminder of what these facilities are, see the Bicycle Accommodations section of this Plan. A description of the other bicycle facilities follows in the order listed above.

One-way cycle track/separated/protected bicycle lanes



*Figure 52. One-Way Separated/Protected Bicycle Lane in Jersey City.
Photo Credit: Jersey City Department of Infrastructure.*

One-way separated bicycle lanes are buffered lanes with physical barriers to prevent vehicle encroachment, improve safety, and deter double-parking. Physical barriers for separated bicycle lanes can range from low-cost temporary features, such as flexible bollards, removable planters and designated parking spots, to higher cost, more permanent and secure features, such as permanent bollards or raised medians. One-way separated bicycle lanes are typically installed at street level with a minimum width of 7 feet (minimum 5-foot lane \geq 2 ft. buffer). This bicycle facility treatment is typically used along arterial and/or collector road corridors to provide access to high-demand destinations, such as schools.

Bicycle Intersection Treatments

Safe and clear intersections are key to creating a citywide network of bike paths. To make cycling less stressful and safer, intersections need to be designed with features that reduce accidents and make cyclists feel comfortable. This means drivers and cyclists need to be able to see each other clearly at crossings and driveways. Colored pavement can be used to warn cyclists and drivers of upcoming intersections and show the designated bike lane. Busy intersections with lots of traffic and complicated turns can be scary for cyclists. These intersections need special designs to make potential conflicts clear and keep everyone safe.

Intersections with traffic lights should be improved to make cyclists more visible and help them cross safely. This might involve designated areas for bikes at the stop line (bike boxes), special markings on the pavement to warn drivers to yield (green conflict zones), and traffic lights that detect bikes. On residential streets with bicycle boulevards (including intersections with stop signs), traffic circles or other improvements can be used to slow down traffic and make it more comfortable for everyone using the road, including cyclists.

Bike Boxes

A bike box is an intersection treatment for cyclists that provides a designated area at the front of a travel lane at signalized intersections. This type of treatment is typically used at signalized intersections with significant bicycle and/or motor vehicle traffic, and where there are conflicts between turning movements. Bike boxes facilitate cyclist left turn positioning, which helps prevent ‘right-hook’ conflicts.



Figure 53. Bike Box at an intersection in Portland, OR.

Photo Credit: NACTO

Bicycle Lane Intersection Markings

A bicycle lane intersection marking is an intersection treatment for cyclists that provides a designated area at the front of a travel lane at intersections at both signalized and unsignalized intersections. Bicycle lane intersection markings enhance the continuity of the bicycle facility by alerting the cyclist as to the correct position for traffic control actuation and thereby guiding them through it. Bicycle lane intersection markings also provide advance information for turning and crossing maneuvers. These lanes help reinforce cyclists' priority in overturning vehicles or vehicles entering the roadway. Green conflict zones are a type of bicycle lane intersection markings that are painted green to warn drivers of upcoming intersections about potential conflicts with cyclists.



Figure 54. Bicycle lane intersection markings in Ocean City, NJ.

Photo Credit: NJBikePed

Special Intersection Types

Facility Transition: Designed to reduce conflicts at intersections where dedicated bike lanes merge into shared lanes. The following are examples of bicycle facilities that can be installed at corridors with multiple facility types:

- *Transition Markings:* These are pavement markings that guide cyclists as they move between different parts of the bike path network. For example, imagine a bike lane approaching an intersection that needs to merge with a shared lane. Transition markings would be painted on the pavement to indicate the proper path for cyclists to follow as they make this change.
- *Leading Bicycle Signal Intervals (LBI):* These are traffic signals specifically designed for cyclists. Imagine a standard traffic light with three circles: red, yellow, and green. An LBI adds a short green period for cyclists only before the green light for cars turns on. This head start gives cyclists a chance to safely enter the intersection and become more visible to drivers before they proceed.
- *Dedicated Bicycle Signals:* These are separate traffic signals solely for cyclists, often mounted lower than vehicle traffic signals for better visibility. They typically consist of three lights (red,

yellow, and green) just like vehicle signals, but with a bicycle symbol instead of a circular light. Dedicated bicycle signals are used at complex intersections or when bike movements need to be separated from car movements for safety reasons.

- **Freeway Ramp Crossing:** Increase visibility at high-volume freeway ramps with conflict zone markings and signage. This contributes to a safer and more comfortable cycling experience, potentially leading to a rise in the number of people using bicycles for commuting and recreation.
- **Slip Lane or Channelized Turn:** Use physical improvements like tightening turning radii to reduce vehicle speeds and enhance safety. Making turns sharper by reducing the turning radius can slow down vehicles as they navigate corners.
- **Minor-Street Stop-Controlled Intersections:** Implement pedestrian-actuated controls such as Pedestrian Hybrid Beacons (PHBs) and Rectangular Rapid Flashing Beacons (RRFBs) at locations where bike routes cross major arterial roads.

Proposed Bicycle Network Overview

The proposed bicycle network and improvements address Passaic’s vision of having safe, enjoyable, and convenient bicycle facilities that are accessible to people of all ages and abilities and that link to places where people live, work, and play. As such, the recommendations touch on every part of the city with each neighborhood being connected to a destination/activity and to each other via the proposed network. In addition to the community vision and goals, the analysis of the community survey results, ten-year crash data, and level of traffic stress analysis informed the bicycle facilities being proposed. Furthermore, each recommendation is based on the bicycle facility table in the *2017 State of New Jersey Complete Streets Design Guide*, which considers roadway characteristics like average daily traffic volume and posted speed limit²⁵, as well as consultation with municipal, county, and NJDOT staff. The project team also reviewed each location in the field and used Google’s aerial and street views and ArcGIS desktop application. This additional contextual review as well as public feedback assisted the team with validating the types of improvements that are suitable and achievable for the city. Table 14 provides an overview of the length of proposed bicycle facilities by type and is further detailed under the network recommendation section that follows.

²⁵ 85th percentile speed data was not available for most roads. Posted speed limit data was used as a substitute.

Table 16. Length of Bicycle Facilities by Type.

| <u>Facility Type</u> | <u>Length (miles)</u> | <u>Percent of Network</u> |
|-------------------------------|-----------------------|---------------------------|
| Bicycle Boulevard | 9.2 | 25.94% |
| Sharrow | 2.47 | 6.96% |
| Bicycle Lane | 18.49 | 52.13% |
| Buffered Bicycle Lane* | 1.89 | 5.33% |
| Two-Way Cycle Track | 0.6 | 1.69% |
| Shared-Use Path | 2.82 | 7.94% |
| Total | 35.47 | 100.00% |

* As part of the build-out, it is recommended that the city convert buffered bicycle lanes to protected/separated bicycle lanes. This will involve installing vertical separation, i.e. removable or permanent bollards, plantings, raised curbs or medians, etc., on roads that will have buffered lanes and where the traffic volume exceeds 10,000 cars per day and/or the speed limit exceeds 35 miles per hour.

Bicycle Network Recommendations

The bicycle network recommendations build on the BikePassaic Master Plan recommendations for Passaic City. A total of 35.47 miles of roads are proposed to receive bicycle treatments. Once this Plan is implemented, 50% of Passaic roads will accommodate bicycle/micromobility vehicles. The development of this network involved a systematic approach, leveraging data-driven methodologies and GIS mapping techniques. The process also incorporated manual field assessments of existing conditions and extensive engagement with stakeholders. Additionally, findings and recommendations from previous plans and studies were considered, ensuring a well-informed and collaborative decision-making process.

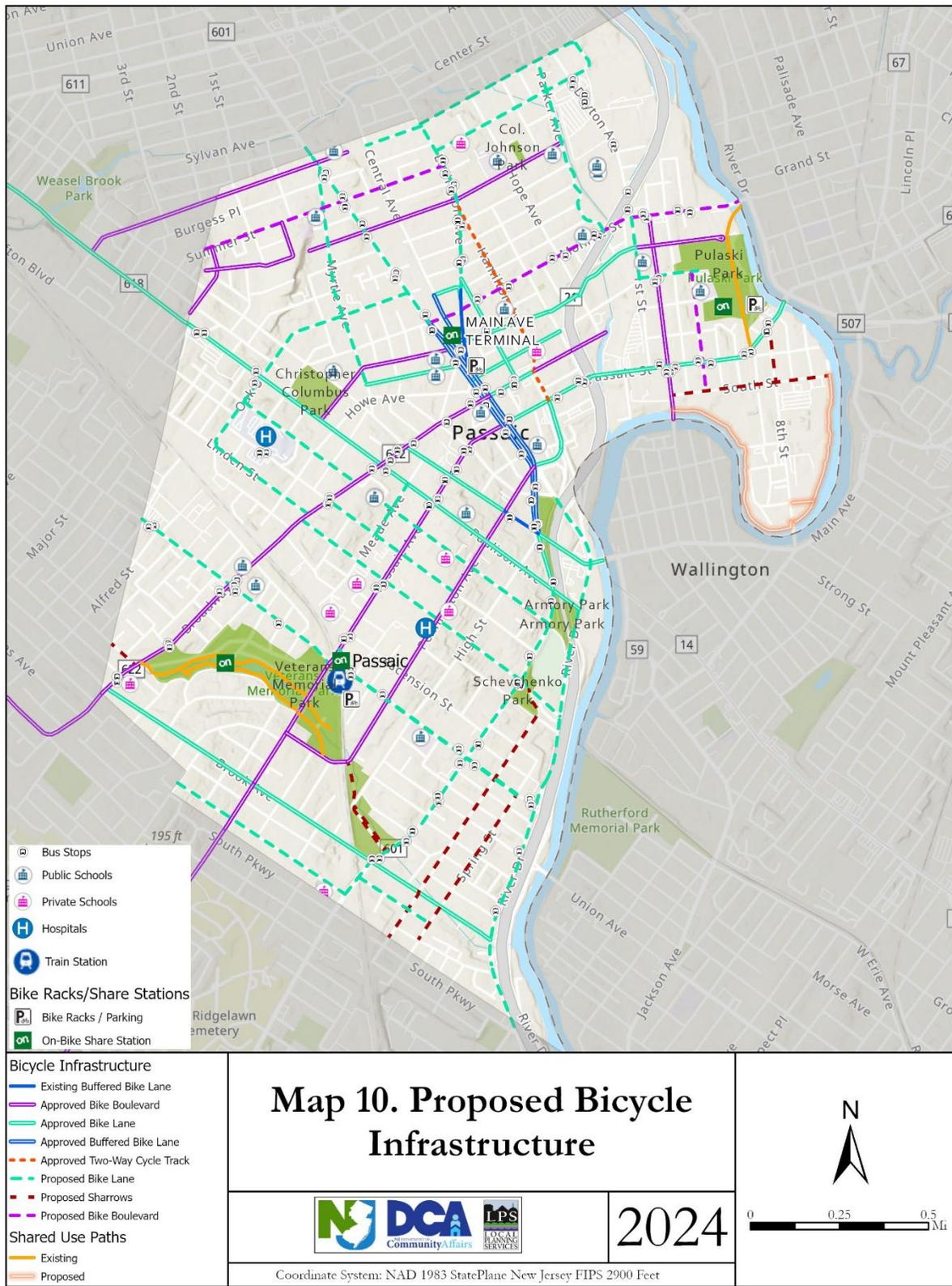
Many of Passaic’s roads allow cars to park on both sides. The city should strive to accommodate parking separated/protected bicycle lanes whenever feasible, especially where the posted speed limits are at least 35 mph and/or the traffic volume exceeds 10,000 vehicles per day. This is essential in order to decrease the Level of Traffic Stress to Level I, which is the most appropriate for all road users regardless of age or ability.



Figure 55. Example of parking protected bicycle lane cross section for Hamilton Ave.

Parking separated/protected lanes are not the only options available to physically separate vulnerable users from traffic, however. Options range from cheaper and more adaptable options such as flexible bollards to more maintenance intensive options such as planters or landscaped medians. The Borough should prioritize roads that have the highest vehicle speeds and traffic volume, as well as those with documented safety concerns. This will fulfill the City’s desire for continuous and safe bicycle/micromobility facilities that separate vulnerable users from motor vehicular traffic. Table 17 and Map 10 below illustrate the proposed network recommendations upon full implementation.

Map 10. Bicycle Network Infrastructure Recommendations.



Implementation Plan

The Passaic City Bicycle Master Plan delivers a wide-ranging set of bicycle and micromobility vehicular network recommendations intended to improve bicycling and micromobility travel as a normal and regular mode of transportation. To implement the Plan, the Passaic City administration must coordinate with the Passaic County Department of Engineering and Department of Planning, NJTPA, NJDOT, and other partner agencies to pursue the opportunities identified in this Plan, as well as any unforeseen opportunities that may arise. Implementation of the network recommendations in this Plan can occur over the 5 years following adoption. All current resurfacing projects should incorporate the network recommendations in advance of implementation.

This section of the Plan describes Passaic City's strategy for implementing the bicycle/micromobility travel network and other facility improvements as well as the supporting program/policy recommendations to attain the City's vision of a place where bicycling/micromobility use is safe, enjoyable, and convenient for all people of all ages and abilities. The implementation strategy is incorporated in the subsequent paragraphs as follows:

- **Funding Strategy and Sources:** Implementing this Plan will require a mixture of local, State, Federal, and foundational funds. This subset of the implementation chapter identifies key principles to a successful funding strategy and describes potential funding sources that will bring this Plan to life.
- **Complete Street Policy Implementation:** A Complete and Green Street Resolution and Policy was prepared for the City by EZ-Ride, which the City adopted on January 25, 2024 (see Appendix E). Complete Streets are streets that are designed to enable safe and convenient access for all users of all ages and abilities. Implementing the Complete and Green Street Policy standards and specifications will change the character of the City's roads and streetscape. This portion of the implementation strategy focuses on updating City standards and specifications to integrate Complete Streets into future capital improvements.

Funding Strategy and Sources

To implement the Bicycle Master Plan, the city will need to access both traditional and non-traditional sources of funding. A comprehensive set of strategies that encompass local, State, Federal, and private sector funding sources should be strategically applied to implement the Plan recommendations. Traditional sources such as municipal budget allocations, impact fees, State Municipal Aid grants, and Federal Transportation Alternative and Safe Routes to School programs are necessary pieces of the funding puzzle, as are non-traditional approaches such as local improvement districts, private sector funding/in-kind services, and partnerships. The following segment provides an overview of funding that can be accessed by the city to implement the Plan vision and recommendations. For additional details on these funding programs (see Appendix F).

Local Funding Sources

Local funds are typically the most reliable funding source for infrastructure projects as well as for encouragement and education programs. The Federal government and NJDOT have a local match

requirement for most of their transportation related grant programs. The following are local funding strategies available to the city for use in implementing the recommended bicycle/micromobility network.

- *Municipal Allocations (Capital and Department Budgets)*– Municipal allocations are local budget set asides for specific projects and/or programs.
- *Impact Fees* – Impact fees are fees imposed by local governments on new developments to provide new or expanded public infrastructure for that development.
- *Adopt-A-Trail Program* – The Adopt-A-Trail is a volunteer program that allows individuals, families, friends, groups, businesses, and clubs of any size to adopt sections of trails in order to preserve the beauty and recreational value of those trails. <https://www.nps.gov>
- *Local Private-Sector Funding* – Local developers, businesses, and/or property owners can be incentivized/partnered with to implement sections of the Bicycle Master Plan through donating funds, easements and/or property, actual construction of infrastructure, etc.
- *Local Improvement Districts* – A Business (Special, Downtown) Improvement District (BID/SID/DID) is a locally defined geographic assessment district, authorized by municipal ordinance and managed by district management corporation (stakeholders) for the benefit of the improvement district. https://www.nj.gov/dca/divisions/lps/idp_faq.html

State Funding Sources

The following funding sources for transportation are available through the NJDOT, NJDEP, NJ Department of Law and Public Safety (NJDLPS)’s Division of Traffic Safety, and/or the New Jersey Transportation Infrastructure Bank. The City should work closely with these entities to implement the bicycle and pedestrian network recommendations in this Plan.

- *State Aid for Municipalities (Municipal Aid and Urban Aid)* – These programs fund transportation maintenance of roads and bridges, including bicycle and pedestrian projects. <https://www.state.nj.us/transportation/business/localaid/municaid.shtm>
- *County Aid*- The purpose of the County Aid Program is to fund public road and bridge improvements under County jurisdiction. <https://www.state.nj.us/transportation/business/localaid/countyaid.shtm>
- *Local Aid Infrastructure Fund* –Funds pedestrian safety, bicycle, and emergency repair projects. <https://www.state.nj.us/transportation/business/localaid/descrfunding.shtm>
- *Bikeways Grant Program* –Funds construction of dedicated bicycle paths/infrastructure. <https://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm>
- *NJDOT Problem Statements* – The NJDOT Problem Statement process allows New Jersey municipalities to submit a problem statement directly to NJDOT regarding a particular area of concern, e.g. ADA accessibility at intersections.
- *Recreational Trails Program* – The purpose of the Recreational Trails Program is to fund new trail construction and maintenance/restoration of existing trails. <https://dep.nj.gov/greenacres/trails-program-grants/>
- *Safe Streets to Transit* – The purpose of the Safe Streets to Transit program is to improve access to transit facilities. <https://www.state.nj.us/transportation/business/localaid/safe.shtm>

- *Centers of Place* - Funds non-traditional transportation improvements that advance municipal growth management objectives. <https://www.state.nj.us/transportation/business/localaid/documents/CoPHandbook.pdf>
- *NJ Division of Highway Traffic Safety* – The Division of Highway Traffic Safety provides education as well as public awareness and enforcement of bicycle and pedestrian traffic safety issues and laws. <https://www.nj.gov/oag/hts/bike.html>
- *New Jersey Transportation Infrastructure Bank (NJTIB)* – The purpose of the NJTIB is to make low interest loans for local transportation infrastructure projects to reduce the cost of financing critical county and/or municipal transportation projects. <https://www.njib.gov/>

North Jersey Transportation Planning Authority (NJTPA) Programs

The NJTPA is the Metropolitan Planning Organization for the northern New Jersey (13 counties, including Passaic) region. All 13 counties in NJTPA’s jurisdiction, i.e. member sub-regions, are eligible for NJTPA grant programs. Relevant NJTPA funding available to Passaic County and Passaic City for implementation of this Plan are as provided below.

- *Complete Streets Technical Assistance Program* – The purpose of the Complete Streets technical assistance program is to provide walkability workshops, bicycle network audits, and low-cost temporary improvements, e.g. tactical urbanism. <https://www.njtpa.org/completestreets.aspx> & <https://www.sustainablejersey.com/grants/complete-streets-technical-assistance/>
- *Emerging Centers Technical Assistance Program* – Provides support to municipalities looking to create more sustainable, transit-supportive, and walkable communities or centers. <https://www.njtpa.org/PEC.aspx>
- *Local Capital Project Delivery (LCPD) Program* – The purpose of the LCPD program is to fund the preparation of local transportation projects that are in the concept development phase. <https://www.njtpa.org/lcpd.aspx>
- *MUTCD Traffic Sign Inventory and Assessment Program* – Assist NJTPA member sub-regions to comply with the Federal Highway Administration’s MUTCD standards. <https://www.njtpa.org/project-programs/project-development/mutcd-sign-inventory-program.aspx>
- *Study & Development Program (S&D)* – The purpose of the S&D program is to inventory local projects that are in the concept development, feasibility assessment, and/or preliminary design phases to advance them through to the statewide Transportation Improvement Program (TIP) for construction. [https://www.njtpa.org/Projects-Programs/Transportation-Improvement-Program-\(TIP\)/Study-Development.aspx](https://www.njtpa.org/Projects-Programs/Transportation-Improvement-Program-(TIP)/Study-Development.aspx)

Federal Funding Sources

The city has access to several funding programs that support bicycle and pedestrian projects through the federal government. Most of these programs are allocated by the United States Department of Transportation (USDOT) to regional, state, and local entities who then direct these funds to local agencies through competitive grant programs. Federal funds are provided on a reimbursement basis, provided that the costs incurred were authorized in advance.

President Obama signed the Fixing America's Surface Transportation (FAST) Act into law on December 4, 2015. This law authorized \$305 billion in transportation infrastructure planning and investment for the five-year period between 2016 and the end of 2020. Funding for FAST Act programs available to Passaic City is allocated to the NJDOT and the North Jersey Transportation Planning Authority (NJTPA), both of whom serve as pass-through entities for all federal funding programs for the northern New Jersey region, which includes Passaic County. The following are examples of typical FAST Act programs used to fund bicycle, pedestrian, and other Complete Streets projects.

US Department of Transportation (USDOT)

- *Better Utilizing Investments to Leverage Development (BUILD)* – Replaces the TIGER Grant and funds capital investments in surface transportation infrastructure, i.e. road, rail, transit and port projects, that achieve critical national objectives, i.e. livability, safety, environmental sustainability, economic competitiveness, etc. <https://www.transportation.gov/BUILDgrants>
- *Safe Streets and Roads for All (SS4A)*: The primary objective of the SS4A program is to reduce and ultimately eliminate roadway fatalities and serious injuries. Grant recipients are required to develop and implement comprehensive safety action plans tailored to address the most critical roadway safety challenges within their communities. <https://www.transportation.gov/grants/SS4A>

Federal Highway Administration (FHWA)

- *Transportation Alternative Program (TAP)* – The purpose of the TAP program is to expand travel choices and enhance the transportation network.
- *Safe Routes to Schools (SRTS)* – The purpose of the SRTS program is to enable safer and more appealing transportation alternatives and to encourage/enable grades k-8 to walk and bike to school. <http://www.saferoutesnj.org/safe-routes-to-school-grants/>
- *Surface Transportation Program (STP)* – Goal is to preserve and improve conditions and performance on any federal-aid highway, public road bridges and tunnels, bicycle and pedestrian infrastructure, and transit capital projects.
- *Highway Safety Improvement Program (HSIP)* – Goal is to improve safety and performance of all public roads. In New Jersey, the HSIP prioritizes lane departure, intersections, and pedestrian safety.
- *Local Safety / High Risk Rural Roads Program (HRRR)* – Support construction of quick-fix and high-impact safety improvements on county and local roads.
- *Congestion Mitigation and Air Quality Improvement Program (CMAQ)* – Goal is to improve air quality and mitigate congestion.

National Highway Traffic Safety Administration

- *Section 402 State Highway Safety Program* – Goal is to develop education, enforcement, and research programs designed to reduce traffic crashes, deaths, severity of crashes, and property damage.
- *Section 405 Non-Motorized Safety Grants* - Goal is to reduce pedestrian and bicycle fatalities through training for law enforcement officials, enforcement mobilizations, and campaigns to

enforce applicable pedestrian and bicycle safety laws, and public education and awareness programs designed to inform motorists, pedestrians, and cyclists about applicable pedestrian and bicycle safety laws.

Federal Transit Administration

- *Enhanced Mobility of Seniors and Individuals with Disabilities* – Goal is to assist private nonprofit groups with meeting the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate.

Other Funding Programs

- *Sustainable New Jersey* – Sustainable New Jersey, a sustainability certification program for municipalities in New Jersey, provide several community grants that fund various sustainability projects from renewable energy to transportation projects and programs. <http://www.sustainablejersey.com/grants-resources/>
- *People for Bikes Community Grants* - People for Bikes, a national bicycle transport and safety advocacy organization, provides several community grants that fund projects and activities such as bicycle paths, lanes, trails, and bridges, bicycle parking, repair stations and/or storage, open street events, etc. Eligible entities for funding include state, regional, county, and municipal agencies, as well as nonprofits. <https://peopleforbikes.org/our-work/community-grants/>
- *NJ Healthy Communities* – The New Jersey Healthy Communities Network provides grants to fund healthy living and active living strategies. Eligible entities for funding include New Jersey nonprofits and municipal agencies. <https://www.njhcn.org/about/grantee-benefits/>
- *NJ Health Initiatives (RWJF)* – The New Jersey Health Initiatives (NJHI) grant program, a program of the Robert Wood Johnson Foundation (RWJF), funds healthy community initiatives, including transportation related initiatives, statewide. All New Jersey based local health and human service agencies; k-12 education systems; colleges and universities; hospital systems; faith-based organizations; local governments; nonprofits; etc., are eligible for funding. <https://www.njhi.org/our-grants/>
- *NJ AHPERD* – The New Jersey Association of Health, Physical Education, Recreation & Dance, a professional association dedicated to advancing health, physical, recreation and dance education, provide several grants focused on recreation, health and physical education programming in schools. <http://www.njahperd.org/new/index.php/awards-and-grants/available-awards>

Complete Street Policy Implementation

The first step in implementing Complete Streets is adoption of the Complete and Green Street Policy by resolution and/or ordinance. Adoption of a Complete and Green Streets Policy via ordinance makes it legally binding whereas adoption by resolution only serves as an endorsement and is non-binding. Either way, both approaches officially commit the city to implementing Complete Streets on City-owned roads. As previously noted, the City adopted a Complete and Green Street Resolution and Policy on January 25, 2024 (see Appendix E) and must go through the next step of updating existing City policies, procedures, plans, and programs to reflect the Complete Street standards and specifications. Examples of City policies that should be updated are as follows:

- *Parking* – The parking ordinance should be amended to incorporate bicycle parking requirements/ratios and shared parking requirements/flexible parking, e.g. counting off-site spaces in ratio. Bicycle parking should be required as part of any new development/redevelopment, minimum 10% of total parking spaces, at all educational facilities, recreational facilities, multifamily residential dwellings, hospitals/medical centers, commercial/retail centers, transit/commuter hubs, etc. As an alternative to amending the current parking requirements, the city may adopt a separate stand-alone bicycle parking ordinance. In both instances, the bicycle parking requirements should be consistent with the Association of Pedestrian and Bicycle Professionals (APBP) Bicycle Parking Guidelines, 2nd Edition (2010) or later.
- *Driveways* – There are numerous driveways within the city that do not meet the ADA Accessibility Guidelines (ADAAG) for driveways. It is recommended that the city amend its zoning code to incorporate the ADAAG requirements for driveways. In particular, driveways should be designed in a way that makes the pedestrian right-of-way clear and obvious, that provide continuous and level pedestrian zones, that has a slope of less than 5% grade and a cross slope of less than 2%. In addition, the city should create a program for closing/relocating existing driveways that are within 250 feet of an intersection.
- *Street Typology* - The 2017 State of New Jersey Complete Streets Design Guide incorporate Complete Streets typologies that represent a broad-brush representation of road types and street designs typically found in New Jersey. It is recommended that the city develop Complete Street/multi-modal typologies that are appropriate to the City of Passaic and adopt a Circulation Plan Element to incorporate those street typologies. This way the city can waive the Residential Site Improvement Standards in all instances where it conflicts with the Complete Street typologies in the Circulation Plan Element.

The following street typologies from the NJ Complete Streets Design Guide are the most commonly found in Passaic:

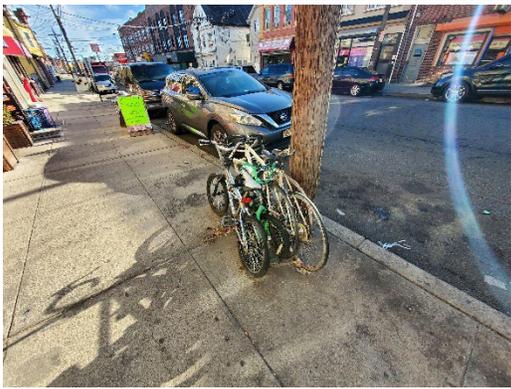
- *Downtown Urban Core*- Downtown Urban Core streets often serve multiple modes of transportation and are surrounded by buildings, creating a constrained environment. Designing solutions for these streets requires balancing the needs of various users, including high motor vehicle volumes, commercial goods movement, heavy turn volumes, and other intensive uses, with the needs of pedestrians and cyclists.
- *Main Street* – Main Streets are the ideal streets for Complete and Green Streets retrofits because they have high volumes of pedestrians, transit vehicles/passengers, cyclists, and motorists using the space. Examples of Main Street typologies in Passaic include Main Ave and Market St.
- *Urban Residential* – Urban Residential streets have narrower cartway widths and face high demands for on-street parking, which can further complicate the design process. Urban neighborhoods support a high demand for multimodal access, and the streets should provide safe and inviting places for people to walk and bike. Design features can include stormwater management techniques, curb extensions, vertical speed control elements, and bicycle facilities.

Suburban Residential (Low-Volumes) – Suburban Residential (Low-Volumes) Streets have narrow cartways that cannot allocate dedicated space for each mode of transportation. Therefore, the emphasis in street design should be on establishing safe and comfortable shared spaces, with design elements and speed limits set at 25 mph or lower.

APPENDIX A: PUBLIC ENGAGEMENT REPORT



**City of Passaic
Bicycle Master Plan + Pedestrian Master Plan
Public Engagement Summary**



PREPARED FOR
THE CITY OF PASSAIC PLANNING BOARD
October 23, 2023



Cover Photos

Top L-R: Hope Ave & Monroe St Complete Street Demonstration Project

Bottom L-R: Makeshift bicycle parking on 1st Ave compared to pedestrian and bicycle amenities at Dundee Island Park.

Acknowledgements

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Introduction

The City of Passaic submitted a Local Planning Services (LPS) Application dated September 27, 2021, which it later updated on August 18, 2022, requesting assistance with the preparation of a Bicycle Master Plan and a Pedestrian Master Plan. LPS met with City representatives on August 18, 2022, to discuss and agree upon the scope of the project. Based on agreements at the project scope meeting, LPS prepared a project scope of services that the City Committee approved and adopted by resolution, Resolution 2022-09-218, on September 6, 2022. The resolution authorized the creation of a working committee for the project. The working committee included the City Administrator, the City's UEZ Project Manager, the City Engineer and Engineering Aid, the City's Traffic Safety Officer, the City's Director of Recreation & Cultural Affairs, the City's Zoning Code Official, the Passaic County Department of Planning Director's representative, and the Deputy Director of Active Transportation for EZ-Ride. Based upon the approved Scope of Work, LPS and the Project Working Committee held a kick-off meeting on December 6, 2022, which officially set in motion the work plan for the Bicycle + Pedestrian Master Plans.

