CITY OF HOBOKEN
BICYCLE & PEDESTRIAN PLAN

NJDOT Local Technical Assistance Program
December 2010

ACKNOWLEDGEMENTS

The City of Hoboken Bicycle & Pedestrian Plan

December 2010

The project team would like to recognize and express appreciation to the numerous individuals who contributed information, attended a meeting or workshop, sent in a comment, or otherwise participated in the development of The City of Hoboken Bicycle and Pedestrian Plan. Special thanks to the members of the Steering Committee and City Staff for their time and on-going commitment to making Hoboken a model city for walking and biking.

This publication has been financed with federal funds provided by the United States Department of Transportation's Federal Highway Administration as administered by the New Jersey Department of Transportation through its Local Technical Assistance Program. The United States Government assumes no liability for its contents or its use thereof.

Plan prepared by:

The RBA Group

7 Campus Drive, Suite 300

Parsippany, NJ 07054

Plan prepared for:

COVER PHOTO "VIEW DOWN WASHINGTON ST. IN HOBOKEN" © COURTESY OF DAVE DICELLO

TABLE OF CONTENTS

TABLE OF CONTENTS

Appendices

TABLE OF CONTENTS

List of Figures

List of Tables

List of Maps

EXECUTIVE SUMMARY

BACKGROUND

The City of Hoboken Bicycle and Pedestrian Plan was prepared through the New Jersey Department of Transportation's (NJDOT), Office of Bicycle and Pedestrian Programs Local Technical Assistance (LTA) Program to address concerns of walking and bicycling within Hoboken. The City, in collaboration with Sweet Streets, its local pedestrian and bicycle advocacy group, applied to the LTA program to seek assistance to create a comprehensive plan to promote walking and bicycling as a preferred mode of transportation for residents and visitors, and to make these modes a priority in the transportation element of the City's Master Plan.

This plan builds on the extensive non-motorized transportation system already instituted by the City of Hoboken which includes off-road bicycle and pedestrian paths, and recently implemented on-street bicycle facilities. Chapter 5 of this plan, "Strategies for Transformation", provides a comprehensive approach to identify priority capital improvements for creating, enhancing and expanding walking and bicycling opportunities for residents and visitors of all ages and abilities throughout the City.

DEVELOPING the VISION

The City of Hoboken Bicycle and Pedestrian Plan was developed through a collaborative public input process. Members of the public and key stakeholders provided input at all stages of this year-long project through community meetings and a project Web page. The Steering Committee, comprised of representatives from NJDOT, The City of Hoboken Police and Transportation Utility Departments, Hoboken Sweet Streets, Hoboken Quality of Life Commission, Hudson County and the Hudson County Transportation Management Association (TMA), assisted the project team in guiding the planning process towards a comprehensive vision aimed at enhancing and promoting a complete, city-wide bicycling and walking network. A qualitative system evaluation in addition to input received during the public visioning workshop assisted the project team and Steering Committee in articulating a community vision in regards to bicycling and walking:

"Hoboken's transportation system safely accommodates and seamlessly connects all modes of travel – walking, bicycling, transit use and driving. Hoboken's residents, commuters, students and visitors of all ages and abilities can walk and bicycle with confidence and security. Its excellent bicycling and walking facilities are central to the city's valued transportation network and contribute to its identity, economic vitality, public health and overall quality of life."

Plan Organization

The Plan is organized as follows:

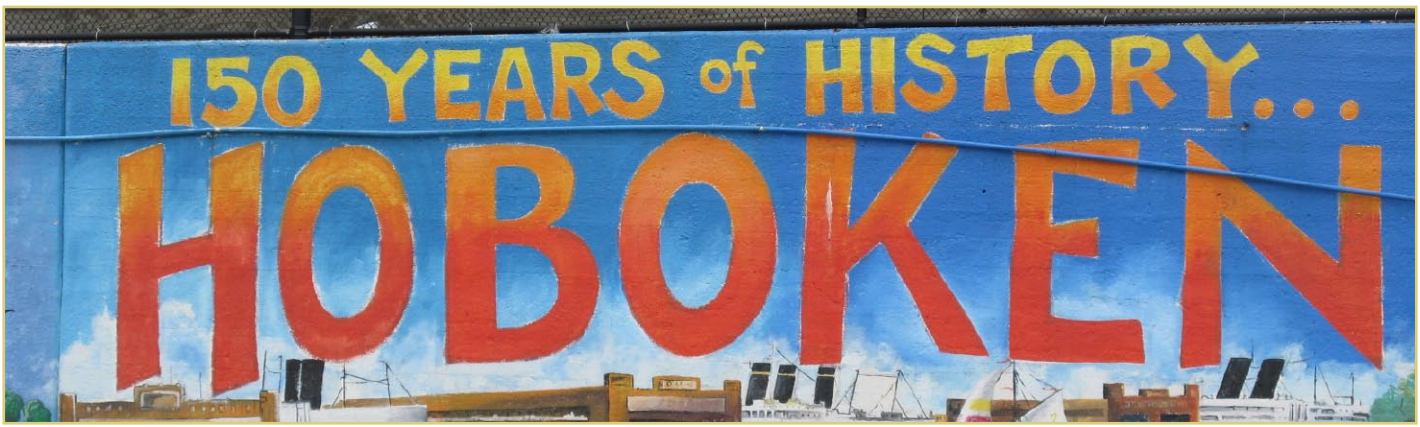
Chapter 1. Introduction & Background, provides an overview of the plan, its purpose and the project background.

Chapter 2. Planning Process & Community Outreach, provides a synopsis of the planning process for the project and the community outreach conducted as part of the development of the Plan.

Chapter 3. Evaluation and Analysis, summarizes the existing conditions and opportunities and constraints of integrating bicycling and walking into the City's current transportation system.

Chapter 4. The Vision for Hoboken's Future, discusses the Plan's vision statement , goals and objectives that will set the foundation for the City's future bicycle and pedestrian environment.

Chapter 5. Strategies for Transformation, outlines the strategic plan to take the City from its vision of becoming a walk and bike friendly community to implementation.



OPPORTUNITIES & RECOMMENDATIONS

The City of Hoboken, with its mix of residential neighborhoods, commercial corridors, compact grid street network, flat geography, waterfront views, and regional transit connections, is in a unique position to decrease auto use and promote walking and bicycling as preferred modes of transportation. However, in spite of these favorable conditions, a large number of residents and businesses still own and use autos for trips within the City. In addition, many visitors choose to drive to and park in Hoboken to reach destinations within the City or nearby New York City. In order for residents and visitors to consider non-motorized transportation as a safe and convenient option for daily travel, improved bicycle and pedestrians accommodations must be provided throughout Hoboken.

Using a comprehensive "5E" strategy, which includes Engineering, Education, Enforcement, Encouragement and Evaluation solutions, the plan outlines physical and programmatic actions that will help the City achieve its vision to create a true bicycle and walk-friendly community. The "5E Action Implementation Menu" presented in Chapter 5 includes recommendations for targeted actions such as municipal wayfinding, enhanced crosswalk striping, revision and adoption of bicycle and pedestrian-friendly land use and zoning ordinances, and a traffic safety campaign. Highlights of Chapter 5 include concept plans for locations identified by stakeholders and the public as priorities for bicycle and pedestrians improvements within the City. The four concept plans are outlined below.

Concept 1: The intersections of Hudson Street, Hudson Place, River Street and Newark Street

Issues: High pedestrian activity and conflicts with vehicular traffic

Proposed Design Solutions:

• Test or investigate implementing a Pedestrian Scramble ("Barnes Dance") at the signalized intersections

• Investigate prohibiting right turn on red, especially from Hudson Street onto Newark Street

• Enhance the intersection of Newark and Hudson Streets with a painted intersections or ergonomic crosswalks to prioritize pedestrian movement

Concept 2: Paterson Avenue between the border with Jersey City & Marshall Street

Issues: High pedestrian, bicyclist activity and conflicts with vehicular traffic

Proposed Design Solutions:

- Consolidate gateway signage
- Restripe existing crosswalks and relocate stop bars
- Add new crosswalks where currently absent
- Continue sidewalk network across driveway aprons
- Colorized and/or texturized pavement for the sidewalks

Concept 3: 15th Street (between Park Avenue and Hudson Street)

Issues: Speeding

Proposed Design Solutions

- Install a raised intersection at:
    - 15th Street and Washington Street
    - 15th Street and Garden Street
- Install speed humps less than 200 feet from the proposed raised intersections

Concept 4: Madison Street (between Newark Street and Observer Highway) & Newark Street (between Grove Street and Madison Street)

Issues: Better connectivity to Madison Street bicycle facility from Jersey City

Proposed Design Solutions

- Extend the northbound bicycle lane on Madison Street south to Newark Street
- Formalize and design the parking configuration adjacent to the firehouse to avoid conflicts with the proposed bicycle lane segment
- Widen the sidewalk along the north side of the Newark Street between Grove Street and Madison Street to create a sidepath to accommodate bicyclists accessing the proposed bicycle lane segment
- Install wayfinding signs leading from the Jersey City gateways along Grove Street and Marin Boulevard/Henderson Street

Chapter 5 also includes a **Recommendations Map** which illustrates where these design improvements should be made to Hoboken's existing transportation system. The Enhanced Bike Network Map is provided to illustrate how the implementation of Bicycle Priority Streets (Bicycle Boulevards) could be integrated into existing and proposed bicycle facilities

Design Guidelines, which provide examples of typical physical treatments for enhancing the bicycling and walking environment, are presented in Appendix A. This detailed document should be finalized and adopted by the City of Hoboken to forward the implementation of specific plan recommendations. The appendix also includes a table of potential funding sources available to the City to obtain monies for implementation of plan recommendations.

CONCLUSION

While significant barriers remain to decreasing auto ownership and use within the City of Hoboken, the City of Hoboken Bicycle and Pedestrian Plan takes a bold step forward in articulating a community-led vision for bicycle and pedestrian-friendly streets. This plan identifies a wide range of specific physical and programmatic improvements that can be implemented by the City within short and long-term timeframes, and with consideration to fiscal and political constraints.

Chapter 1: Introduction & Background

Chapter 1: Introduction & Background

PURPOSE

The purpose of the City of Hoboken Bicycle and Pedestrian Plan is to provide a blueprint or guide which, when implemented, will make walking and bicycling viable travel options for people in Hoboken. The plan provides an "action plan" for Hoboken and identifies specific opportunities for the City of Hoboken to make investments in its transportation network that will better accommodate bicyclists and walkers.

Bicycling and walking, as a means of both personal transportation and recreation, have been growing in popularity throughout the nation. This increase in bicycling and walking as a means for transportation has been spurred by increasing gas prices, the economic downturn, traffic congestion and an attitudinal shift that recognizes the ability to walk and bike to local destinations is a key indicator of a community's quality of life. This paradigm shift reveals the reality that our communities have not been planned, zoned, or built to support these activities.

Over the last sixty years, street networks have been primarily planned and designed for the movement of vehicular traffic. Contributing factors such as lack of sidewalks, non-continuous streets, and land use regulations that prohibit the mixing of land uses, have created a built environment that makes potentially short trips longer and puts users in a position where it is easier to make the trip by car. A report supporting federal investment in bicycling and walking shows that half the trips in America can be completed within a 20-minute bike ride and a quarter of all trips are within a 20 minute walk. Yet the vast majority of these short trips are taken by automobile, contributing to traffic congestion and environmental degradation.

Hoboken's street grid was laid out over a hundred and fifty years ago when walking was the primary mode of transportation. The dense network of streets complete with sidewalks combined with the City's recent advances in providing on-and off-road bicycle facilities and the availability of public transit create a walkable and bikeable environment. However, there are a significant number of residents and visitors that still travel by car in Hoboken. This decision often results in motorists "trolling" to find a parking spot or double or triple parking. This is a reflection of the fact that Hoboken has not reached its potential as a bike and walk friendly city. This potential can be best fulfilled by preparing and implementing a comprehensive bicycle and pedestrian plan. This Plan is intended to create a blueprint for helping the City achieve the proper balance between infrastructure needs for motorized and non-motorized traffic and provides the appropriate guidance for the successful transformation from the city's traditional driving culture into a more walkable and bicycle-friendly locale.

Deciding where to make capital investments in the Capital Improvement Program that will create a walkable and bikeable community and produce the desired modal shift away from the car is not an issue unique to Hoboken. Nationally, municipalities have a pressing need to find ways to accommodate community members who are unable to drive, or do not have access to a vehicle by providing some other means of mobility, such as walking, bicycling or public transit as key components of their transportation network. Recognizing this, government agencies have begun to promote these modes of transportation because they serve all ages and incomes and they are a contributing factor for enhancing public health, air quality and overall quality of life.

Buildings along Washington Street

Bike path along Sinatra Drive

Information kiosk along the Hudson River Waterfron Walkway

Hudson-Bergen Light Rail Station at the Hoboken Terminal

Shops along Washington Street

Bicyclist with child riding on bike path

Bicycle parking along Hudson Place outside the entrance to the PATH train at the Hoboken Terminal

The City of Hoboken Bicycle and Pedestrian Plan presents a vision for the future of Hoboken's transportation network, outlining a set of goals and objectives to achieve this vision, providing a mechanism for citywide implementation of bicycle and pedestrian transportation measures necessary to create the desired bicycle and walk friendly environment.

The Plan identifies opportunities for providing linkages, between key trip generators and attractors throughout Hoboken and develops a strategic approach for continued improvements over time. It is expected that given the availability and accessibility of safe and convenient infrastructure, more people will chose to walk or bike for shorter trips and use them in combination with public transportation for longer trips. This plan's approach incorporates comprehensive engineering, enforcement, education, encouragement, and evaluation solutions to make significant changes in the infrastructure and programs. The elements contained in the Plan can also be incorporated into a basic School Travel Plan, for the New Jersey Safe Routes to School (SRTS) Program, if desired.

PROJECT BACKGROUND

The City of Hoboken Bicycle and Pedestrian Plan builds on the accomplishments volunteers and working groups have achieved in implementing the initial stages of a walk/bike strategy for enhancing the city's status as a walkable and bikeable community. Prior to the Plan's development, the City was faced with several challenges regarding pedestrian and bicyclist safety. One of the City's main priorities was to respond to its residents' increased interest in bicycling and walking while working towards creating a more balanced transportation system that reclaims city streets from vehicular dominance. The conundrum is that the city's notoriety as a thriving community, full of dining, bars, retail, and as a regional transit hub obliges it to play host to a large number of pedestrians, bicyclists and automobiles who often mix at peak periods and continually battle for their fair share of street space.

The Plan is rooted in the City's desire to initiate a modal shift away from cars and the need to create options for "the overwhelming number of residents who choose to travel often on a daily basis without sitting in a car."[3] A number of City-sponsored initiatives have been implemented to this end such as the addition of exclusive bike lanes on Madison and Grand Streets and shared lane pavement markings ("sharrows") on some of the City's narrower streets.

Though this initial strategy has been a demonstration of the City's desire to become a walk and bike friendly community, walking and biking is not yet tied into the City's future transportation goals. Recognizing the need to have a comprehensive plan that can be used to incorporate bicycling and walking into the Transportation Element of their Master Plan, the City of Hoboken applied for, and was granted, technical assistance from the New Jersey Department of Transportation (NJDOT) under the Department's Office of Bicycle and Pedestrian Planning Local Technical Assistance Program to create such a plan. The RBA Group of Parsippany, New Jersey (under a Task Order Agreement with the NJDOT) was selected to develop this comprehensive Bicycle and Pedestrian Plan for the City.

3 Hoboken's LTA Application, October 1, 2009

Chapter 2: Planning Process & Community Outreach

Chapter 2: Planning Process & Community Outreach

PLANNING PROCESS & COMMUNITY OUTREACH

The development of the City of Hoboken Bicycle and Pedestrian Plan was a collaborative process facilitated by the project consultant team from The RBA Group working closely with key representatives from the Hoboken community and NJDOT. The first step in the planning process was to develop a scope of work and to establish a team of local representatives to steer the project through its development. This Steering Committee was formed to assist the project consultant team by serving as a clearinghouse for all information relevant to the plan while also providing the local perspective. The Steering Committee was comprised of representatives from the New Jersey Department of Transportation, the City of Hoboken's Police and Transportation and Utility Departments, the local pedestrian and bicycle community advocacy group, Hoboken Sweet Streets, Hoboken Quality of Life Coalition, Hudson County Division of Planning, North Jersey Transportation Planning Authority (NJTPA), Hudson County Transportation Management Agency, NJ Transit, Hoboken Chamber of Commerce, Stevens Institute of Technology's Student Committee, and community residents.