The purpose of this project is to create a more comprehensive plan to improve pedestrian and bicycle infrastructure in the City of Passaic, while at the same time coordinating policies and programs that address pedestrian and bicycle connections and amenities. In particular, Passaic City seeks to prioritize improving bicycle and pedestrian access, connectivity and safety citywide, while addressing multimodal conflicts. Special attention to access/connectivity is needed along the Passaic River, in the Neighborhood Business Districts, the Market Street Commercial Corridor, and the in the Eastside Neighborhood. Concurrent priorities include wayfinding for bicyclists and improving sidewalk conditions and pedestrian amenities.

Through this project LPS will create a Bicycle Master Plan and a Pedestrian Master Plan that will serve as the City's Circulation Subplan Element for non-motorized road users.

Working Committee Meetings

Forming a Project Working Committee is a best practice that will ensure project success using a team approach. LPS requires that all municipal planning projects, regardless of the degree of project complexity, visibility and/or sensitivity, have a Project Working Committee. Local Planning Services provides recommendations for who the municipality should consider appointing to the Working Committee based on project type and scope. However, formal appointment of all team members is entirely at municipal discretion. Once appointed, team members must commit to remain fully engaged through project completion.

Following the kick-off meeting on December 6, 2022, the working committee met on the following dates to review and offer feedback on project milestones:

- December 14, 2022 (EZ-Ride Complete Streets Demonstration Project).
- January 23, 2023.
- February 23, 2023.
- April 28, 2023 (EZ-Ride Complete Streets Demonstration Project).
- June 5, 2023.

Following each meeting, the project team provides a summary of the agenda items discussed along with the next steps in project completion. Meeting summaries are provided in Appendix A.

Stakeholder Questionnaire

Local Planning Services (LPS) shared a couple questionnaires with key individuals from partner stakeholder organizations, including other state/regional agencies, a metropolitan planning organization, City staff and a bicycle and pedestrian advocacy group. The questions were distributed via two separate surveys, one for the Pedestrian Master Plan and another for the Bicycle Master Plan. The questions along with the stakeholders' grouped responses are provided below.

Question 1: How do you rate overall walking conditions in Passaic City?

Of the stakeholders who responded, 50 percent thought that overall walking conditions in Passaic are good, the other 50% rated walking conditions in Passaic City as fair.

Question 1: How do you rate overall bicycling conditions in Passaic City?

Of the stakeholders who responded, 80 percent thought that overall bicycling conditions in Passaic are fair, the other 20% rated bicycling conditions in Passaic City as poor.

Question 2: What are the top three priorities that the Pedestrian Master Plan needs to address?

Top priorities identified by the stakeholders range from ADA accessibility to educational programming. Based on responses received, the top three Pedestrian priorities are:

- Implement traffic calming at intersections and along the roadway to improve connectivity.
- Improve ADA compliance and general maintenance of sidewalks to improve mobility, including minimizing impacts of garbage and recycling days.
- Develop educational programs for the public about the environmental and health benefits of walking.

Question 2: What are the top three priorities that the Bicycle Master Plan needs to address?

Top priorities identified by the stakeholders range from more bicycle infrastructure to safety education for bicyclists. Based on responses received, the top three Bicycle priorities are:

- Implement more bicycle infrastructure (bicycle lanes/routes; bicycle stations, bicycle parking) at transit stops, intersections and along the roadway to improve connectivity.
- Improve safety through separation from traffic, including incorporating trails through parks, to improve mobility.
- Develop bicycle safety education programs for residents/the public.

Question 3: Can you give an example of a place (local/national/global) where you enjoy walking? (Why?)

Stakeholders identified places in New Jersey or across the country where they enjoy walking. Some of the more prominent places listed include:

- Beacon NY because of their vibrant area shops and restaurants.
- Manhattan NY because of wide sidewalks, short blocks, and safe crossings/signalized intersections.
- Any nature trail in a natural reservation in northern New Jersey or New York City.
- Passaic's Main Ave commercial district because of residents/friendly faces and store offers/discounts.

Question 3: Can you give an example of a place (local/national/global) where you enjoy bicycling? (Why?)

Stakeholders identified places in New Jersey and New York where they enjoy bicycling. Some of the more prominent places listed include:

- Long Island NY Wine Country because of the vineyards and scenery.
- Jersey City NJ's Liberty State Park because of the atmosphere and scenery.
- the Delaware and Raritan (D&R) Canal State Park trail because it is flat and separated from car traffic.
- Any nature trail in a park or natural reservation because of the enjoyment of nature while exercising at the same time.

Question 4: What other individuals and/or groups (including project managers of previous/current studies/plans) should we be talking to in order to advance this project?

The following stakeholders were identified as other individuals and/or groups to reach out to in advancing the Pedestrian Master Plan:

- Passaic City residents.
- H2M (Market Street Plan).
- NV5 (Working on the Market Street Streetscape Plan) & Main Ave redevelopment.
- Neglia, French & Parello (engineering/design consultants).
- NJ Bike and Walk Coalition.
- NJ Safe Routes to School.

Question 4: What other individuals and/or groups (including project managers of previous/current studies/plans) should we be talking to in order to advance this project?

- Passaic City residents.
- H2M (Market Street Plan).
- Neglia, French & Parello (engineering/design consultants).
- NJ Bike and Walk Coalition.
- NJ Safe Routes to School.
- Sustainable NJ; and
- Rutgers University Voorhees Transportation Center.

Question 5: Are there any independent walking/active transportation advocacy organizations in Passaic City? If so, please list them along with their contact info below?

All respondents replied that they did not know of any independent walking/active transportation advocacy organizations in Passaic City.

Question 5: Are there any independent bicycling/active transportation advocacy organizations in Passaic City? If so, please list them along with their contact info below.

Most respondents replied that they did not know of any independent bicycling/active transportation advocacy organizations in Passaic City. One person suggested that the YMCA or Boys and Girls Club might be a potential advocate for bicycling.

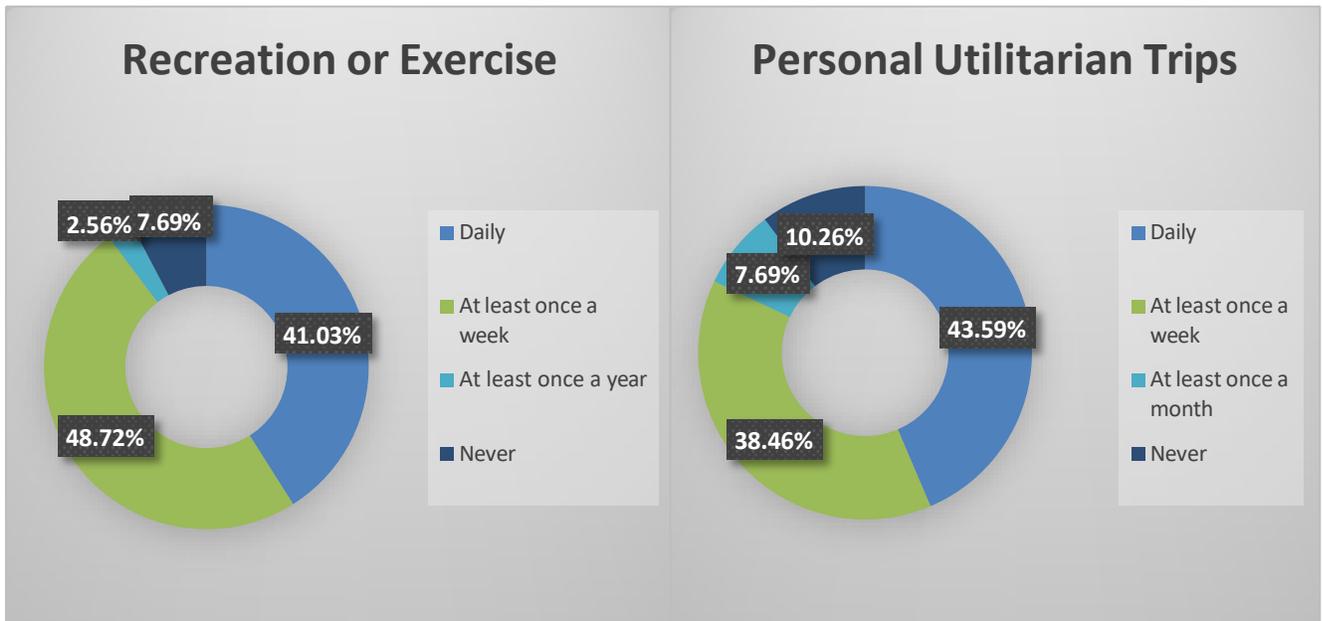
Community Survey

LPS prepared a Bicycle Master Plan & Pedestrian Master Plan survey for Passaic City to obtain data on walking/bicycling reasons and frequency, barriers to walking/bicycling, factors that increase walking/bicycling safety and comfort, reasons they would walk/bike more if conditions were favorable, stressful or hazardous walking/bicycling locations, and recommendations for improvements to walking and bicycling facilities. The public feedback provided via this survey critically assisted the development of both the Bicycle and Pedestrian Master Plans.

The Bicycle + Pedestrian Plans' survey was available online and via a QR code. The project team and City staff marketed the online survey via the City's social media pages, email notification system, at the Complete Streets Demonstration Project with EZ-Ride, and at four of the in-person summer concert series. The survey was available online for over five months from May to September 2023. A total of 39 individuals completed and submitted the survey during that period.

1. On average, how frequently do you WALK outside for the following reasons?

The majority of respondents walk one or more times per week for exercise or recreation (89.8%), for non-work/personal utilitarian trips¹ (82.1%), for work (61.5%), for other reasons (46.1%), or to get to and from a transit stop (41.0%). Less than 21 percent of respondents indicated that they walk one or more times per week for school (20.5%). Of those who selected other, the majority indicated they walk their dog, which falls under the exercise or recreation category, or walk to church, which falls under the non-work utilitarian category. The pie chart below shows the top two reasons people walk in Passaic.



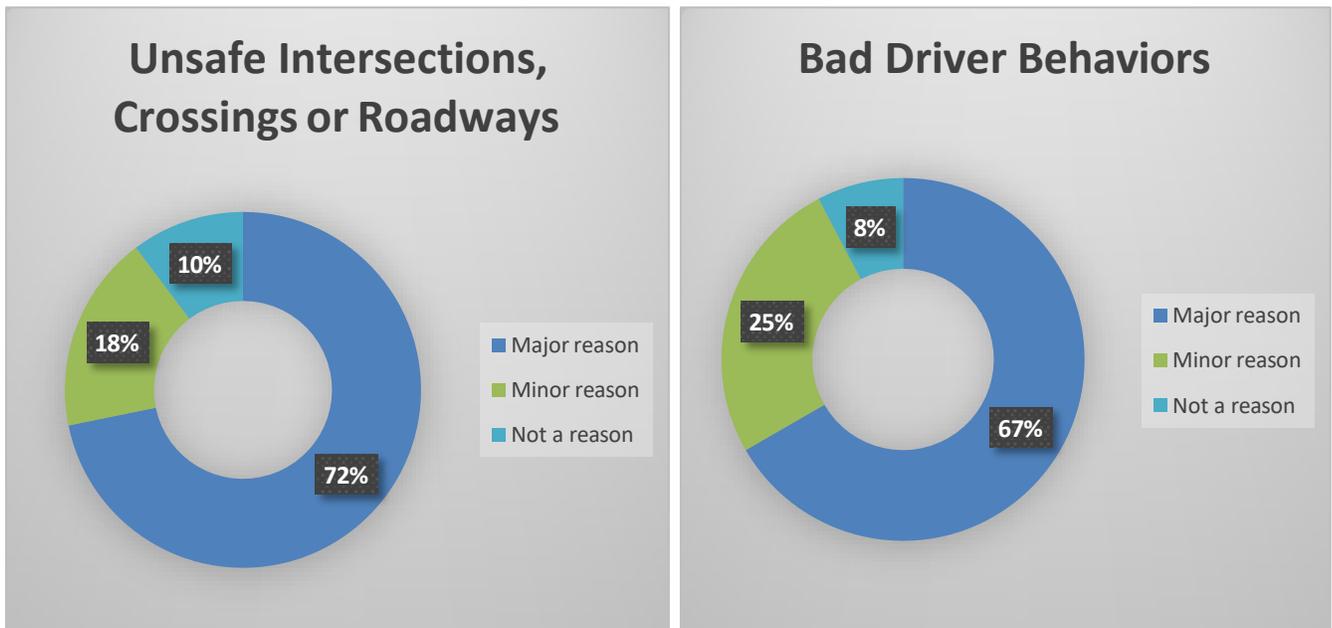
¹ non-work utilitarian trips are trips made for the purpose of accessing a specific destination, e.g., library, grocery store, restaurant, doctor's office, etc., and that are not related to work.

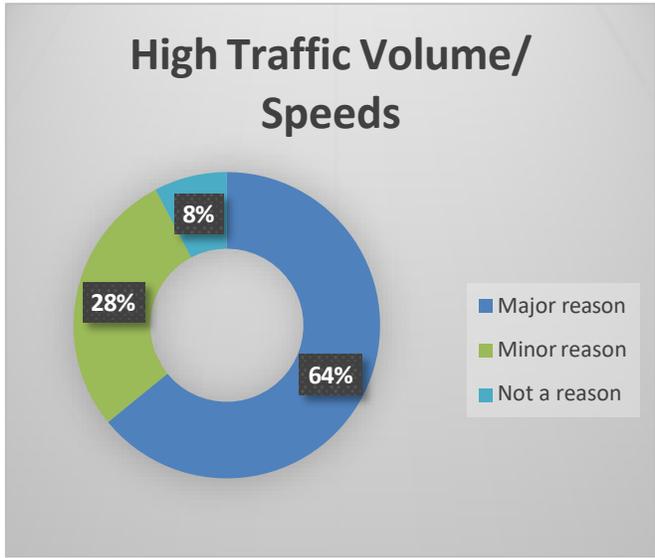
2. How would you rate the following as reasons that you do not WALK more frequently?

Safety is the primary reason many respondents do not walk more often. Top five reasons respondents don't walk more often are (in order of most importance):

- Unsafe intersections, crossings or roadways (72%)
- Bad driver behaviors (67%)
- High automobile traffic volume and/or speeds (64%)
- Personal safety concerns (61%)
- Travel with small children (54%)

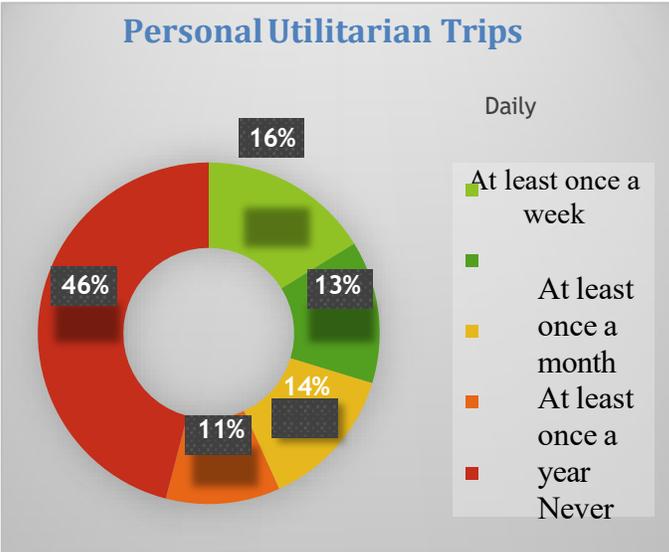
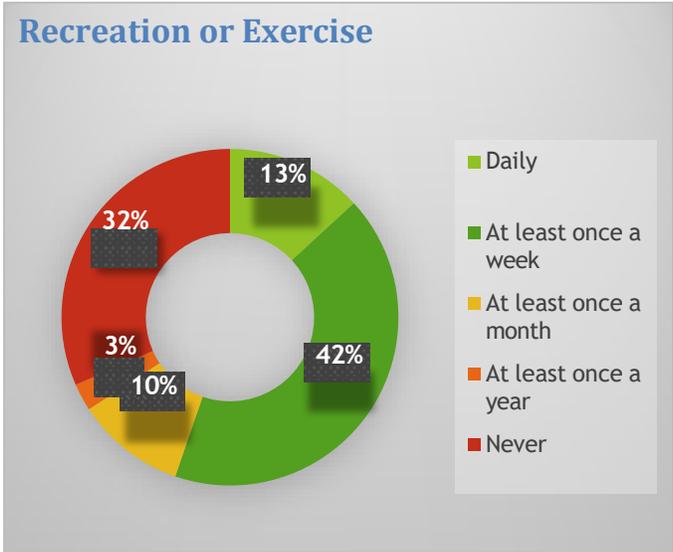
All of the remaining reasons on the list of options were selected less than 50% of the time as a reason that respondents don't walk more frequently: lack of amenities along preferred route (51.3%); lack of worksite amenities (51.3%); Sidewalks/shared use paths in poor condition (46.1%); physical or other health condition (43.6%); visually unappealing surroundings (38.5%); destinations are too far away (38.5%), and no sidewalks and/or shared use paths (35.9). The pie chart below shows the top four reasons people don't walk more frequently in Passaic.





3. On average, how frequently do you BICYCLE for the following reasons?

The majority of respondents bike one or more times per week for exercise or recreation (53.8%), for non-work utilitarian trips (28.2%), or to get to and from a transit stop (20.5%). Less than 16 percent of respondents indicated that they bike one or more times per week for other reasons (15.4%), work (12.8%), or school (10.3%). Of those who selected other, everyone indicated that they bike to socialize with friends. The pie chart below shows the top two reasons people bike in Passaic.

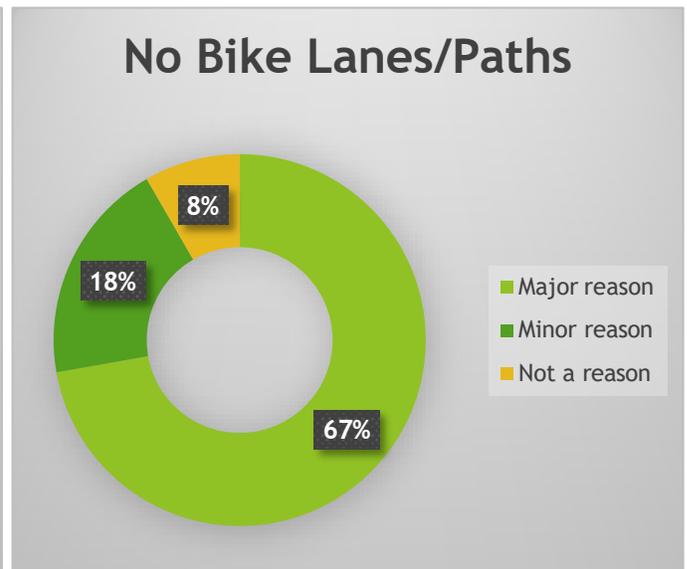
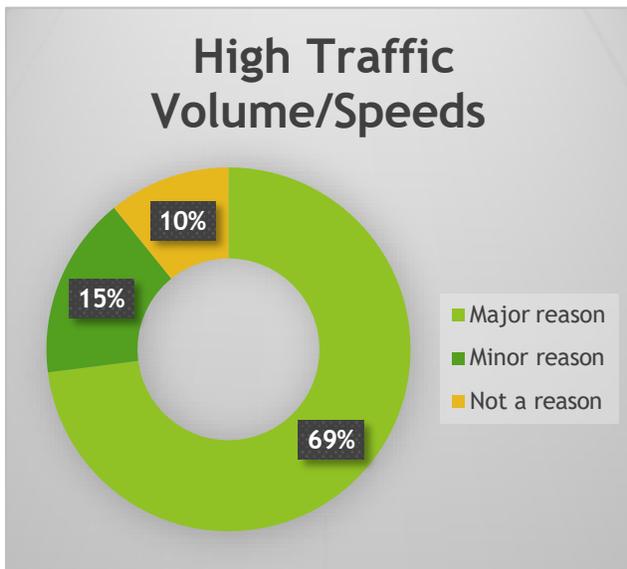


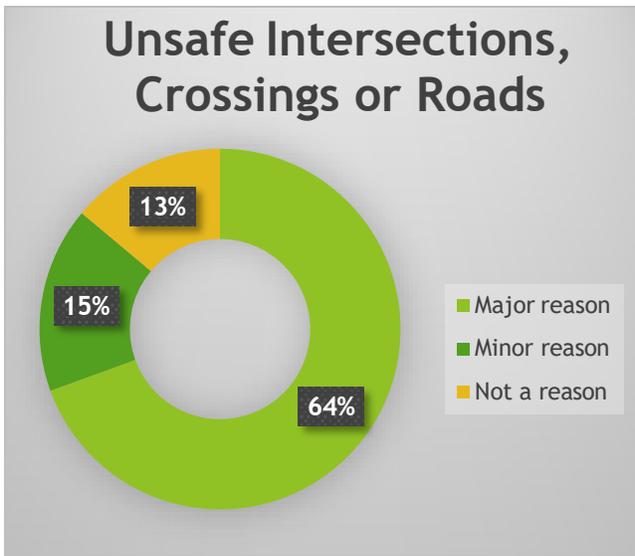
4. How would you rate the following as reasons that you do not BICYCLE more frequently?

Separation from traffic and safety are the primary reasons many respondents do not bike more often. The Top five reasons respondents don't bike more often are (in order of most importance):

- High automobile traffic volume and/or speeds (69%)
- No bike lanes and/or shared use paths (67)
- Unsafe intersections, crossings or roadways (64%)
- Bad driver behaviors (61%)
- Bike lanes and/or shared use paths in poor condition (59%)
- I do not have a bike (59%)

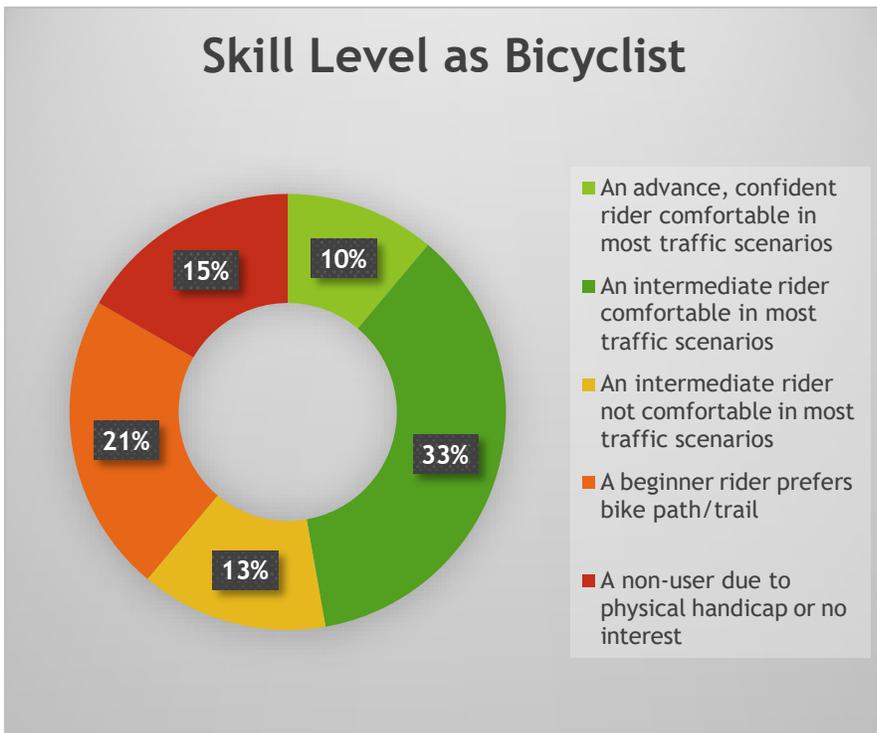
All of the remaining reasons on the list of options were selected less than 57% of the time as a reason that respondents don't bike more frequently: Travel with small children (56.4%); Personal safety concerns (56%); Physical or other health condition (51.3%); Destinations are too far away (41.0%); No bicycle parking (38.5%); Bad weather (38.5%); Visually unappealing surroundings (38.5%); and Lack of worksite amenities (20.5%). The pie chart below shows the top four reasons people don't bike more frequently in Passaic.





5. What skill level do you consider yourself as a bicyclist?

Most respondents identified as an intermediate rider who are comfortable riding in most traffic situations (33.3%). Approximately 20.5% identified themselves as a beginner rider who prefer to stick to the bike path or trail. Close to 15.4% of respondents are not interested in bicycling or is physically unable to ride a bicycle. Less than 13% of the remaining respondents identified as an intermediate rider who is not really comfortable riding in most traffic situations or an advanced, confident rider who is comfortable riding in most traffic situations. The pie chart below shows the skill level of bicyclists in Passaic who responded to the survey.



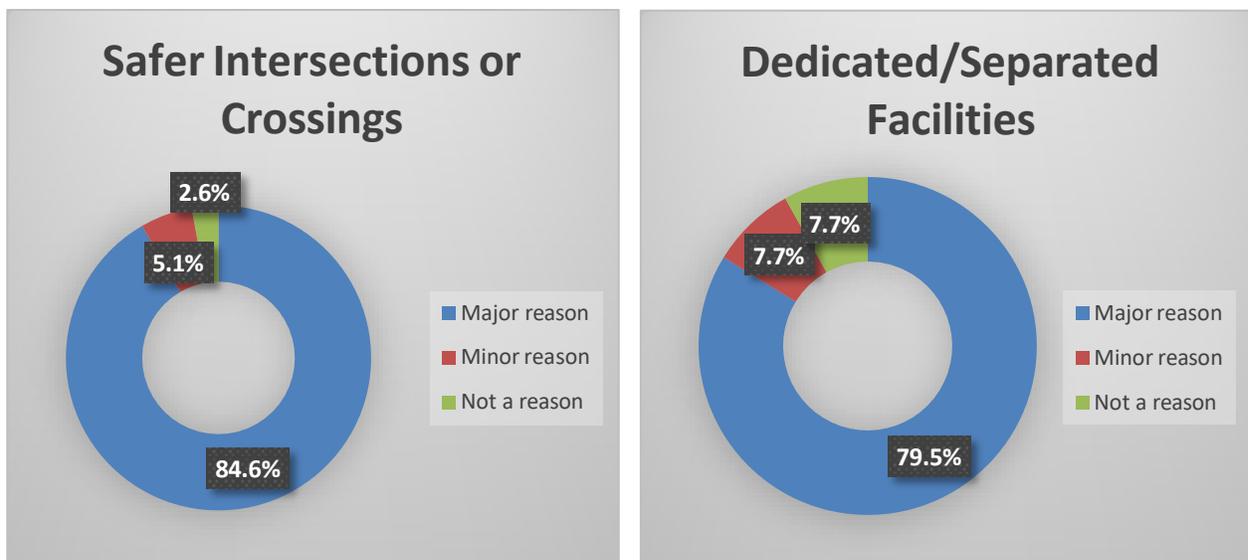
6. How important do you think the following improvements would be in supporting walking and bicycling in Passaic City?

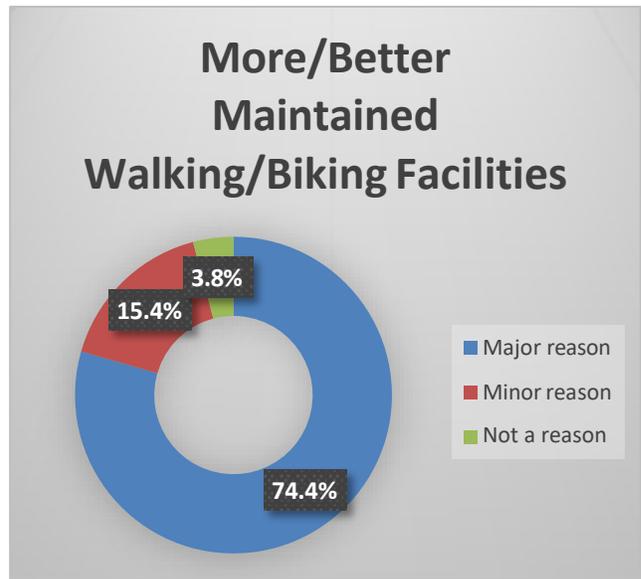
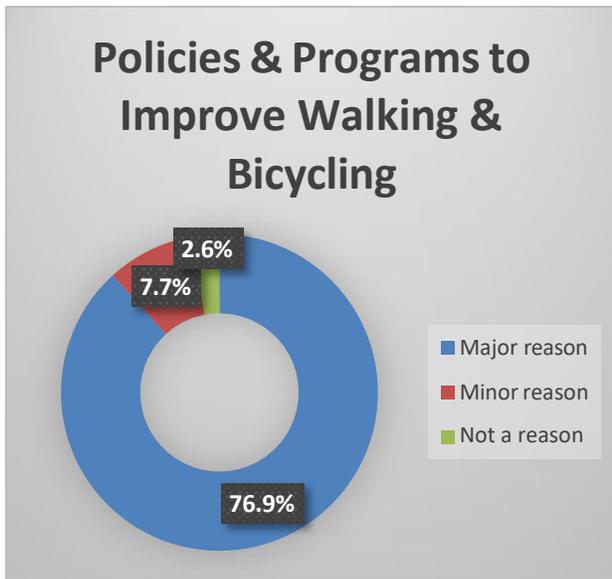
Many respondents want safer intersections or crossings (84.6%) as the primary improvement in Passaic City. The Top improvements desired by the majority of respondents are (in order of most importance):

- Safer intersections or crossings (84.6%)
- More dedicated walking or biking facilities physically separated from motor vehicle traffic (79.5%)
- More policies and programs to improve walking and biking (76.9%)
- More sidewalks / shared use paths / bike lanes / signed bike routes (74.4%)
- Maintenance of sidewalks, shared use paths, bike lanes, signed bike routes (74.4%)
- More or brighter streetlights (74.4%)

All of the remaining improvements desired to support walking and bicycling were selected less than 70% of the time:

Improved connections between sidewalks, bikeways and transit (69.2%); More education opportunities for motorists, pedestrians, & bicyclists (69.2%); Better enforcement of traffic laws for motorists, pedestrians, & bicyclists (69.2%); More secure, convenient and available bicycle parking (69.2%); Bike lane, shared use path, and sidewalk snow removal and sweeping (69.2%); More convenient and available walking amenities (66.7%); More low speed neighborhood routes with wayfinding to destinations (61.54%); and More convenient and available worksite amenities (41.0%). The pie chart below shows the top four most desired improvements to walking and bicycling in Passaic.





7. If it were safe and convenient, how likely would you be willing to walk or bike for the following reasons?

When it comes to changing their behavior for when walking and biking becomes safe and convenient, respondents overwhelmingly selected exercise and recreation (66.7%) as the number one activity they would pursue. This was closely followed by non-work utilitarian trips (43.6%), getting to and from a transit stop (38.5%), and going to work (30.8%). Less than 20 percent of respondents would walk or bike to school if it was safer and more convenient to do so. This percentage is more a reflection of the demographics of the respondents, who were mostly childbearing adults and seniors, than the Passaic City proper. Respondents who selected other, wrote in exercise or recreation as the activity that they would do more of. Responses to this question indicates that respondents would do more of the activity that they are already doing, when walking and biking becomes more safe and more convenient.

8. Identify locations you see as particularly stressful or hazardous for walking or bicycling, or other suggestions for improving the safety and connectivity of Passaic's pedestrian and bicycle network.

Most respondents who provided feedback indicated that the most dangerous intersections in Passaic City are located on Main Ave. Following Main Avenue, Passaic St has the second greatest number of dangerous intersections. Monroe Street is listed in third place as having the most elevated number of dangerous intersections. Broadway and Lexington Ave also feature high on the list of most dangerous roads for bicyclists and/or pedestrians. Specific intersections that were called out by respondents include the following:

- Washington pl and Main Ave.
- Monroe Street and Main Ave.
- Main Ave and Lexington Ave.
- Main Ave and Benson Ave.

Community Events

As part of public outreach and participation, LPS staff collaborated with EZ Ride to coordinate and install a Complete Streets demonstration project at the intersection of Hope Avenue and Monroe Street on May 1, 2023. EZ Ride and LPS staff painted an intersection mural, high visibility striped crosswalks, curb extensions, bus stop area, and installed delineators to prevent parking and daylight corners. Goals were to demonstrate safer infrastructure at the intersection, calm traffic, make drivers aware of pedestrians, improve visibility for pedestrians and motorists, and encourage community aesthetics. EZ Ride and LPS staff set up tables to collect community feedback and to elicit input on the City's Bike and Pedestrian Plan. We utilized online surveys in English and Spanish and collected input regarding the community's perception of safety at that specific intersection (EZ-Ride) and at different intersections and roadways across the city (DCA-LPS). EZ-Ride published the results of its survey which showed that 95 percent of respondents want to make the temporary intersection improvements permanent (See Appendix A2).

In addition to the Demonstration Project at the Hope Ave and Monroe St, DCA's Local Planning Services project team attended four events in the summer of 2023 to expose the project to a larger public and obtain greater participation for the online survey and interactive map. At each of the events, the project team shared flyers in English and Spanish with QR codes to obtain resident's feedback on the project. EZ-Ride and LPS collaborated at one of the events with EZ Ride providing biking and walking safety pamphlets and helmet give aways at the event in addition to the LPS project promotion materials. Similar to the survey results discussed in this report, event participants shared a strong desire for safer and/or separate facilities for bicyclists and pedestrians.

The table that follows list the events that the LPS project team attended along with the event details and sample photos from the event. Although the project team engaged 20 to 35 people each event, this was not reflected in the survey completion rate, which hovered between 14 and 25 percent.

Table 1. Community Events (Sounds of Passaic Summer Concert Series)

| Date | Event Name | Location |
|------------------------|---|----------------------------------|
| <i>August 14, 2023</i> | <i>Swingman & The Misfit Mutts</i> | <i>Third Ward Park</i> |
| | | |
| <i>August 17, 2023</i> | <i>Total Soul</i> | <i>Dundee Island Park</i> |
| | | |
| Date | Event Name | Location |
| <i>August 28, 2023</i> | <i>Valarie Adams & the Dimension Band</i> | <i>Christopher Columbus Park</i> |



August 31, 2023

Jimmy Sturr & His Orchestra

Third Ward Park



Item (Facilitator)

1. Welcome & Introductions (Passaic City/LPS)

The meeting took place virtually and in-person. Those in attendance virtually were:

- City of Passaic:
 - Neglia Engineering Associates:
 - Yasseen Saad – Engineering Project Manager
 - Maria F. Rivero – Engineering Aid
- Passaic County:
 - Massiel Ferrara – Planning Director
- NJDCA Local Planning Services:
 - Melania Verzbickis, Planner Trainee

Those who were in attendance in-person were asked to sign in and are listed below:

- City of Passaic:
 - Ricardo Fernandez – Business Administrator & Director of Planning
 - Joe Buga - Urban Enterprise Zone (UEZ) Project Manager
 - Lt. Patrick Burnett – Traffic Safety [Police] Officer
 - Julio Santana – Zoning Officer
- Passaic County:
 - Andras Holzmann – Planning Supervisor
- EZ Ride TMA:
 - Lisa Lee – Deputy Director of Bicycle and Pedestrian Programs
 - Adam Iaccheo – Assistant Program Coordinator, Bike & Pedestrian Programs
- NJDCA Local Planning Services:
 - Ramond Joseph, Project Team Lead

A total of 12 people, including the LPS project team, were in attendance for this meeting. The meeting attendees were provided a copy of the meeting agenda, project scope of work, and working committee guidelines in advance of the meeting. Paper copies of all three documents were provided to all who did not already have it at the in-person meeting.

2. Review of the Scope of Work (LPS Project Team)

Ramond gave a summary of the project scope and schedule. Final deliverables are a:

- Bicycle Master Plan; and
- Pedestrian Master Plan.

Tasks to be completed by LPS include:

- Data collection.

- Existing conditions review.
- Active transportation/planning studies review.
- Interviews with active transportation stakeholders.
- Draft existing conditions summary.
- Conduct at least two public input/open house meetings.
- Draft summary of public engagement process and results.
- Conduct bicycle and pedestrian needs analysis.
- Network improvements

recommendations/Implementation plan. The following schedule/timeline were discussed:

- A first draft is anticipated to be completed within a year of the kick-off meeting to be followed by final draft and planning board presentation about a month after comments/revisions from the Planning Board.
- Previous studies/efforts that will guide the progress of the project include the:
 - Main Avenue Redesign Project
 - Passaic County Bicycle Master Plan
 - North Jersey Transportation Authority (NJTPA) bicycle/pedestrian counts
 - Rutgers University Main Avenue Corridor study/report
 - Rutgers University/TCNJ complete street rendering
 - State St. going into Hamilton St.
 - Terminates at the intersection of Hamilton and Lexington – “V” intersection.
 - City engineer, Yasseen Saad, to provide background documents.
- Timing of public input sessions will also guide the progress of the project. Session timing is anticipated as follows:
 - One after the existing conditions summary.
 - A second one after the initial network improvement/policy recommendations.
- LPS will conduct the public input sessions and Passaic City will host and publicize the meetings.
 - An in-person open house will require working committee assistance with setting up and staffing different voting stations.
 - A virtual open house can also be accommodated.
- Ramond will create and share a Dropbox link so everyone can share and have access to project documents.

3. Review of Goals and Objectives (Working Committee Members)

Bicycle Plan Priorities:

1. Safety
2. Connectivity/Access
3. Wayfinding
4. Passaic River Greenway
5. Bike/car circulation conflicts

Pedestrian Plan Priorities

1. Safety
2. Connectivity/Access
3. Pedestrian Amenities (ped lights, benches, shade structures/trees, etc.)
4. Improved Sidewalk Conditions
5. Passaic River Greenway

As part of the goals and objectives review discussion, Ramond reviewed the following priorities from the scope of work meeting (see full list above):

- Safety
- Connectivity
- Pedestrian amenities
 - Benches
 - Trees
 - Lighting
- Riverfront Greenway (connect Dundee Island and Pulaski parks)
- Access

Lisa suggested the addition of a Complete & Green Streets Policy as goal/priority. Andras indicated that Passaic County has already adopted one, which can serve as a baseline for the city. Andras recommended adding connections to transit to the goal/priority list as well. Lisa recommended the use of tactical urbanism demonstration as part of the public input process.

Rick gave an overview of actions that the city has taken to further active transportation. These actions include:

- Acquiring funding for a new bus station/hub on Main Ave that is located halfway between the Garfield and Passaic train stations; and
- Approaching several bikeshare companies, i.e., Citi Bike and Lime, to implement a bikeshare program in the city.

Rick indicated that the discussions with the bike share companies did not bear fruit because the companies approached could not justify their costs with the current level of bike share demand in the city. Rick indicated that each section of the City has a major park/open space sufficient to attract bicycle demand. In particular, the city was looking to connect both Pulaski Park and Third Ward Park to the Passaic train station via a bike share system. Lisa indicated that EZ-Ride is looking for a municipality to partner with on a bike share or e-scooter share program. Rick expressed interest in partnering with EZ-Ride on a bike share pilot program. Lisa asked as to the City's preference between bicycles and e-scooters. Both Rick and Lt. Patrick stated that the city would prefer bicycles over scooters. They added that they have a strong preference for bike share systems that have a docking station for the bikes. They indicated that there is enough room at the train station to install a docking station. A bike share system can also connect the new bus hub on Main Ave, which is halfway between the Garfield and Passaic train stations, to both train stations and parks via Passaic Street. Rick shared his vision for having bicycle docking stations at Pulaski Park, Main Avenue Transit Hub, Passaic Train Station, Third Ward Park, and Second Ward Park. These locations are where the city hosts many of its activities and events (tree lighting ceremony, ball drop for New Year's Day, Independence Day Fire Works, Mexican Day Parade, indoor recreation

facility, ice skating rink, Hughes Lake, etc.) Rick also indicated that Passaic St, which connects all these activities, and Market St have the lowest car ownership rates in the State of New Jersey. Rick asked for examples of other NJ municipalities that have implemented e-scooter share systems. Lisa responded that Newark, Asbury Park, New Brunswick, and Highland Park all have e-scooter and/or bike share systems that can be modeled after. Massiel mentioned that Hoboken uses [Social Bicycles](#) (SoBi) bikeshare system, which is a dockless system. She mentioned that bike litter will not be an issue because the turnaround time is about 15 minutes from when a bike is left off to when it is picked up by a SoBi truck. She specified that Hoboken did not want to tie into Jersey City's Citi Bike system. This decision forced other northern municipalities in Hudson County to go with SoBi as well since Hoboken is their main transportation hub. The City of Passaic is supportive of partnering with other surrounding municipalities on a bikeshare program to have a more regional bike system.

Adam asked about the population and population density in the city to gauge demand for a bike share system. Rick responded that the city has over 70,000 counted residents and approximately 15,000 uncounted residents in 3.2 square miles. Passaic is one of the densest cities in the United States (U.S.) Per capita rental unit car ownership in Passaic is the lowest car ownership rates in New Jersey. The city rezoned the Main Avenue corridor to allow mixed use residential and commercial to encourage more walking and bicycling. During the pandemic, the city reorganized its school district into a walking or community school (k-8) district. This means that all k-8 students are located within walking distance of a school. In addition, the entire city has sidewalks, which provides great connectivity for pedestrians. Rick mentioned that the city revised the parking ordinance on Dayton Avenue to accommodate the Dayton Avenue Educational Complex, which has four schools. Parking is hard to come by in Passaic, which is another why a bikeshare system is needed. Ramond mentioned that addressing car/pedestrian conflicts in school zones is also one of the goals/priorities as is improving wayfinding. Rick stated that drop off/pedestrian conflicts exist at Public School No. 1, which is located on Broadway and Van Houten Ave, and Public-School No. 3, located on Van Houten Ave and Waverly Pl. Currently no teacher parking or pickup/drop-off routes exist at those schools. Adam mentioned that some cities close off the street for half an hour during pickup and drop-off time. Lt. Patrick shared that this is currently being done for Public School No. 20 (located on Henry St & Howe Ave) where Prospect St is closed off to traffic for 30 minutes during drop-off and pickup. The city receives Safe Routes to School grants every year. They have addressed safety issues on the corridor to the high school (Paulison Ave), Dayton Ave (Public School No. 23), Parker Ave (Public School No. 10), etc.

Rick shared that a parking garage has been approved/funded and is ½ a block from the Passaic train station. He mentioned that bike parking can be added at the new garage. In addition, 10 bike racks have been added throughout the city. The city is working the County on the River Walk between Pulaski Park and Dundee Island Park. In addition, the city is in talks with developers to continue and expand the riverwalk around the "bell curve" and Dundee Island Park. The city is committed to sensory play equipment and has a blue park initiative for children on the autism spectrum.

4. Working Committee Roles & Responsibilities (LPS Project Team)

- *Evaluate project goals and objectives.*
- *Assess needs, issues or problems addressed by the project.*
- *Review and sanction project revisions, changes, modifications especially if scope, and schedule are affected.*
- *Represent the needs of all the affected stakeholders.*
- *Ensure that the project has adequate resources and a well-designed plan to meet the project deliverable(s).*
- *Provide feedback on project milestones to help move the project process forward.*
- *Assist with community outreach inclusive of stakeholders for public participation sessions.*
- *Champion the final Plan and help implement the Plan post Planning Board adoption.*

The working committee did not go over the Working Committee Guidelines due to timing constraints. However, the committee did have a chance to discuss member composition. The committee agreed to add a representative from the Boys and Girls Club, A representative from the School Board, and a representative from the City’s Recreation Department.

5. Next steps (*Ramond Joseph, LPS*)

The next steps are as follows:

- a. LPS to continue background research, data collection, and drafting of Existing Conditions summary.
- b. LPS to prepare surveys and conduct interviews with stakeholder agencies/organizations.
- c. LPS to schedule: 1.) Site Visit(s); 2) Next Working Committee Meeting; 3) Community Input/Public Outreach

The meeting adjourned at approximately 3:45 PM

January 23, 2023, AGENDA ITEMS

Item (Facilitator)

1. Welcome & Introductions (Passaic City/LPS)

The meeting took place virtually over MS Teams. Those in attendance were:

- o City of Passaic:
 - Joe Buga - Urban Enterprise Zone (UEZ) Project Manager
 - Lt. Patrick Burnett – Traffic Safety [Police] Officer
 - Julio Santana – Zoning Officer
 - Cindy Gomez – Recreation Department Rep.
 - Maria F. Rivero – Engineering Aid
 - Neglia Engineering Associates:

- Yasseen Saad – Engineering Project Manager
- Passaic County:
 - Massiel Ferrara – Planning Director
 - Andras Holzmann – Planning Supervisor
- EZ Ride TMA:
 - Lisa Lee – Deputy Director of Bicycle and Pedestrian Programs
- NJDCA Local Planning Services:
 - Ramond Joseph, Project Team Lead
 - Melania Verzbickis, Assistant Planner
 - Joseph Naylor, GIS Specialist

A total of 12 people, including the LPS project team, were in attendance for this meeting. Ramond shared the PowerPoint Presentation live at the meeting.

2. Overview of Existing Bicycle Conditions (*LPS Project Team*)

Ramond started the presentation by talking about key demographics. Key demographics are the main beneficiaries of the Bicycle/Pedestrian Master Plan and are also the target audience of this project. As sourced from the 2017-2021 5-year ACS survey, these beneficiaries are:

- Children aged 17 & under – 32.2%
- Households’ w/ Income Below Poverty Level – 31.9%
- Zero Vehicle Households – 31%
- Population within 1000 feet away of heavy traffic – 19%
- Commute by Public Transit – 13%
- Commute by Walking – 13%
- Seniors aged 65 & over – 8.5%
- Disabled Population – 8.3%
- Commute by Bicycling – 1%

Then he discussed the highlights from relevant previous plans and or studies. These plans/studies and highlights are as follows:

- Passaic County Bicycle Master plan
 - 17.3-mile bicycle network - Bike Lanes (8.6 mi); Bike Boulevard (7 mi); Buffered Bike Lanes (0.2 mi); Shared-Use Path (1.5 mi)
 - Concept Plan for Passaic Clifton Regional Connection
 - Adopt a Complete and Green Street Policy
 - Create a Vision Zero Action Plan
 - Conduct Bike/Ped Road Safety Audits and Assessments
 - Consider piloting a bike and micro mobility share program
 - Develop a plan for bicycle wayfinding signage
 - Work with partners to support demonstration pilot projects
- Main Ave Local Development Concept Plan
 - This study looked at 4 built scenarios for redesigning Main Ave in order to replace the parking island in the Study Area (Main Ave from Monroe St to Gregory Ave)

- Scenario 2: Pocket Park (60 ft), 145 pkg spaces, 12-14 ft sidewalk, & bike lane
 - Scenario 3: Promenade w/ Reverse Angle Parking, 175 pkg spaces, 30 ft landscape & seating, 15 ft sidewalk, bike lane
 - Scenario 4: Promenade w/ Wide Sidewalks, 155 pkg spaces, 30 ft landscape & seating, 25 ft sidewalk, bike lane
 - Scenario 5: Landscape median, 175 pkg spaces, 20 ft landscape, 30 ft sidewalk, bike lane
 - Joe Buga interjected to confirm that the city selected Scenario 3, Promenade w/ Reverse Angle parking.
- Main Avenue Redevelopment Plan
 - Study Area: Approx. 28 blocks on Main Ave (Monroe St – State St)
 - Requires adherence to Complete Streets design
 - Parking provided offsite at new Parking Deck
 - Requires 5% EV Ready parking spaces
 - New bus terminal funded
 - Bicycle parking requirements
 - 1 per 2 units indoor; 1 per 10 units outdoor
 - 1 per 2,500 sq ft indoor; 1 per 5,000 sq ft outdoor
- Complete Streets Conceptual Renderings
 - State St. going into Hamilton St. terminating at the intersection of Hamilton and Lexington – “V” intersection
 - Hamilton Ave Concepts: 3 Scenarios
 - Bike lane;
 - Parking protected bike lane; or
 - Two-way cycle-track.
 - State St Concepts: 2 Scenarios
 - Reverse angled parking w/ bike lane southbound, parallel parking w/ bike lane northbound; or
 - Remove median, add 2-way bicycle track, widen sidewalk (west side).
 - Yasseen Saad interjected and indicated that the city selected the removal of the median and reverse angled parking w/ bike lanes as the concept plan for State St. For Hamilton St, the city selected the 2-way cycle track concept plan.
- Existing Road Conditions:
 - 70.14 total miles of roadways
 - State - 3.2 miles – connects counties within the State.
 - County - 13.82 miles – connects municipalities within the County.
 - City - 53.2 miles – connects neighborhoods within the city.
- Existing Transit Network:
 - City is transit rich with train station w/ one-seat ride to NYC, bus terminal and 10 bus routes that connect the city to the region.
 - The retired rail tracks through Pulaski and Dundee Island Parks will

be converted to multiuse trails.

- Existing/Planned Bicycle Network
 - 17.3 Miles Planned -8.6 mi Bike Lanes; 7.0 mi Bike Boulevard; 0.2 mi Buffered Bike Lanes; 1.5 mi Shared-Use Path
 - Most of the planned infrastructure are on county roads.
 - The project team will use the County plan as a base for expanding bicycle coverage throughout the city.
- Land Use Attractors
 - Uses that attract higher pedestrian and bicycle trips:
 - Commercial Corridor (Main Ave, Passaic Ave, Monroe St, Market St, etc.)
 - Healthcare Facilities
 - Parks & Recreation Facilities
 - Schools
 - Government Services
 - Transit Stops
- Crash Analysis
 - Project team looked at crash data from January 2016 through December 2021.
 - 154 crashes involved bicyclists
 - 398 crashes involved pedestrians
 - 2 pedestrian fatalities
 - Highest concentration of crashes took place downtown and/or on county roads.
- Bicycle Level of Traffic Stress (LTS)
 - Evaluates how bicycle friendly a road is based on the riders' comfort:
 - LTS I → appropriate for almost all bicyclists (minors to seniors)
 - LTS II → appropriate for “interested but concerned” bicyclists
 - LTS III → appropriate for “enthused and confident” bicyclists
 - LTS IV → only appropriate for “strong and fearless” bicyclists
 - Almost all City roads are LTS I (mph = 25)
 - Almost all County roads are LTS III (mph ≥ 35), and State roads are LTS IV
 - Source data came from the Passaic County Bicycle Master Plan

3. Review any feedback from the Working Committee (Working Committee Members)

- Lisa Lee → Requested that the project team share the online survey in order to assist with distribution to schools and other target audience. Ramond indicated that the survey will be shared with the Working Committee prior to being made available to the public. Lisa also suggested moving up the demonstration project in March to assist with passing out the survey. Ramond indicated that we could keep the survey open for two months so that we can use the Demo project to garner additional input into the survey.
- Andras Holzmann → Explained that the County focused mostly on county roads and not so much on the city roads. They made suggestions for city roads where needed but did not study them in depths. The County looks forward to assisting with the analysis and recommendations to city roads to come out of this report.

- Ramond inquired about the proposed speed limits on roads where bicycle boulevards are being proposed.
 - Andras indicated that the County would lower the speed for some of them and in others look at different traffic calming options based on the context.
 - The County is open to additional recommendations on the proposed bicycle infrastructure through this project.
- Andras Holzmann → How many stakeholders?
 - TBD
- Lisa Lee → Inquired about the Complete and Green Street Policy document. Joe Buga responded that Rick Fernandez would be following up with that activity/task. Lisa then shared drafts of potential demonstration projects to select from:
 - Market & Bergen by School 2
 - Market & Mercer in front of Angie's
 - Monroe & Daytona
 - Montgomery & Gregory
 - Lt. Burnett's preferred option for demo project
 - Market & Hudson
 - Broadway, Grove & Garden
 - Everyone agreed on doing the demo project on Montgomery St & Gregory St. The recommendation is to complete the demo at the start of the week and leave it for a week or longer until it rains. Lt. Burnett, Rick, & Joe Buga will follow up with Lisa with dates for demo.
- Yasseen Saad → Indicated that the city passed a parking ordinance that extends parking zones during overnight hours until 7 AM because of limited amount of parking in the city.
 - Same as Hoboken ordinance. Allows parking withing 15 feet of crosswalk during overnight hours. Parking is typically prohibited within 25 feet from crosswalk.

4. Next steps (*Ramond Joseph, LPS*)

The next steps are as follows:

- Online Survey and Interactive Map
- Stakeholder Interviews
- Pedestrian Existing Conditions
- Community Input/Public Open House

The meeting adjourned at approximately 3:15 PM.

Item (Facilitator)

1. Welcome & Introductions (Passaic City/LPS)

The meeting took place virtually over MS Teams. Those in attendance were:

- City of Passaic:
 - Lt. Patrick Burnett – Traffic Safety [Police] Officer
 - Cindy Gomez – Recreation Department Rep.
 - Maria F. Rivero – Engineering Aid
 - Neglia Engineering Associates:
 - Yasseen Saad – Engineering Project Manager
- Passaic County:
 - Massiel Ferrara – Planning Director
 - Andras Holzmann – Planning Supervisor
- EZ Ride TMA:
 - Lisa Lee – Deputy Director of Bicycle and Pedestrian Programs
 - Erlea Maldonado - EZ Ride
 - Adam Iaccheo, EZ Ride
 - Mike Johnson – EZ Ride
 - Jency Jimenez – EZ Ride
- NJDCA Local Planning Services:
 - Ramond Joseph, Project Team Lead
 - Melania Verzbickis, Assistant Planner
 - Joseph Naylor, GIS Specialist

A total of 15 people, including the LPS project team, were in attendance for this meeting. Ramond gave a status update via PowerPoint Presentation and presented the survey live at the meeting.

2. Overview of the project status (*LPS Project Team*)

Ramond provided an overview of the project status. Current project tasks in progress are the:

- Pedestrian Existing Conditions.
- Online survey and interactive map.
- Stakeholder interviews; and
- Community Input/Public Open House.

Then he discussed the survey questions and their objectives. These plans/studies and highlights are as follows:

- Walking/Pedestrian Questions
 - Walking reasons and frequency (work/school/transit stop/non-work utilitarian trips/recreation or exercise)

- Barriers to walking (no sidewalk or shared-use path/walking facilities poorly maintained/unsafe intersections or crossings/unsafe or unpredictable driver behavior/traffic speed and volume/personal safety or fear of crime etc.)
 - Factors that increase walking safety and comfort (more sidewalks and/or shared use paths/better intersections or crossings/better street lighting/more separation from traffic/traffic education and/or enforcement etc.)
 - Reasons would walk more if conditions allowed (work/school/transit stop/non-work utilitarian trips/recreation or exercise etc.)
 - Stressful or hazardous walking locations
 - Recommendations for improvements
- Bicycling/Rolling Questions
 - Bicycling reasons and frequency (work/school/transit stop/non-work utilitarian trips/recreation or exercise)
 - Barriers to bicycling (no bicycle parking/no bike lanes or shared-use path/bicycling facilities poorly maintained/unsafe roadways, intersections or crossings/unsafe or unpredictable driver behavior/traffic speed and volume/personal safety or fear of crime etc.)
 - Factors that increase bicycling safety and comfort (more bike lanes, signed bike routes and/or shared use paths/better maintenance of bike lanes and/or shared use paths/better connections between bikeways and transit/better intersections or crossings/better street lighting/more separation from traffic/traffic education and/or enforcement etc.)
 - Reasons would bike more if conditions allowed (work/school/transit stop/non-work utilitarian trips/recreation or exercise etc.)
 - Stressful or hazardous bicycling locations
 - Recommendations for improvements

3. Review of Bike/Ped Survey/feedback from the Working Committee (Working Committee Members)

- Erlea Maldonado → Include a Spanish version of the survey. Ramond explained that ESRI has a built-in language convertor that allows the Survey to be available in several languages, including Spanish. He will share both English and Spanish version of the survey with the Working Committee for testing.
- Lisa Lee → List amenities such as benches, bike racks, trash bins, pedestrian lighting, street trees, etc. Ramond explained that the project team will add an option under question 5 that list better amenities such as benches, trash bins, street trees, pedestrian lighting, etc.
- Erlea Maldonado → Noted that 5g should be split into two options, one for education and one for enforcement. Ramond indicated that separating the combined option into two is doable.
- Lt. Patrick Burnett → Noted that personal safety option is too broad and should specify crime to be clearer. Recommends changing automobile traffic option to traffic volume/speed and personal safety option to fear of crime.

- Lisa Lee → Recommends changing the bad driver behavior option to distracted/aggressive driver behavior. Lt. Burnett recommends keeping bad driver behavior as an umbrella category. Ramond indicated that the project team will revise the bad driver behaviors options (3d, 4e) to add examples, such as distracted/aggressive driving.
- Andras Holzmann → Add definitions and/or pictures of some of the terms being used in the survey. Ramond explained that the project team will add a popup to question 8 that explains/show the technical terms being used.

4. Next steps (*Ramond Joseph, LPS*)

The next steps are as follows:

- Revise online Survey and Interactive Map for testing by working committee.
- Stakeholder Interviews
- Pedestrian Existing Conditions
- Community Input/Public Open House

The second portion of the meeting dealt with the demonstration project that E-Z ride was planning for the intersection of Montgomery St, Monroe St, and Gregory Ave in May. During the meeting, it was discovered that there is already a safe route to school grant for that intersection. Alternative intersections were discussed. A selection will be made in consultation with the city. The meeting adjourned at approximately 4:30 PM.

JUNE 5, 2023, AGENDA ITEMS

Item (Facilitator)

5. Welcome & Introductions (*Passaic City/LPS*)

The meeting took place virtually over MS Teams. Those in attendance were:

- City of Passaic:
 - Joseph (Joe) Buga –
 - Cindy Gomez – Recreation Department Rep.
 - Lissett Lopz – Recreation Department Rep.
 - Kathy Martin – Conf. Assistant to Mayor
 - Neglia Engineering Associates:
 - Yasseen Saad – Engineering Project Manager
- Passaic County:
 - Andras Holzmann – Planning Supervisor
- NJTPA:
 - Keith Hamas - Safety Planning

- EZ Ride TMA:
 - Lisa Lee – Deputy Director of Bicycle and Pedestrian Programs
- NJDCA Local Planning Services:
 - Ramond Joseph, Project Team Lead

A total of 9 people, including the LPS project team, were in attendance for this meeting. Ramond went over the agenda for the virtual public open house via a PowerPoint Presentation, including a live demonstration of the interactive map.

6. Working Committee Feedback (*Working Committee Members*)

Ramond provided an overview of the agenda for the virtual public open house. The agenda for the meeting is as follows:

- Plan Overview
 - Overview of Project
 - Interactive Mapping
- Breakout Stations
 - Bike Ped Programming (Lisa – EZ Ride)
 - Bicycle + Pedestrian Safety Toolbox (Ramond – LPS)
- Discuss
 - Breakout Station Reports
 - Plan Vision & Goals

EZ-Ride shared they have updates to the Street-Smart Campaign that they will be sharing with the city staff. The working committee members discussed potential dates for the virtual and in-person open house meetings. Both NJTPA and EZ-Ride shared logistical recommendations for the in-person pop-up public open house meetings.