A Kick-Off meeting was held on June 22, 2010 with the Steering Committee, to introduce them to the project and to elicit their views and insight regarding bicycling and walking needs throughout the City of Hoboken. The Steering Committee identified key destinations, opportunities, challenges and amenities for bicycling and walking within Hoboken. Committee members also noted that this Plan is one of several efforts progressing simultaneously including a sub-regional transportation study of southwest Hoboken and Jersey City with NJTPA and the reevaluation of the City's Master Plan. A synthesis of this information set the direction of the project.

The next step in the planning process was to complete a system evaluation, utilizing all existing data to establish a baseline of current bicycle and pedestrian accommodations and activity and identify opportunities and constraints for future improvements in Hoboken. The process involved a series of steps including data collection, a needs assessment, and a bicycle and pedestrian demand analysis. Collectively, these steps allowed the project consultant team to develop a comprehensive menu of recommendations aimed at increasing walking and bicycling within the City.

The project consultant team's data collection efforts included a review and analysis of all existing relevant reports, resources, mapping, new developments, city ordinances and related projects provided by City, County and State agencies. Key sources of information used in the development of the plan included the City's Master Plan, Bike Lane Map and GIS data, Vehicular Traffic Speed Survey at spot locations from the City's Transportation and Utility Department and Plan4Safety crash data. The Document Bibliography found in **Appendix I: Document Bibliography** summarizes all of the reports and studies reviewed as part of this effort.

The needs assessment of the City's transportation system was conducted by reviewing the existing conditions and classifying opportunities for improvement. This evaluation and analysis identified barriers, gaps in connectivity, substandard conditions, and assessed the overall suitability of the existing infrastructure for bicycling and walking. In addition to the existing on-road infrastructure, bus routes, light rail stops and train and ferry terminal were mapped. **Map 2: Existing Conditions, Opportunities and Constraints Map** displays the results of the assessment.

The evaluation process also included analyses to identify where demand currently exists for bicycling and walking based on census tract information. These analyses were completed utilizing the models, methods and data from the New Jersey Statewide Bicycle and Pedestrian Plan, Phase 2.[3] The technical memorandum of the analyses can be found in the **Appendix E: Bicycle and Pedestrian Demand and Suitability Technical Memorandum**.

The third step in the planning process was to conduct public outreach. A public visioning workshop was held on August 3, 2010 to inform the public about the plan and elicit their input for the development of the plan. Participants engaged in dialogue through mapping and a visioning exercise to develop a vision and a set of goals for the plan that depicted a desired future for bicycling and walking in the City. Utilizing the information garnered from the workshop, the project consultant team prepared a vision statement complete with goals and objectives. The statement and its goals and objectives are intended to serve as the guiding principles for Hoboken with respect to addressing the needs of bicycle and pedestrian travel in the community.

Based upon the findings of the prior steps, a list of preliminary recommendations for improved bicycle and pedestrian facilities was prepared by the project consultant team. It included safe walking and bicycling access to the public schools, train stations, bus stops, and ferry terminals, Washington Street, and the waterfront. Recommended improvements include pedestrian accommodations and streetscape enhancements, bicycle accommodations, and traffic calming. Conceptual plans that address "hotspots" i.e. Paterson Avenue and the area around Hoboken Terminal were also prepared.

After the completion of the analysis phase and the development of the preliminary recommendations, the project consultant team hosted a Public Information Center (PIC). The purpose of the Public Information Center was to present the findings and conceptual improvements in the draft plan to the public and solicit their input and comments. The PIC was conducted in an "open house" format allowing the public to view a series of "stations" illustrating the key elements of the plan as well as the ability to have questions answered by the project consultant team or steering committee members.

The final step in developing a comprehensive Bicycle and Pedestrian Plan for the City of Hoboken was to incorporate the findings from each preceding task, including the public comment into the final plan. The City of Hoboken Bicycle and Pedestrian Plan outlines goals, objectives, and recommendations to fulfill the City's vision. It also presents typical design treatments that could be implemented to address identified needs and opportunities.

A flow chart illustrating the project's planning process is shown in Figure 1.

3 This Plan was developed by the New Jersey Department of Transportation in partnership with New Jersey's three regional Metropolitan Planning Organizations to serve as a framework for action to achieving the vision for improving the bicycling and walking environment throughout the State.

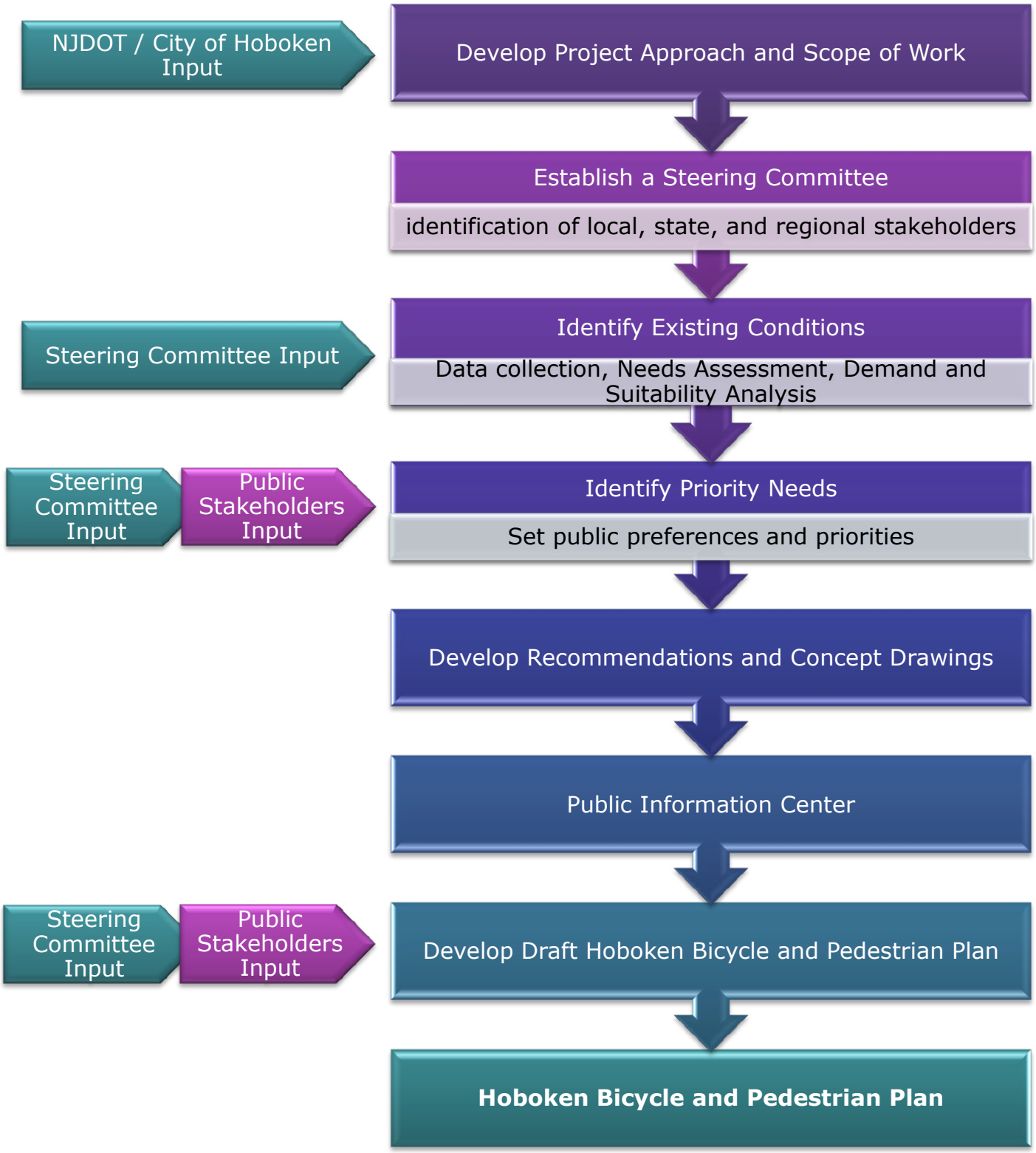


Figure 1. Planning Process Flow Chart

Chapter 3: Evaluation and Analysis

Chapter 3: Evaluation & Analysis

EVALUATION AND ANALYSIS OVERVIEW

This chapter summarizes the planning context and existing conditions for bicycling and walking in Hoboken. A comprehensive analysis was conducted by the project team to understand the existing conditions within the City. The evaluation included data collection and a review of plans, ordinances, and programs related to bicycling and walking; a summary of the existing bicycle and pedestrian facilities; analysis of bicycle and pedestrian crash data; bicycle and pedestrian demand model analysis; and a field visit to observe the pedestrian and bicyclist environment. Highlights from this comprehensive needs assessment are presented in this chapter along with significant findings that present opportunities and challenges for walkers and bicyclists. The complete summary of the field visit can be found in **Appendix C: Field Visit Memo and Photo Log**.

PLANNING CONTEXT

When planning for new bicycle and pedestrian facilities or upgrading or reconstructing existing roadways to accommodate bicyclists and pedestrians, one of the items for transportation planners and engineers to consider is the typical trip length of pedestrians and bicyclists. According to the Transportation Planning Handbook, published by the Institute of Transportation Engineers, "bicycle and pedestrian trips are typically characterized by short trip distances: approximately one-quarter mile to one mile for pedestrian trips and one quarter-mile to three miles for bicycle trips."[3]

Equally as important in planning for new bicycle and pedestrian accommodations is the understanding of the types of places and destinations where people start and end their trips. Many bicyclists and pedestrians, out of necessity, will make their trips to these land uses even if the proper accommodations or improvements are not made. Providing safe and convenient bicycle and pedestrian accommodations will not only improve the safety of current users but it will encourage others to make the choice to walk or bike rather than drive.

There are certain land uses that are known to attract walking or bicycling trips, especially if they are served by safe walking and bicycling facilities and have on-site facilities such as walkways and bicycle parking. These include:

Schools - Most children are physically fit and are unable to drive cars. As a result, walking and bicycling are natural modes of travel to schools, and until around 1980, most children did walk or bike to school provided that they lived within two miles of the school. The decline in physical activity by children – including the sharp decline in walking to school – has helped to create the much publicized epidemic in childhood obesity. Making schools accessible by walking and bicycling and developing programs, such as Safe Routes to School, that will encourage students to walk or bike represents a solution to transportation needs that addresses a public health issue as well.

Parks/Open Space - Like schools, parks and open space areas cater to children, but many adults use these facilities, too. Making these facilities accessible, by foot or bike, can allow children and adults to get to games and team practices without the need for vehicular transport.

Public Libraries - Like schools and parks, libraries attract residents to their services, and children are especially likely to have reasons to go to the library.

Religious Buildings - Religious organizations tend to draw their congregants from the surrounding community, meaning that many members may live close enough to walk or bike provided that safe and convenient routes are available.

Parking Lots - The final portion of most trips are made on foot. Good connections between parking areas and final destinations that support walking and/or bicycling should be made through wayfinding signs or kiosks.

3 John D. Edwards Jr., Transportation Planning Handbook, 2nd ed., ITE, Washington, D.C. 1999, pg 604

Bars/Restaurants - All businesses will attract walkers, but bars and restaurants are of special concern because they are more likely to have at least some patrons whose decisions skills may become impaired. Assuring that walkways are well marked and well lit can help to enhance safety.

Residential Hotels - All hotels, but especially those that serve as residences, are likely to produce more pedestrian trips than typical residential land uses due to the higher density of land use.

Transit stops and stations - No matter how we choose to travel to our destination, we are all pedestrians at some point during our trip. Even if a motorist drives to the park/ride lot to catch a bus or train, they must walk to and from their car. For a bus passenger, this type of trip often requires crossing a street or highway either while accessing the bus or when exiting it. Accommodations should be made at transit stops and stations to incorporate all trip types. All transit stops and stations should provide for basic pedestrian safety and important park/ride lots should incorporate a comprehensive walkway system, crosswalks and bike storage facilities.

Trails - Trails are constructed to attract bicyclists and/or hikers and walkers. However, trail crossings at roadways may not be anticipated by drivers, since trail crossings often lack the type of visual cues that drivers rely on to identify areas with pedestrians and bicyclists – sidewalks, homes, shops, etc. Therefore, providing trails with safe methods for crossing roadways poses a special problem – both in making the crossing safe and in alerting the motorist to the unanticipated conflicts.

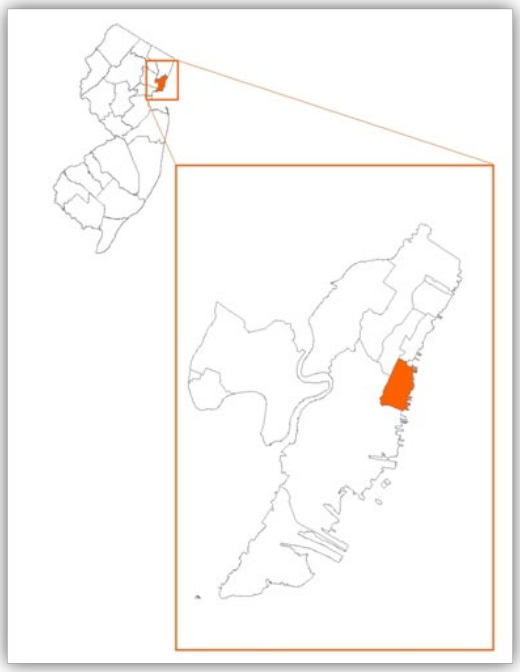
"How far people are willing to walk to work, shop, visit friends or to transit depends upon many factor which make up pedestrian accessibility, including hilliness, the availability and conditions of sidewalks, trees and such street furniture as awnings for protection from sun or rain, seating and other amenities, other pedestrians and interesting stores or vistas along the walk, the amount and speed of the street traffic and the ease and safety of street crossings." [4]

[4] John Holtzclaw, "Using Residential Patterns and Transit to Decrease Auto Dependence and Costs," June 1994.

EXISTING CONDITIONS

The City of Hoboken, also known as the "The Mile Square City" for its land area of 1.3 square miles, is an urban village (population of 41,538 persons) located in Hudson County. It shares its municipal borders with Weehawken to the north; Jersey City to the south; and Jersey City and Union City to the west. To the east it is bordered by the Hudson River and is directly across from Manhattan.

The City of Hoboken is primarily residential with multiple business and commercial corridors. Washington Street is the main commercial street in Hoboken with retail shops, office space, bars, and restaurants. Hoboken's older housing stock is comprised of brownstones that are generally two or three story buildings. Hoboken's waterfront provides an esplanade for pedestrians and bicyclists as part of the Hudson River Waterfront Walkway (HRWW) with a panoramic view of the New York City skyline. Major parks include Columbus Park, Church Square and along the waterfront, Elysian Park, Castle Point, Sinatra Park, and Pier A Park. Stevens Institute of Technology is also a major land use within the City with its main campus that extends north from 4th Street to 11th street and east from Hudson Street to the Hudson River.



Location of Hudson County highlighted in the State of New Jersey. Inset: Location of Hoboken within Hudson County.

The City's roadways form a grid network made up of local and county roads. This grid features one way streets that are mainly stop controlled. Most of the local (residential) roadways do not have a centerline stripe and typically have parking on both sides of the street with restrictions for residents and non-residents. The streets that run north to south streets tend to be wider than the streets that run east-west. The main thoroughfares are Observer Highway, Newark Avenue, Paterson Avenue, Park Avenue, Willow Avenue, Frank Sinatra Drive, 14th Street Viaduct, and Washington Street. The two main highway tunnels that connect New Jersey to New York - the Holland Tunnel (to the south in Jersey City) and the Lincoln Tunnel (to the north in Weehawken) are located within a mile of the City.

Key Bicycle and Pedestrian Trip Attractors

Current travel patterns provide the context for evaluating the type of improvements that may be most effective to achieving the City's vision for the future. Knowing what destinations attract walking and bicycling trips help to form the baseline from which future land use changes and access improvements may evolve. A brief overview of Hoboken's key bicycle and pedestrian trip attractors is provided in the following section.

Public Schools

- Joseph F. Brandt Primary School
- Salvatore R. Calabro Elementary School
- Thomas G. Connors Elementary School
- Wallace Elementary School
- Hoboken High School
- The A. J. Demarest Alternative High School
- Hoboken Charter School - Elementary and Middle School
- Hoboken Charter School – High School

Colleges/Universities

- Stevens Institute of Technology

Parks/Open Space

- Pier A Park
- Pier C Park
- Sinatra Park
- Church Square Park
- Stevens (Hudson Square) Park
- Elysian Park
- Castle Point Skate Park
- Columbus Park
- Multi-Service Community Center Park
- Jackson Street Park
- Maxwell Place Park
- Walkway/Fishing Pier
- Warrington Plaza

Municipal Facilities

- Municipal Garages – Garage "B", Garage "D", Garage "G", Midtown and Garden Street
- City Hall
- Hoboken Public Library
- Multi-Service Community Center

Trails

- Hudson River Waterfront Walkway

Tourist Attractions

- Carlo's Bakery

Residential Hotels

- The W

City Hall

Hudson River Waterfront Walkway

Maxwell Place Park

2nd Street Hudson Bergen Light Rail Station

Transit Use

The City of Hoboken is extremely well-served by every major transit mode. According to the 2006-2008 American Community Survey, fifty-five percent (54%) of Hoboken residents use public transportation to get to work. Commuters can reach destinations in New York City and throughout New Jersey via the Hoboken Terminal, which serves as a regional transportation hub. Intra-city travel is provided by the City's mini-transit system known as "The Hop." Details on transit service and connections available within the City are noted in Table 1 below and on **Map 1: Transit Map**.

Table 1. Transit Service and Connections Available in the City of Hoboken

Type of Service & Operator	Service/Connections Available
Bus – NJ Transit	NJ Transit 126, 64, 22, 23, 68,85, 87, 89
Rail – NJ Transit	Hoboken Terminal
Port Authority Trans-Hudson (PATH)	Hoboken Terminal
Hudson-Bergen Light Rail	Hoboken Terminal, 2nd Street, 9th Street
Shuttle Bus – The City of Hoboken	The Hop – Green, Blue, Red Lines
Ferry – NY Waterway	Hoboken Terminal, 14th Street

City of Hoboken
Bicycle & Pedestrian Plan

Map 1. Transit Map

December 2010

WEEHAWKEN
HARBOR BLVD
Weehawken/ Hoboken Cove
16TH ST
JEFFERSON ST
CLINTON ST
PARK AVE
15TH ST
HUDSON ST
MANHATTAN AVE
Clearview Cinema
14TH ST
13TH ST
WASHINGTON ST
SHIPYARD LANE
SINATRA DR N
UNION CITY
GRAND ST
CLINTON ST
12TH ST
ADAMS ST
MONROE ST
11TH ST
Elysian Park
Maxwell Place Beach
10TH ST
Columbus Park
WILLOW ST
GARDEN ST
CASTLE POINT TERRACE
Shop Rite
9TH ST
ADAMS ST
Castle Point Park
Walkway/Fishing Pier
8TH ST
MADISON ST
PARK AVE
BLOOMFIELD ST
HUDSON ST
Stevens Institute of Technology
SINATRA DR
7TH ST
GRAND ST
6TH ST
WASHINGTON ST
Sinatra Park
5TH ST
Church Square Park
Stevens Park
JERSEY CITY
4TH ST
JEFFERSON ST
Pier C
3RD ST
MONROE ST
GRAND ST
CLINTON ST
WILLOW ST
BLOOMFIELD ST
COURT ST
HUDSON ST
SINATRA DRIVE
PATERSON PLANK RD
HARRISON ST
2ND ST
Multi-Service Community Center
MARSHALL ST
JACKSON ST
ADAMS ST
RIVER ST
Pier A
1ST ST
Carlos Bakery
MOUNTAIN ROAD
PATERSON AVE
MADISON ST
PARK AVE
GARDEN ST
OBSERVER HWY
OBSERVER HWY
NEWARK ST
JERSEY AVE
GROVE ST
MARIN BLVD
JERSEY CITY
HOLLAND TUNNEL
NORTH
0.25
Miles

LEGEND

BUS ROUTES

- BLUE HOP
- GREEN HOP
- RED HOP
- NJTRANSIT

- RAIL STATION
- FERRY TERMINAL
- BUS TERMINAL
- ACTIVE RAILROAD

- CITY HALL
- POLICE STATION
- HOSPITAL
- LIBRARY
- POST OFFICE

- MUNICIPAL PARKING GARAGE
- BRIDGE
- COBBLESTONE ALLEY
- PLANTED MEDIAN
- ONE WAY STREET

Sources: City of Hoboken; NJDOT; State of NJ Division of Taxation, NJ Office of Technology (NJOIT), Office of Geographic Information Systems (OGIS)

Bicycle & Pedestrian Facilities

Bicycle Facilities

The City of Hoboken's bicycle network currently has approximately 4.22 miles of bikeways. This includes 3.22 miles of off-road bicycle facilities and one mile of "designated" on-road bicycle facilities. The current network has two dedicated bike lanes along Madison and Grand Streets, which are both one-way streets with parking on both sides. Unlike the conventional bike lanes seen throughout the State, these bike lanes are located on the left side of the street. These bicycle facilities were designed for the safety of the bicyclist to keep them out of the "door zone."[4] Studies have shown that bicyclists using bike lanes positioned on the left side of the street are less likely to experience "dooring" (being hit by a car door) from a passenger exiting the vehicle.

The bicycle network also includes shared lane pavement markings, called "sharrows," on streets that the City has deemed too narrow for bike lanes. Sharrows indicate to both bicyclists and drivers that the street is meant to be shared by both parties and provide guidance to bicyclists as to where they should position themselves. These pavement markings are accompanied by regulatory signage that instructs motorists to "share the road" with bicyclists.

The City's only existing exclusive bicycle path is a four-block long segment that begins at Newark Street and travels northbound along Sinatra Drive until it comes to an abrupt stop at 4th Street. The path is adjacent to the Hudson River Waterfront Walkway (HRWW) but it is physically separated from it by tree-lined buffer space. Although the bicycle path is marked with pavement markings for bicyclists, pedestrians also use this facility.

Bicycle parking can be found throughout the City but is mainly concentrated along Washington Street, the HRWW and at Hoboken Terminal. There are currently no bicycle racks installed on the NJ Transit buses that travel through Hoboken or on the buses utilized by the City's "Hop" shuttle service.

Definition of Hoboken's Bicycle Facilities as identified in the Municipal Code*

- **Class I Bike Lane**: Referenced in this Plan as a bike path, a Class I Bike Lane provides bicycle travel on a paved right-of-way completely separated from the street.
- **Class II Lane**: Referenced in this Plan as a bike lane, a Class II Bike Lane provides a striped, signed, and stenciled 5' lane for one-way travel on a street.
- **Class III Bike Lane**: Referred to in this Plan as a road with a shared lane marking (SLM) or "sharrow", a Class III Bike Lane provides for shared use with bicycle or motor vehicle traffic and is identified using a stenciled shared lane marking or "sharrow" and signage.

*These facility designations vary from the terminology typically used to describe designated bicycle facilities.

[5] The "door zone" is the 4-foot area along the side of a parked car where a driver opening their door can hit and seriously injure a cyclist or force them to maneuver out of the bike lane and into the adjacent lane of traffic.

City of Hoboken Guidelines for Bicycle Riding on Streets & Sidewalks as written by Ian Sacs, P.E., Director, Transportation and Parking, City of Hoboken

"1. Riding on sidewalks: In Hoboken, we feel that the streets are for bikes and the sidewalks are for pedestrians, but we still want to preserve the needs of families with small children, or others making that last leg of their trip to avoid riding around the block. So, you are allowed to ride on sidewalks, but no faster than the speed of nearby pedestrians.

Bicyclists should use additional caution when riding on a sidewalk. Motorists do not expect to see bicyclists traveling on sidewalks and may pull out of intersections or driveways and collide with a bicycle unexpectedly.

2. Pedestrians have the right of way: Whether on the sidewalk or at crosswalks, pedestrians always have the right of way. Bike riders should yield and act courteously towards all pedestrians.

3. It is illegal to ride against the flow of traffic: In New York City, bike riders who ride the wrong way on one-way streets are called "salmon". Bike riders have the same rights and responsibilities as motor vehicles, and this includes riding in the same direction of traffic as regulated by law/signage.

4. Bike riders must obey traffic control devices: Stop signs and traffic signals must be obeyed, it's as simple as that. Blowing through intersections is dangerous and, to be blunt, is infuriating to drivers and pedestrians who are expected to obey traffic laws."

Table 2-1: Hoboken Existing Class I Bike Lanes

Class	Location	Start	End
I	Parallel to Sinatra Drive	Newark Street	4th Street

Table 2-2: Hoboken Existing Class II Bike Lanes

Class	Location	Start	End
II	Madison Street (northbound)	Observer Highway	11th Street
II	Grand Street (southbound)	Newark Street	15th Street
II	2nd Street (both directions)	Sinatra Drive	River Street

Table 2-3: Hoboken Existing Class III Bike Lanes

Class	Location	Start	End
III	8th Street	Hudson Street	Jackson Street
III	9th Street	Jackson Street	Hudson Street
III	12th Street	Monroe Street	Hudson Street
III	13th Street	Hudson Street	Madison Street

Pedestrian Facilities

Hoboken has a contiguous sidewalk network with sidewalks on both sides of the street and relatively few gaps. Throughout the city, various pedestrian amenities, such as benches, can be found outside of businesses and near or in parks. At the majority of crossings throughout the city, the traffic signals do not feature pedestrian signal displays that create a gap for pedestrians to cross. Along the bus lines that run throughout the City, minimal amenities such as shelters and route information can be found throughout the system.

The City's most prominent pedestrian and bicyclist facility can be found along its waterfront. Here, the Hudson River Waterfront Walkway provides a connection for pedestrians and bicyclists traveling from Jersey City and continuing along the waterfront towards Weehawken. The HRWW has plenty of bicycle parking and benches for pedestrians and bicyclists as they enjoy the nearby recreational and commercial land uses.

Crash Data Summary

The project consultant team reviewed vehicle crash records for the seven-year period between January 1, 2003 and December 31, 2009. The crash data obtained from the Plan4Safety[5] database was used to determine the frequency of crashes and the locations where bicyclist and pedestrian conflicts with motorists was most prevalent. During the time period reviewed, there were a total of four hundred and twelve (412) motor vehicle crashes. Out of these crashes, two hundred and twelve (212) crashes involved either bicyclist or pedestrian. There were no reported fatalities involving bicyclists or pedestrians during this time. Within the City, there were four (4) areas that experienced the highest clusters of bicyclist and pedestrian crashes. These "hot spots" are identified in the following figures. In the figure details, the yellow thumbtacks represent the location of a crash involving a pedestrian and the white thumbtacks represent the location of a crash involving a bicyclist.

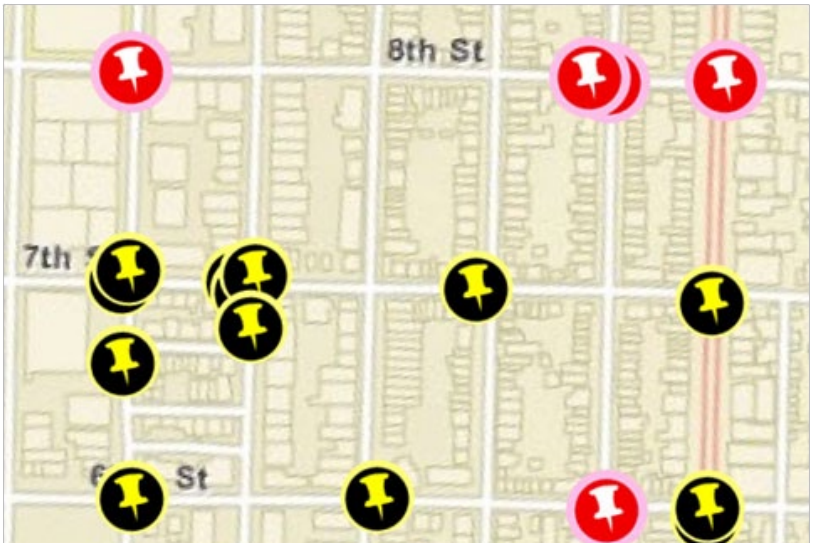


Figure 2. Bike/Ped Crashes - 6th, 7th and 8th Streets between Washington and Clinton Streets

View northbound along Washington Street near the intersection of 6th Street

[7] Plan4Safety is a NJDOT sponsored program that offers a tool to transportation officials to filter and analyze statewide crash records for more detailed and place-based analysis.

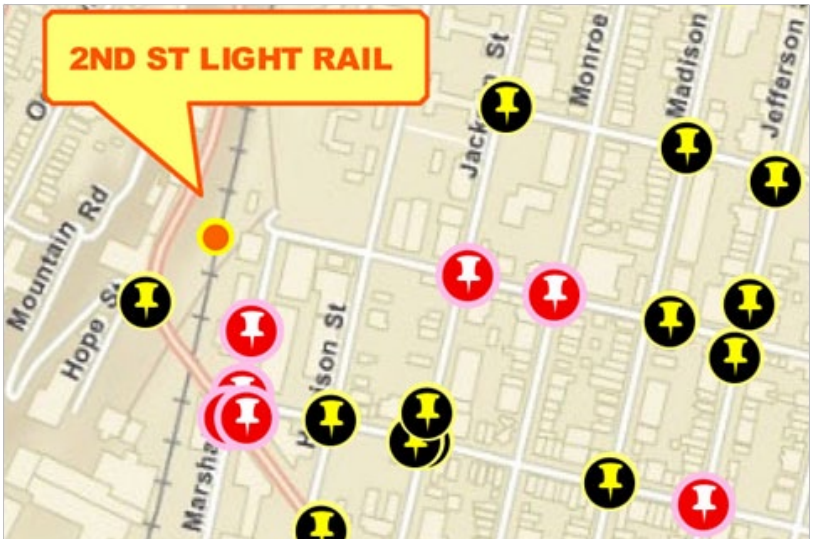
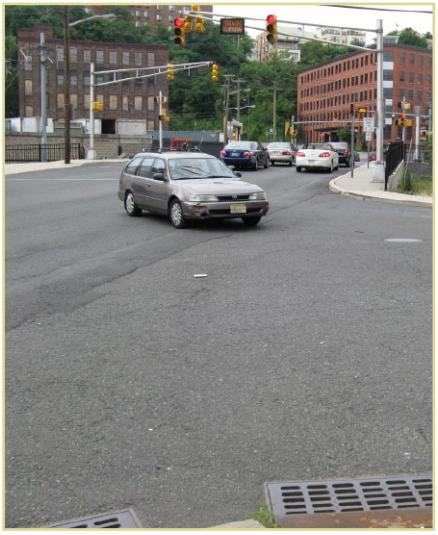