7. Next steps (*Ramond Joseph, LPS*)

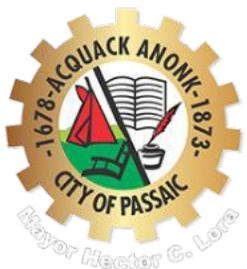
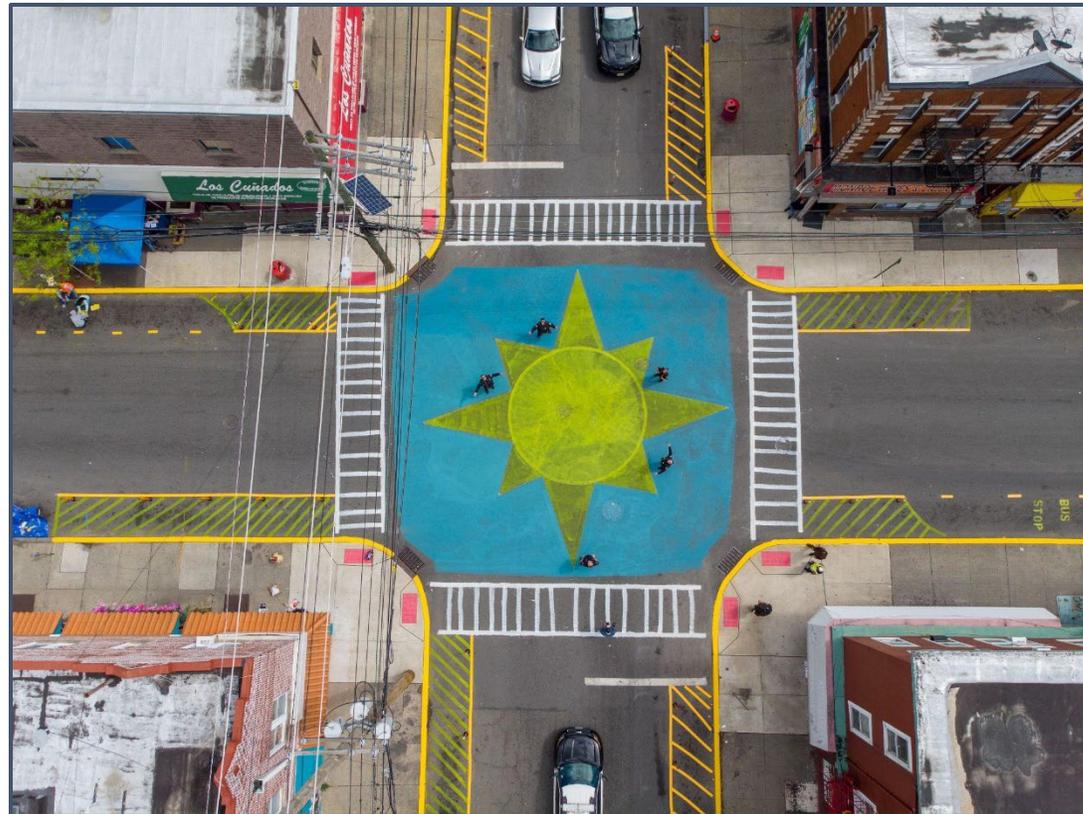
The next steps are as follows:

- Virtual Community Input/Public Open House – Mid-July.
- In-Person Public Open House – 4th of July Festival (June 30th – July 4th, Pulaski/Dundee Island Park) and/or Tuesday/Thursday: Movie/Concert Series at 3 Park Locations.
- In-Person Public Open House – National Night Out (2nd Tuesday/August 8th at Passaic City Hall).
- In-Person Public Open House – August Festival (August 16th-20 – Christopher Columbus Park) and/or Tuesday/Thursday: Movie/Concert Series at 3 Park Locations.

- In-Person Public Open House –September Festival (7th-10th (Third Ward Park) and/or Tuesday/Thursday: Movie/Concert Series at 3 Park Locations.

NJTPA shared that they have been working on a regional Active Transportation Plan will be ready for publication by June 30th, 2023. The meeting adjourned at approximately 4:15 PM.

Passaic Complete Streets Demonstration Project & Impact



Passaic Demonstration Project

The Situation in Passaic

Crash Data

- 461 pedestrian & cyclist crashes (2018-20) in Passaic.
- 4 ped. crashes, 4 cyclist crashes, 48 car crashes at Hope Ave. & Monroe St. Jan. 2020 to date.
- No fatalities.

Action Plan

EZ Ride started a partnership with the City and School District in 2016 to improve Bike & Pedestrian safety using Safe Routes to School activities. We established an action plan with goals:

- **Conduct safety education for students & residents.**
- **Assist the City with audits and demonstration projects to identify needed improvements.**
- **Encourage District to adopt SRTS policy and get schools involved in SRTS program.**

- **Encourage City to adopt and implement Complete Streets Policy**
- **Help secure federal grants for infrastructure improvements to improve safety.**

Passaic Demonstration Project

Complete Streets Project Background

- Partner with Passaic to install a temporary art-based demonstration project.
- Intersection of Hope Avenue & Monroe Street
- Use paint to make the intersection safer.
 - Striped high visibility crosswalks to alert drivers to presence of pedestrians.
 - Painted curb extensions to shorten crosswalks, prevent parking, and help drivers see pedestrians waiting to cross.
 - Intersection mural to slow drivers, promote community aesthetics.

Passaic Demonstration Project

Project Description & Goals

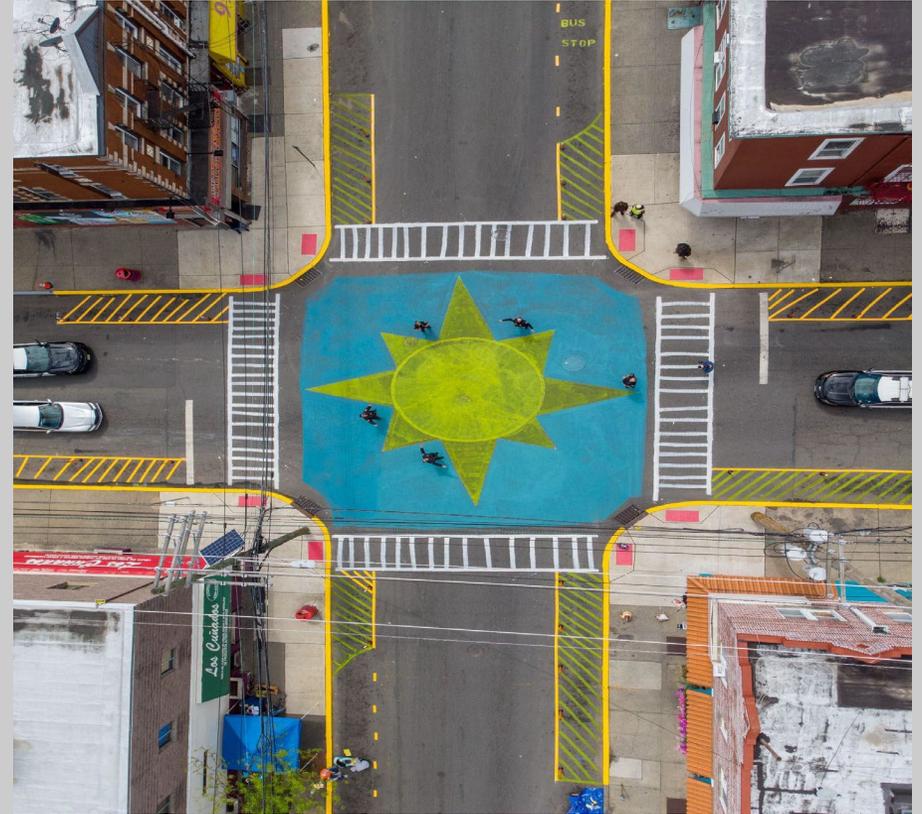
- **Date:**
 - **May 1, 2023, 9:30 am - 4:30 pm**
- **Purpose:**
 - **Demonstrate how intersection can be safer for vulnerable road users as part of Bike & Pedestrian Plan**
 - **Collect community input**
 - **If feedback is positive, make the mural permanent**
- **Partners**
 - **EZ Ride, City of Passaic, Passaic Police**



**Police Department, Passaic DPW, NJ DCA - Planning
Division, NJTPA**

Passaic Demonstration Project

Intersection Before and After



Passaic Demonstration Project

Intersection Project Plans



- **Passaic Traffic Police suggested three intersections**
- **EZ Ride proposed designs for each intersection**
- **City selected one design & intersection**
- **EZ Ride used materials from NJTPA demonstration library**
- **Police and DPW closed down intersection on May 1**
- **EZ Ride brought materials and equipment and installed the project**

Passaic Demonstration Project

Promotion & Photos

- Flyers
- City Website
- Social Media Posts (2)
- Media Advisory & Press Release
- Mayor live-streamed event on Facebook/Instagram
- Schools promoted
- Drone photography

Hope & Safety for City of Passaic

We would like your feedback on the temporary mural and other improvements installed at the Intersection of Hope Ave and Monroe St.

The purpose of this installation is to improve safety and add art to the community

If these improvements are successful, they could be made permanent, and similar installations could be added at other intersections in Passaic.

Hope Ave & Monroe St Complete Streets Pilot Project

Benefits

- Mural and crosswalks slow down drivers
- Curb extensions shorten crosswalks and prevent illegal parking that obstructs driver and pedestrian view
- Street art develops community pride

Project Features

- Intersection mural
- High visibility crosswalks
- Painted Curb Extensions
- Delineators at edge of curb extensions
- Painted Bus Stop

Project materials provided by NJTPA & EZ Ride

We want to get your input on the improvements! Scan the code or click this link: <https://bit.ly/3Hrbk7Z>

Esperanza y Seguridad Ciudad de Passaic

Nos gustaría conocer su opinión acerca del proyecto mural temporal y medidas de seguridad que se instalarán en la intersección de Monroe St. & Hope Ave.

El propósito de este proyecto es mejorar la seguridad y añadir arte a la comunidad.

Si el proyecto tiene éxito se podrá extender y hacerse permanentes en otras intersecciones en la ciudad.

Monroe St. & Hope Ave Complete Streets Proyecto Piloto

Beneficios

- El mural y los pasos de peatones reducirán la velocidad de los conductores
- Las pinturas de extensiones en las aceras acortan los pasos de peatones y evitan paraderos ilegales que obstruyen la visión de conductores y peatones
- El arte anunciará el orgullo de la comunidad

Características del Proyecto

- Mural en intersección
- Cruces peatonales de alta visibilidad
- Extensiones y pintados en los bordes de las aceras
- Delineadores a lo largo de la extensión de la acera
- Parada de autobús pintada

Los materiales para proyecto serán proporcionados por NJTPA & EZ Ride

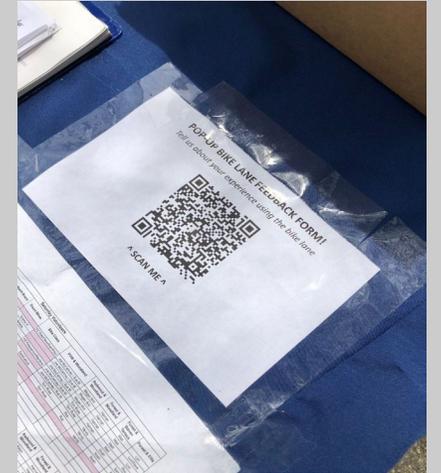
Queremos conocer tu opinión sobre las mejoras. Escanea el código: o haga clic en este link: bit.ly/3AlBb8M

Passaic Demonstration Project

Evaluation Methodology

Feedback was collected online using a QR code surveys and on-site

1. Age of participants (child & adult)
2. Mural Satisfaction
3. Intersection Safety
4. Other locations for improvements
5. Participant comments



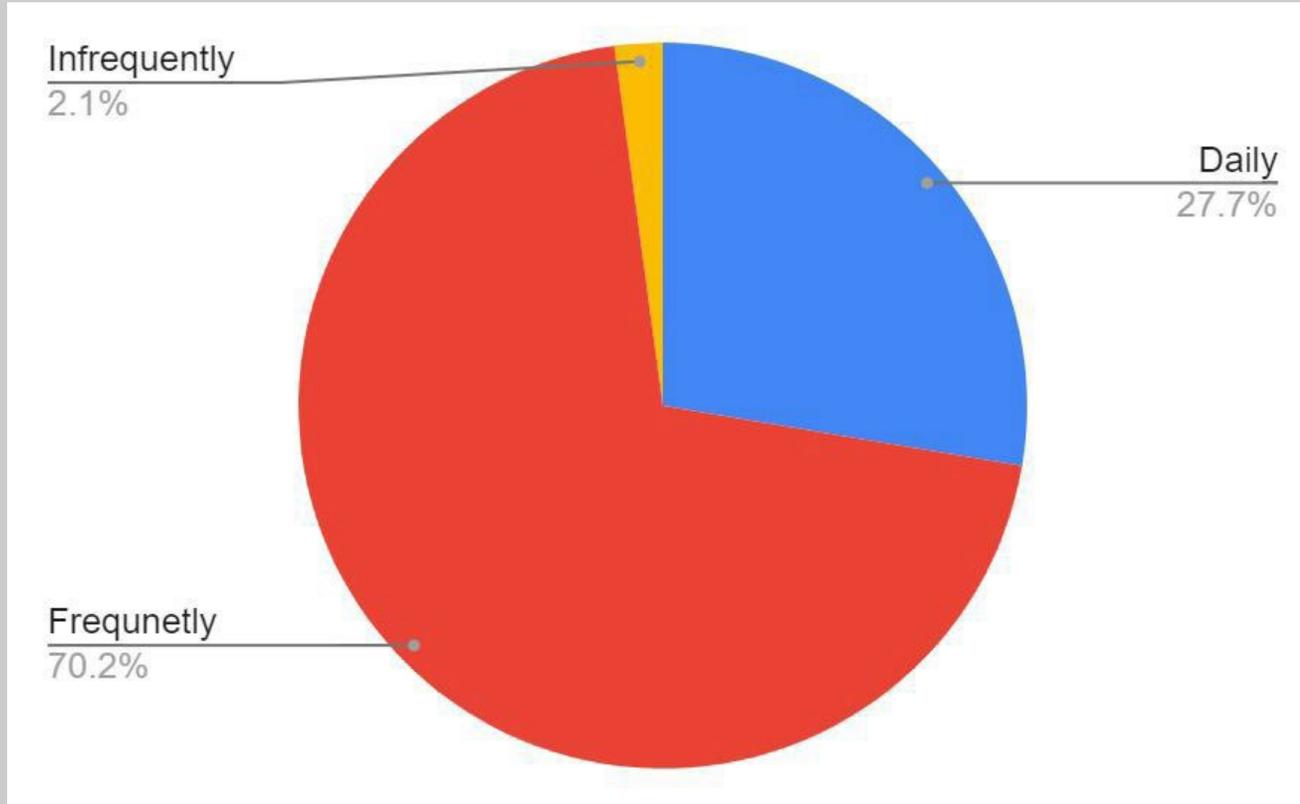
Passaic Demonstration Project

Evaluation from Community Participants



Passaic Demonstration Project Feedback

Frequency of Travel Through Intersection

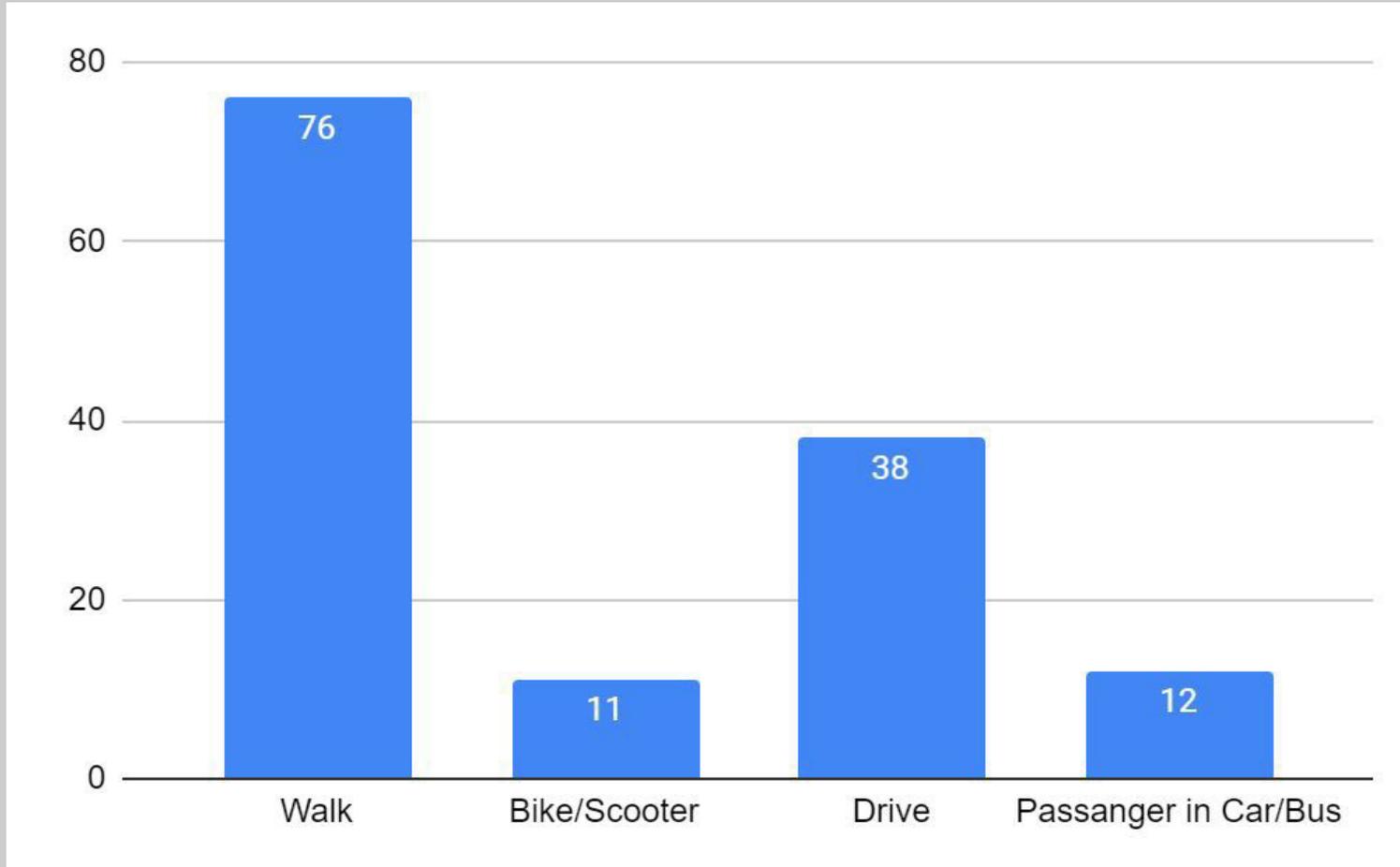


97.9% (92) of participants travel through the intersection daily or frequently

- **27.7% (26) daily**
- **70.2% (66) frequently**

Passaic Demonstration Project Feedback

Mode of Transportation Used At Intersection



Most common mode of transportation:

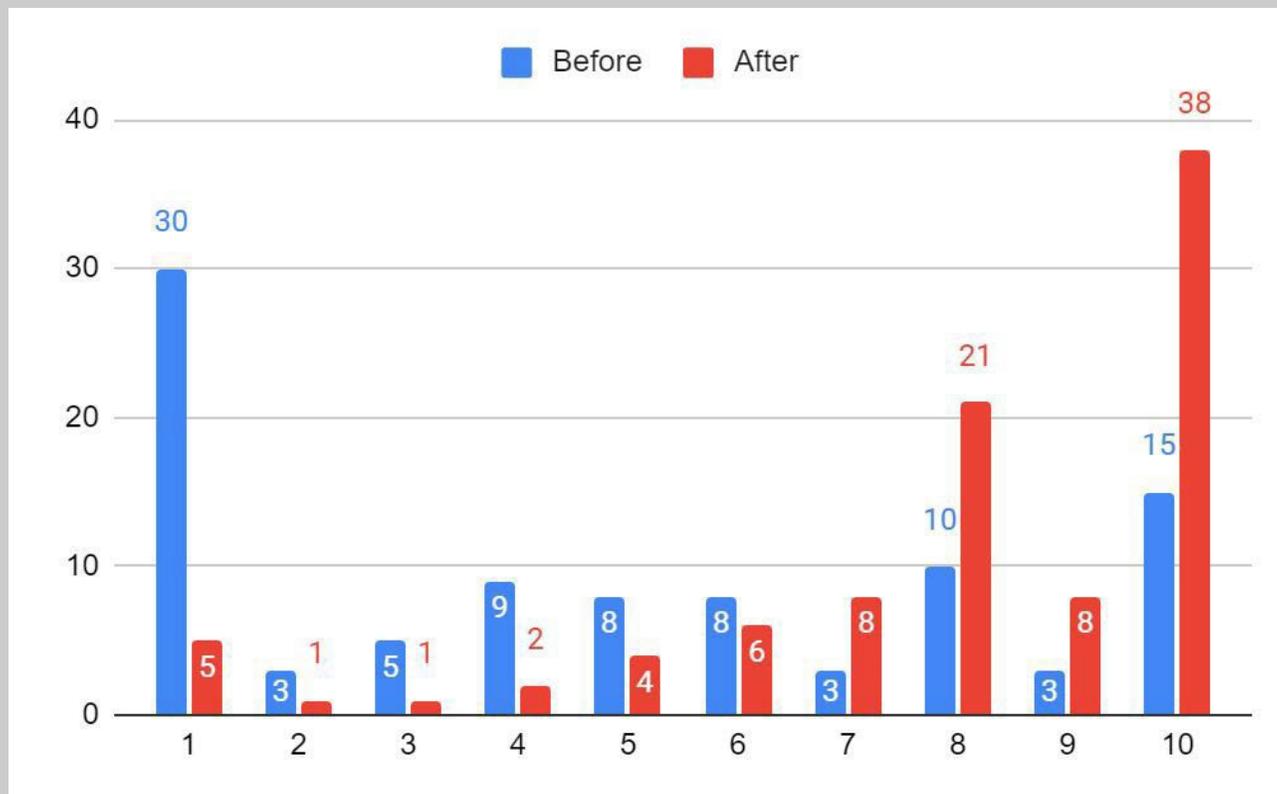
- **Walking: 76 (55.5%)**
- **Driving: 38 (27.7%)**
- **Passenger: 12 (8.8%)**
- **Bike/Scooter: 11 (8%)**

produced 137 responses

Passaic Demonstration Project Feedback

Rate the Safety of the Intersection

How Safe Does This Intersection Feel Before and After Project?



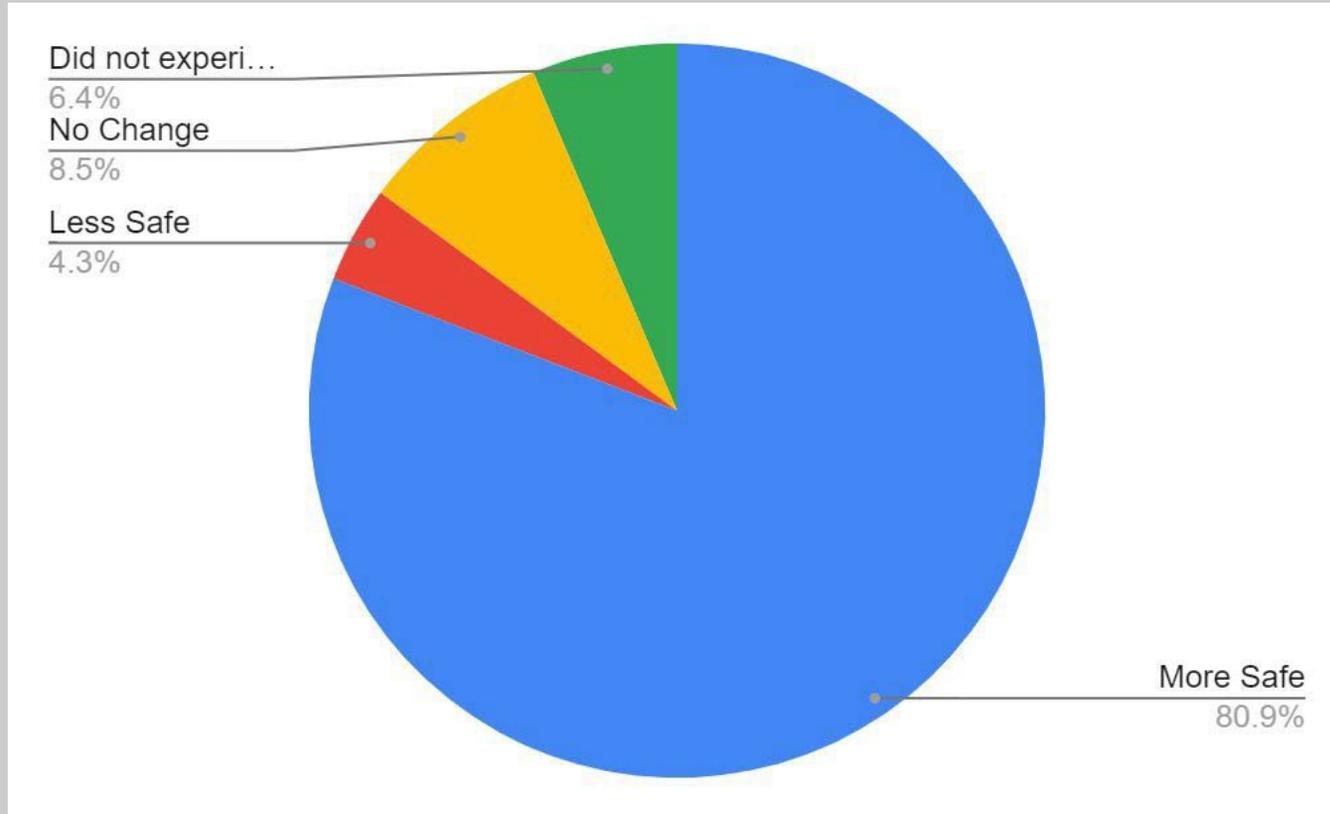
1= Not Very Safe, and 10 = Very Safe

Survey results suggest the intersection mural generally made survey participants feel safer

Passaic Demonstration Project Feedback

Intersection Safety

Do Changes Make You Feel More or Less Safe?



- **More Safe: 80.9% (76)**
- **Less Safe: 4.3% (4)**
- **No Change: 8.5% (8)**
- **Not Present: 6.4% (6)**

Passaic Demonstration Project Feedback

Comments on Intersection Changes

Comments from the online survey:

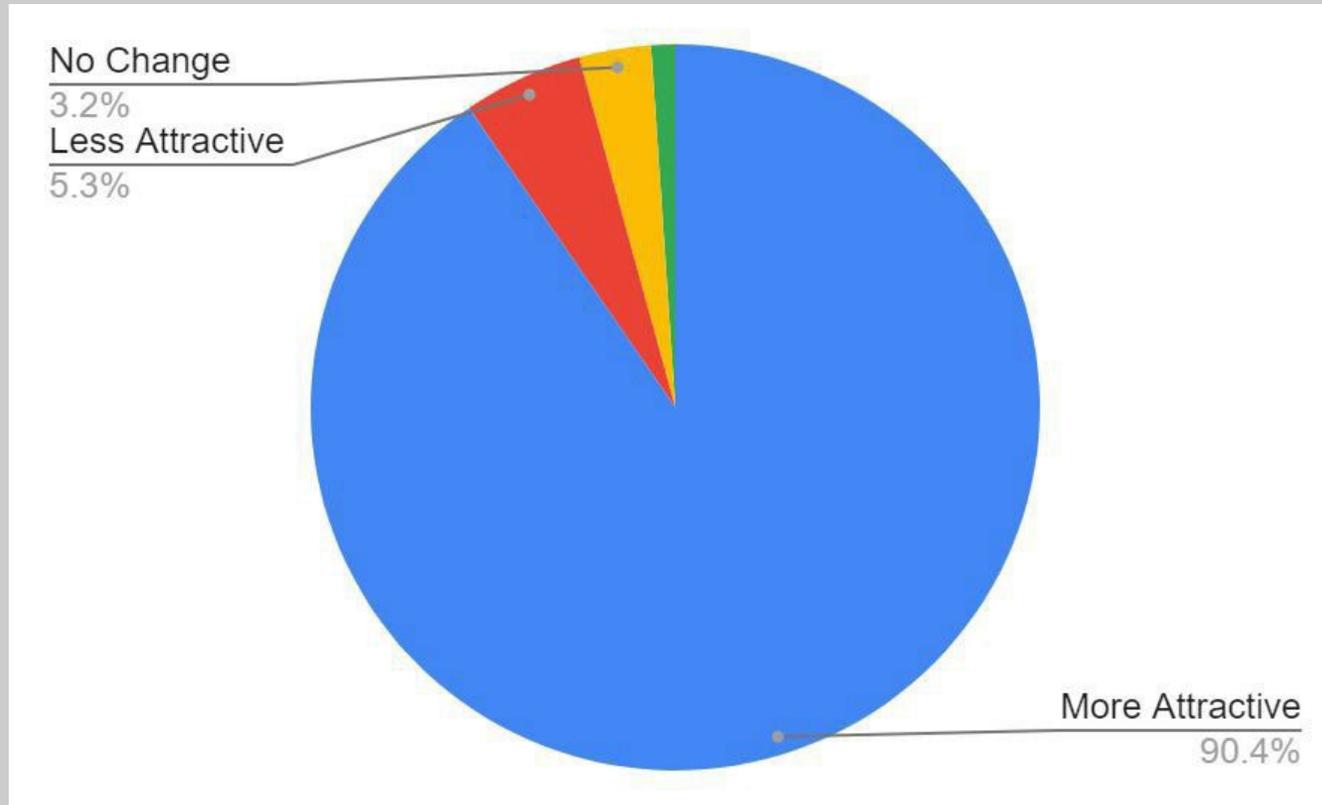
- **“Visible striping on street may help to slow cars”**
- **“You are able to see more without cars parked on corners”**
- **“Improvement in visibility when making turns.”**
- **“It allows drivers to slow down”**
- **“There is more focus on the intersection due to the new, unusual painting”**
- **“It is an amazing idea and makes Passaic look beautiful!”**



Passaic Demonstration Project Feedback

Project Satisfaction

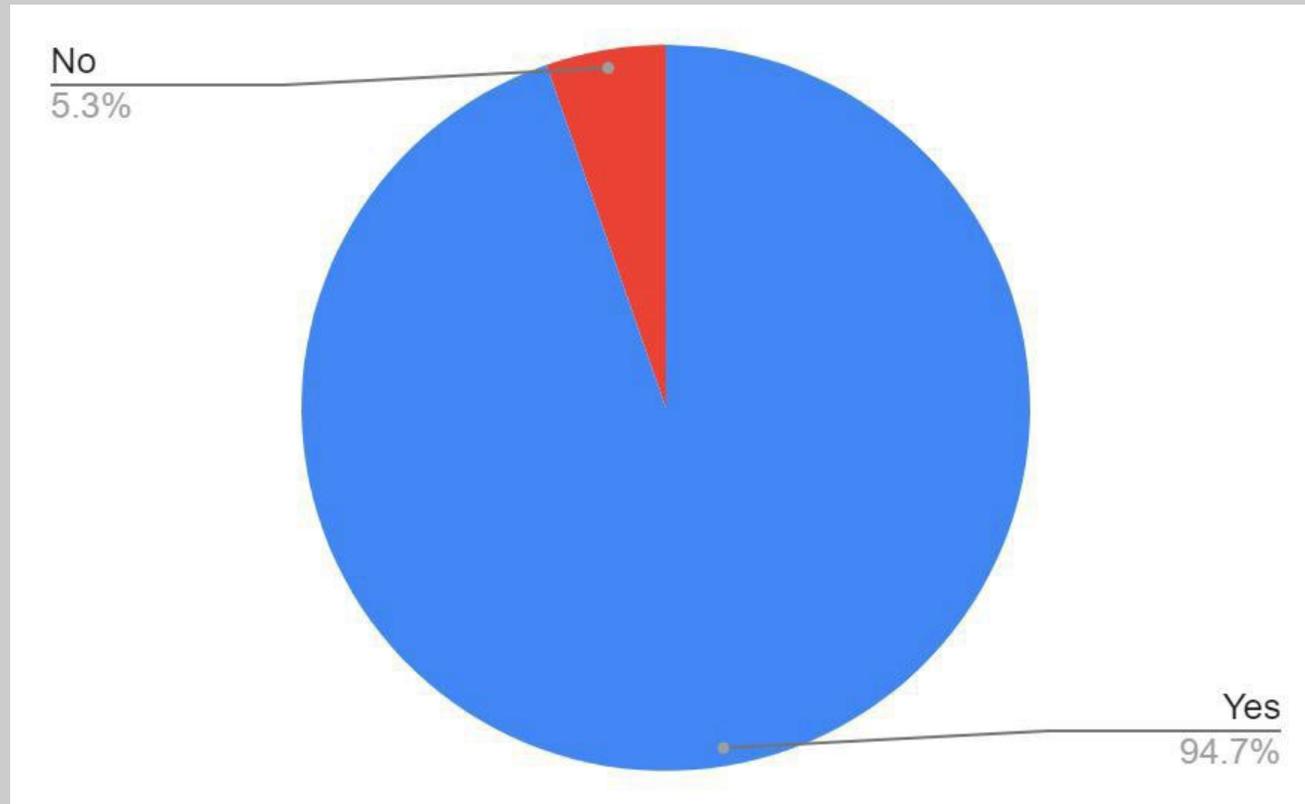
Are the Changes More or Less Attractive?