Figure 3. Bike/Ped Crashes - Southwest Hoboken Area



Convergence of Paterson Avenue, Marshall Street and 1st Street

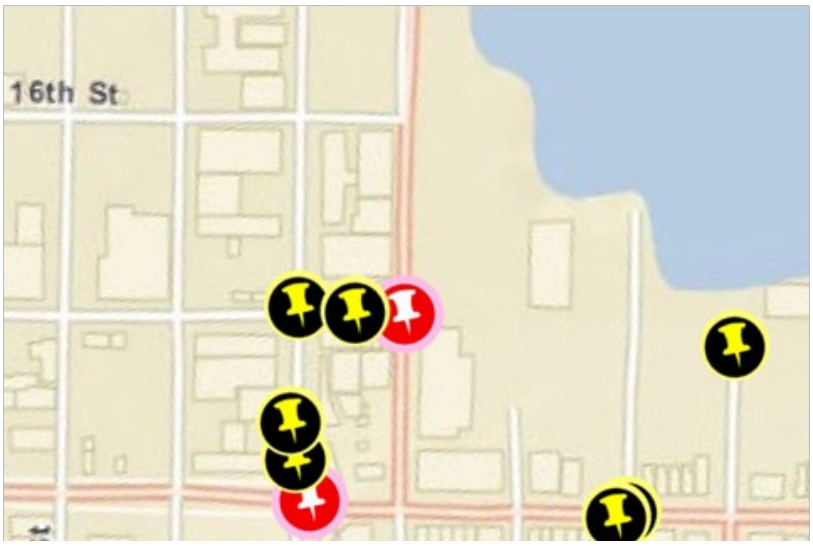


Figure 4. Bike/Ped Crashes - 14th and 15th St b/w Park and Willow Aves

View westbound along 15th Street towards Bloomfield Street

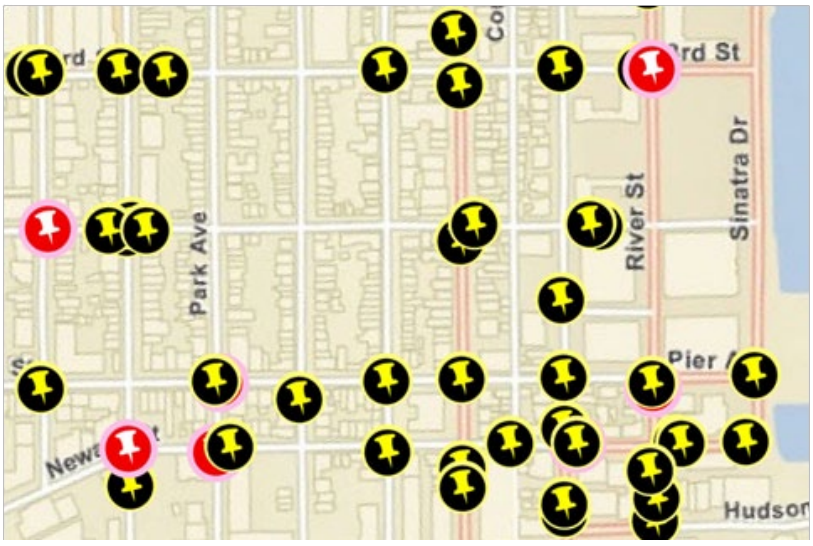


Figure 5. Bike/Ped Crashes - Hoboken Terminal Area

Intersection of Hudson and Newark Streets

The crash data obtained for this analysis identified locations of bicycle and pedestrian crashes but did not include any police narrative indicating the cause of the crash. Without the narrative, there is not enough information to determine if a problematic condition exists or to suggest a solution. It is recommended that any future efforts to rectify issues at these "hot spots" should include the collection and review of accident report narratives to verify problems with crash "clusters" and determine appropriate solutions. See **Appendix F: Summary of Crash Data** for a summary of the crash conditions, intersections with multiple crashes and crashes involving bicyclist and pedestrians along road segments.

State Plan Analysis

Utilizing the methods and data for modeling bicycle and pedestrian demand and suitability from the New Jersey Statewide Bicycle and Pedestrian Master Plan, Phase 2, an analysis of bicycle and pedestrian demand in Hoboken and the suitability for bicycling on Hoboken's roadways was conducted.

The Bicycle Demand Model (BDM) was utilized to provide a measure of the total number of daily bicycle trips for a given census tract based on 2000 Census data. The Pedestrian Compatibility Index (PCI) was used to estimate locations with the greatest potential for pedestrian demand based on variables generally understood to contribute to environments conducive to pedestrian activity, such as density, employment and transit accessibility.

The findings are presented in ranges of low, medium, high demand based on the number of daily utilitarian trips made in a given census tract; where low demand equals 0-200 daily trips, medium demand equals 201-1000 daily trips, and high demand equals 1000 or more daily trips. The results indicated that bicycle and pedestrian demand is primarily medium or high throughout the City. The model was also conducted on Congestion Mitigation System (CMS) roadways to determine those that are "suitable" for bicycling and provide ample opportunity for safe pedestrian crossing due to sufficient gaps in traffic. Unfortunately, the model did not yield results because there are currently no CMS roadways in Hoboken.

The model is a planning tool that is used as a starting point to identify opportunities for implementing bicyclist and pedestrian facilities. Given its nature, the model cannot define or measure where demand ***exists***; it simply notes where it can be ***expected*** based on major trip generators. It should be noted that the BDM is a very conservative estimate of demand which accounts for utilitarian trips only and does not consider recreational trips, where increased demand can be anticipated with the implementation of improved facilities. The model uses the assumption that the demand results will not be realized unless appropriate facilities are provided. In addition, because the data in the model is stagnant, it does not take into account any recent changes in Hoboken's land development or population. For the most accurate model results, it is recommended that the model be updated to incorporate the most recent Census data and further supplemented with local information. The complete results of the analysis can be found in **Appendix E. Bicycle and Pedestrian Demand and Suitability Technical Memorandum.**

What is Demand Forecasting?

In the context of bicycle and pedestrian planning, demand forecasting is a process by which we identify what areas or corridors are most likely to carry bicycle or pedestrian trips. This is done by evaluating census population and employment data to estimate the potential level of bicycle and pedestrian trip making that could occur in a given area.

Map indicating the total number of utilitarian bicycle trips per census tract as indicated utilizing Census 2000 information.

OPPORTUNITIES AND CONSTRAINTS

In many New Jersey communities non-motorized means of transportation, such as walking or bicycling, are used mainly for recreational purposes. A growing number of residents and commuters use walking or bicycling as an alternative travel mode when they have the opportunity, and enjoy the chance it provides to combine exercise and travel. Given Hoboken City's relatively flat terrain, compact land use, close proximity of trip attractors, dense network of streets, and multiple transit options, Hoboken residents have an ideal set of conditions in which walking and bicycling can become preferred modes of transportation for short trips. However, there are several barriers that limit the ability to safely walk and bike throughout the City. The recommended strategies identified in Chapter 5 were developed to address these issues.

While conducting data collection, the project team discovered that there are a number of simultaneous projects related to improving the existing conditions within Hoboken. It is expected that the recommendations and subsequent implementation that comes as a results of these studies will have an effect on the bicycle and pedestrian environment. A summary of these projects is noted in **Appendix J: Document Bibliography**.

The following is a summary of the most pressing opportunities and constraints as identified by stakeholders during the public outreach and by the project team during the needs analysis.

A photo log showing the existing conditions is included as **Appendix C: Field Visit Memo and Photo Log** of this report.

Summary of Key Opportunities and Constraints

Gateway Signage

There are seven roads that provide the primary ingress/egress from Hoboken to the surrounding municipalities. Using these gateways, Hoboken is accessible from the south by Jersey Ave., Grove St., and Marin Blvd/Henderson Street; from the east by Paterson Plank Road/Paterson Avenue and 14th Street; and from the north by the Park Avenue and Willow Avenue bridges. Gateway signage is often used to communicate to motorists that they have entered or are exiting a destination. At all of the previously noted locations there is gateway signage, but the signs vary in size, color, design and age. These signs are also often accompanied by other sign clutter which can be a distraction to motorists.

Driving Culture

Hoboken's transportation system offers numerous ways to get around without a car via walkways, bicycle facilities, and transit, yet the driving culture is still a predominant force within the City. With 3,800 on-street parking spaces for more than 40,000 residents, parking is a hot commodity. Residents and visitors contribute to congestion and traffic as they drive the city streets in circles looking for a place to park. Drivers who are distracted by the need to find a parking space pose a potential hazard to other roadway users.

Despite the availability of modal options, a large number of residents still choose to own a car. According to 2006-2008 American Community Survey (ACS) statistics, fifty-one percent (51%) of residents have at least one vehicle available in their household while eleven percent (11%) have at least 2 vehicles available. This paradox is further complicated by the statistical evidence that most residents do not use their car to get to work but instead utilize public transit. Anecdotal information supports this and revealed that many leave their car parked during the week and only use it for travelling on the weekends or to run local errands. To deter new residents from owning a vehicle and to provide a convenient solution for those residents that only need a car for running local errands, the City created the "Surrender Your Permit" and "Corner Car" programs. Both programs offer incentives to Hobokenites willing to give up their parking permits in exchange for a car-free lifestyle.

Lack of Pedestrian Facilities at Intersections

As stated previously, there are few traffic signals that include pedestrian signals indicating when it allowable for the pedestrian to cross the street. The signal infrastructure needs to be updated to incorporate traffic signals that use pedestrian countdown signals to let the pedestrian know exactly how much time they have to cross the street before the light turns red. Currently, these signals exist at a few locations within the City such as the intersection of Hudson Place and River Street and the intersection of River and Second Streets but there are none at the signalized intersections along Washington Street. In addition, the traffic signals have only one signal head located above the center of the intersections which makes it difficult for pedestrians to gauge when they should cross based on the color of the light, especially at the one-way streets.

Jaywalking

Intersections that do not convey information on when to cross, deficient signal timing that results in long wait times, and motorists' non-compliance with stopping for pedestrians in the crosswalk have created an environment where pedestrians have become overly-aggressive. Rather than waiting for the light to change, many pedestrians jaywalk and take risks when crossing against the traffic light. This is most apparent in the vicinity of the Hoboken Terminal especially during peak hours.

Limited site visibility for pedestrians at intersection corners

Given the fact that parking is limited, every parking space is considered valuable and drivers "squeeze in" where they can. Sometimes, this means parking extremely close (illegally) to the intersection or within the crosswalk. Cars that park too close to the intersection pose a hazard by limiting visibility for pedestrians attempting to cross a non-stop controlled street. The City has begun implementing "daylighting" treatments at certain intersections to combat this issue by placing two vertical delineators upstream of the crosswalk. These plastic delineators prevent cars from parking too close to the crosswalk and improve safety for pedestrians by enhancing visibility; however, because of their composition some motorists run over them in order to continue to park in the dedicated space.

Bicycle Network Connectivity

Hoboken's existing and proposed bicycle network helps to integrate bicycling into the roadway system but opportunities exist for enhancing the user's experience. The dedicated bike lanes along Madison and Grand Streets are frequently blocked by double parked cars. This reduces the efficiency of the network and uncomfortably forces bicyclists to use the travel lane to avoid the obstruction.

The network's existing bike lanes make north to south connections, but east to west connections are warranted to connect the greater community to the recreational uses along the waterfront. Additionally, better network connections should be made to adjacent communities such as Jersey City and its bicycle network.

Wrong Way Cycling

During in-field data collection, a vast number of cyclists were observed using the on-and off-road facilities. Although many of these bicyclists were observed to be following the rules of the road and the direction of traffic, a disturbing amount of bicyclists were not. Cyclists were often observed riding against the direction of traffic down a one way street and ignoring traffic control at intersections.

Gaps in Pedestrian and Bicycle Network

Even though Hoboken's walkways and bikeways system is extensive and provides ideal conditions for circulation, there are a number of gaps. The most notable gaps exist along the HRWW where several gaps exist along the waterfront leading to Weehawken.

Speeding and Roadway Design

Hoboken's residential nature lends it to having a 25mph speed limit on most of its streets. Given its close proximity to both the Holland and Lincoln Tunnels, Hoboken experiences cut-through traffic from cars and trucks. Stakeholders identified the local roads where they perceived speeding to occur most often due to limited or no traffic control. They also identified a number of intersections where crossing was dangerous or awkward due to the roadway's configuration or because current driver behavior.

Map 2: Existing Conditions, Opportunities and Constraints Map highlights the transportation network and the existing conditions and opportunities and constraints.

City of Hoboken
Bicycle & Pedestrian Plan

MAP 2. EXISTING CONDITIONS, OPPORTUNITIES & CONSTRAINTS

December 2010

WEEHAWKEN
UNION CITY
JERSEY CITY
HARBOR BLVD
Weehawken/ Hoboken Cove
Gap in HRWW
16TH ST
15TH ST
14TH ST
13TH ST
12TH ST
11TH ST
10TH ST
9TH ST
8TH ST
7TH ST
6TH ST
5TH ST
4TH ST
3RD ST
2ND ST
1ST ST
JEFFERSON ST
CLINTON ST
PARK AVE
WASHINGTON ST
HUDSON ST
SINATRA DR N
SHIPYARD LANE
MANHATTAN AVE
Clearview Cinema
GRAND ST
ADAMS ST
MONROE ST
WILLOW ST
GARDEN ST
CASTLE POINT TERRACE
Elysian Park
Maxwell Place Beach
Columbus Park
Shop Rite
Castle Point Park
Walkway/Fishing Pier
SINATRA DR
Stevens Institute of Technology
MADISON ST
BLOOMFIELD ST
Damage to HRWW
Sinatra Park
Church Square Park
Stevens Park
Pier C
COURT ST
SINATRA DRIVE
Pier A
RIVER ST
Carlos Bakery
Multi-Service Community Center
JACKSON ST
HARRISON ST
MARSHALL ST
PATERSON PLANK RD
MOUNTAIN ROAD
PATERSON AVE
OBSERVER HWY
NEWARK ST
JERSEY AVE
GROVE ST
MARIN BLVD
HOLLAND TUNNEL
HRWW continues through Hoboken Terminal. Bicyclists must dismount.
NORTH
0.25 Miles

LEGEND

- BIKE PATH (physically separated from motor vehicle traffic)
- BIKE LANE (5' lane for preferential use by bicyclists)
- ROAD WITH SHARED LANE MARKINGS (road right-of-way shared by cyclists and motor vehicles)
- EXISTING TRAIL (Hudson River Waterfront Walkway)
- EXISTING BIKE RACK
- BIKE SHOP
- RAIL STATION
- FERRY TERMINAL
- BUS TERMINAL
- CITY HALL
- POLICE STATION
- HOSPITAL
- LIBRARY
- ANGLED PARKING
- BRIDGE
- ACTIVE RAILROAD
- COBBLESTONE ALLEY
- PLANTED MEDIAN
- ONE WAY STREET
- MUNICIPAL PARKING GARAGE
- POST OFFICE
- SCHOOL
- UNIVERSITY
- COMMERCIAL PARCEL
- PARK
- BUS ROUTES
  - BLUE HOP
  - GREEN HOP
  - RED HOP
  - NJTRANSIT
- GAP in HUDSON RIVER WATERFRONT WALKWAY (HRWW)
- MISSING SIDEWALK
- GATEWAY/ACCESS ROAD
- DIFFICULT INTERSECTION (per Steering Committee and public input)
- PERCEIVED SPEEDING (per Steering Committee and public input)

Sources: City of Hoboken; NJDOT; State of NJ Division of Taxation, NJ Office of Technology (NJOIT), Office of Geographic Information Systems (OGIS)
*Note: The match rate of the parcels data set from the NJOIT OGIS and the State of NJ Division of Taxation 2010 MOD-IV tables was 95%.

Chapter 4: The Vision for Hoboken's Future

Chapter 4: The Vision for Hoboken's Future

VISIONING OVERVIEW

This chapter outlines the City of Hoboken Bicycle and Pedestrian Plan's vision statement, goals and objectives which are aimed at providing a foundation for the recommended bicycle and pedestrian infrastructure improvements and programs. The vision statement sets the desired direction for the future of Hoboken's physical bicycle and pedestrian environment. The goals and objectives provide general directives and exemplify measurable actions that can be taken to achieve Hoboken's bicycling and pedestrian vision.

As part of the planning process, the project consultant team worked with the community to craft a vision for the future of bicycling and walking in Hoboken as well as specific goals for both physical accommodations and programmatic activities to support bicycle and pedestrian travel. The vision statement, goals and objectives were crafted based on the ideals of bicycling and walking that were articulated in the City's LTA application to NJDOT and those that were being continuously reiterated in their public dialogue. In his *Planetizen* blog dated February 8th, 2010, Ian Sacs, the City's Director of Transportation and Parking, stated that the City's goal is to "dramatically broaden the modal choices that residents and visitors have when they are in Hoboken." As per their Bicycle Friendly Communities application, the City stated their goal is to "improve linkages within the bicycle network to make better connections to bicycle infrastructure, the waterfront, open spaces, transit stations and other destinations."