- **More Attractive: 90.4% (85)**
- **Less Attractive: 5.3% (5)**
- **No Change: 3.2% (3)**
- **Did not experience: 1% (1)**

Passaic Demonstration Project Feedback

Should the Project Be Permanent?



- **Yes: 94.7% (89)**
- **No: 5.3% (5)**

Passaic Demonstration Project Feedback

Why Should the Project Be Permanent?

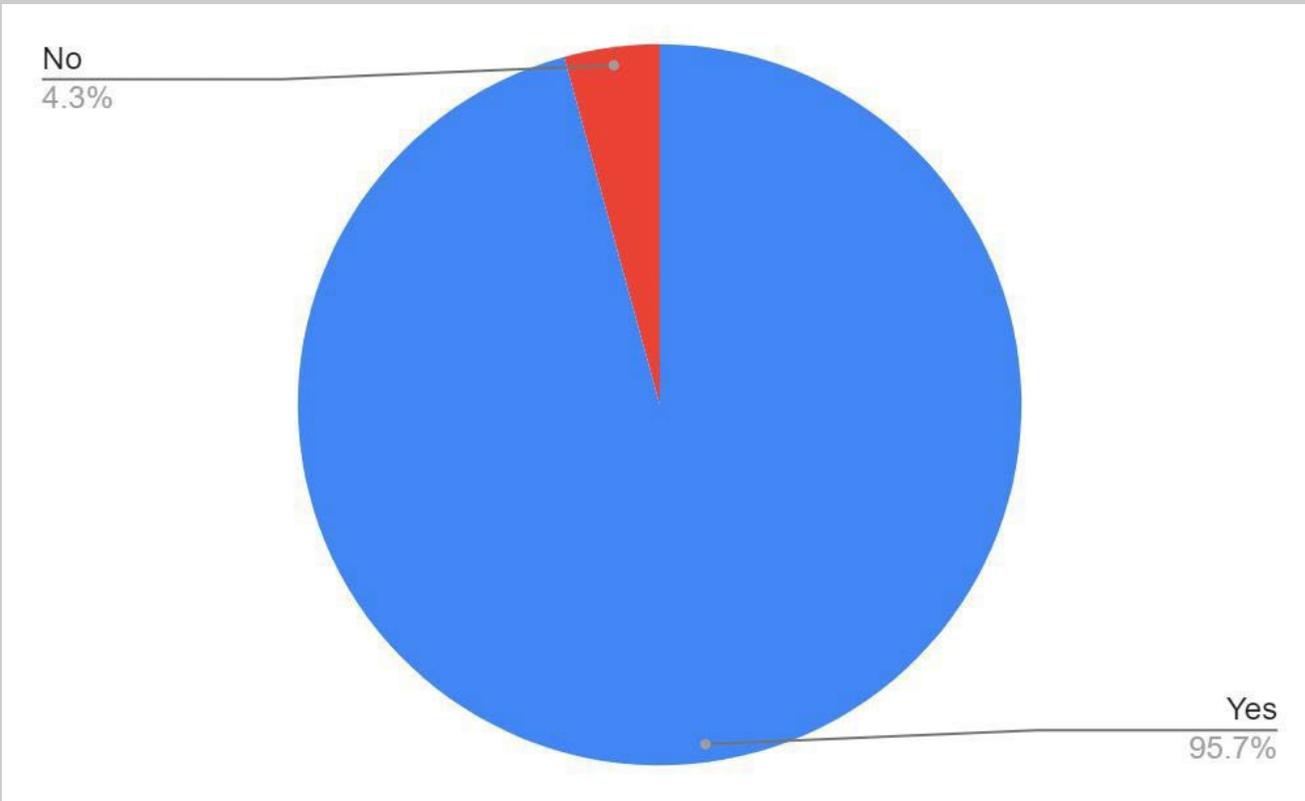
Comments from Online Survey:

- “It can make Monroe Street more safe”
- “Curb appeal and a must need for safety”
- “It makes us safer”
- “It’s more helpful for others around”
- “Show us where to drive/walk”
- “Something like this would be useful to everyone in our city and make it look great”
- “It makes it look more welcoming”
- “Beautiful sun design”
- “I love it”



Passaic Demonstration Project Feedback

Should Similar Projects Be Installed at Other Locations?



- **Yes: 95% (90)**

- **No: 4.3% (4)**

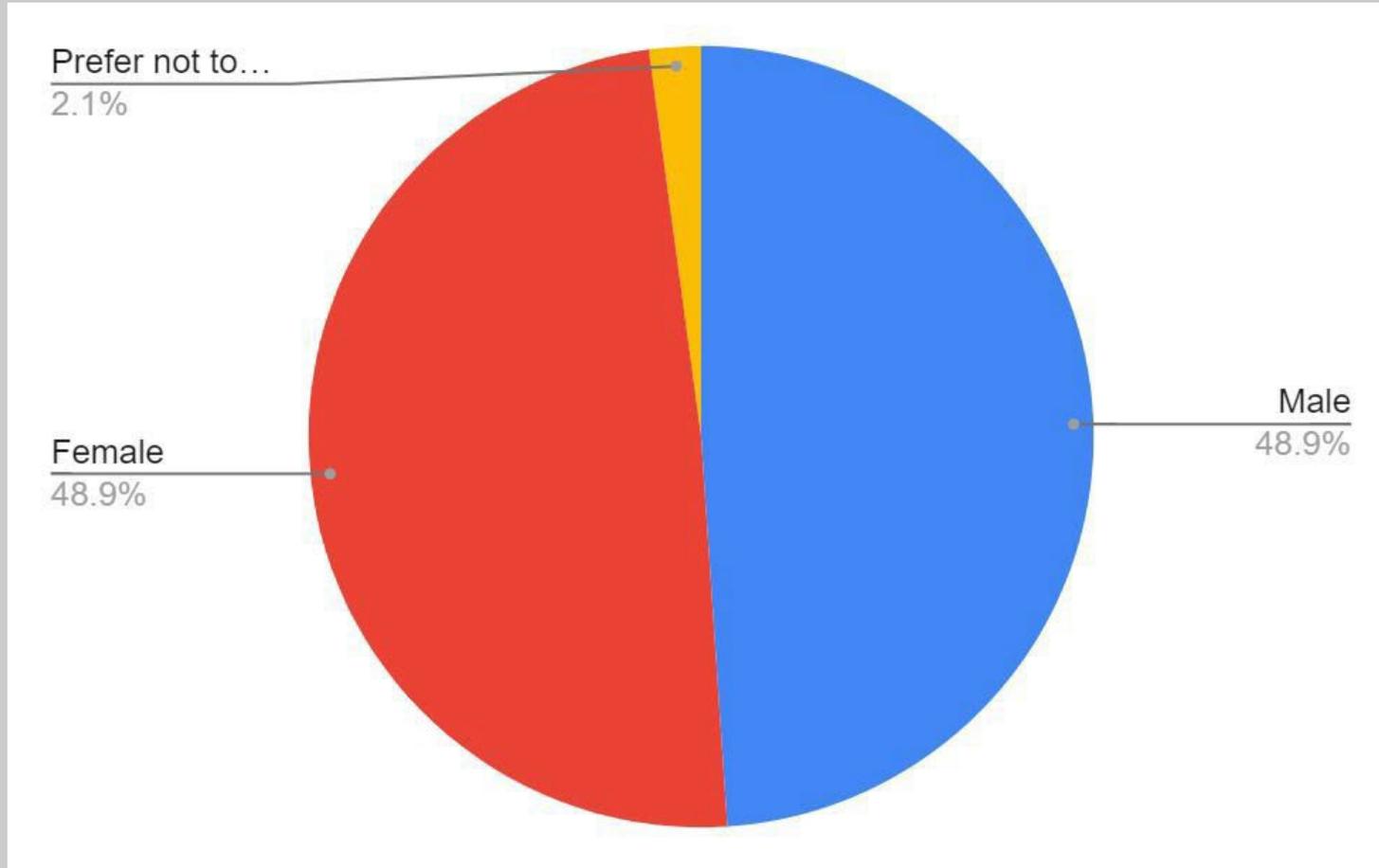
Passaic Demonstration Project Feedback

Where Else Can Complete Streets Help?

- **Main Avenue (& Monroe): 8**
- **Columbia Ave & Monroe St: 3**
- **Lexington & Monroe: 3**
- **President & Parker Ave: 2**
- **Passaic St. (& State St.): 2**
- **Hope & Harrison: 2**
- **First & Jefferson: 1**
- **Meade & Gregory: 1**
- **Market Street: 1**
- **By schools & parks: 4**

Passaic Demonstration Project Feedback

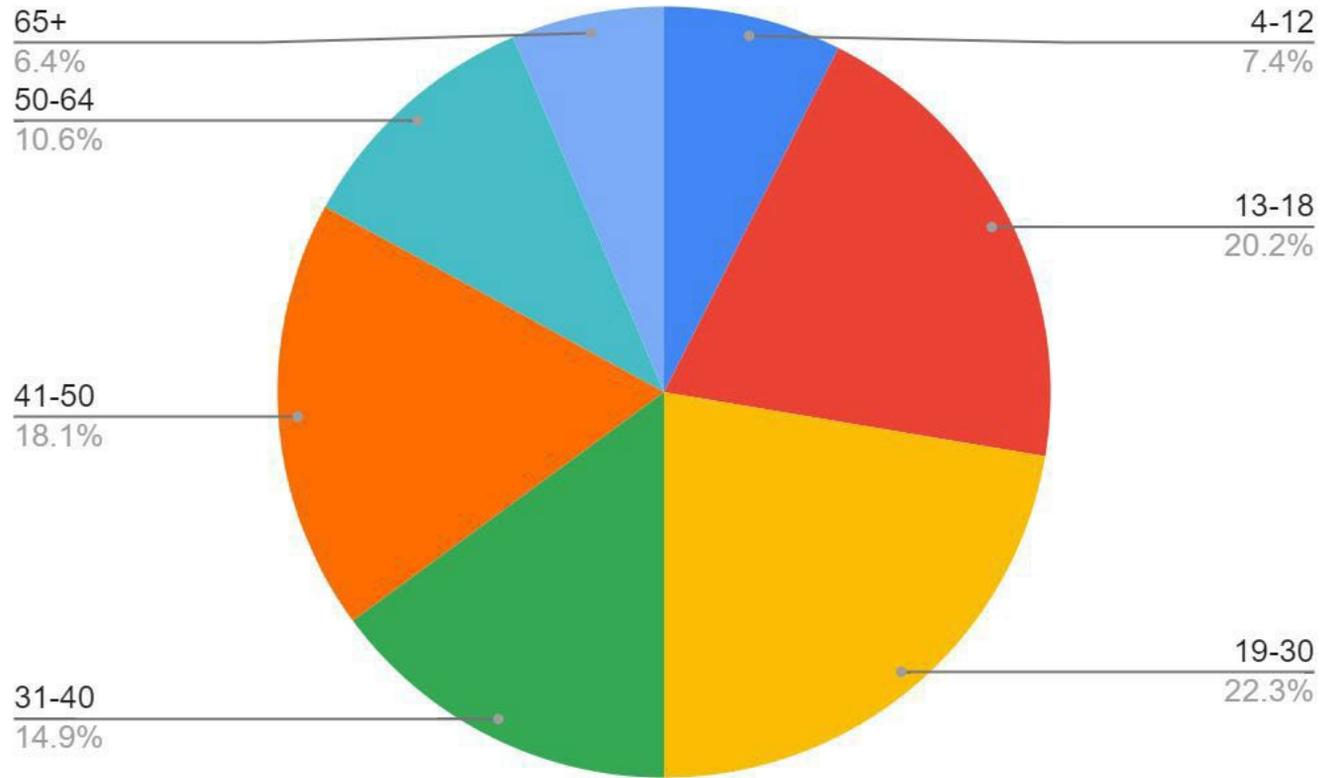
Gender



- The number of males and females surveyed was 46 each
- 2.1% (2) didn't indicate gender

Passaic Demonstration Project Feedback

Participant Ages

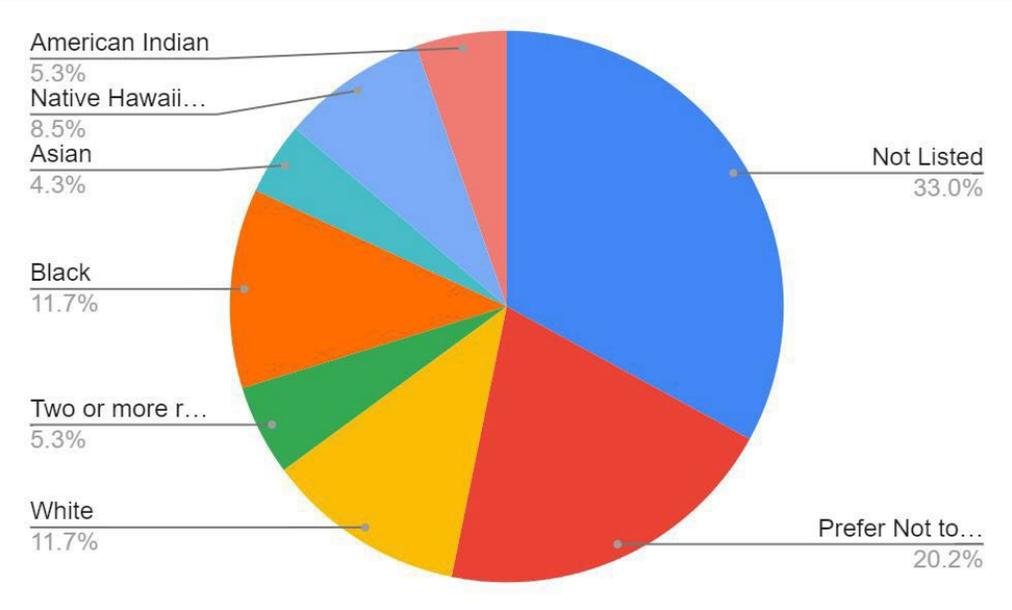


- **Largest group: age 19- 30, 22.3% (21)**
- **Second largest group: age 13- 18, 20.2% (19)**
- **Third largest group: age 41- 50, 18.1% (17)**

Passaic Demonstration Project Feedback

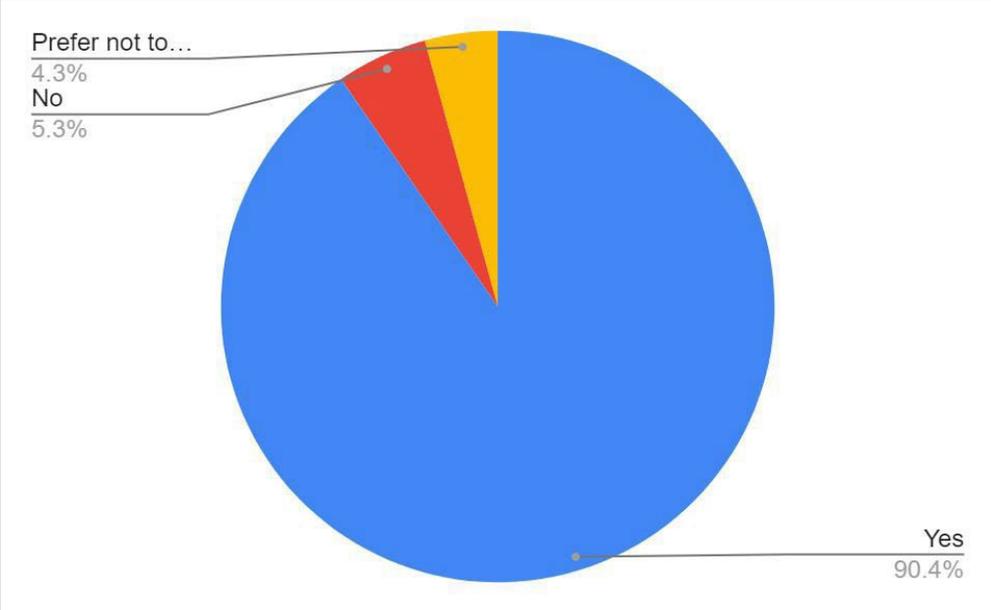
Racial/Ethnic Background

Racial Background



53.2% (50) of participants did not list racial background

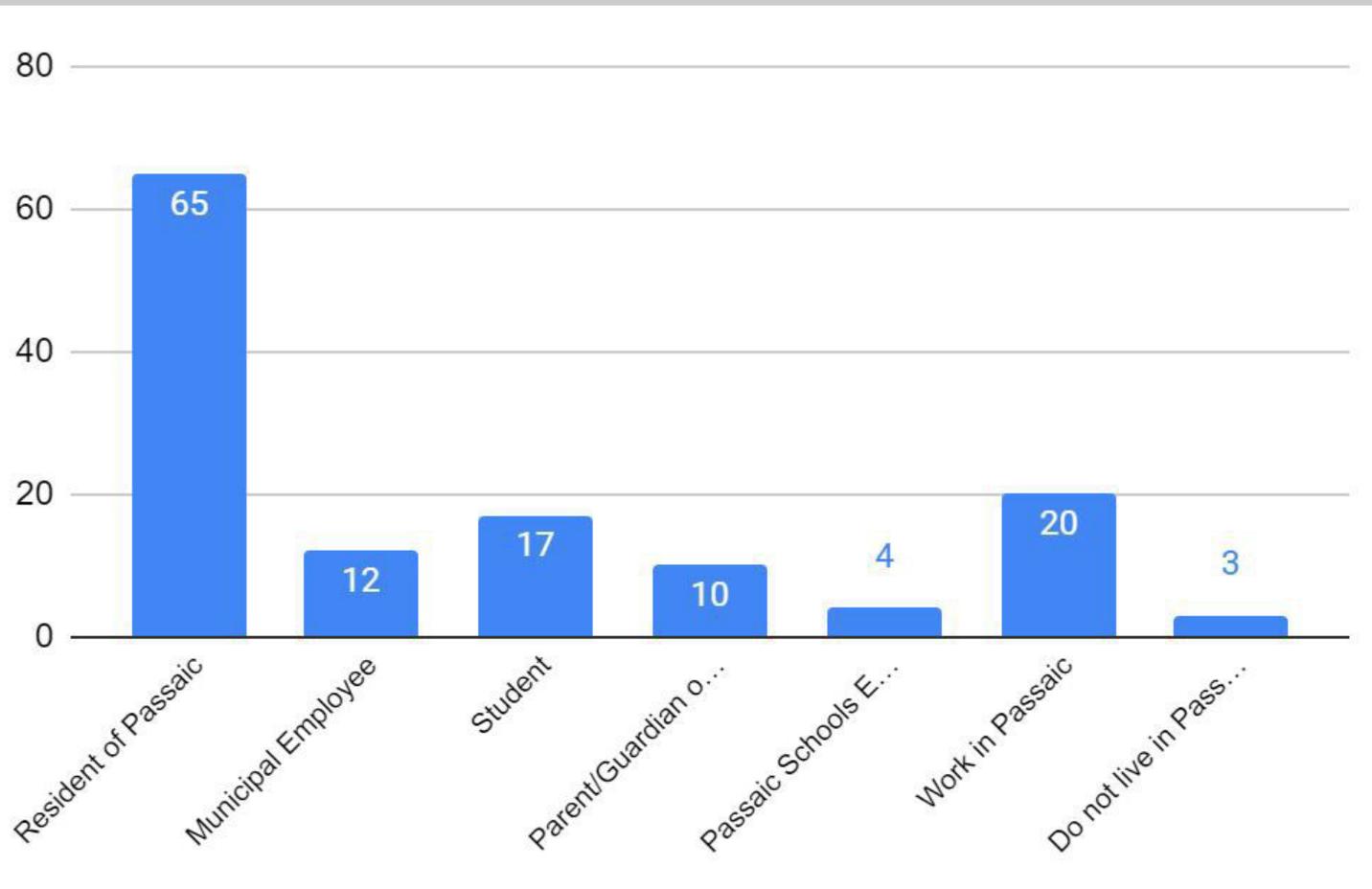
Hispanic or Latino



More than 90% (85) of participants identify as Hispanic or Latino

Passaic Demonstration Project Feedback

Residency and Occupation



- **Most participants are residents: 65**
- **Work and/or own a business in Passaic: 20**
- **Students: 17**

survey participants
produced 131 responses

Recommendations



Infrastructure

- **Install high visibility crosswalks, curb extensions and delineators to prevent parking at corners and increase pedestrian and motorist visibility**
- **Install flashing solar-powered stop signs - two or four way which are more affordable than traffic signals. Pedestrian-activated solar-powered rectangular rapid flashing beacons are also a good affordable solution**
- **Consider raised crossings, built curb extensions and signals if funds are available**
- **Aim to do a six-month demo to collect more data post installation**

Education and Encouragement

- **Continue work with schools and community education**

Evaluation

- **Post-observations and community surveys**
- **Conduct post-speed study and assess crash data**

Next Steps

- **ST: Create/share report/case study**
- **ST: Pursue grant to make the design permanent**
- **Mid-Term: Install another CS demo in Passaic**
- **Mid-Term: Pass a Complete Streets Ordinance**
- **LT: Make the mural permanent**
- **LT: More CS Projects (at intersections)**

Lessons Learned

- **Wait for good weather conditions to paint**
 - **More promotion in City**
 - **Police and DPW essential to close streets and prepare intersection**
 - **Extra broomsticks for rollers**
-



Project Contributors:

EZ Ride

Lisa Lee, Mike Johnson, Erlea Maldonado, Adam Iaccheo, & Jensy Jimenez

DCA

Raymond Joseph & Melania Verzbickis

City of Passaic

Hector Lora, Mayor

Rick Fernandez, City Administrator

Kathy Martin & Renee Nunez, Mayor's
Office

Lt. Patrick Burnett,
Police Joe Buga, City of
Passaic UEZ Passaic
DPW

NJTPA

Provided materials library

Thank You!

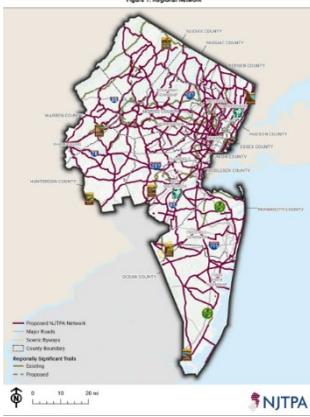
**EZ Ride Bike &
Pedestrian Program
info@ezride.org, 201-
939-4242 ext. 3**

<https://ezride.org/transportation/bike-pedestrian-program/>



APPENDIX B: PLANNING DOCUMENT REVIEW

Regional Active Transportation Network Recommendation (2023)



This report outlines a conceptual network of active transportation routes for the North Jersey Transportation Planning Authority (NJTPA) region. The goal is to create a safe, functional, and connected system for walking and biking throughout the region, serving local and regional trips.

Key Considerations:

- The network prioritizes connections between population centers, transit stations, and regional destinations.
- It considers both existing infrastructure and potential improvements to create a seamless network.
- The recommendations are designed to be adaptable to future development and local needs.

Network Development:

- The document details the process used to develop the network, including data analysis, public input, and consideration of existing trails and roadways.
- Roadway types prioritized for the network include high-volume roads with shoulders, lower-volume roads with signage, and separated bike lanes or paths.
- Local roads are also seen as important for connecting to the regional network, and future improvements are encouraged.

Network Benefits:

- The proposed network would significantly expand active transportation opportunities in North Jersey.
- It would improve connectivity between communities and destinations, promoting walking and cycling for utilitarian trips and recreation.
- The network is designed to be accessible for people of all ages and abilities.

Next Steps:

- The NJTPA will work with local jurisdictions to implement the network recommendations.
- This will involve identifying suitable facilities, securing funding, and prioritizing projects.
- The NJTPA will also continue to monitor and update the network as needed.

Overall, the 2023 Regional Active Transportation Network Recommendation report represents a significant step towards creating a more walkable and bikeable North Jersey. By prioritizing connectivity, safety, and accessibility, the proposed network has the potential to improve public health, reduce traffic congestion, and enhance the overall quality of life in the region.

BIKEPassaicCounty: Passaic County Bicycle Master Plan (06/30/2022)

Vision and Goals

BIKEPassaicCounty serves as a guide to develop a comprehensive, county-wide multimodal mobility network that prioritizes safety, equity, and access for people of all ages and abilities. The plan outlines a vision for a bicycle network that connects destinations throughout Passaic County, encouraging increased ridership and promoting a healthier, more sustainable community.

Key Findings



- Existing Conditions: Passaic County currently has a limited bicycle network, with only 14.4 miles of existing facilities. Traffic congestion, high-speed traffic volumes, and a lack of separated bike lanes are cited as major barriers to cycling.
- Equity and Environmental Justice: The plan emphasizes equitable distribution of bicycle facilities throughout the county, ensuring all residents have safe and convenient cycling options regardless of background or income.

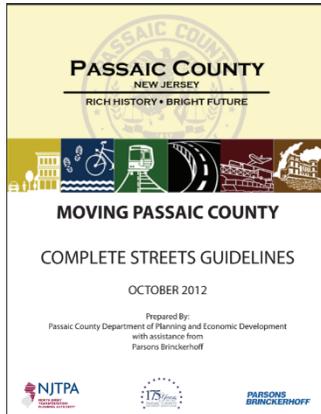
Plan Recommendations

- Proposed Network: The plan proposes a 311-mile countywide bicycle network with a variety of on-street and off-street facilities tailored to different roadway types. This network prioritizes separated bike lanes and paths for safety and encourages connections between key destinations.

- **Implementation Strategies:** The plan recommends a multi-pronged approach for implementation, including design guidance, collaboration with municipalities, public outreach, and grant applications. An implementation committee is proposed to oversee the plan's progress and secure funding for construction.

Overall, BIKEPassaicCounty offers a strategic vision to transform Passaic County into a bicycle-friendly community. By prioritizing safety, equity, and connectivity, the plan aims to create a more sustainable and healthy transportation network for all residents.

Moving Passaic County: Complete Streets Guidelines (2012)



This 2012 document outlines Passaic County's approach to creating "Complete Streets," which are designed to be safe and accessible for all users, including pedestrians, cyclists, motorists, public transportation riders, and people with disabilities.

Key Points:

- **Goal:** Transform Passaic County's transportation network to prioritize safety, accessibility, and a variety of travel options.
- **Benefits:** Improved safety for all users, increased connectivity, economic development, and a more livable environment.
- **Implementation:** Integrates Complete Streets principles into all planning and design projects on County roadways.
- **Prioritization:** Considers factors like land use, existing traffic patterns, and potential benefits for various user groups.
- **Flexibility:** Encourages a flexible approach, adapting guidelines to specific project needs while maintaining core Complete Street principles.

Guidelines and Considerations:

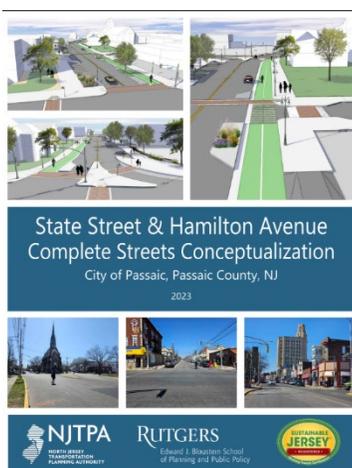
- **Pedestrians:** Sidewalks, crosswalks, pedestrian signals, and accessible pathways.
- **Bicycles:** Bike lanes, shared lanes, separated bike facilities, and secure bike parking.
- **Public Transportation:** Bus stops, shelters, improved signage, and connections to other transportation modes.
- **Motor Vehicles:** Maintaining traffic flow while considering other users' needs.
- **Context-Sensitive Design:** Tailoring improvements to the specific character of a street and surrounding area.
- **Safety:** Prioritizing safety for all users through design elements and traffic calming measures.
- **Accessibility:** Ensuring everyone can access and use the street network, regardless of ability.

Additional Information:

- The document references the New Jersey Department of Transportation's (NJDOT) Complete Streets policy and design guidance.
- It emphasizes the importance of involving the public in the planning process.
- A checklist is included to help project designers incorporate Complete Streets principles.

Overall, the "Moving Passaic County: Complete Streets Guidelines" is a valuable resource for promoting safe, accessible, and multimodal transportation throughout Passaic County.

State Street and Hamilton Avenue Complete Streets Conceptualization



The 2023 Passaic State St Concept Report outlines a plan to redesign the State Street and Hamilton Avenue corridor in Passaic, New Jersey, to create a greener and more complete street. The project is a collaboration between the City of Passaic and the North Jersey Transportation Planning Authority (NJTPA).

The corridor currently lacks features that would make it safe and accessible for pedestrians and cyclists. The report details the benefits of Complete Streets, including improved public health, economic vitality, and transportation equity. It also highlights that New Jersey is a leader in the Complete Streets movement, and that many communities throughout the state have adopted Complete Streets policies.

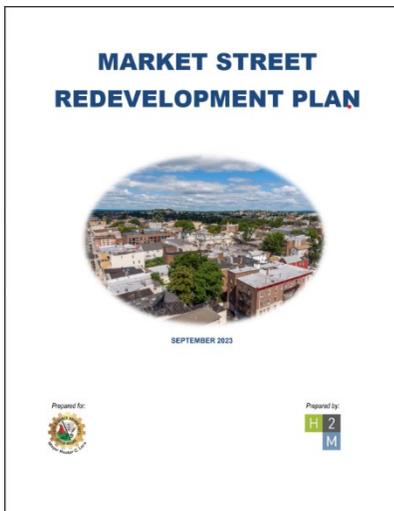
The document outlines the existing conditions on the corridor, including traffic volumes, crash history, and bicycle infrastructure. The existing conditions data was used to inform the development of three conceptual designs for the corridor. The preferred concept includes wider sidewalks, angled parking, and a protected two-way bicycle path along the entire corridor.

The report concludes by recommending that the City of Passaic adopt a Complete Streets

ordinance and consider conducting a demonstration project to test the proposed redesign. The appendices include potential funding resources and recommended design guides.

Market Street Redevelopment Plan

The Market Street Redevelopment Plan has been prepared for the Market Street Area in Need of Rehabilitation within the City of Passaic, Passaic County, New Jersey.

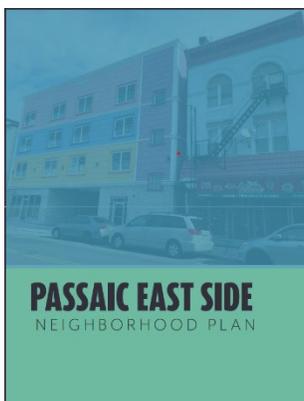


The redevelopment plan area encompasses approximately 294 non-contiguous parcels located in an area that is generally bounded by 1st Street to the west, South Street to the south, New Jersey Route 21 to the north, and the Passaic River to the east.

The plan outlines the development regulations and other standards to guide the redevelopment of the area. The redevelopment area is situated on the opposite side of Route 21 from the City’s downtown area along Main Street and acts as a secondary commercial and mixed-use area for the city. The Passaic City Council determined on July 21, 2020, by Resolution 20-07-208 that these properties qualified as an “area in need of rehabilitation” in accordance with the criteria specified in the New Jersey Local Redevelopment and Housing Law (LRHL) at N.J.S.A. 40A:12A-14.

This plan serves as a catalyst for further investment that will benefit the city and its residents. The recent public investments into this area, such as the recently completed creation of Dundee Island Park, as well as redevelopment and rehabilitation of private properties in this area present an opportunity for the City to proactively plan for further investment.

The Passaic East Side Neighborhood Plan



The Passaic East Side Neighborhood Plan is a revitalization effort completed in 2022 and led by the Boys & Girls Club of Paterson and Passaic and their partner, Paterson Habitat for Humanity. The plan identifies the neighborhood’s assets, describes its needs, and outlines a vision for the future.

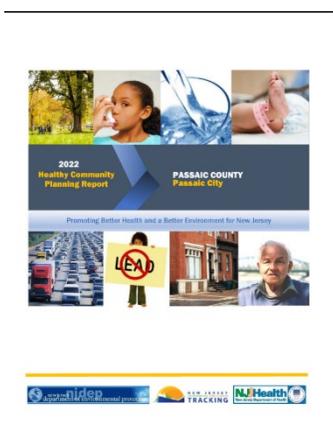
The Eastside Neighborhood is a historic area that has served as a launching pad for numerous families, businesses, and waves of immigrants. The neighborhood has experienced some tough times, but it also has a strong and resilient community. In recent years, the neighborhood has benefited from private, local, state, and federal investment. This investment has helped to improve the neighborhood’s safety, building conditions, housing, and overall attractiveness.

The Boys & Girls Club of Paterson and Passaic has a long history of serving the Eastside Neighborhood. The Club offers after-school and summer academic, athletic, and artistic programming for children and young people. The Club’s redevelopment work will be overseen by its Chief Executive Officer, Wendy McGuire.

The plan outlines a three-pronged approach to revitalization: creating a vibrant and connected mixed-use neighborhood; improving the neighborhood’s schools and educational opportunities; and creating a safe and healthy environment. The plan also identifies a number of strategies and activities that will be undertaken to achieve these goals. These include improving the streetscapes, creating new parks and green spaces, and promoting business development.

The Passaic East Side Neighborhood Plan is a comprehensive and ambitious plan that has the potential to transform the Eastside Neighborhood into a thriving and sustainable community.

2022 Healthy Community Planning Report



The 2022 Community Planning Report for Passaic City, New Jersey, provides a snapshot of the city's health and environmental data. It compares Passaic City's data with Passaic County and New Jersey overall. The report is designed to help community members understand potential areas for improvement.

Demographics

- Passaic City has a higher poverty rate (52.8%) than Passaic County (22.1%) and New Jersey (10.0%).
- The majority of Passaic City residents are minorities (84.4%).
- A significant number of residents lack health insurance (24.1%).

Environment

- Passaic City's air quality index (AQI) is better than the county and state averages. There were 5.5 days with an AQI above 100 over a three-year period.
- The report found no private wells tested that exceeded primary standards for drinking water.
- Most of the land area (85.7%) has a designated use that is not supported, likely due to surface water quality issues.
- Passaic City has a higher percentage of pre-1950 housing compared to Passaic County and New Jersey.

Public Health

- The childhood blood lead testing rate in Passaic City is lower than the county and state averages.
- Asthma rates in Passaic City are higher than the state average.
- Heart disease death rates in Passaic City are higher than the state average.
- Smoking rates in Passaic City are higher than the county and state averages.
- Obesity rates in Passaic City are higher than the county and state averages.

Limitations

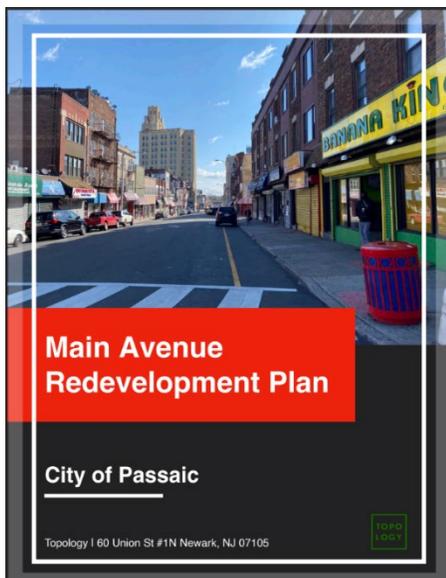
The report acknowledges that there may be a time lag between when data is collected and when it is published. Additionally, the indicators used in the report may not capture all potential environmental health issues.

Main Avenue Local Concept Development Study

The Main Avenue Local Concept Development Study, concluded in 2021, was a collaborative effort between Passaic County and the City of Passaic, with financial backing from the NJTPA's Local Capital Project Delivery Program. Focused on the stretch from Monroe Street to Gregory Street, the study aimed to enhance various aspects of the corridor, including travel safety, traffic management, transit accessibility, pedestrian friendliness, and economic vitality. One of the key recommendations from the study involves transforming a central parking area into a green space and promenade, featuring amenities such as shade trees, plantings, a pedestrian walkway, and seating. Additionally, this proposal incorporates designated bicycle lanes and proposes the reduction of travel lanes from two in each direction to one, thereby decreasing pedestrian crossing distances.

Furthermore, the study suggests the conversion of the Main Avenue, Pennington Avenue, State Street, and River Drive intersection into a modern roundabout. This proposed infrastructure change aims to enhance both safety and traffic flow in the area, reflecting a comprehensive approach to improving the overall functionality and aesthetic appeal of the Main Avenue corridor.

Main Avenue Redevelopment Plan



The Main Avenue Redevelopment Plan is a document outlining the revitalization efforts for a 28-block area centered around Main Avenue in Passaic, New Jersey. The plan, which was adopted on January 12, 2021, designates the area as an Area in Need of Rehabilitation and establishes guidelines for future development.

The redevelopment plan area encompasses a variety of uses including residential, commercial, office, and institutional. The plan outlines a vision for the future of the district which includes attracting new investment and creating a more vibrant and attractive area.

The document details the history of the area, noting its significance as a center for commerce and industry since the 19th century. The plan also details the ongoing efforts to revitalize the area, such as the rehabilitation of the People's Bank Tower and the creation of a new bus

terminal by NJ Transit.

Key components of the redevelopment plan include:

- Land uses: The plan specifies the types of uses that will be permitted in the redevelopment area, including commercial, residential, and office uses.
- Bulk standards: These standards regulate the size and scale of buildings in the redevelopment area.
- Design criteria: These criteria address the architectural design of buildings in the redevelopment area.
- Building requirements: These requirements specify the materials and methods of construction that must be used in the redevelopment area.

The implementation of the Main Avenue Redevelopment Plan is expected to be achieved through a variety of public and private partnerships. The City of Passaic Redevelopment Agency will play a key role in overseeing the redevelopment process.

The Passaic School No. 9 Travel Plan



Prepared By:
Meadowlands Transportation Brokerage Corporation
d/30/a Meadowlink
144 Park Place East
Wood-Ridge, NJ 07075
(201) 939-4242
www.ezride.org
November 17, 2020



The Passaic School No. 9 Travel Plan is a document that outlines a plan to encourage and increase the number of students walking or bicycling to school. It was developed in 2020 by a task force comprised of community members, school officials, and parents.

The plan identifies a number of barriers that currently prevent students from walking or biking to school, such as a lack of sidewalks, crosswalks, and safe routes. The plan also outlines a number of recommendations to address these barriers, such as the installation of new crosswalks and sidewalks, and the creation of a walking school bus program.

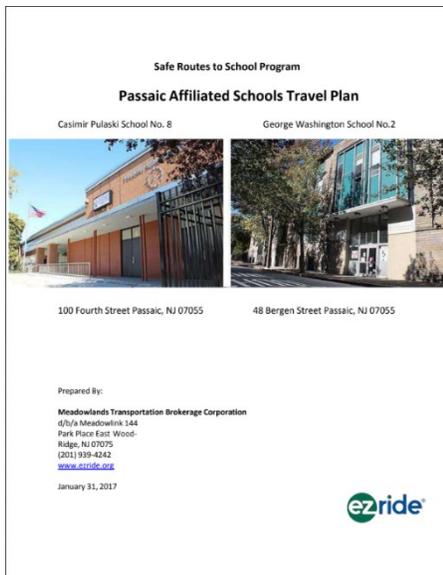
The Passaic School No. 9 Travel Plan is a comprehensive document that outlines a plan to make walking and biking to school a safer and more realistic option for students.

Here are some of the key findings and recommendations from the

Passaic School No. 9 Travel Plan:

- Findings
 - The rate of children in poverty in Passaic County is 22 percent which is the highest in the state.
 - The uninsured rate in Passaic County is 13 percent which is the highest in NJ.
 - The rate of those unemployed in Passaic County is 5.1 percent, which is 5th highest in NJ.
 - In Passaic County, 28 percent of adults over age 20 report no leisure-time physical activity.
 - Violent crime rates are seven times higher than the NJ state average.
 - In January 2017, Passaic School No. 9 teachers conducted a School Travel Tally to determine how students travel to and from school. The analysis found that about 78 percent to 85 percent of the children walk. 12 percent to 19 percent of the trips were in personal cars. 2 percent of students carpooled. School bus service accounted for 0.7 percent of the trips. As for bicycles, only 0.2 percent to 0.8 percent of students reported riding bikes to school.
- Recommendations
 - Paint/repaint high visibility crosswalks along Third Street, Jefferson Street and Hope Avenue, Jefferson Street and Columbia Avenue, Columbia Avenue and Madison Street, Madison & Rt. 21 off ramp.
 - Install truncated dome pads at Third & Passaic, Third & Monroe, and Third & Mercer, Mercer & Front, Jefferson & First.
 - Work with municipality to have garbage removal completed before start of school.
 - Work with municipality and businesses to not block sidewalks with garbage, signs or work items.
 - Install curb ramp at mid-block crossing of Jefferson St. & First St.

The Passaic-Affiliated-Schools-No-2-and-No-8-STP



The Passaic-Affiliated-Schools-No-2-and-No-8-School Travel Plan is a Safe Routes to School (SRTS) travel plan for Passaic School No. 2 and No. 8. The document was created in 2017 by a task force comprised of representatives from the schools, the city, and community organizations.

The goals of the SRTS plan are to:

- Increase the number of students who walk or bike to school.
- Identify safety hazards in the walking and biking routes around the schools.
- Develop recommendations to improve the safety of the walking and biking routes.

The document includes a description of the existing walking and biking conditions around the schools, as well as a list of recommendations for improvement. Some of the

recommendations include:

- Painting new crosswalks and improving lighting.
- Installing stop signs and crosswalk signals.
- Repairing sidewalks and curbs.
- Implementing a walking school bus program.

The SRTS plan is a valuable resource for the schools and the city as they work to improve the safety of walking and biking routes for students.

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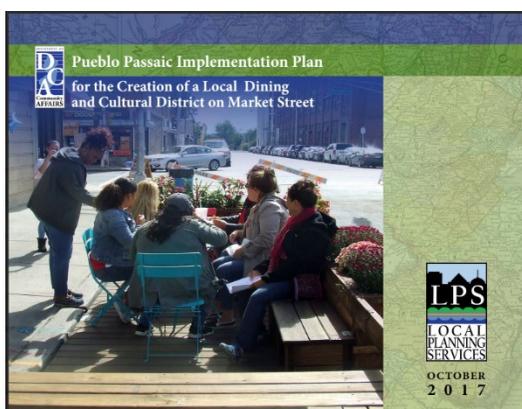
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The SRTS plan is a valuable resource for the schools and the city as they work to improve the safety of walking and biking routes for students.

Pueblo Passaic Report



The 2017 LPS Pueblo Passaic Report outlines a plan to create a regional authentic Latino dining and shopping district along Market Street in Passaic, New Jersey. The plan calls for the branding of the district as "Pueblo Passaic" and the establishment of an ad-hoc group of local merchants called "Comite Pueblo Passaic" to promote the district. The implementation strategy focuses on the creation of Parklets, which are sidewalk extensions that can be used by restaurants for outdoor seating, and streetscape improvements. The report estimates that the number of dining establishments will increase, and the revenue of the existing restaurants will

triple in the next five years based on similar experiences in other themed districts.

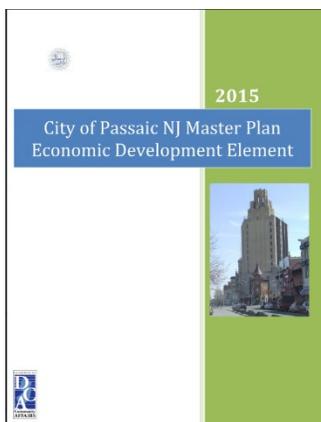
The report builds on several prior planning efforts and recommendations, including the City of Passaic Master Plan, the Together North Jersey Passaic Eastside TOD Strategy, and the Local Foods, Local Places Recommendation Report. These documents all highlight the potential of Market Street to become a destination district and recommend strategies for its development.

Here is a summary of the key recommendations of the LPS Pueblo Passaic Report document:

- Establish district boundaries: The proposed Pueblo Passaic project boundaries follow Market Street from halfway up the block from South Street to halfway up the block to Monroe Street.
- District branding: The report recommends the use of the brand "Pueblo Passaic" for labeling and marketing the district.
- Establishment of Comite Pueblo Passaic: An ad-hoc group of local merchants to promote the district.
- Creation of Parklets: The report recommends the adoption of a Parklet Ordinance by the City to allow restaurants to use parking spaces in front of their establishments to create outdoor seating areas.
- Streetscape improvements: The report recommends streetscape improvements such as entrance arches and colorful pedestrian crossings to enhance the visual appeal of the district.

The LPS Pueblo Passaic Report document concludes that the implementation of these recommendations will create a vibrant and successful Latino cultural district in Passaic, New Jersey.

Master Plan Economic Development Element



The City of Passaic adopted its Master Plan in 2013 to provide a guide for the use of lands within the city in a manner which protects the public health and safety and promotes the general welfare. The Master Plan looks at the “community capitals” which exist in the City of Passaic, i.e., the natural, cultural, human, social and built capitals, as a basis for making recommendations to promote the health and welfare of the city.

This Master Plan Economic Development Element is intended to provide background on the current economic development efforts in the city and offer a blueprint for actions that can promote the health of current business, the expansion of business and the attraction of new capital investment to provide jobs and increase the city tax base.

Current Conditions and Future Trends

The City of Passaic is 3.25 square miles and is located in Passaic County, New Jersey. Passaic is within 20 minutes (13 miles) of midtown Manhattan and in close proximity to Newark, Jersey City, Paterson and Clifton. The city is strategically situated in the densely populated New York City Metropolitan Area and benefits from its proximity to a complex regional highway network and the Newark Liberty International Airport. State Route 21 links the city with the Garden State Parkway, Interstate 80, State Route 3 and the New Jersey Turnpike. Location and access give the City of Passaic a competitive advantage for attracting regional businesses.

The last half of the nineteenth century and the first part of the twentieth century before World War I were great growth years for Passaic’s numerous factories and mills, which provided jobs for a growing population. Some of the mills/factories that employed a vast number of Passaic’s citizens were the Botany Worsted Woolen Mills, the Forstmannn Woolen Mills, Passaic Cotton Mills, the Okonite Company, the Pantasote Company and U.S. Rubber Company. The population during this time increased tenfold and peaked to over 70,000 in the decade after World War I. The numerous factories developed during this time frame attracted workers, including many European immigrants. Although many of these factories have closed or have been repurposed, the city remains a city of immigrants. Since the 1970’s many Hispanic immigrants from Central America, South America, Mexico and the Caribbean have made the City of Passaic their home. In fact, the 2010 census shows the population of 69,781 residents to be 71% Hispanic.

Goals, Objectives and Strategies

The general goals identified for Passaic’s economic development are as follows:

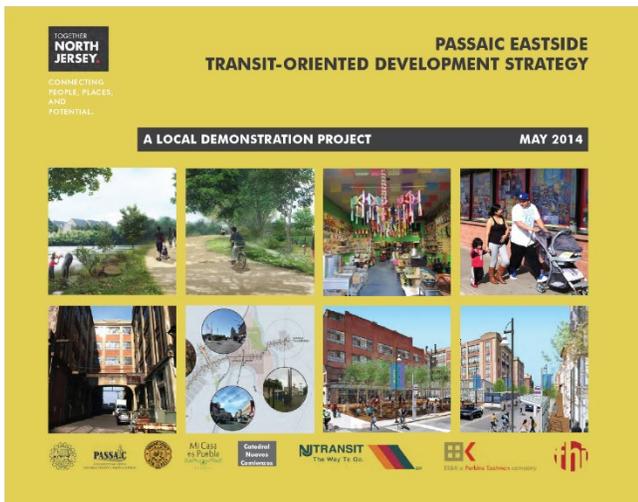
- Commercial Corridors and Districts
 - Facilitate business formation, preservation, and expansion.
 - Foster business and pedestrian friendly atmosphere.
 - Foster cohesive commercial communities within the city.
 - Identify, embrace, and promote the unique identity of each of the major commercial corridors and districts within Passaic.
- Latin American Food Products Import/Distribution and Industrial and Redevelopment Areas
 - Support the existing Latin American import/distribution businesses.
 - Formulate a welcoming strategy to attract and retain import and distribution businesses.
 - Provide for an environment that will attract new businesses to the industrial and redevelopment areas.
 - Ensure industrial and redevelopment areas are utilized to the highest and best use.
 - Plan efficient traffic circulation through industrial and redevelopment areas while ensuring pedestrian safety.
 - Better define and link commercial and industrial uses.

- Education and Workforce Development

- Increase number of students that complete high school and are prepared to join the workforce through vocational opportunities or higher education available at neighboring colleges and universities including Montclair State University, William Paterson University, Fairleigh Dickinson University, Passaic County Community College, Bergen County Community College, and Felician College.
- Expand and improve career development efforts.
- Develop and expand English as a Second Language (ESL) programs throughout the City's public schools.

The Implementation Table included in this plan itemizes the Goals, Objectives and Strategies and recommends responsible parties and time frames for each. Resources as well as links to resources are also provided.

The Passaic Eastside Transit-Oriented Development Strategy (TOD)



The Passaic Eastside Transit-Oriented Development Strategy (TOD) was created to revitalize the Passaic Eastside area. The plan focuses on four main themes: creating a more livable environment, creating great places to integrate new redevelopment with the surrounding fabric, making the Eastside more transit-friendly, and supporting and growing the Eastside's food distribution industry cluster.

The Eastside is comprised of a largely Hispanic population, with a significant portion being Mexican and Puerto Rican

immigrants. The area is significantly poorer than the larger North Jersey region, with a poverty rate of 31% compared to 9% in the North Jersey region.

One of the major challenges facing the Eastside is the need to manage truck traffic associated with the food distribution businesses located along First Street. These businesses are a major source of employment in the area, but the truck traffic creates safety hazards for pedestrians.

The plan proposes a number of recommendations, including the creation of a new Market Square at the intersection of Passaic and Market Streets, the improvement of streetscapes along Passaic Street and Market Street, and the creation of a new riverfront trail. The Planning and Implementation Agenda (PIA) outlines a set of priorities for the City of Passaic and other parties to pursue in order to implement the recommendations of the plan.

2013 City of Passaic Master Plan



Community-Focused Approach:

- The plan utilizes a "Community Capitals" approach, analyzing existing assets and how they can be leveraged for future development.

Passaic's Strengths:

- 3.25 square miles with significant parkland (1.25 sq mi).
- Designated Urban Enterprise Zone with benefits for businesses.
- Low-cost industrial and office space available.
- Four major industrial centers and competitive utility rates.
- Affordable labor force and HUD entitlement community

status.

- Active redevelopment areas with ongoing plans.

Economic Development Objectives:

- Increase jobs within the city to match resident employment needs.
- Strategically redevelop obsolete industrial buildings.
- Rehabilitate key commercial corridors and vacant lots.
- Improve business district appearance through streetscape upgrades.
- Encourage upper-story commercial space occupancy.
- Market the city to attract businesses in growing industries.
- Upgrade infrastructure to support existing and future businesses.
- Explore opportunities for large-scale commercial redevelopment.
- Enhance communication with businesses and explore public-private partnerships.
- Assess feasibility of creating culturally based shopping districts.
- Develop the Passaic River waterfront as an attraction.

Challenges and Opportunities:

- Redevelopment of contaminated industrial sites is crucial due to limited developable land.
- Leverage the city's diverse population with a high percentage of foreign-born residents (49%).
- Address the needs of a relatively young population with many children.
- Strategically improve parking in key business areas throughout the city.
- Consider form-based code development regulations.

Data and Analysis:

- The plan includes a vacant land analysis, population synopsis, and workforce data breakdown.
- Over 71% of the population is Hispanic.
- The document offers insights into the purpose of commercial and industrial zones.
- Redevelopment projects and implementation strategies are clearly outlined.

Additional Resources:

- The plan includes a color-coded zoning map, existing land use map, proposed zoning map, and school site maps.
- An Economic Development Element for the Master Plan is planned as part of the implementation matrix.

Overall, the 2013 City of Passaic Master Plan presents a comprehensive strategy for economic development, focusing on rehabilitation, redevelopment, and leveraging the city's unique assets to create a vibrant and sustainable future.

APPENDIX C: EXECUTIVE ORDER ADOPTING "VISION ZERO"

E.O. 2024 -

DATE:

AN EXECUTIVE ORDER OF THE MAYOR OF THE CITY OF PASSAIC ADOPTING A "VISION ZERO" INITIATIVE AND CREATING A VISION ZERO TASK FORCE TO DRAFT AN ACTION PLAN

Pursuant to the authority vested in the Mayor of the City of Passaic by law, I hereby issue the following Executive Order:

WHEREAS, in the 1990s, officials in Sweden adopted a set of traffic management policies which fundamentally differed from traditional traffic safety policies and set the goal of eliminating traffic-related deaths and severe injuries; and

WHEREAS, this set of policies became known collectively as "Vision Zero" and its guiding principle is that deaths and injuries caused by traffic crashes should be treated as a public health problem which can be eliminated through better planning, not as an inevitable by-product of the vehicle-based transportation system; and

WHEREAS, since officials in Sweden began Vision Zero, officials in cities all over the world, including 59 cities in the United States, have adopted their own versions of the Vision Zero initiative; and

WHEREAS, Passaic adopted a Bicycle Master Plan on **(DATE)**, a Pedestrian on **(DATE)** and a Complete Streets Policy on **(DATE)**, which mandated that all public streets be designed to safely accommodate travel by pedestrians and bicyclists as well as motorized vehicles; and

WHEREAS, the City currently averages approximately **31** traffic crashes involving bicyclists, 80 traffic crashes involving pedestrians and **one** traffic fatality within the City per year, inclusive of crashes on State and County roadways, with an average of **zero** fatal crashes per year occurring on City streets; and

WHEREAS, children, the elderly, people of color, and people in low-income communities face a disproportionate risk of traffic injuries and fatalities; and

WHEREAS, more needs to be done to eliminate traffic crashes within the City and it is clear that Passaic would benefit from formally adopting its own Vision Zero Initiative, based on the following five fundamental principles shared by the Vision Zero Network:

1. Deaths and severe injuries caused by traffic crashes are preventable;
2. Human life and health should be prioritized in all transportation systems and in all aspects of transportation planning;
3. Human error is inevitable and transportation systems should be forgiving;
4. Transportation planning should focus on systems-level changes above influencing individual behavior; and
5. Speed is the single most important factor in crash severity.

WHEREAS, a commitment to Vision Zero will also create opportunities to invite meaningful community engagement, including communities that historically have been underserved, as well as collaboration between relevant governmental agencies.

NOW THEREFORE, pursuant to the authority vested in me by law as Mayor of the City of Passaic, I hereby issue the following Executive Order formally adopting the Vision Zero Initiative and creating a multi-disciplinary Vision Zero Task Force to lead the planning effort and draft an Action Plan.

A. Adoption of a Vision Zero Initiative tailored for the City of Passaic

The City of Passaic formally adopts the Vision Zero Initiative with the goal of eliminating traffic fatalities and severe injuries on Passaic roadways by the year 2031.

B. Creation of a Vision Zero Task Force

There is hereby created a Vision Zero Task Force, which shall draft a Vision Zero Action Plan within one (1) year from the date of this Executive Order for the City Council's consideration.

C. Duties of the Vision Zero Task Force

The Task Force shall:

1. Publish a Vision Zero Action Plan, which shall provide policy makers with a comprehensive proposal to eliminate traffic fatalities and severe injuries on Passaic roadways within seven (7) years, and which shall propose both short-term and long-term data-driven strategies complete with measurable goals;

2. Develop assurances against racial profiling and targeting as it pertains to Vision Zero enforcement and to ensure that communities of color, the Department of Public Safety, and community leadership are included in the decision-making and development of enforcement plans or policies;
3. Solicit information and input for the Vision Zero Action Plan from the public;
4. Report quarterly on the Task Force's findings and progress; and
5. Create a public website, which shall include crash data and provide regular updates on the Action Plan's progress as well as provide a feature to solicit feedback from the public on traffic safety concerns.

D. Membership, Terms and Removal

1. The Vision Zero Task Force shall consist of thirteen (13) members, **including the City Engineer from the Department of Public Works, and the City's Director of Planning, Redevelopment & Economic Development**, who shall serve as Co-Chairs of the Task Force. In addition, the task force shall consist of the following members:

- a) The city attorney or his/her designee.
- b) The Chief of Police or his/her designee.
- c) The Bureau Chief of the Bureau of Fire Safety or his/her designee.
- d) The Director of the Department of Public Works or his/her designee.
- e) The Health Officer of the Passaic County Department of Health or his/ her designee.
- f) The Director of the Department of Engineering or his or her designee.
- g) The Director of the Passaic County Department of Engineering or his/ her designee.
- h) The Director of the Planning, Redevelopment & Economic Development Department or his/her designee.
- i) The Mayor or his designee;
- j) A representative from EZ-Ride Transportation Management Association (TMA), the area's primary bicycle and pedestrian safety organization;
- k) One representative for all schools in Passaic City.

2. The Vision Zero Task Force shall expire after one year following the issuance of this Order and it shall be renewable at the option of the Mayor. All the members shall be appointed by the Mayor and shall serve for a term of one (1) year. Vacancies created by resignation or otherwise shall be filled by the Mayor for the completion of the term.

3. All members of the Task Force, with the exception of the Co-Chairs, shall serve at the pleasure of the Mayor and can be removed from the Task Force by the Mayor at any time and for any reason.

4. The Task Force shall meet at least once every quarter at a time fixed by the Chairpersons. The Chairpersons may call special meetings as necessary.

5. The meetings shall not be subject to the Open Public Meetings Act.

E. Clerical and Technical Assistance

For the purposes of effectuating the goals of this Order, the Co-Chairs shall have the authority to create a budget, subject to the approval of the Mayor and City Council, to meet the material needs of the Task Force. The Co-Chairs shall be empowered to use their staff and resources to provide for the clerical and technical needs of the Task Force.

F. Cooperation with City Departments and Agencies

The DPW Division of Engineering and the Police Department and all City departments and agencies shall cooperate with the work of the Task Force to the degree possible and permitted by law.

G. Effective Date

This Order shall be effective immediately. It shall be kept on file in the Offices of the City Clerk and the Business Administrator, and it will also be made available to the public upon request.

Mayor Hector C. Lora
City of Passaic Mayor

cc.
City Council Members
Business Administrator
City Attorney
City Clerk
All Department Directors

APPENDIX D: SAMPLE BICYCLE FACILITY MAINTENANCE POLICIES & PROCEDURES

SAMPLE BICYCLE FACILITY MAINTENANCE POLICIES & PROCEDURES (OHIO DEPARTMENT OF TRANSPORTATION)¹ⁱ

12.1 General

This chapter describes approaches to maintaining safe, comfortable, and accessible walkways and bikeways year-round through routine asset management and seasonal maintenance. Communities generally maintain on-street bikeways as part of routine street maintenance. However, sidewalks, separated bike lanes, and shared use paths require dedicated maintenance activities and, in some cases, equipment.