In seeking community participation, the project consultant team had the full understanding that Hoboken's vision cannot be solely based on the City's goals and should also be rooted in the community and its values and priorities. After hearing the needs and concerns about bicycling and walking throughout the City of Hoboken from the Steering Committee at the project's Kickoff Meeting, the project consultant team conducted a Public Visioning Meeting to inform the general public about the plan and to elicit their input. This meeting was held on Tuesday August 3, 2010 from 4:30pm to 7:30pm at the Multi-Service Community Center.

After receiving the overview of the Plan and a presentation highlighting the existing conditions and solutions to consider for the future, attendees were asked to partake in a visioning exercise. The intent of the exercise was to help attendees craft a vision of how they foresaw bicycling and walking throughout Hoboken. As a group exercise, attendees were asked what types of changes they would like to see in Hoboken to better accommodate bicycling and walking. Figure 6 is a "word cloud" of the feedback provided as part of this exercise.

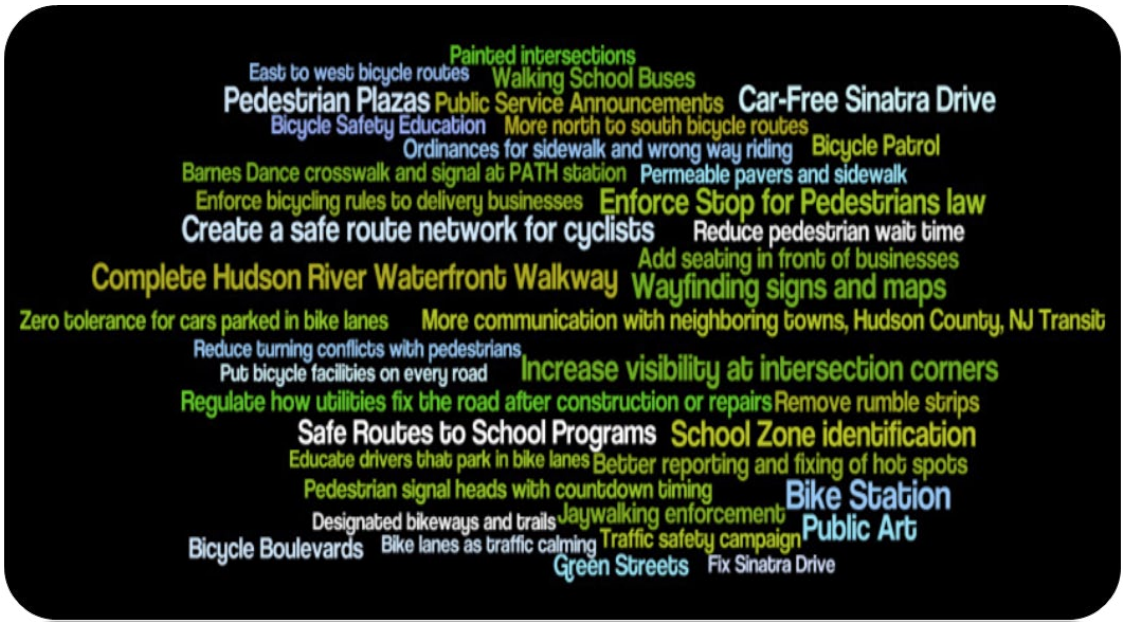


Figure 6. "Word Cloud" of Public Visioning Input

VISION STATEMENT

Using a combination of the input from the City, Steering Committee and the public, a vision statement was developed by the project consutlant team. This vision statement reflects the assumed future of walking and bicycling after the adoption and implementation of this Plan and a cultural shift in attitudes about bicycling and walking in Hoboken.

"Hoboken's transportation system safely accommodates and seamlessly connects all modes of travel – walking, bicycling, transit use and driving. Hoboken's residents, commuters, students and visitors of all ages and abilities can walk and bicycle with confidence and security. Its excellent bicycling and walking facilities are central to the city's valued transportation network and contribute to its identity, economic vitality, public health and overall quality of life."

Benefits of Bicycling and Walking

Before the City can expect the vision statement for bicycling and walking to be locally accepted, there must be a greater understanding of how bicycling and walking can positively contribute to Hoboken's transportation system and quality of life standard. As documented by the Pedestrian and Bicycle Information Center in their 2008-2009 Summary Report titled *Supporting Livable Communities through Resources, Training and Research*, there are many benefits of bicycling and walking. The following is excerpted text from the report:

Provide transportation options - Safe and convenient walking and bicycling facilities, and linkages to transit, provide transportation choices so that people do not have to rely on personal vehicles.

Get fit - Walking and bicycling are great ways to get more physical activity, which can help reduce stress and prevent obesity, diabetes and other health problems.

Improve the environment - While short car trips have especially high rates of emissions, bicycling and walking provide an environmentally friendly alternative. In fact, it is estimated that a short, four-mile trip by bike or foot can keep 15 pounds of pollutants out of the air.

Revitalize communities - Bicycling and walking can provide economic solutions for both individuals and communities. Investing in bicycling and walking infrastructure can boost local economies, revitalize downtown areas and create jobs.

Connect to transit - Since most transit riders will only walk up to five minutes to catch a train or bus, improving bicycling and pedestrian access to transit stops can significantly increase ridership and provide commuter choices.

Reduce vehicle congestion - Walking and bicycling trips can help reduce vehicle trips so there are fewer vehicles on the road. Choosing to walk or bike instead of drive can help reduce unnecessary vehicle congestion, particularly during peak travel times.

Save money - With rising fuel, parking and car insurance costs, a mile spent driving is more expensive than ever. In fact, the average cost of owning a car is about $9,000 per year — almost 18 percent of the average household's income!

For the full report please visit, http://www.pedbikeinfo.org/collateral/pbic_summary_report_2008-2009.pdf

GOALS AND OBJECTIVES

In order to help the City transform its vision statement from a mental picture or an idea that only exists on paper, the project consultant team established goals and objectives needed to successfully achieve the vision. The goals and objectives are based on problems identified during the public outreach process and represent the desired outcomes as a result of carrying out the vision statement and Plan.

Goal #1: Increase the number of people walking and bicycling in Hoboken

Objectives:

- Boost and promote the image of walking and bicycling
- Implement Safe Routes to School (SRTS) programs at all schools
- Receive national recognition as a bicycle and walk-friendly community

Goal #2: Modify the speed of traffic through design and enforcement so that the rate of speed travelled is consistent with encouraging bicycling and walking throughout the City

Objectives:

- Identify locations where traffic calming devices and techniques can be used to slow traffic
- Raise public awareness for and encourage safe bicycling , walking and driving behavior
- Enforce motor vehicle compliance with speed limits and parking regulations

Goal #3: Establish safe and consistent access to recreation, schools, shops, library, transit, etc., for all people of all ages and abilities.

Objectives:

- Provide safe bicycle and pedestrian facilities connecting major destinations throughout the City
- Encourage walking and bicycling to local destinations as a means to reduce traffic congestions, reduce auto emissions, and improve health.
- Remove existing barriers to walking and bicycling in the City

Goal #4: Make car-free travel the preferred option to any destination in the City

Objectives:

- Provide and support modal options such as transit, bike or car share, bicycling, walking, etc. for traveling in and around Hoboken
- Explore innovative solutions to car-free travel through ergonomic crosswalks, bike stations, wayfinding/functional kiosks, etc.
- Implement improvements that modify the current transportation network, placing a priority on bicycle and pedestrian capital projects.

Goals

Goal statements define what needs to happen and what results need to be achieved in order to produce the vision. Goals are policy-related and propose fundamental actions which will result in long-term impacts and benefits.

Objectives

Objectives identify what specific things need to change or be accomplished in order for the goal to be achieved. Objectives are process-oriented and focus on routine procedures, events or tasks.

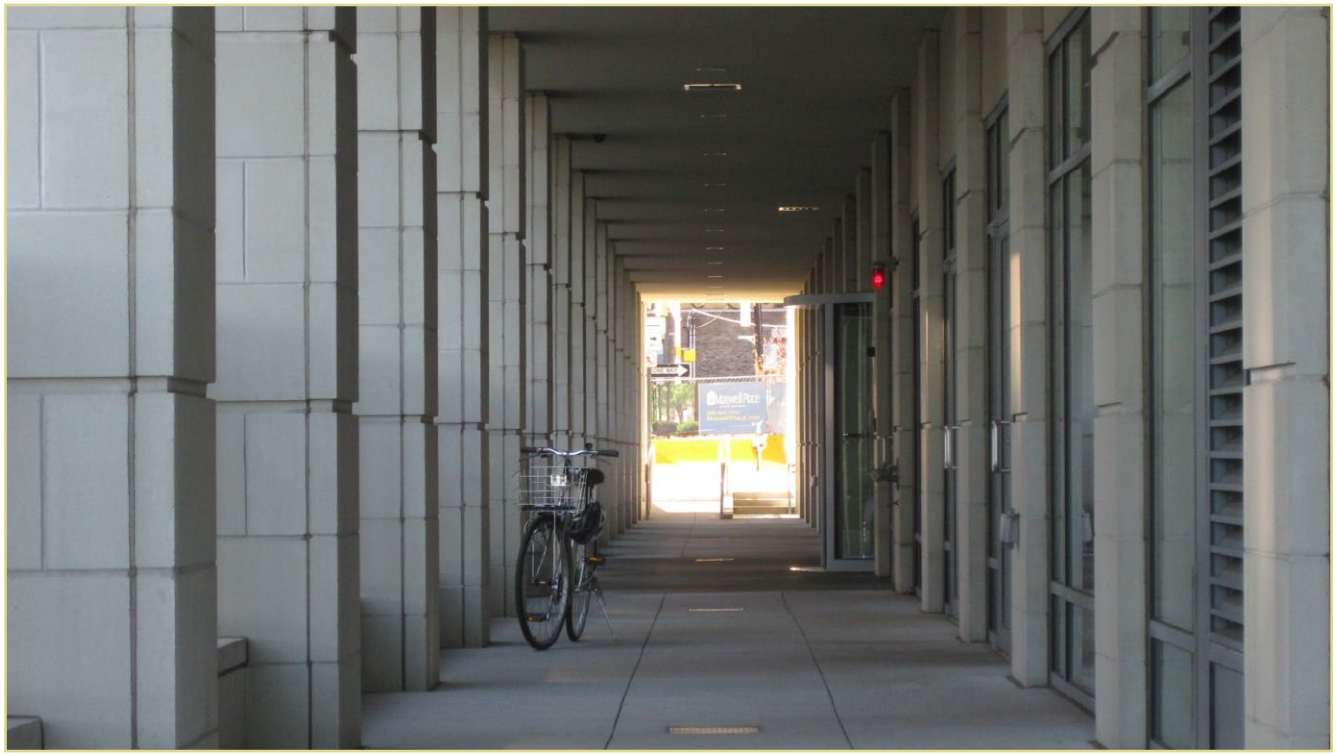
Goal #5: Improve and promote bicycle and pedestrian safety and security in Hoboken

Objectives:

- Improve opportunities for secure bicycle parking to reduce the number of bicycle thefts within Hoboken
- Increase enforcement of traffic control and speed violations to reduce the number of motor vehicle crashes involving bicyclists and pedestrians within Hoboken
- Increase enforcement of double parking regulations, especially on Washington Street, to provide a safer roadway for cyclists
- Provide bicycle and pedestrian safety education to increase the level of confidence and competence among bicyclists and pedestrians
- Provide enforcement with respect to pedestrians and bicyclists who violate the law and motorists who infringe on pedestrian and bicyclist rights.

Chapter 5: Strategies for Transformation

Chapter 5: Strategies for Transformation



RECOMMENDATIONS OVERVIEW

The previous chapter outlined the vision, goals, and objectives necessary for the City of Hoboken to successfully incorporate bicycling and walking into its transportation system. This chapter departs from abstract thoughts of an inclusive network and details a strategic plan that can be executed to move from vision to implementation. This strategic plan was developed utilizing a comprehensive 5E (Engineering, Enforcement, Education, Encouragement and Evaluation) planning approach to develop recommended action items.

The 5E Action Implementation Menu provides the full list of recommended physical and programmatic actions that, when implemented, will position the City to become a bona fide bicycle and walk friendly community. The menu isolates each recommended action, the responsible party, timeframe for implementation, and the cost associated with each action. Within the 5E Action Implementation Menu, actions items have been marked to indicate the targeted actions that the City should undertake in its first steps of working towards its transformation and achievement of its vision, goals and objectives.

In addition to the citywide recommendations, the Concept Plans section of this chapter discusses site-specific recommendations at locations of significant bicycle and pedestrian concern within the City. Concept level designs have been developed to address these concerns and are illustrated in Figures 7-10.

The Recommendations Maps, titled **Map 3: Recommendations** and **Map 4: Enhanced Bike Network**, are provided to illustrate the suggested physical recommendations for implementation.

Design treatments suggested in this section are in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), the American Association of State Highway and Transportation Officials (AASHTO), and New Jersey Department

of Transportation's *Bicycle Compatible Roadways and Bikeways* and *Pedestrian Compatible Planning and Design Guidelines*. There are several potential solutions to bicycle and pedestrian access and safety problems currently in use which are not included in the above mentioned guidelines. Examples include "colored bike lanes," "bike boxes," and ergonomic crosswalks. Their use is typically justified as a result of their being implemented under the FHWA/MUTCD experimental process. A description of the process and the form for requesting approval to experiment appears in **Appendix J: MUTCD Request to Experiment**. Where such improvements are suggested or recommended, they should be implemented as part of this experimental process.

Because this section includes both infrastructure and non-infrastructure strategies, it can be easily utilized as part of a Safe Routes to School Travel Plan where improvements are within 2 miles of an elementary or middle school and where activities directly address students' school commute. For more information on implementing a Safe Routes to School program in Hoboken, please visit http://www.state.nj.us/transportation/community/srts/

5E ACTION IMPLEMENTATION MENU

Utilizing information obtained during the evaluation of Hoboken's existing transportation infrastructure through the needs assessment and fieldwork, concerns expressed in the City's application to NJDOT for Local Planning Assistance, and feedback from community outreach, a 5E (Engineering, Education, Enforcement, Encouragement and Evaluation) Action Implementation Menu was developed of recommended solutions to consider for bicycle and pedestrian improvements. This menu of "actions" is intended to guide the City of Hoboken in its implementation strategy for achieving the vision, goals and objectives outlined within this Plan.

The table is categorized by the 5E's comprehensive approach for increasing bicycling and walking. Considering the vast number of benefits that can be achieved through improvements to the operational and physical infrastructure, the Engineering section of the table has been subcategorized by: *Streetscape Enhancements, Bicycle Accommodations, Pedestrian Accommodations, Traffic Calming, Transit Accommodations, and "Green Streets"*. These recommended solutions are supplemented by a set of design guidelines containing descriptions and illustrations of all the recommended design treatments and is included in **Appendix A: Design Guidelines**.

Within each category, the "action" is divided into citywide or spot improvements and is further supplemented by three factors: Responsibility, Timeframe, and Cost. Responsibility identifies the agency charged with the responsibility for leading implementation of the proposed action item. Timeframe identifies the required amount of time to capture the full benefit of the recommendation, including development and implementation. Phase I represents less than 2 years, Phase II represents 2 to 5 years, and Phase III represents 5-10 years. The cost estimate includes the relative cost of implementing the strategy (low, medium, high).

It should be noted that it will take time, commitment, coordination and energy for the City to fully attain its vision of being a bicycle and walk friendly city and to implement the recommended improvements as noted in this Plan . The recommendations outlined in this chapter are intended to be used as a starting point to addressing better connectivity throughout the city and to its neighboring municipalities. The implementation strategy is built into the 5E Action Implementation Menu and is marked by a plus sign (+). These line items represent the key actions, on a policy and planning level, that should be vigoroulsy pursued by the City following the adoption of the Plan. Projects or activities that are not specifically found in the 5E Action Implementation Menu should not be discounted for inclusion in the transportation network as a desired solution.

5E Action Implementation Menu

Symbols Used in Table

- Implementation Strategy
- Action item is illustrated by a Concept Plan
- Action item can be achieved as part of a SRTS program

Engineering

Streetscape Enhancements			
Action (Citywide Improvement)	**Responsibility**	**Timeframe**	**Cost**
Create a comprehensive wayfinding system that provides distance and direction to key destinations and travel time for bicyclists and pedestrians from their current location. The system will include signing, informational kiosks and destination maps throughout Hoboken	City/County/TMA	Phase II	Low - Medium
Evaluate intersection lighting and install pedestrian-scale lighting along all existing and future sidewalks and shared-use paths	City/County	Phase I	Medium
Consider "solar tree" lighting that can serve as power generation/charging stations where appropriate	City/Local Utility companies	Phase II	Medium
Evaluate traffic signal equipment and signal timings for appropriate pedestrian clearance times, appropriate yellow and all red times and update accordingly	City/County	Phase I	High
Re-institute permanent closure along Sinatra Drive on Sundays for “Car-Free Sundays”	City	Phase I	Low
Install “Stop for Pedestrians” pavement markings at stop-controlled high conflict locations	City/County	Phase I	Low
Install permanent automatic traffic counters that can detect bikes and pedestrians at locations where pedestrian and bicyclist volumes are high, such as approaches to the Hoboken Terminal	City/County	Phase I	Medium
Conduct a feasibility study to remove on-street parking, and replace with bicycle and pedestrian facilities and amenities in accordance with the goals and objectives of this Plan	City/County	Phase I	Low
Conduct pilot evaluations of parking programs to determine the feasibility of implementing a parking management system that utilizes occupancy sensors to determine availability of on-street or garage parking	City/NJTPA/Hudson TMA	Phase II	Medium
Change the name of Observer Highway to Observer Boulevard in accordance with the goals and objectives of this Plan	City/County	Phase I	Medium

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Use streetscape design and plant trees to create a boulevard feel along Observer Highway	City/County	Phase II	Medium - High
Consider façade "makeover" for Municipal Garage B located on 2nd Street between River and Hudson Streets	City/Hoboken Arts and Industry Council	Phase II	Medium - High
Maintain all streetscape and roadway elements	City	Ongoing	Medium
Install audible devices at any active light rail grade crossings used by pedestrians	NJ Transit /City/ County	Phase I	Medium
Install "Fines Higher" (R2-6) signs in all school zones	City	Phase I	Low
Utilize the Hoboken tree planting program to plant trees along major pedestrian corridors	City/Hoboken Shade Tree Commission/NJ Tree Foundation	Phase I	Low
Create a public art component to incorporate public art designs reflective of bicyclists and walkers into the transportation network including painted utility boxes, painted intersections and public seating	City/Hoboken Arts and Industry Council	Phase II	Low
Investigate the feasibility of creating temporary "parklets" in public areas and identify potential locations for implementation	City/County	Phase II	Low
Provide appropriate street furniture in front of businesses, city buildings, and at all major public gathering locations to promote street life	City/Hoboken Arts and Industry Council	Phase I	Low
Provide and promote bicycle parking, showering and clothes changing facilities at worksites, transportation terminals, and other destinations	City/County/NJ Transit	Phase III	Medium - High
Action (Spot Improvement)	**Responsibility**	**Timeframe**	**Cost**
Intersection of 11th Street at Washington Street. Enhance brick pavers with a painted intersection	City/County/Hoboken Arts & Industry Council	Phase I	Low
Intersections Newark Street at River Street and Hudson Street at Hudson Place. Enhance the current striping with a painted intersection	City/County/Hoboken Arts & Industry Council	Phase I	Low
Warrington Plaza. Reclaim this space for public use. Provide expanded pedestrian amenities (benches, public art, etc.) and secure bicycle parking	City/Hoboken Arts & Industry Council/ County/NJ Transit	Phase I	Medium

5E Action Implementation Menu

Action (Spot Improvement)	Responsibility	Timeframe	Cost
Gateways. Enhance gateways treatments into Hoboken and use to coordinate linkages to bicycle and pedestrian accommodations in Jersey City, Union City and Weehawken. Gateway treatments should be established at the following entrances to Hoboken: **Jersey City** 1. Marin Boulevard 2. Grove Street 3. Jersey Avenue 4. Observer Highway 5. Paterson Plank Road **Union City** 6. 14th Street **Weehawken** 7. Willow Street 8. Park Avenue	City/County	Phase II	Medium
Bicycle Accommodations			
Action (Citywide Improvement)	**Responsibility**	**Timeframe**	**Cost**
Implement the City of Hoboken's Enhanced Bicycle Network as identified in the Hoboken Bicycle and Pedestrian Plan	City	Phase I	Low
Provide bicycle detection at all signalized intersections in accordance with the goals and objectives of this Plan	City/County	Phase I	Medium
Create a comprehensive bicycle route network with wayfinding signs to key destinations with the direction, distance, destination and riding time from current location	City	Phase II	Low
Install "MAY USE FULL LANE" signs (R4-11) along streets that are too narrow for bicyclists and motorists to operate side-by-side	City/County	Phase I	Low
Install bicycle "WRONG WAY" signs and "RIDE WITH TRAFFIC" plaques (R5-1b, R9-3CP) on all streets with bicycle facilities along the opposite travel direction	City/County	Phase I	Low
Retrofit stormwater drains with bicycle-compatible designs where needed	City/County	Phase I	Low
Create secure bike parking on curb extensions where appropriate	City/County	Phase II	Low - Medium

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Conduct a feasibility study to determine a suitable location and install a bicycle station for commuters and residents to ride their bikes to the train station with secure, sheltered parking	City/County/NJTransit/ NJTPA/PANYNJ/ Hudson TMA	Phase I	Low
Create secure and safe bicycle parking at key bicycling and walking destinations (or starting points) including schools, shopping districts, recreational facilities, public buildings, transportation center and parks throughout the city	City	Phase II	Low - Medium
Create colorized advance bicycle boxes and through bike lanes at high conflict locations including left turns at traffic signals	City/County	Phase I	Low
Provide a facility for Bicycle Motocross (BMX) use	City	Phase II	Medium - High
Action (Spot Improvement)	**Responsibility**	**Timeframe**	**Cost**
Provide secure bicycle parking on the Stevens Campus	Stevens, City	Phase I	Low - Medium
Park Avenue Bridge between the Weehawken border and 16th Street. Redistribute roadway striping to expand the shoulder width to better accommodate bicycle traffic. Reduce travel lanes from 13' to 12.' Use the additional 2' to create a 5' shoulder for bicycling on the northbound lane	City/County/Weehawken	Phase I	Low
Hoboken Terminal. Install new bicycle parking facilities along the north and south sides of the terminal. Utilize existing or new covered areas and provide both short term (racks) and long term (locker) options	City/County/NJ Transit	Phase I	Medium
Connection from Harbor Boulevard in Weehawken to Park Avenue at 16th Street in Hoboken. Place wayfinding signs directing southbound bicyclists traveling from Weehawken along the Hudson River Waterfront Walkway to use this connection from Weehawken to Hoboken instead of the Park Avenue bridge	City/County/Weehawken	Phase II	Low

5E Action Implementation Menu

Action (Spot Improvement)	Responsibility	Timeframe	Cost
Willow Street Bridge between the Weehawken border and 16th Street. Redistribute roadway striping to create a 5 foot wide bike lane, 4 foot wide buffer area and an 11 foot wide travel lane to better accommodate bicycle traffic. There are currently two 20 foot wide lanes (one in each direction) and no striped shoulder	City/County/Weehawken	Phase I	Low
Connection from Harbor Boulevard in Weehawken to Park Avenue at 16th Street in Hoboken. Resurface Harbor Boulevard to better accommodate bicycle traffic.	City/County/Weehawken	Phase III	Medium - High
Washington Street. Stripe colorized advance bicycle boxes and through bicycle lanes at the signalized intersections along Washington Street between Observer Highway and 8th Street	City/County	Phase I	Low
Observer Highway. Stripe a sidepath or cycle track area along the eastbound frontage road “Vezzetti Way”	City/County	Phase I	Low
Observer Highway. Investigate constructing a two-way shared-use path along the eastbound frontage road "Vezzetti Way".	City/County	Phase I	Low
Madison Street between Newark Street and Observer Highway. Extend the northbound bicycle lane along Madison Street from Newark Street to connect with the existing bicycle lane beginning at Observer Highway. The parking configuration adjacent to the fire house should be formalized with striping, and designed to avoid conflicts with the new bicycle lane segment. Wayfinding signs should be installed leading from the Grove Street and Marin Boulevard gateways from Jersey City.	City/County	Phase I	Low
Madison Street between Newark Street and Observer Highway. Install bollards or a large curb extension to replace the existing temporary fencing and more permanently restrict motor vehicle traffic from entering Madison Street from Newark Street.	City/County	Phase II	Medium

5E Action Implementation Menu

Action (Spot Improvement)	Responsibility	Timeframe	Cost
Observer Highway. A sidepath or cycle track along the north side of Newark Street should be considered between Grove Street and Madison Street to accommodate the northbound through bicycle maneuver from the Grove Street and Marin Boulevard gateways from Jersey City, and avoid requiring bicyclists to turn left at the uncontrolled intersection of Observer Highway at Madison Street	City/County	Phase I	Medium
3rd Street, 4th Street, 12th Street and Sinatra Drive between 5th Street and 10th Street Bicycle Boulevards. Priority should be given to bicycle travel along 3rd Street, 4th Street, 12th Street and Sinatra Drive between 5th Street and 10th Street. This can be accomplished through traffic calming, stop sign priority and striping techniques.	City/County	Phase I	Medium
Pedestrian Accommodations			
Action (Citywide Improvement)	**Responsibility**	**Timeframe**	**Cost**
Develop designated safe routes to school network that is marked through pavement markings, sidewalk medallions and signs	City/Board of Education	Phase I	Low
Install pedestrian countdown signal heads and R10-3e placards with instructions for use at appropriate locations	City/County	Phase I	Medium
Install pedestrian crossing signs with school children symbols at unsignalized school crossings	City/County	Phase I	Low
Evaluate appropriate locations for pedestrian scale lighting paying special attention to existing and future sidewalks and shared use paths	City/County	Phase I	Low
Install pedestrian scale lighting paying special attention to existing and future sidewalks and shared use paths	City/County	Phase II	Medium - High
Conduct a sidewalk assessment and create a prioritized list of locations for installation of ADA-compliant curb ramps with detectable warning surfaces at locations where they are missing	City/County	Phase I	Low
Install ADA-compliant curb ramps with detectable warning surfaces at locations where they are missing	City/County	Phase I	Medium

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Provide high visibility crosswalks fluorescent, yellow-green advanced school crossing and school warning signs within school zones and along designated school routes	City/County	Phase I	Low
Provide advanced crossing and warning signs pedestrian and bicycle crossing at/in advance of intersections, especially near business districts, recreation and other bicycling and walking destinations	City/County	Phase I	Low
Install signage within the school zones clearly denoting the school zone speed limit, associated fines for speeding and applicable hours	City	Phase I	Low
Work with local leaders and advocacy groups to complete the Hudson River Waterfront Walkway (HRWW)	Local Advocacy Groups/City/County	Ongoing	High
Provide wayfinding to connect gaps in the HRWW	Local Advocacy Groups/City/County	Phase I	Low
Action (Spot Improvement)	**Responsibility**	**Timeframe**	**Cost**
The intersections of Hudson Place at River Street and Hudson Street at Newark Street. Test or investigate implementing a Pedestrian Scramble ("Barnes Dance") at these intersections. Investigate prohibiting right turn on red, especially at Hudson Street onto Newark Street	City/County/NJ Transit	Phase I	Low
Hudson River Waterfront Walkway at 15th Street and Shipyard Lane. Build 20' wide walkway along this 100' foot gap	City/County	Phase II	Medium - High
Paterson Avenue at Hudson Bergen Light Rail. Relocate crosswalks, stop lines and provide pavement treatments. Coordinate with other on-going efforts	City/County/NJ Transit	Phase I	Low
Southside of Paterson Avenue between Harrison Street and Jackson Street. Construct sidewalk along the south side of Paterson Avenue between Harrison Street and Jackson Street	City/County	Phase I	Medium
Washington Street. Upgrade traffic signals to current standards, including pedestrian signal heads with countdown timers	City/County	Phase I	Medium

5E Action Implementation Menu

Action (Spot Improvement)	Responsibility	Timeframe	Cost
Hudson River Waterfront Walkway north of 4th Street. Install yield priority signs along the walkway to reinforce that bicycle traffic should yield to pedestrians	City/County	Phase I	Low
Northwest quadrant of 4th Street and Sinatra Drive intersection. Construct concrete sidewalk along Sinatra Drive between Sinatra Drive and River Street (across from Stevens Park)	City	Phase I	Medium
Newark Street between Sinatra Drive and River Street. Construct concrete sidewalk along Newark Street between Sinatra Drive and River Street	City/County	Phase II	Medium
Traffic Calming			
Action (Spot Improvement)	**Responsibility**	**Timeframe**	**Cost**
15th Street. Install raised intersection at 15th Street and Washington Street. Install speed humps along 15th Street to the east and west of Washington Street and on Washington Street south of 15th Street	City/County	Phase I	Low
Madison Street at 11th Street and Park Avenue at 14th Street. Install a "blockbuster" curb extension treatment and signage to restrict two way traffic from entering the opposite one-way approach	City/County	Phase II	Low
Sinatra Drive between 5th and 10th Streets. Investigate restricting motor vehicle traffic to a one-way travel direction. Include traffic calming and design elements that emulate Sinatra Drive between Newark Street and 4th Street	City/County	Phase I	Low
Monroe Street. Install traffic calming elements throughout the corridor, may include horizontal, vertical and/or passive elements	City	Phase II	Medium/High
Hudson Street between 1st Street and 2nd Street and on Newark Street between Sinatra Drive and River Street. Re-stripe roadway parking to a back-in angled configuration	City/County	Phase I	Low
Transit Accommodations			
Action (Citywide Improvement)	**Responsibility**	**Timeframe**	**Cost**
Install bus stop shelters for the Hop	City	Phase II	Medium

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Install signage at Hop bus stop locations that includes the route map and schedule information	City	Phase II	Low
Install bike racks on the Hop	City	Phase II	Medium
Provide bike racks on all public transit vehicles that pass through Hoboken such as NJ Transit buses and trains, ferries, Hudson Bergen Light Rail and PATH trains	NJ Transit, PANYNJ/ NY Waterway	Phase II	Medium
"Green Streets"			
Action (Citywide Improvement)	**Responsibility**	**Timeframe**	**Cost**
Incorporate stormwater elements into streetscape design and traffic calming treatments to reduce stormwater runoff, especially in known flood prone locations	City/County	Phase II	Medium
Conduct permeability testing to identify ideal locations where rain gardens and bio-retention swales can be incorporated into the streetscape and/or traffic calming design	City/Hoboken Quality of Life Coalition	Phase II	Low
Install a stormwater demonstration project, based on permeability testing, in an area visible to the public	City/Hoboken Quality of Life Coalition	Phase II	Medium
Reduce heat island effect by using high-reflectance asphalt materials for new construction, roadway resurfacing, or repaving	City/County	Phase II	Medium
Install curbless green strip filters and porous pavement in municipal parking lots to capture and percolate runoff where possible	City	Phase I	Medium

Education

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Create brochure for Hop bus operators on bus safety that incorporates bicyclists and pedestrians	City	Phase II	Low
Conduct a Traffic Safety Fair to promote the various safety messages and distribute information.	City/Police Department/ NJHTS	Phase I/ongoing	Low