12.2 Management Approaches

Non-winter maintenance is broadly placed into two categories: infrastructure repair and year-round maintenance. Both types of maintenance should be supported by a robust inspection and compliance program. The Roadway Infrastructure Maintenance Responsibility Manual (RIMR) establishes all roadway infrastructure maintenance responsibilities throughout the state. In addition, WBO's Maintenance Overview specifically summarizes the maintenance responsibility and activities for pedestrian and bicycle facilities as well as local and national sidewalk maintenance case studies. In addition, the report summarizes maintenance funding opportunities available to local governments.

12.2.1 Inspections/Rating system

Routine inspections and rating systems track pavement conditions of shared use paths, separated bike lanes, and sidewalks. The goal of a rating system is to build a program of surface maintenance which extends facility life, delaying expensive reconstruction projects and thereby saving money over the long run. No matter the surface of the facility (asphalt, concrete, gravel), these types of inspections should be completed on an annual or biennial basis for shared use paths and separated bike lanes, and every three to 10 years for sidewalks.

Inspection programs for sidewalks are described in detail in Chapter 4 of the Federal Highway Administration's (FHWA) Guide for Maintaining Pedestrian Facilities for Enhanced Safety.¹ This includes inspection criteria, ADA requirements, and types of inspection programs. Inspection and maintenance should be coordinated with ODOT's Transportation Asset Management Plan.

12.3 Types of Maintenance

Year-round maintenance activities include pavement marking and sign repair, pavement preservation, vegetation management, and sweeping.

12.3.1 Signal, Signing, and Pavement Markings

Signing and pavement markings on and along pedestrian and bicycle facilities should be maintained to be clear and legible allowing these facilities to function safely and comfortably. Similarly, traffic signals on and along pedestrian and bicycle facilities shall be inspected a minimum of one time annually to ensure reliable function and identify signals and equipment to be replaced before failure. TEM Section 260, 360, and 460 provide inspection and maintenance guidance for signing, pavement markings, and signals respectively for roadways, which can also be applied to separated bike lanes and shared use paths. Facilities should be inspected per this guidance and repaired or replaced when necessary.

12.3.2 Street Buffer Treatments and Sidewalk Buffer Amenities

Vertical objects placed within a separated bicycle lane street buffer may be struck by motor vehicles and require regular replacement. Maintenance and operation crews should plan on replacing vertical objects placed in the buffer zone, refreshing pavement markings, and trimming any adjacent vegetation on a regular basis. If vertical objects are struck with significant regularity, adjustments to the design should be considered.

Other elements along walkways and bikeways that are provided to address pedestrian and bicyclist safety and comfort, such as lighting, benches, trash receptacles, etc., should also be inspected on a regular basis to ensure they are in good working condition, and when appropriate these elements should be repaired and/or replaced. Small plaques may be affixed to these elements, or signs added at trailheads, providing a method for the public to report damaged amenities.

12.3.3 Asphalt Paths and Separated Bike Lanes

Asphalt is the most common surface type for shared use paths and separated bike lanes. As discussed in Section 5.3.9, shared use paths are typically designed to accommodate less loading than a roadway; however, as pavement section thickness decreases, the susceptibility to cracking, settlement, and root uplift typically increases. In northern climates like Ohio, these facilities should be built with a minimum of 4.5 inches of

Asphalt Concrete on 6 inches of aggregate base. Eventually all bicycle facilities must be reconstructed, but with proper maintenance techniques, it can be delayed up to 40 years. To extend the life of the pavement and maintain a smooth rideable surface, a regular maintenance schedule such as the one shown in Figure 12-1 should be adopted. Table 12-1 illustrates the relative costs of maintaining asphalt bicycling facilities.

Figure 12-1: Example shared use path maintenance schedule for a 38-year design life.

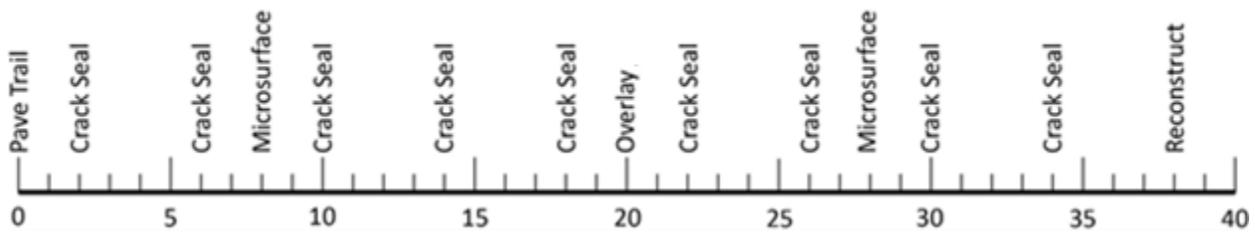


Table 12-1: Construction costs for typical asphalt pavement surfaces

| Activity | | Relative Cost/Mile |
|----------------|-----------------|--------------------|
| Maintenance | Crack Sealing | \$ |
| | Microsurfacing | \$\$ |
| | Asphalt Overlay | \$\$ |
| Reconstruction | Reconstruction | \$\$\$ |

Relative costs: \$ = Thousands, \$\$ = Tens of Thousands, \$\$\$ = Hundreds of Thousands

Crack sealing

Crack sealing extends the life of asphalt by diverting water from seeping through cracks that leads to erosion of the base layer of the pavement. The process of crack sealing includes blowing out debris with compressed air, heating the crack face with a lance, and then filling it with sealant. Sealants should be rubberized to seal the crack while staying flexible with the pavement’s movement. Crack sealing should be applied within the first five years of pavement construction to achieve the maximum benefit, and then reapplied as needed thereafter. A layer of paper placed on top of crack sealing allows wheeled and foot traffic to continue after its application.

Figure 12-3: Reserved for Future Use

Microsurfacing

Microsurfacing is a thin (1/4 – 3/8 inches thick) surface coat of cold applied paving mixture composed of polymer-modified asphalt emulsion, 100 percent crushed aggregate, mineral filler, water, and other additives. Microsurfacing is used to retard raveling and oxidation, fill ruts, reduce the intrusion of water, improve surface friction, and remove minor surface irregularities.

Figure 12-4: A shared use path with fresh microsurfacing.
(Photo credit: Three Rivers Park District)



Asphalt overlay

In instances where the pavement base materials are still intact and undamaged, asphalt can be overlaid on top of the existing asphalt. If existing asphalt is damaged on the surface but intact farther down, the top layer may be milled down (or scarified) before a new layer of asphalt is placed. The purpose of milling is to provide a stable asphalt base so that existing cracks do not reappear through the new layer. Besides reconstruction, asphalt overlays are the most expensive type of surface maintenance. However, it is still an effective way to extend the life of a shared use paths and separated bike lanes in the same way it's used for roadway maintenance, since all of the existing material does not have to be removed or recycled, and a new base layer of aggregate does not have to be laid.

Figure 12-5: An asphalt overlay on top of an existing asphalt path, which previously had a deteriorated.



Reconstruction

Shared use path and separated bike lane reconstruction is the process of entirely removing and/or recycling an existing pavement that has deteriorated to the point where it can no longer be maintained.

Spot Repairs

If vertical surface discontinuities develop in the pavement, the pavement should be repaired appropriate to provide a smooth walking and biking surface:

- If they are less than 0.5 inches in depth, the surface may be beveled with a slope not steeper than 50 percent. The bevel shall be applied across the entire vertical surface.
- If they are more than 0.5 inches in depth, they may cause a ripping hazard and should be reconstructed to smooth out the surface.

12.3.4 Concrete Paths

Where concrete is used for shared use paths, FHWA's Guide for Maintaining Pedestrian Facilities for Enhanced Safety² provides a comprehensive discussion for maintenance. The guide includes information on surfacing issues, grades, cross slopes, curb ramps, concrete patching, wedging, grinding, horizontal cutting, slab-jacking, and panel replacement.

12.3.5 Vegetation Management

Maintenance of vegetation next to sidewalks, shared use paths, and separated bike lanes is necessary both above and below ground to ensure the functionality and long-term condition of these paths are maintained.

Above ground mowing and pruning

Routine trimming, mowing, and pruning of vegetation contributes to the aesthetics and user safety. These activities should be performed on a regular basis to keep sight lines clear and the areas free from obstructions. Agencies should also be prepared to respond to specific complaints of low-hanging branches or downed trees as needed. When performing maintenance activities, the area should generally be cleared for 2 ft. on each side, as well as a height of 10 ft. clearance. Trees that are diseased can affect the safety of facility users—if they fall they may interfere with sight distances, clearance, or lighting. If they have the potential to fall on a walkway or bikeway, they should be removed. If they don't, they should remain undisturbed to preserve natural aesthetics and habitat for wildlife.

Below ground roots

Below ground tree and shrub roots may affect the pavement surface due to their proximity or size. In the case of asphalt pavement, roots can cause the surface to raise-up and create abrupt bumps and ripples that affect ADA compliance for pedestrians, serve as tripping hazards, and can create severe rideability issues for wheeled users. A root barrier can be used to help prevent root uplift, which can be installed as part of the original installation or as part of pavement spot repairs. A certified arborist should be consulted regarding tree proximity and health before root barriers are installed. Walkways and bikeways can also be routed around vegetation, or trees and shrubs may be removed during the design or maintenance process.

When root uplift does occur, sidewalks are often ground down at the root uplift to remove the surface discontinuity, but asphalt pavement typically needs to be milled and may require reconstruction to correct root uplift issues. Where the installation of root barriers is not desired due to tree health or proximity, another typical treatment for asphalt areas with root uplift damage is to replace the damaged area with pervious pavement surfaces such as rubberized pavement or pervious asphalt. The pervious surfaces will allow stormwater to reach the tree roots and reduce the damaging uplift; however, these areas will still require regular maintenance to correct surface deformations that are likely to continue.

12.3.6 Sweeping

Routine sweeping of walkways and bikeways is necessary in areas with overhanging trees and shrubs to remove leaves which may obscure potholes and other surface irregularities and which when wet or froze become slick and become dangerous to bicyclist ability to stop or control their direction of travel. Where walkways or bikeways intersect with gravel roads or driveways, these locations should be regularly swept to keep the pedestrian and bicycle path free of gravel. Paved approaches or aprons should be provided to reduce gravel spread and overall maintenance needs where these conditions are present. Bikeways should also be swept immediately following a large storm event and where sand is spread for traction in winter and where facilities meet roads where sand is spread.

Large-scale sweeping efforts are most effective with special sweeping equipment, such as broom attachments for utility vehicles. Broom attachments can also be used for snow during winter maintenance. Sweeping on walkways and bikeways is typically handled by local agency maintenance staff, while sidewalk sweeping is usually carried out by adjacent property owners. Special service districts (or business improvement districts) will sometimes include sweeping services, and coordination with these districts should occur to find local opportunities to maintain specific facilities in their district.

12.4 Winter Maintenance

Winter maintenance activities include before, during, after winter precipitation techniques, equipment, design, and transit stops. Districts and local jurisdictions should develop a snow maintenance plan for the bicycle network to help prioritize which corridors are of higher importance to clear first, for example main routes to transit, work centers, or major destinations. As new bikeways are added to the network, the maintenance plan should be updated to account for the new facilities. The snow maintenance plan should also identify the equipment needed to maintain each bikeway so that the equipment deployment is understood and organized as

part of the regular equipment deployment

12.4.1 Schedule

Like for motorists, the safest walking and bicycling surface for pedestrians and bicyclists is bare pavement. Achieving bare pavement may require action before, during, and after winter precipitation.

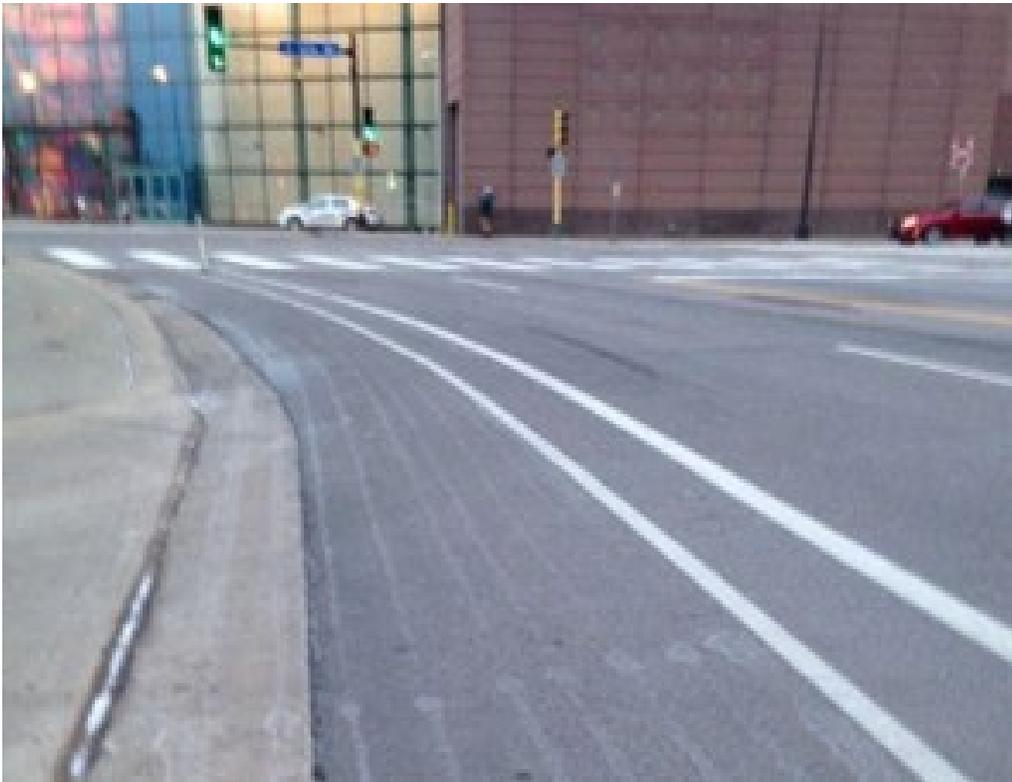
- **Before:** Pre-treating paths, walkways, or bikeways with salt brine or ice bite will lower the temperature at which liquid freezes, often keeping pavement surfaces wet and reducing the formation of ice.
- **During:** Clearing accumulated precipitation often prevents footsteps and bicycle tires from packing snow onto surfaces.
- **After:** Clearing snow and ice with equipment and spreading material (e.g., sand and salt) speeds melting and improves traction.

Liquid anti-icing mixtures such as salt brine and the beet-based ice bite are often used to pre-treat walkways and bikeways before a winter storm. Pre-treating or anti-icing offers many benefits over de-icing (i.e., applying salt after a snowstorm), including faster salt activation and quicker melting, lower melting temperature, better salt penetration, and reduced salt loss due to a lower “bounce and scatter” rate, which saves money and reduces environmental impacts by using less material. Applying too much salt as a winter treatment can be harmful to the local ecosystem as it eventually ends up in our lakes, rivers, streams, and wetlands. High levels of salt in waterways pollutes water supplies and is harmful to fish and other aquatic life. Once salt is in our waterways, it does not break down.

Figure 12-6: Sweeping leaves off a shared use path.
(Source: City of Brooklyn Center, MN)



Figure 12-7: Anti-icing spray after it has been applied to a buffered bike lane.



Timing of snow and ice removal efforts is also an important consideration. Sometimes winter precipitation begins with rain, and with a subsequent drop in temperature, ends with ice and/or snow. Cold air often follows winter precipitation, freezing liquid into ice on a walkway or bikeway. To achieve bare pavement in these scenarios, keep the following in mind:

- If rain falls before ice or snow, spreading salt is ill-advised because rain will wash it away. Rain can also push salt into storm sewers and bodies of water, causing unnecessary harm to the water supply.
- If rain and snow has turned to slush, remove the combination from walkways and bikeways before the temperature falls very far below freezing. Otherwise, this precipitation will stay frozen in place as long as sub-freezing temperatures persist.

12.4.2 Equipment

Equipment for maintaining walkways and bikeways varies widely, from snow shovels to plows attached to pickup trucks (see Figure 12-8). Operators also vary, from pedestrians and tractor operators to licensed drivers. Unlike roads, walkways, and separated bikeways (i.e., shared use path, side paths, separated bike lanes) are narrow facilities that may require smaller vehicles and lighter maintenance vehicles.

Figure 12-8: Variety of Maintenance Vehicles



Pickup truck with plow

Approximate Width: 8.5 ft./2.6 meters

Walkway/Bikeway Facility Types: Trails, side paths, 2-way separated bike lanes



Skid loader with snow blower

Approximate Width: 4 ft./1.2 meters

Walkway/Bikeway Facility Types: Walkways, trails, side paths, 2-way separated bike lanes, 1-way separated bike lanes



Miniature tractor with snow blower

Approximate Width: 4 ft./1.2 meters



Lawn mower tractor (converted to winter maintenance vehicle) with broom

Maintenance vehicle attachments such as plows, blowers, and brooms are vital pieces of winter equipment. Plows may be attached to many different types of vehicles and are used for pushing aside snowfalls of about 2 inches or more. Blowers and brooms are attached to smaller pieces of equipment. Blowers move large snowfalls (6 inches or more) and are also routinely used to move windrows, which are compacted piles of snow left over from road plows. Brooms are used to achieve a bare pavement surface and are typically used for snowfalls of 2 inches or less. Brooms may also be used to achieve bare pavement after plows or blowers have passed. Salt and sand spreaders may also be attached to maintenance vehicles.

12.4.3 Design

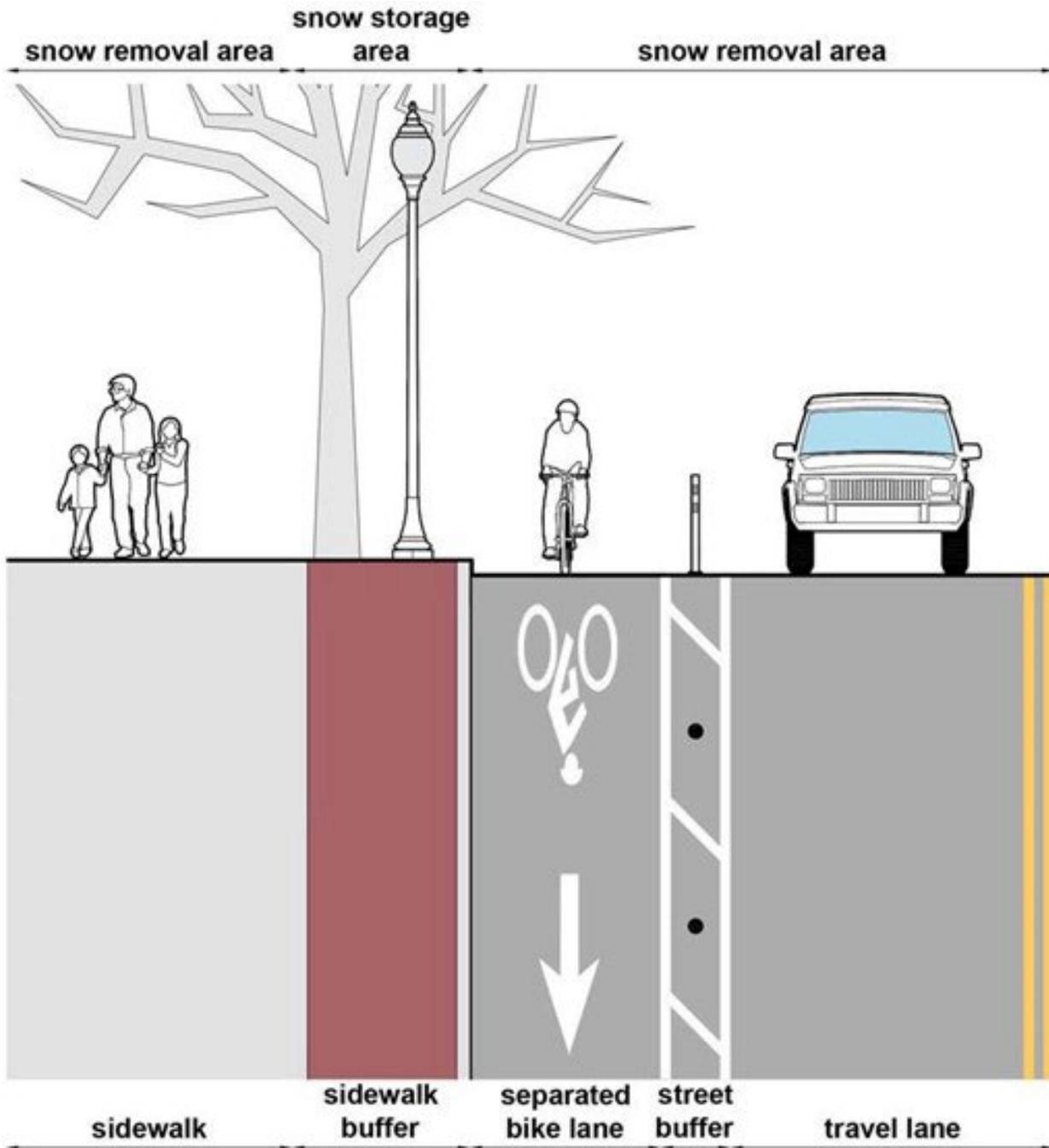
Several preventative measures can be taken during the design phase of a project to make winter walking and bicycling more feasible. Through careful design, walkways and bikeways can be engineered to avoid issues such as poorly drained facilities becoming icy and slippery because of the freeze/thaw cycle that often follows a winter precipitation event. As shown in Figure 12-9, designers should ensure that the areas next to the bikeway or walkway are graded away from the walking or biking surface, and that adequate drainage infrastructure should be provided to prevent standing water. For maintenance considerations for the placement of vertical elements in the street buffer along separated bicycle lanes, see Section 6.3.7.

Whenever possible, curb ramps should be located at the high point of an intersection to avoid standing water, and if this isn't possible, ADA compliant storm drain grates should be provided immediately upstream from the curb ramps.

When possible, snow should be stored in the space between a road and a sidewalk or shared use path. The dimensions will depend upon the given community's climate, but typically these areas range from 4 ft. to 8 ft. in width. Where there is no space for snow storage, designers should consult with the jurisdiction's maintenance staff to make plans to address snow storage or off-site removal.

Several communities have retrofitted separated bike lanes that are located at street-level between existing curbs. When these facilities are located down-slope from the crown of a road, snow often melts and re-freezes into icy patches across bike lanes. To prevent this from occurring, snow should be removed from between the travel lanes and bike lanes instead of using this space for snow storage. A long-term solution is to redesign the street to drain snowmelt away from separated bike lanes as shown in Section 6.3.7 - Drainage.

Figure 12-9: Removing snow from the buffer zone prevents snowmelt from refreezing across a separated bike lane.



12.4.4 Transit stops

Transit stops may see high amounts of foot traffic in winter, making snow and ice removal on nearby walkways critical. Good winter maintenance near transit stops improves safety by keeping pedestrians out of the street and other dangerous areas. The clearing of snow at transit stops and on the walkways used to access transit stops, is essential for maintaining access and is required to maintain ADA compliance.

Each community and agency should develop a well-defined understanding of who is responsible for maintaining transit stops. The responsible party may be state or municipal crews, transit agency crews, or adjacent property owners. While some communities have volunteer programs³, the most important principle is providing consistent and reliable maintenance that allows transit users to walk to and from their stops.

APPENDIX E: COMPLETE STREETS RESOLUTION

CITY OF PASSAIC
RESOLUTION# 24-01-032

RESOLUTION IN SUPPORT OF ESTABLISHING AND ADOPTING A COMPLETE STREETS POLICY IN THE CITY OF PASSAIC

WHEREAS, safe, convenient, accessible, equitable, healthy, and environmentally and economically beneficial transportation for all users is a priority of City of Passaic; and

WHEREAS, Complete Streets is a means to provide a comprehensive, integrated, connected multi-modal network of transportation options through planning, design, construction, maintenance, and operation of new and retrofit transportation facilities along the entire right-of-way for all roadway users of all ages and abilities; and

WHEREAS, Complete Streets allow for safe, accessible, and convenient travel, reducing serious injuries and fatalities for all users of the roadway; and

WHEREAS, "all users" include motorists, bicyclists, pedestrians, public transportation vehicles and their passengers, delivery trucks and movers of commercial goods, persons with disabilities, older adults, and residents of Priority Communities; and

WHEREAS, Complete Streets allow for multiple modes of travel, aside from personal automobiles, so that those who are unable to drive, who cannot afford a car, or choose to reduce their car usage may travel by transit, by bicycle, or on foot safely; and

WHEREAS, Complete Street policies support the goals of the City of Passaic's master plan and supporting elements; and

WHEREAS, New Jersey is federally designated as a Pedestrian and Bicycle Safety Focus State due to high numbers of pedestrian/bicycle-involved fatalities, and New Jersey's pedestrian fatality rate continues to significantly exceed the national average; and

WHEREAS, traffic crashes are preventable and the only acceptable number of traffic deaths for the City of Passaic is zero; and

WHEREAS, Complete Streets that incorporate sustainable Green Streets design elements, such as green storm water infrastructure, traffic calming treatments, shade trees, and the use of recycled materials, protect and create a healthier natural and social environment, improve air and water quality, and reduce localized flooding; and

WHEREAS, Complete Streets implementation enhances access to local businesses, encourages reinvestment, increases property values and employment, and

WHEREAS, Complete Streets encourage an active lifestyle through increased physical activity, social connectivity, and sense of community belonging, thereby lowering risk of obesity, reducing chronic disease, improving mental health, and promoting wellness; and

WHEREAS, Complete Streets implementation provides the opportunity to enhance the historic character of our communities and our understanding of our shared history in a way that promotes the economic and social vitality of our communities and should be considered in the design or infrastructure improvements; and

WHEREAS, procedures should be implemented that ensure fair treatment, equitable funding and resource distribution and meaningful involvement of all communities in all phases from selection, planning, and design to construction and long-term maintenance; and

WHEREAS, a balanced and flexible transportation system where all people can easily and safely walk and bicycle to everyday destinations -- such as schools, shops, restaurants, businesses, parks, transit, and jobs -- enhances neighborhood economic vitality and livability; and

WHEREAS, low- and moderate-income areas, whether in rural, urban, or suburban communities, are typically the least safe for pedestrians and bicyclists, especially for children walking and biking to school, due to long-standing infrastructure disparities and higher concentration of streets with faster-moving and higher-volume traffic; and

WHEREAS, implementation of the Complete Streets policy should not negatively impact the affordability of the neighborhood for current residents; and

WHEREAS, the Complete Streets policy applies to new, reconstruction, retrofit, and resurfacing projects, including design, planning, construction, maintenance and operations, for the entire right-of-way; and

WHEREAS, requests for all exceptions must be submitted in writing, with supporting documentation, and made publicly available with a minimum of 30 days allowed for public input; and

WHEREAS, all initial planning, concept and design studies of infrastructure projects consider design elements that improve public health, environment, economy, equity, and safety.

NOW THEREFORE, BE IT RESOLVED, by the City Council of the City of Passaic that the City of Passaic supports the Complete Streets Policy; and

BE IT FURTHER RESOLVED, that copies of this Resolution shall be forwarded to all City departments within thirty (30) days of the adoption of this Resolution.