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Create a Bicycle Ambassadors Program with adult and junior safety education training volunteers who traverse the community to give bicycle safety demonstrations at day camps, libraries, and schools, as well as bike to work presentations for area businesses encouraging bicyclists to ride safely and more often as well as targeted education to all roadway users on how to share the road	Hudson TMA/Local Advocacy Groups/City/Hoboken Police/Stevens	Phase II	Medium
Conduct bicycle education classes for all adults and mature teens, to improve their cycling skills	Hudson TMA/City/Local Advocacy Groups	Phase I/ ongoing	Low
 Introduce bicycle and pedestrian safety into the school curriculum through programs such as WalkSafe™ or BikeSafe™ or event based programs through SafeKids or the Brain Injury Association of New Jersey	City/School Superintendent	Phase II	Low
Provide educational materials about the dangers of speeding or other violations, especially in the school area, at major community gathering locations such as the Library, commercial corridors, churches, bike shops and City buildings	City /Hudson TMA/Hudson County/Local Advocacy Groups	Phase I	Low
 Continue to partner with Police to work within the school system to educate students on bicycle and pedestrian safety	City/Board of Education/ Police Department	Ongoing	Low
Send city staff to bicycle and pedestrian specific conferences/training/summits	City	Phase I/ongoing	Low - Medium
 Create a SRTS plan for all elementary schools	City/Hudson TMA	Phase I	Low - Medium
Create web-based traffic safety quizes that include bicyclist, pedestrian and motorist safety questions on the City of Hoboken's website	City	Phase I	Low
Develop relationships and partner with other agencies (such as transit agencies, public health agencies, police department) that have an interest in bicyclist and pedestrian issues and a responsibility for the public welfare	City	Phase I/ongoing	Low

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Initiate a public awareness and education campaign aimed at informing pedestrians and alerting drivers to the hazards associated with walking while alcohol-impaired	City	Phase II	Low
Highlight bicyclist and pedestrian facilities when introducing new infrastructure	City	Phase I/ongoing	Low
Initiate a public education program/campaign, such as Street Smarts, that uses a dual approach of media and community relations to educate and raise community awareness about traffic safety issues for all users	City/Hudson TMA	Phase I	Low - Medium
Utilize local media to advance traffic safety campaign/messages through TV (local and municipal cable channel); newspapers, radio, social networks - blogs, Facebook, Twitter, etc.; websites - City; City's USTREAM channel; movie theater ad space	City	Phase I/ongoing	Low
Work with Hudson TMA to incorporate a bike commuter reimbursement program for City employees into your Bicycle Friendly Business Program	City/Hudson TMA	Phase II	Low
Install placards at bike parking locations instructing people how their bikes should be secured to the rack and what to do in the event of their bike being stolen	City	Phase I	Low
Action (Spot Improvement)	**Responsibility**	**Timeframe**	**Cost**
Develop campus safety campaign for pedestrian and bicyclist safety awareness	Stevens Institute of Technology/Local Advocacy Groups/City	Phase I	Low

Enforcement

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Increase enforcement (first through warnings and then through tickets) for blocking bicycle lanes	Police Department	Phase I	Low - Medium
Increase enforcement relating to cycling (wrong-way riding; riding on sidewalks faster than the speed of nearby pedestrians), motorists (stop for pedestrians compliance) and pedestrian (jaywalking) infractions	Police Department	Phase I	Low - Medium
Increase the presence of police bicycle patrol units	City/ Police Department	Phase I	Low - Medium

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Create and publicize police bike registration program	City /Police Department	Phase I	
Conduct traffic-engineering analysis to determine locations to install automated red light and stop sign camera systems	City/County	Phase I	Low
Provide comprehensive pedestrian and bicyclist-safety training to police officers	Police Department	Phase I/ ongoing	Low
Conduct a series of "pedestrian decoy" operations at conflict intersections to strongly reinforce that Hoboken takes its motor vehicle laws and pedestrian rights seriously. Consider repeating every six weeks until driver behavior is perceived to be more respectful of pedestrian's right to travel safely	City/Police Department/ NJHTS	Phase I	Low - Medium
Create zero tolerance areas where fines for speeding are doubled	City/ Police Department/Local Advocacy Groups	Phase I	Low
Strictly enforce the 25 mph speed limit on all city streets	City/Police Department	Phase I	Low
Enforce strict compliance with ordinance prohibiting projections or encumbrances upon any street, sidewalk or public easement that impedes pedestrian traffic	City/Police Department	Phase I	Low
Action (Spot Improvement)	**Responsibility**	**Timeframe**	**Cost**
Stevens Institute of Technology. Host a bike registration event at the start of each semester	Police Department/ Stevens Institute of Technology/City	Phase I/ ongoing	Low

Encouragement

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Create and promote a "Watch for Bikes" Campaign	City/ Police Department/Local Advocacy Groups	Phase I	Low
Send quarterly press releases and a series of public service announcement series on bicyclist and pedestrian safety to local media	City/Local Advocacy Groups	Phase I	Low
Promote and encourage the registering of carpools and vanpools through Hudson TMA	City/Hudson TMA/Private Garage Owners	Phase II	Low

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Implement and publicize a spot Maintenance & Improvement Program that allows bicyclists, pedestrians and others to alert DPW to any poor maintenance conditions or hotspots for improvements such as potholes, abandoned bikes, etc.	City/Hoboken DPW	Phase II	Low
Organize a Community Pace Car Program	City	Phase I	Low
Have designated walking school bus meeting points mapped and signed for all elementary and middle schools	City/Police Department/ Board of Education	Phase I	Low
Revise and expand your Bicycle Rack Donation Form to incorporate bicycle racks that meet APBP Bicycle Parking Guidelines and provide enough selection to allow businesses to express their brand personality	City	Phase I	Low
Create and publicize parking zone map to identify public bicycle and motor vehicle parking facilities	City	Phase II	Low
Action (Citywide Improvement)	**Responsibility**	**Timeframe**	**Cost**
Apply for and achieve designation as a Bicycle Friendly Community	City/Local Advocacy Groups	Phase I/ongoing	Low
Host bike rides, walks and bicycle and walking related events	City/Local Advocacy Groups	Phase I/ongoing	Low
Have an annual bicycle ride around Hoboken and the surrounding areas that promotes participation by residents and visitors i.e., Tour de Somerville	Local Advocacy Groups/ City	Phase I/ongoing	Low
Apply for and achieve designation as a Walk Friendly Community	City/Local Advocacy Groups	Phase I/ongoing	Low
Create a municipal funding source, through local sales tax, local bond measures or levies, that provides dedicated funding for bicycle lanes, crosswalk improvements, shared-use paths, and other safety improvements	City	Phase I	Low
Set up a Bicycle and Pedestrian Task Force or Advisory Committee	City/Local Advocacy Groups	Phase I	Low
Set up designated locations around town for walkers or cyclists to get personal lights, reflectors and vests for evening walking or cycling	City/Hudson TMA	Phase I	Low

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Conduct a pilot evaluation of bicycle sharing program to determine the appropriate bicycle sharing options to establish in Hoboken	City/Hudson County/ NJTPA/Local Advocacy Groups	Phase I	Low
Use the Bicycle Friendly Business Program to incentivize biking to retail establishments/grocery stores i.e., show us your helmet and get 3% off – similar to bringing your own bag to the store	City/Hoboken Chamber of Commerce	Phase II	Low
Use the Nixie Community Information service or prevailing system as part of the City's public outreach to provide public safety information, events, messages to residents via email or text related to bicycling and walking	City	Phase I	Low
Highlight bicycling and walking in all tourist promotional material	City	Phase I/ongoing	Low
Apply for and achieve designation as a “Bicycle Friendly Business”	City	Phase II	Low
Assist businesses in applying for the League of American Bicyclists “Bicycle Friendly Business” designation	City	Phase II	Low
Create a bicycle map for distribution in print and electronically for download to popular bicyclist resources, such as Bikely or Map My Ride, GPS and mobile applications	City/Local Advocacy Groups	Phase I	Low
Create a joint powers agreement with other jurisdictions for maintenance of bike/pedestrian facilities	City/County	Phase I	Low
Designate a city representative on the State’s Bicycle and Pedestrian Advisory Committee (BPAC)	City	Phase I	Low
Designate a city staff person to initiate the actions necessary to fulfill the vision, goals, and objectives of Hoboken’s Bicycle and Pedestrian Plan	City	Phase I	Low
Develop an incentive program to encourage businesses to use bicycles for deliveries as part of your Bicycle Friendly Business Program	City	Phase I	Low
Designate preferential parking spaces in city-wide parking garages (municipal & private) for carpools or vanpools registered with the Hudson TMA	City/Hudson TMA/Private Garage Owners	Phase II	Low

5E Action Implementation Menu

Action (Spot Improvement)	Responsibility	Timeframe	Cost
Encourage walking, bicycling, mass transit, and other alternative forms of transportation for City of Hoboken employee commute to work	City/Hudson TMA	Phase I	Low
Encourage Stevens Institute of Technology to apply for “Bicycle Friendly University” designation	City/Hudson TMA/Local Advocacy Groups	Phase I	Low
Encourage Stevens Institute of Technology to integrate bicycling into campus culture by actively promoting bicycling as a means for transportation, recreation and sport	City/Hudson TMA/Local Advocacy Groups	Phase I	Low

Evaluation

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Conduct student travel surveys in all schools to determine and measure how students travel to school	City/Board of Education	Phase I	Low
Use data received from permanent traffic counts to establish baseline data and to regularly measure the number of bicyclists and pedestrians	City	Phase I	Low
Use Plan4Safety to track and evaluate bicycle and pedestrian crashes, including crashes that do not involve a motor vehicle; take action to address problems that led to the crashes	City	Ongoing	Low
Inventory current urban tree canopy and establish goal of percent increase over the next 5 years to improve pedestrian corridors	City/Hoboken Shade Tree Commission	Phase I	Low
Produce a bi-annual report of accomplishments	City/Proposed Bicycle and Pedestrian Task Force or Advisory Committee	Phase II	Low
Implement the new complete streets policy for the planning, design, construction, maintenance and operation of new and retrofit transportation facilities, to safely accommodate access and mobility by pedestrians, bicyclists, public transit users, and motorists of all ages and abilities	City/County	Phase I	Low
Explore demand for recreational bicycle facilities such as BMX parks, etc.	City	Phase II	Low

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Adopt bicycle friendly design guidelines as noted in the Hoboken Bicycle and Pedestrian Plan by resolution	City	Phase I	Low
Adopt a policy to install bicycle racks or other bicycle storage at all existing and public buildings and community facilities	City	Phase I	Low
Adopt an ordinance to require taxicabs to affix "watch for bikes" stickers in the following locations on the vehicle: 1) driver's side mirror 2) the left and right rear side window	City	Phase I	Low
Adopt a bicycle parking ordinance that incorporates a residential bike parking ratio requirement into the municipal code. This ordinance should have language that requires all commercial buildings that provide off-street parking to make 5% of the required vehicle parking available for bicycle parking	City	Phase I	Low
Adopt resolution dedicating May as “Bike Month” in Hoboken	City/Local Advocacy Groups	Phase I	Low
Adopt the City of Hoboken’s Bicycle and Pedestrian Plan by resolution	City	Phase I	Low
Review the municipal code and existing policies and adopt changes that incorporate language that supports and promotes bicycling and walking, especially the local land use and zoning ordinances as per the recommendations noted in the Hoboken Bicycle and Pedestrian Plan	City	Phase I	Low
Evaluate the current daylighting program intersection locations. If deemed favorable, advance an implementation plan to make these test locations permanent with physical measures	City/County	Phase II	Medium
Conduct surveys with businesses that use bicycles for deliveries	City	Phase I	Low
Establish a target goal for the initial implementation of a bicycle sharing program	City	Phase I	Low

5E Action Implementation Menu

Action (Citywide Improvement)	Responsibility	Timeframe	Cost
Revise planning and zoning ordinances to incorporate language that requires planning or zoning applications for new construction or redevelopment of residences, hotels, public transit terminals, large employment centers, community centers to be reviewed for bicycle and pedestrian facilities, especially bicycle sharing facilities.	City	Phase I	Low
Establish targets for increasing the number, mileage or percentage of roads within the Hoboken transportation system that are bicycle friendly	City/Proposed Bicycle and Pedestrian Task Force or Advisory Committee	Phase I	Low
Produce a bi-annual report of Hoboken's Bicycle and Pedestrian accomplishments using the information from the updated 5E Action Implementation Menu; this information should include measures such as the amount of on and off-road pedestrian and bicycle facilities that have been installed by the City to date and the amount of bicycle and pedestrian crashes.	City/Proposed Bicycle and Pedestrian Task Force or Advisory Committee	Phase I	Low
Continually update the 5E Action Implementation Menu to either add new projects and/or programmatic activities or to identify which actions have been completed	City/Proposed Bicycle and Pedestrian Task Force or Advisory Committee	Ongoing	Low
Aggressively pursue grant funding for top projects on the prioritized list of bicycle and pedestrian improvements	City/Proposed Bicycle and Pedestrian Task Force or Advisory Committee	Ongoing	Low

CONCEPT PLANS

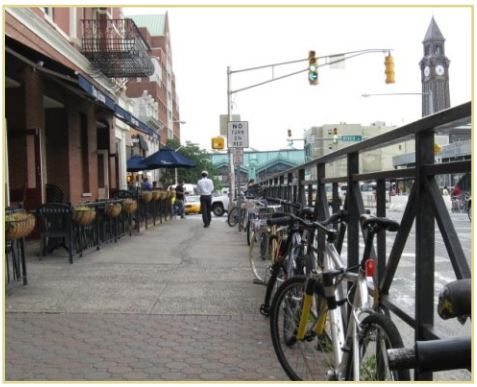
Concept level plans were developed for four (4) target area locations within the City of Hoboken's current transportation network. The locations were chosen based on stakeholder interaction and network analysis. The concept plans illustrate the existing deficiencies and highlight the proposed conceptual solutions and ideas that would improve bicycle and pedestrian safety and accessibility.

Note: The conceptual recommendations that follow are based on limited qualitative assessments. Prior to advancing the Concept Plan recommendations, further data collection, analysis and survey should be completed to fully assess the impacts of the proposed recommendations. Additionally, early coordination and continued communication with agencies having jurisdiction over the roadway or facilities in question should be initiated to confirm the feasibility of the recommended improvements.

Concept 1: The Intersections of Hudson Street, Hudson Place, River Street & Newark Street

Issues: High pedestrian activity and conflicts with vehicular traffic.

The high amount of pedestrian activity at these intersections often poses conflicts with vehicular traffic, especially during peak hours. As noted in the crash analysis, there are a number of pedestrian and bicyclist conflicts with vehicular traffic at these intersections. These numbers also do not reflect the "near misses" that go unreported.



Sidewalk railing along Hudson Place

The behavior in this general area could be attributed to the heightened sense of anxiousness on the part of all roadway users – those transit users looking to catch a train or bus; motorists looking to find a parking space or picking up a passenger from the Terminal; or bicyclists racing to get to the Terminal to find a space to park their bike.

Out of the four intersections, two are unsignalized which does not provide the pedestrian with any information for when it is safe to cross. In addition, motorists fail to stop for pedestrians who are waiting to cross in the crosswalk. As a result, pedestrians often proceed to cross especially during rush hours when the sidewalk queues are high.

Crosswalk at the intersection of Hudson Place and Hudson Street headed northbound towards Newark Street

At the intersection of Hudson Place and River Street, there is a countdown signal and the sidewalk railing along Hudson Place is intended to direct pedestrians to this preferred crosswalk; however, for pedestrians looking to catch a train or bus, taking the longer route is not their preferred option. As observed in the field, many proceed to jaywalk across Hudson Place to reach their intended mark.