INTRODUCED BY COUNCILPERSON: Terrence Love

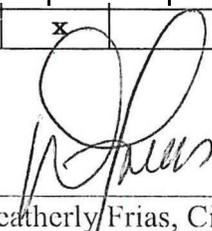
SECONDED BY COUNCILPERSON: Maritiza Colon-Montanez

| Record of Council Vote on Final Passage | Aye | Nay | Abstain | Absent |
|---|-----|-----|---------|--------|
| COLON-MONTANEZ, M. | x | | | |
| GARCIA, J. | x | | | |
| LOVE, T | x | | | |
| MELO, T | x | | | |
| MIJNK, C. | x | | | |
| SCHIAER, G. | x | | | |
| SCHWARTZ, D. | | x | | |

ADOPTED ON: January

25 2024

Gary S. Schaer, Council
President


Weatherly Frias, City Clerk

1/29/2024

APPENDIX F: BICYCLE/MICROMOBILITY FUNDING PROGRAMS & RESOURCES

Federal U.S. Department of Transportation Highway, Transit, and Safety Fundsⁱⁱ

Key: \$ = Activity likely eligible. Restrictions may apply, see program notes and guidance. ~\$ = Eligible, but not competitive unless part of a larger project.

| Activity or Project Type | Federal Highway Administration | | | | | | | | | | | | | |
|--|--------------------------------|-------|------|-------|-------|-------|-------|-------|-------|-----------|------|-------|-------|-------|
| | ATII P | B R I | CR P | CMA Q | HSI P | RHC P | NHP P | PRO T | STB G | TAS A | RT P | SRT S | PLA N | NSB P |
| Access enhancements to public transportation (benches, bus pads, lighting) | \$ | | \$ | \$ | | | \$ | \$ | \$ | \$ | | | | \$ |
| Americans with Disabilities Act (ADA)/504 Self Evaluation / Transition Plan | \$ | | \$ | | | | | | \$ | \$ | \$ | | \$ | |
| Barrier removal for ADA compliance | \$ | \$ | \$ | | | | \$ | \$ | \$ | \$ | \$ | \$ | | \$ |
| Bicycle plans | \$ | | \$ | | | | | \$ | \$ | \$ | | \$ | \$ | |
| Bicycle helmets (project or training related) | ~\$ | | | | \$ | | | | \$ | \$\$SRT S | | \$ | | |
| Bicycle helmets (safety promotion) | ~\$ | | | | \$ | | | | \$ | \$\$SRT S | | \$ | | |
| Bicycle lanes on road | \$ | | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | \$ | | \$ |
| Bicycle parking (see Bicycle Parking Solutions) | \$ | | \$ | \$ | | | \$ | | \$ | \$ | \$ | \$ | | \$ |
| Bike racks on transit | \$ | | \$ | \$ | | | | | \$ | \$ | | | | |
| Bicycle repair station (air pump, simple tools, electric outlets) | \$ | | \$ | | | | | | \$ | \$ | | | | |
| Bicycle share (capital and equipment including charging stations and outlets; not operations) | \$ | | \$ | \$ | | | \$ | | \$ | \$ | | | | |
| Bicycle storage or service centers (e.g. at transit hubs) including charging stations and outlets; not operations) | \$ | | \$ | \$ | | | | | \$ | \$ | | | | |
| Bridges / overcrossings for pedestrians and/or bicyclists | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | |
| Bus shelters and benches | \$ | | \$ | \$ | | | \$ | \$ | \$ | \$ | | | | \$ |
| Charging stations for electric bicycles and scooters NEW | \$ | | \$ | \$ | | | | | \$ | \$ | \$ | | | |
| Coordinator positions: State/local (CMAQ/STBG limited) | | | | \$ | | | | | \$ | \$\$SRT S | | \$ | | |
| Community Capacity Building (develop organizational skills and processes) | ~\$ | | | | | | | | | | | | \$ | |
| Crosswalks for pedestrians, pedestrian refuge islands (new or retrofit) | \$ | | \$ | ~\$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | \$ |
| Curb ramps | \$ | \$ | \$ | ~\$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | \$ |
| Counting equipment | \$ | | | | \$ | \$ | \$ | | \$ | \$ | \$ | \$ | \$ | |
| Data collection and monitoring for pedestrians and/or bicyclists | \$ | | \$ | | \$ | \$ | \$ | | \$ | \$ | \$ | \$ | \$ | |

| Activity or Project Type | Federal Highway Administration | | | | | | | | | | | | | |
|--|--------------------------------|-------|------|-------|-------|-------|-------|-------|---------|---------|------|-------|----------------------|-------|
| | ATII P | B R I | CR P | CMA Q | HSI P | RHC P | NHP P | PRO T | STB G | TAS A | RT P | SRT S | PLA N | NSB P |
| Signs, signals, signal improvements (incl accessible pedestrian signals) see note | \$ | | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | \$ | | \$ |
| Signing for pedestrian or bicycle routes | \$ | | \$ | \$ | \$ | | \$ | \$ | \$ | \$ | | \$ | | \$ |
| Spot improvement programs (programs of small projects to enhance pedestrian and bicycle use) REVISED | \$ | | \$ | ~\$ | \$ | \$ | \$ | | \$ | \$ | \$ | \$ | | |
| Stormwater mitigation related to pedestrian and bicycle project impacts REVISED | \$ | | | | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | note | |
| Technical Assistance (see Cross-cutting notes) NEW | ~\$ | | | ~\$ | \$ | | | | \$ | \$ | \$ | \$ | note | |
| Traffic calming | \$ | | \$ | | \$ | | \$ | \$ | \$ | \$ | | \$ | | |
| Trail bridges | \$ | | \$ | ~\$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | |
| Trail construction and maintenance equipment | \$ | | \$ | | | | | | \$ | \$ | \$ | | | |
| Trail/highway crossings and intersections | \$ | \$ | \$ | ~\$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | \$ |
| Trailside/trailhead facilities (restrooms, water, but not general park amenities) | \$ | | ~\$ | | | | | | \$ | \$ | \$ | | | \$ |
| Training | ~\$ | | | \$ | \$ | | | | \$ | \$ | \$ | \$ | \$ | |
| Training for law enforcement on ped/bicyclist safety laws | ~\$ | | | ~\$ | \$ | | | | \$SR TS | \$SR TS | | \$ | | |
| Tunnels / underpasses for pedestrians and/or bicyclists | \$ | | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | | |
| Vulnerable Road User Safety Assessment | \$ | | | | \$ | | | | \$ | \$ | | \$ | \$ | |

| Activity or Project Type | OST Grant | | | | | | OST Loan | | FTA | | | NHTS A | |
|---|-----------|--------|------|-------|--------|--------|----------|--------|------|-------|------|--------|------|
| | INFR A | RAIS E | RC N | SS4 A | SMAR T | Thrive | RRI F | TIFI A | FT A | AoP P | TO D | 40 2 | 40 5 |
| Access enhancements to public transportation (benches, bus pads, lighting) | \$ | \$ | \$ | ~\$ | | | ~\$ | ~\$ | \$ | | | | |
| Americans with Disabilities Act (ADA)/504 Self Evaluation / Transition Plan | | | | \$ | | TA | | | | \$ | ~\$ | | |
| Barrier removal for ADA compliance | \$ | \$ | \$ | ~\$ | | | ~\$ | ~\$ | \$ | | | | |
| Bicycle plans | | | ~\$ | \$ | | | | | \$ | \$ | ~\$ | | |
| Bicycle helmets (project or training related) | | | | | | | | | | | | \$ | |
| Bicycle helmets (safety promotion) | | | | | | | | | | | | | |
| Bicycle lanes on road | ~\$ | ~\$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Bicycle parking (see Bicycle Parking Solutions) | ~\$ | ~\$ | \$ | ~\$ | | | ~\$ | \$ | \$ | | | | |
| Bike racks on transit | | ~\$ | \$ | ~\$ | | | | ~\$ | \$ | | | | |
| Bicycle repair station (air pump, simple tools, electric outlets) | | ~\$ | \$ | ~\$ | | | ~\$ | ~\$ | \$ | | | | |
| Bicycle share (capital and equipment including charging | ~\$ | ~\$ | \$ | ~\$ | | | ~\$ | ~\$ | \$ | | | | |

| Activity or Project Type | OST Grant | | | | | | OST Loan | | FTA | | | NHTS A | |
|---|-----------|--------|------|-------|--------|---------|----------|--------|------|-------|------|--------|------|
| | INFR A | RAIS E | RC N | SS4 A | SMAR T | Thriv e | RRI F | TIFI A | FT A | AoP P | TO D | 40 2 | 40 5 |
| stations and outlets; not operations) | | | | | | | | | | | | | |
| Bicycle storage or service centers (e.g. at transit hubs) including charging stations and outlets; not operations) | | ~\$ | \$ | ~\$ | | | ~\$ | \$ | \$ | | | | |
| Bridges / overcrossings for pedestrians and/or bicyclists | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Bus shelters and benches | \$ | \$ | \$ | ~\$ | | | ~\$ | ~\$ | \$ | | | | |
| Charging stations for electric bicycles and scooters NEW | | | | | ~\$ | | ~\$ | ~\$ | | | | | |
| Coordinator positions: State/local (CMAQ/STBG limited) | | | | ~\$ | | | | | | | | | |
| Community Capacity Building (develop organizational skills and processes) | | | NA E | ~\$ | | TA | | | | ~\$ | ~\$ | | |
| Crosswalks for pedestrians, pedestrian refuge islands (new or retrofit) | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Curb ramps | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Counting equipment | \$ | | \$ | ~\$ | | | | ~\$ | \$ | | | | |
| Data collection and monitoring for pedestrians and/or bicyclists | \$ | \$ | \$ | \$ | | | | ~\$ | \$ | ~\$ | ~\$ | | |
| Emergency and evacuation routes for pedestrians and/or bicyclists | \$ | \$ | \$ | ~\$ | | | | \$ | \$ | ~\$ | ~\$ | | |
| Encouragement and education activities related to safe access for bicyclists and pedestrians NEW | | | | ~\$ | ~\$ | | | | | | | | |
| Historic preservation (pedestrian, bicycle, transit facilities) | | ~\$ | ~\$ | ~\$ | | | ~\$ | ~\$ | \$ | | | | |
| Landscaping, streetscaping (pedestrian/bicycle route; transit access); related amenities (benches, lighting, shade, trees, water fountains); usually part of larger project | ~\$ | ~\$ | ~\$ | ~\$ | | | ~\$ | ~\$ | \$ | | | | |
| Lighting (pedestrian and bicyclist scale associated with pedestrian/bicyclist project) | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Maps (for pedestrians and/or bicyclists) (see Idea Book) | | | | \$ | | | | | \$ | | | | |
| Micromobility projects, including scooter share (capital and equipment, including charging stations and outlets; not operations) | | \$ | \$ | ~\$ | ~\$ | | ~\$ | ~\$ | | | | | |
| Paved shoulders for pedestrian and/or bicyclist use | ~\$ | \$ | \$ | \$ | | | ~\$ | ~\$ | | | | | |
| Pedestrian plans | ~\$ | \$ | ~\$ | \$ | | | | | \$ | \$ | \$ | | |
| Public education and awareness programs to inform motorists and nonmotorized road users on nonmotorized road user safety NEW | | | | | | | | | | | | \$ | \$ |
| Rail at-grade crossings | \$ | \$ | \$ | ~\$ | | | \$ | \$ | \$ | | | | |
| Recreational trails | | \$ | \$ | ~\$ | | | | ~\$ | | | | | |
| Resilience improvements to pedestrian and bicycle facilities or to protect or enhance use. REVISED | \$ | \$ | \$ | ~\$ | ~\$ | | ~\$ | ~\$ | | | | | |
| Road Diets (pedestrian and bicycle portions) | \$ | \$ | \$ | \$ | | | ~\$ | \$ | | | | | |

| Activity or Project Type | OST Grant | | | | | | OST Loan | | FTA | | | NHTS A | |
|---|-----------|--------|------|-------|--------|---------|----------|--------|------|----------------------|----------------------|--------|------|
| | INFR A | RAIS E | RC N | SS4 A | SMAR T | Thriv e | RRI F | TIFI A | FT A | AoP P | TO D | 40 2 | 40 5 |
| Road Safety Assessment for pedestrians and bicyclists | | | \$ | \$ | | TA | | ~\$ | | ~\$ | | | |
| Safety education and awareness activities and programs to inform pedestrians, bicyclists, and motorists on ped/bike traffic safety laws | | | | \$ | | | | | | ~\$ | ~\$ | \$ | \$ |
| Safety education positions | | | | \$ | | | | | | | | \$ | |
| Safety enforcement (including police patrols) | | | | \$ | | | | | | | | \$ | \$ |
| Safety program technical assessment (for peds/bicyclists) | | | \$ | \$ | | TA | | | | | | \$ | |
| Separated bicycle lanes | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Shared use paths / transportation trails | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Sidewalks (new or retrofit) | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Signs, signals, signal improvements (incl accessible pedestrian signals) see note | \$ | \$ | \$ | \$ | \$ | | ~\$ | ~\$ | \$ | | | | |
| Signing for pedestrian or bicycle routes | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Spot improvement programs (programs of small projects to enhance pedestrian and bicycle use) REVISED | \$ | \$ | ~\$ | \$ | ~\$ | | ~\$ | ~\$ | \$ | | | | |
| Stormwater mitigation related to pedestrian and bicycle project impacts REVISED | \$ | \$ | \$ | ~\$ | | | ~\$ | ~\$ | \$ | note | note | | |
| Technical Assistance (see Cross-cutting notes) NEW | | | ~\$ | ~\$ | ~\$ | TA | | | | | | | |
| Traffic calming | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | \$ | | | | |
| Trail bridges | \$ | \$ | \$ | ~\$ | | | ~\$ | \$ | | | | | |
| Trail construction and maintenance equipment | | | | ~\$ | | | ~\$ | ~\$ | | | | | |
| Trail/highway crossings and intersections | \$ | \$ | \$ | \$ | | | ~\$ | ~\$ | | | | | |
| Trailside/trailhead facilities (restrooms, water, but not general park amenities) | | ~\$ | | | | | ~\$ | ~\$ | | | | | |
| Training | | | | \$ | | TA | | | | ~\$ | ~\$ | \$ | |
| Training for law enforcement on ped/bicyclist safety laws | | | | \$ | | | | | | ~\$ | ~\$ | \$ | \$ |
| Tunnels / underpasses for pedestrians and/or bicyclists | \$ | \$ | \$ | \$ | | | \$ | \$ | \$ | | | | |
| Vulnerable Road User Safety Assessment | | | \$ | | | TA | | | | ~\$ | ~\$ | | |

Abbreviations (alphabetical order)

[ADA/504](#): Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973 [AoPP](#): Areas of Persistent Poverty Program
[ATIIIP](#): Active Transportation Infrastructure Investment Program [web link under development] [BIL](#): Bipartisan Infrastructure Law (Infrastructure Investment and Jobs Act (Pub. L. 117-58)
[BRI](#): Bridge Programs, including: [BFP](#): Bridge Formula Program; [BIP](#): Bridge Investment Program; [BRR](#): Bridge Replacement and Rehabilitation Program
[CMAQ](#): Congestion Mitigation and Air Quality Improvement Program [CRP](#): Carbon Reduction Program
[FLTTP](#): Federal Lands and Tribal Transportation Programs: [Federal Lands Access Program](#), [Federal Lands Transportation Program](#), [Tribal Transportation Program](#), [Federal Lands Planning Program](#) and related programs for Federal and Tribal lands such as the

[Nationally Significant Federal Lands and Tribal Projects](#) program

[FTA](#): Federal Transit Administration Capital Funds

[PLAN](#): Statewide Planning and Research (SPR) or Metropolitan Planning funds (FHWA and/or FTA funding) [PROTECT](#): Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation [RAISE](#): Rebuilding American Infrastructure with Sustainability and Equity

[RCN](#): Reconnecting Communities and Neighborhoods Grant Program (includes Reconnecting Communities Pilot Program (RCP) and [Neighborhood Access and Equity](#) programs)

[RHCP](#): Railway-Highway Crossings (Section 130) Program [RRIF](#): Railroad Rehabilitation and Improvement Financing (loans) [RTP](#): Recreational Trails Program

[SMART](#): Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program [SRTS](#): Safe Routes to School Program (and related activities)

[SS4A](#): Safe Streets and Roads for All

[STBG](#): Surface Transportation Block Grant Program

[HSIP](#): Highway Safety Improvement Program

[IIJA](#): Infrastructure Investment and Jobs Act (Pub. L. 117-58), also known as the Bipartisan Infrastructure Law [INFRA](#): Infrastructure for Rebuilding America Discretionary Grant Program

[NAE](#): Neighborhood Access and Equity Program [NHPP](#): National Highway Performance Program

NHTSA [402](#): National Highway Traffic Safety Administration State and Community Highway Safety Grant Program

NHTSA [405\(g\)](#): National Highway Traffic Safety Administration National Priority Safety Programs (Nonmotorized safety) [NSBP](#): National Scenic Byways Program

[TASA](#): Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program, Transportation Enhancements) [Thrive](#): Thriving Communities Initiative (TA: Technical Assistance)

[TIFIA](#): Transportation Infrastructure Finance and Innovation Act (loans) [TOD](#): Transit-Oriented Development

[TTP](#): Tribal Transportation Program

[TTPSF](#): Tribal Transportation Program Safety Fund

[FHWA Programs](#)

- [ATIP](#) (IIJA § 11529): Subject to appropriations. Projects costing at least \$15,000,000 to develop or complete active transportation networks and spines, or at least \$100,000 to plan or design for active transportation networks and spines.
- [BRI](#): [BFP](#), (IIJA, Div. J, title VIII, para. (1)), [BIP](#) (23 U.S.C. 124), [BRR](#) (Department of Transportation Appropriations Act, 2022): For specific highway bridge projects and highway bridge projects that will replace or rehabilitate a bridge; project must consider pedestrian and bicycle access as part of the project and costs related to their inclusion are eligible under these programs.
- [CRP](#) (23 U.S.C. 175): Projects should support the reduction of carbon dioxide emissions from on-road highway sources.
- [CMAQ](#) (23 U.S.C. 149): Projects must demonstrate emissions reduction and benefit air quality. See the [CMAQ guidance](#) for a list of projects that may be eligible for CMAQ funds. CMAQ funds may be used for shared use paths, but not for trails that are primarily for recreational use.
- [HSIP](#) (23 U.S.C. 148): Projects must be consistent with a State's [Strategic Highway Safety Plan](#) and (1) correct or improve a hazardous road location or feature, or (2) address a highway safety problem. Certain noninfrastructure safety projects can also be funded using HSIP funds as specified safety projects.
- [RHCP](#) (23 U.S.C. 130): Projects at all public railroad crossings including roadways, bike trails, and pedestrian paths.
- [NHPP](#) (23 U.S.C. 119): Projects must benefit National Highway System (NHS) corridors and must be located on land adjacent to any highway on the National Highway System (23 U.S.C. 217(b)).
- [PROTECT](#) (23 U.S.C. 176): Funds can only be used for activities that are primarily for the purpose of resilience or inherently resilience related. With certain exceptions, the focus must be on supporting the incremental cost of making assets more resilient.
- [STBG](#) (23 U.S.C. 133): Broad eligibility for pedestrian, bicycle, and micromobility projects under 23 U.S.C. 206, 208, and 217 (23 U.S.C. 133(b)(7)). Activities marked "\$SRTS" means eligible only as an SRTS project benefiting schools for kindergarten through 12th grade. Nonconstruction projects related to safe access for bicyclists and pedestrians (such as bicycle and pedestrian education) are eligible under STBG (23 U.S.C. 217(a)).
- [TASA](#) (23 U.S.C. 133(h)): Broad eligibility for pedestrian, bicycle, and micromobility projects. Activities marked "\$SRTS" means eligible only as an SRTS project benefiting schools for kindergarten through 12th grade.
- [RTP](#) (23 U.S.C. 206): Projects for trails and trailside and trailhead facilities for any recreational trail use. RTP projects are eligible under TA Set-Aside and STBG.
- [SRTS](#) (23 U.S.C. 208): Projects for any SRTS activity. FY 2012 was the last year for dedicated - funds, but funds are available until expended. SRTS projects are eligible under TA Set-Aside and STBG.
- [PLAN](#) (23 U.S.C. 134 and 135): Funds must be used for planning purposes, for example: Maps: System maps and GIS; Safety education and awareness: for transportation safety planning; Safety program technical assessment: for transportation safety planning; Training: bicycle and pedestrian system planning training. Transportation planning associated with activities would be eligible, SPR and PL funds are not available for project implementation or construction.
- [NSBP](#) (23 U.S.C. 162): Discretionary program subject to annual appropriations. Projects must directly benefit and be located on or near an eligible designated scenic byway.

[FHWA Federal Lands Programs](#)

- [FLTTP](#) (23 U.S.C. 201-204): Projects must provide access to or within Federal or Tribal lands. Programs include: Federal Lands and Tribal Transportation Programs ([Federal Lands Access Program](#), [Federal Lands Transportation Program](#), [Federal Lands Planning Program](#)) and related programs for Federal and Tribal lands such as the [Nationally Significant Federal Lands and Tribal Projects](#) (NSFLTTP) program.

- [Federal Lands Transportation Program](#) (23 U.S.C. 203): For Federal agencies for projects that provide access within Federal lands.
- [Federal Lands Access Program](#) (FLAP) (23 U.S.C. 204): For State and local entities for projects that provide access to or within Federal or Tribal lands.
- [TTP](#) (23 U.S.C. 202): For federally recognized Tribal governments for projects within Tribal boundaries and public roads that access Tribal lands.
- [TTPSF](#) (23 U.S.C. 202(e)(1) and 23 U.S.C. 148(a)(4)): Grants available to federally recognized Indian Tribes through a competitive, discretionary program to plan and implement transportation safety projects.

OST Grant Programs

- [INFRA](#) (IIJA § 11110): Funds projects that improve safety, generate economic benefits, reduce congestion, enhance resiliency, and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.
- [RAISE](#) (IIJA § 21202): Funds capital and planning grants to help communities build transportation projects that have significant local or regional impact and improve safety and equity.
- [RCN](#): Combines [RCP](#) (IIJA § 11509 and div. J, title VIII, Highway Infrastructure Programs, para. (7)), which provides funds for planning grants and capital construction grants that relate to a transportation facility that creates a barrier to community connectivity and [Neighborhood Access and Equity Grant Program](#), Inflation Reduction Act (IRA) § 60501; enacted as Pub. L. 117-169, 23 U.S.C. 177, which provides funds for projects that improve walkability, safety, and affordable transportation access and funding for planning and capacity building activities in disadvantaged or underserved communities.
- [SMART](#) (IIJA § 25005): Provides grants to eligible public sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems in order to improve transportation efficiency and safety.
- [SS4A](#) (IIJA § 24112): Discretionary program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Projects must be identified in a comprehensive safety action plan (§ 24112(a)(3)).
- [Thrive](#) (Department of Transportation Appropriations Act, 2022 (Pub. L. 117-103, div. L, title I): Technical assistance, planning, and capacity-building support in selected communities.

OST Loan Programs

- [RRIF](#) (Chapter 224 of title 49 U.S.C.): Program offers direct loans and loan guarantees for capital projects related to rail facilities, stations, or crossings. Pedestrian and bicycle infrastructure components of “economic development” projects located within ½-mile of qualifying rail stations may be eligible. May be combined with other grant sources.
- [TIFIA](#) (Chapter 6 of title 23 U.S.C.): Program offers secured loans, loan guarantees, or standby lines of credit for capital projects. Minimum total project size is \$10 million; multiple surface transportation projects may be bundled to meet cost threshold, under the condition that all projects have a common repayment pledge. May be combined with other grant sources, subject to total Federal assistance limitations.

FTA Programs

- [FTA](#) (49 U.S.C. 5307): Multimodal projects funded with FTA transit funds must provide access to transit. See [Bicycles and Transit, Flex Funding for Transit Access](#), the FTA [Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law](#), and [FTA Program & Bicycle Related Funding Opportunities](#).
 - Bicycle infrastructure plans and projects must be within a 3-mile radius of a transit stop or station. If more than 3 miles, within a distance that people could be expected to safely and conveniently bike to the particular stop or station.
 - Pedestrian infrastructure plans and projects must be within a ½ mile radius of a transit stop or station. If more than ½ mile, within a distance that people could be expected to safely and conveniently walk to the particular stop or station.
 - FTA funds cannot be used to purchase bicycles for bike share systems.
- [FTA AoPP](#) (Further Consolidated Appropriations Act, 2020 (Pub. L. 116-94); Consolidated Appropriations Act, 2021 (Pub. L. 116-260)): Promotes multimodal planning, engineering, and technical studies, or financial planning to improve transit services, facilities, and access in areas experiencing long-term economic distress, not for capital purchases.
- [FTA TOD](#): Provides planning grants to support community efforts to improve safe access to public transportation, services, and facilities, including for pedestrians and cyclists. The grants help organizations plan for transportation projects that connect communities and improve access to transit and affordable housing, not for capital purchases.

NHTSA Programs

- NHTSA [402](#) (23 U.S.C. 402): Project activity must be included in the State’s Highway Safety Plan. Contact the [State Highway Safety Office](#) for details.
- NHTSA [405](#) (23 U.S.C. 405): Funds are subject to eligibility, application, and award. Project activity must be included in the State’s Highway Safety Plan. Contact the [State Highway Safety Office](#) for details. The [Bipartisan Infrastructure Law](#) expanded the eligible use of funds for a Section 405 Nonmotorized Safety grant beginning in FY 2024. [See 23 U.S.C. 1300.26](#). For prior year grant awards, FAST Act eligible uses remain in place.
- Project agreements involving safety education, or any other positions must specify hours of eligible activity required to perform the project. Project agreements may not be expressed in terms of full or part time positions.\

State-Administered Transportation Infrastructure Grant Programsⁱⁱⁱ

| Program-Administrator | Eligible Projects | | | Eligible Entities | | |
|---|-------------------|----------|-------|-------------------|----------|-------|
| | Construction | Planning | Other | Municipalities | Counties | Other |
| Transportation Alternatives Set-Aside Program (TA Set-Aside)-NJDOT | ✓ | | ✓ | ✓ | ✓ | |
| Safe Routes to School Infrastructure Program-NJDOT | ✓ | | | ✓ | ✓ | ✓ |
| Recreational Trails Program (RTP)-NJDEP | ✓ | | ✓ | ✓ | ✓ | ✓ |
| The New Jersey Transportation Infrastructure Bank-NJTIB | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Congestion, Mitigation, and Air Quality Program (CMAQ)-NJTPA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Highway Safety Improvement Program (HSIP)-NJTPA | ✓ | | ✓ | ✓ | ✓ | |
| Vibrant Communities Initiative/Emerging Centers-NJTPA | | ✓ | | ✓ | | |
| Bikeway Grant Program-NJDOT | ✓ | | | ✓ | ✓ | |
| Municipal Aid-NJDOT | ✓ | | | ✓ | | |
| County Aid-NJDOT | ✓ | | | | ✓ | |

| Program-Administrator | Eligible Projects | | | Eligible Entities | | |
|---|-------------------|----------|-------|-------------------|----------|-------|
| | Construction | Planning | Other | Municipalities | Counties | Other |
| Local Aid Infrastructure Funds (LAIF)-NJDOT | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Safe Streets to Transit-NJDOT | ✓ | | | ✓ | ✓ | |
| Transit Village-NJDOT | ✓ | | | ✓ | | |
| Bicycle and Pedestrian Planning Assistance (BPPA)-NJDOT | | ✓ | ✓ | ✓ | ✓ | |
| Sustainable Jersey Grants Program-Sustainable Jersey | | ✓ | ✓ | ✓ | | |

| Program | Description |
|---|---|
| Transportation Alternatives Set- Aside Program (TA Set-Aside)-NJDOT | Funds non- traditional surface transportation projects, including design and construction of on-road and off-road bikeways. |
| Safe Routes to School Infrastructure Program-NJDOT | Funds for infrastructure projects that facilitate walking and bicycling within 2 miles of K-8 schools. |
| Recreational Trails Program (RTP)-NJDEP | Funds to improve access to open space and provide additional biking and hiking opportunities. A 20% match is required. |
| The New Jersey Transportation Infrastructure Bank-NJTIB | Provides and administers low interest rate loans to qualified municipalities, counties, and regional authorities in New Jersey for the purpose of financing transportation quality infrastructure projects. |
| Congestion, Mitigation, and Air Quality Program (CMAQ)-NJTPA | Funds projects that demonstrably reduce air pollution emissions or reduce traffic congestion. |

| Program | Description |
|--|---|
| Highway Safety Improvement Program (HSIP)-NJTPA | Funds projects that contribute to a significant reduction in crash frequency and/or severity on public roads. significant reduction in crash frequency and/or severity on public roads. |
| Vibrant Communities Initiative/Emerging Centers-NJTPA | Provides local technical assistance that leverages the power of placemaking to strengthen connections between people and places and implement the goals of NJTPA Plan 2050. |
| Bikeway Grant Program-NJDOT | Funds projects that promote bicycling as an alternative mode of transportation. Priority is given to the construction of dedicated bicycle paths. transportation. Priority is given to the construction of dedicated bicycle paths. |
| Municipal Aid-NJDOT | Funds appropriated to municipalities based on a formula for transportation projects, including the construction of bikeways. |
| County Aid-NJDOT | Funds formulaically appropriated to every county for projects included on the Annual Transportation Program (ATP). the Annual Transportation Program (ATP). |
| Local Aid Infrastructure Funds (LAIF)-NJDOT | Funds road, rail, transit, and port projects. A 20% match is required for applicants from urban areas while no match is required for rural areas. |
| Safe Streets to Transit-NJDOT | Provides funding for municipalities to improve walking and biking around transit facilities. |
| Transit Village-NJDOT | Funds for the design and construction of bicycle and pedestrian projects within 1/2 mile of transit station. A community must be a designated Transit Village to be eligible for funding. |
| Bicycle and Pedestrian Planning Assistance (BPPA)-NJDOT | NJDOT offers free local planning assistance through the Bureau of Safety, Bicycle, and Pedestrian Programs. Under the BPPA program, on-call consultants are paired with communities to complete various studies, including bicycle and pedestrian plans, safety assessments, trail feasibility studies, and improvement plans for traffic calming projects. |
| Sustainable Jersey Grants Program-Sustainable Jersey | Funds to implement Sustainable Jersey action items. A municipality must be registered with the Sustainable Jersey program. |

| Program | Website |
|---|---|
| Transportation Alternatives Set-Aside Program (TA Set-Aside)-NJDOT | https://www.njdotlocalaidrc.com/federally-funded-programs/transportation-alternatives |
| Safe Routes to School Infrastructure Program-NJDOT | https://www.njdotlocalaidrc.com/federally-funded-programs/safe-routes-to-school |

| Program | Website |
|---|---|
| Recreational Trails Program (RTP)-NJDEP | https://dep.nj.gov/greenacres/trails-program-home/ |
| The New Jersey Transportation Infrastructure Bank-NJTIB | https://www.njib.gov/njtib |
| Congestion, Mitigation, and Air Quality Program (CMAQ)-NJTPA | https://www.njtpa.org/Projects-Programs/Transportation-Management-Associations-(TMAs)/CMAQ-Program.aspx#:~:text=The%20Congestion%20Mitigation%20and%20Air,maintenance%20and%20non%20Dattainment%20areas. |
| Highway Safety Improvement Program (HSIP)-NJTPA | https://www.njtpa.org/localsafety |
| Vibrant Communities Initiative/Emerging Centers-NJTPA | https://www.njtpa.org/PEC.aspx |
| Bikeway Grant Program-NJDOT | https://www.njdotlocalaidrc.com/state-funded-programs/bikeways |
| Municipal Aid-NJDOT | https://www.njdotlocalaidrc.com/state-funded-programs/municipal-aid |
| County Aid-NJDOT | https://www.njdotlocalaidrc.com/state-funded-programs/county-aid |
| Local Aid Infrastructure Funds (LAIF)-NJDOT | https://www.njdotlocalaidrc.com/state-funded-programs/local-aid-infrastructure |
| Safe Streets to Transit-NJDOT | https://www.njdotlocalaidrc.com/state-funded-programs/safe-streets-to-transit |
| Transit Village-NJDOT | https://www.njdotlocalaidrc.com/state-funded-programs/transit-village |
| Bicycle and Pedestrian Planning Assistance (BPPA)-NJDOT | https://www.nj.gov/transportation/commuter/bike/resources.shtm |
| Sustainable Jersey Grants Program-Sustainable Jersey | https://www.sustainablejersey.com/grants/ |

ⁱ Ohio Department of Transportation. Multimodal Design Guide. Last modified January 2024.
<https://www.transportation.ohio.gov/working/engineering/roadway/manuals-standards/multimodal/12>.

ⁱⁱ FHWA Office of Planning, Environment, & Realty (HEP) Bicycle and Pedestrian Program, “ Accessed May 6, 2024.
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.pdf.

ⁱⁱⁱNew Jersey Bicycle and Pedestrian Resource Center (BPRC), “The Money Trail: A Comprehensive List of Funding Resources for Active Transportation in New Jersey,” accessed May 7, 2024. <https://njbikeped.org/the-money-trail/>.

Cross County Connection TMA. South Jersey Bicycle and Pedestrian Funding Guide. Last modified May 2020.
<https://driveless.com/local-government-programs-services/bicycle-pedestrian-planning/>.