Proposed Design Solutions

- Test or investigate implementing a Pedestrian Scramble ("Barnes Dance") at the signalized intersections
- Investigate prohibiting right turn on red, especially from Hudson Street onto Newark Street
- Enhance Newark Street at the intersections of Hudson and River Streets and Hudson Place at the intersections of Hudson and River Streets with painted intersections or ergonomic crosswalks to prioritize pedestrian movement

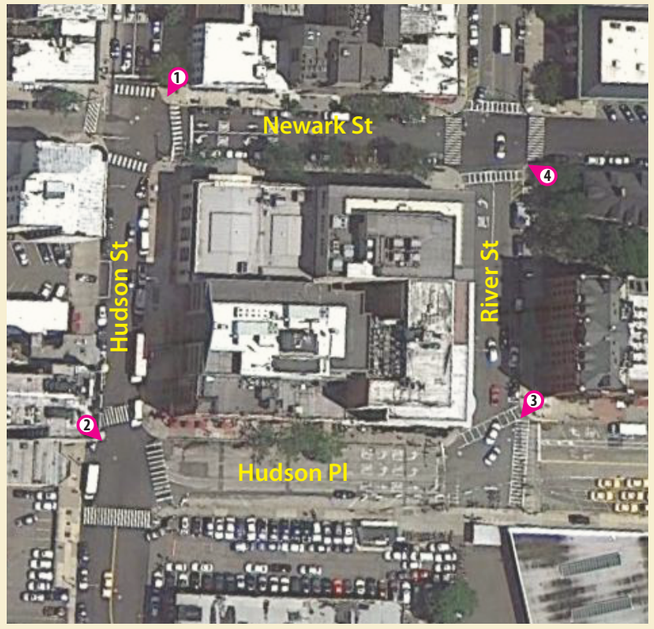
Bird's eye view of the intersection of Hudson Place and Hudson Street

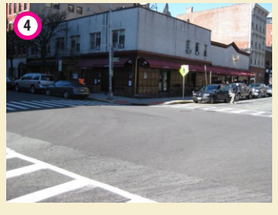
City of Hoboken Bicycle & Pedestrian Plan

Concept 1

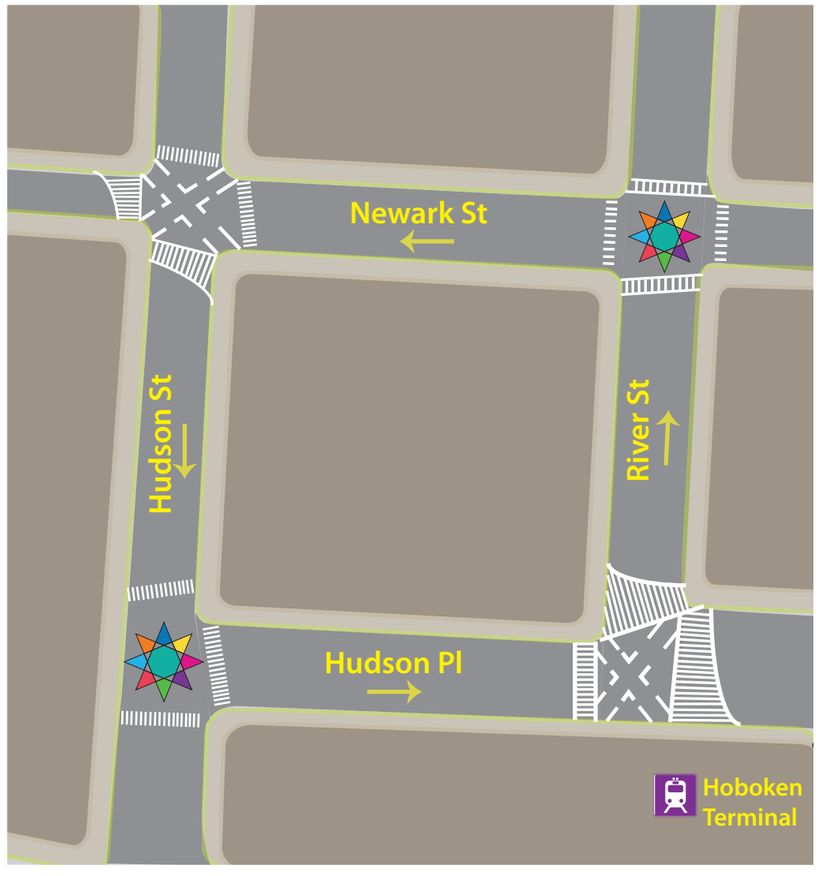
The Intersections of Hudson Street, Hudson Place, River Street, & Newark Street

Existing Conditions





Proposed Design Solutions



Newark St & Hudson St
- Pedestrian Scramble
- Ergonomic Crosswalks

Hudson Pl & Hudson St
- Painted Intersection

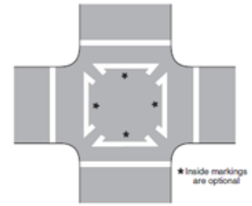
Hudson Pl & River St
- Pedestrian Scramble
- Ergonomic Crosswalks

Newark St & River St
- Painted Intersection

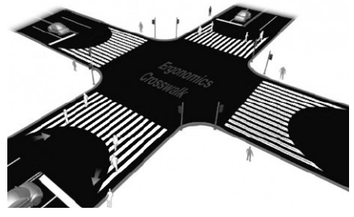
Pedestrian Scramble *AKA "Barnes Dance"*

- A pedestrian scramble stops all vehicular traffic & allows pedestrians to cross an intersection in every direction, including diagonally, at the same time.
- Pedestrian scrambles makes sense where large numbers of pedestrians are expected.

Figure 3B-20. Example of Crosswalk Markings for an Exclusive Pedestrian Phase that Permits Diagonal Crossing



Ergonomic Crosswalks



Ergonomic Crosswalk by Jae Min Lim

- When people cross roads, they tend to take the shortest route. Ergonomic crosswalks are curved to reflect how people actually walk.
- A wider, safer path for pedestrians is created by forcing cars to stop further back from the traffic light.

Painted Intersection *AKA Intersection Quilt*

- A painted intersection is a mural that is painted by a community group on the pavement at an intersection. Painted intersections help give a community a sense of place. They may also help to slow traffic.

PaintthePavement.org

Concept 2: Paterson Avenue between the border with Jersey City & Marshall Street

Issues: High pedestrian, bicyclist activity and conflicts with vehicular traffic.

Paterson Avenue is a major gateway between Jersey City and Hoboken for trucks, cars, bicyclists and pedestrians. This connection from Paterson Plank Road in Jersey City to Paterson Avenue is infamously known as an area for speeding. For motorists looking to access the Lincoln or Holland Tunnel, Paterson Avenue allows them to skirt Hoboken's perimeter and limited street network.

This area is also in close proximity to the 2nd Street Hudson-Bergen Light Rail station. This is a key attractor for bicyclists and pedestrians in Hoboken but also for those that live in the neighboring Jersey City Heights. This mix of demand and users creates conflict. As identified during the crash analysis, there are a number of pedestrian and bicyclist conflicts with vehicular traffic at these intersections. Since 2008, three bicyclists have been involved in crashes with motor vehicles at the convergence of Paterson Avenue, 1st Street and Marshall Street. For pedestrians, current sidewalk striping does not conform to the desired path of pedestrian travel and is not present at all legs of the intersection.

Proposed Design Solutions

- Consolidate gateway signage
- Restripe existing crosswalks and relocate stop bars
- Add new crosswalks where currently absent
- Continue sidewalk network across driveway aprons
- Add colorized and/or texturized pavement to the sidewalk treatments

Dog walkers crossing at the convergence of Paterson Avenue, 1st Street and Marshall Street

View of Paterson Avenue looking westbound

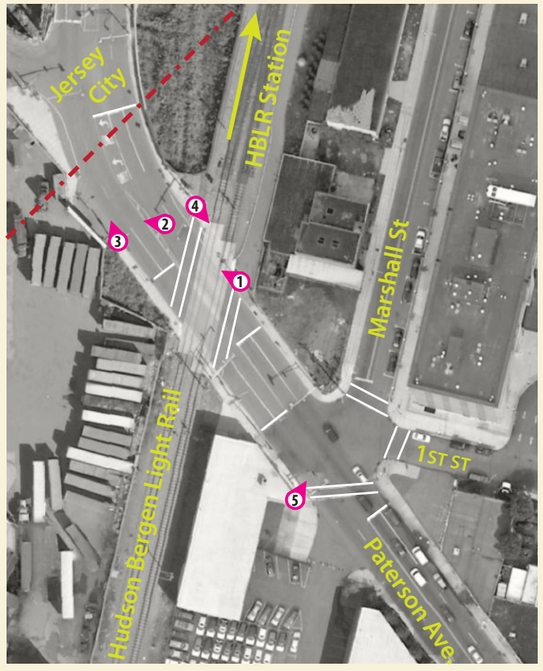
Truck making wide turn onto Paterson Avenue

Paterson Avenue between the Border with Jersey City & Marshall Street

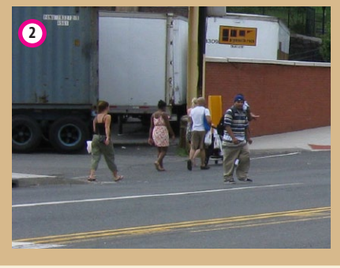
Existing Conditions

As a major gateway into the City of Hoboken, Paterson Avenue serves a large volume of vehicles, pedestrians and bicyclists. Proximity to the 2nd Street Hudson-Bergen Light Rail station and the Holland Tunnel increases the demand and creates conflicts between users. Three bicyclists have been involved in crashes at the intersection of Paterson Avenue, 1st Street, and Marshall Street since 2008.

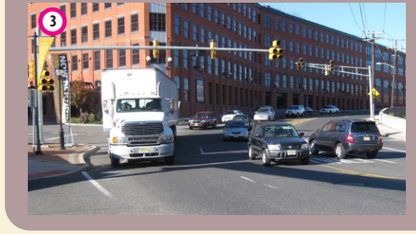
Crosswalks that do not correspond to the path of pedestrian travel



Wide curb cuts

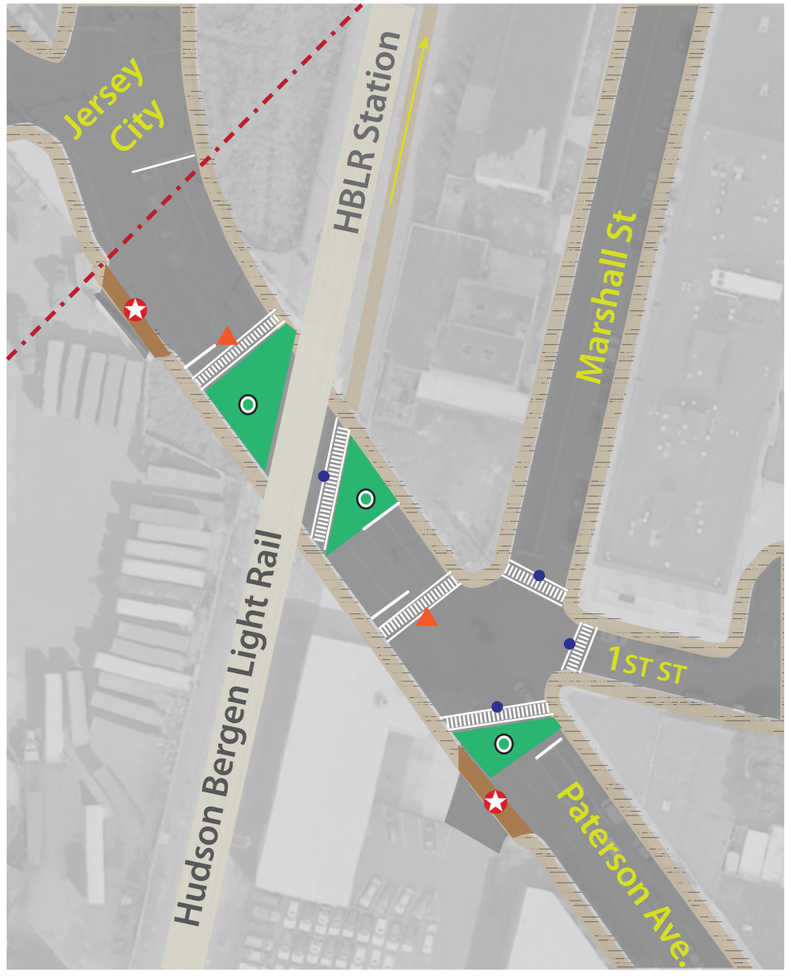


Major gateway for trucks, cars, bicyclists and pedestrians



Proposed Design Solutions

Improvements can be made to better serve all users of the area. Short term improvements can be made to the pedestrian operations by relocating stop bars, re-striping existing crosswalks and moving or addding new crosswalks to where pedestrians are most likely to walk.



● Re-stripe existing crosswalks and relocate stop bars

High visibility crosswalks enhance the visibility of the crossing area so that drivers are aware where pedestrians are most likely to cross. By increasing the visibility of the crosswalk, they also encourage pedestrian use.

Stop bars indicate to motorists where they should stop at the intersections. They are intended to reduce the occurrence of motorists blocking the crosswalk.

▲ Add new crosswalks

Crosswalks are the safest place for pedestrians to cross. Intersection with substantial vehicle and pedestrian traffic should have marked crosswalks.

◉ Colorized and/or textured pavement

Textured or colorized pavement is used to emphasize an intersection or a pedestrian crossing and can help to reduce vehicle speeds.

✪ Continue sidewalk across driveway apron

Designing driveway crossings for pedestrians can improve the walking environment, improve visibility, and reduce conflicts between drivers and pedestrians. Not only does providing a level, continuous sidewalk bring the sidewalk up to the standards of universal access for persons in wheelchairs, it also reminds motorists that they are crossing the pedestrian realm.

Concept 3: 15th Street (between Park Avenue and Hudson Street)

Issues: Speeding

Along this segment of 15th Street, stakeholders identified concerns of speeding and red light running – both with implications of pedestrian crossing safety concerns. Because of its proximity to the Lincoln Tunnel and 14th Street Viaduct, this segment of 15th Street is often used as a cut-through. There are also a number of apartment-style residences and parking garages which contribute to the amount of foot-traffic in this area.

Recently, the City of Hoboken implemented temporary traffic calming measures along 15th Street between Hudson and Garden Streets by adding pavement markings to various intersections to increase driver awareness of pedestrian space and by adding shoulder striping to narrow the vehicle lane. These initial measures yielded results of reducing speeds along 15th Street by as much as 8%. Despite these preliminary results, residents have still expressed concerns about the effectiveness that the changes will have on driver's behavior.

Proposed Design Solutions

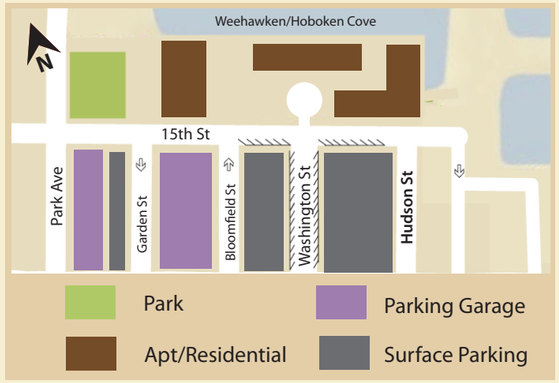
- Install a raised intersection at:
  - 15th Street and Washington Street
  - 15th Street and Garden Street
- Install speed humps less than 200 feet from the proposed raised intersections

View westbound along 15th Street towards the intersection of Washington Street

View eastbound along 15th Street. Note curb extension and angled parking.

15th Street (between Park Avenue and Hudson Street)

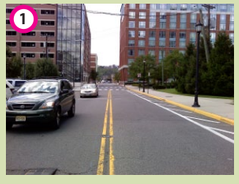
Existing Conditions



15th Street between Park Avenue and the Waterfront was identified by the Steering Committee and residents as an "area of concern." People use the road to get in and out of the city and to access parking lots and apartment buildings along the street.

The City of Hoboken recently implemented inexpensive traffic calming measures that have reduced speeds by up to 8%. However, residents still report issues with speeding, vehicles running stop signs and pedestrian crossing safety concerns.

Implemented Traffic Calming Measures



Westbound lane of 15th Street

4' shoulder striping narrows the travel lane from 15' to 11'

Intersection of 15th St & Washington St

Four-way stop

Temporary speed bump on the eastbound approach to the intersection

"STOP" letter markings painted before the stop bar

South side of 15th St between Bloomfield St & Hudson St

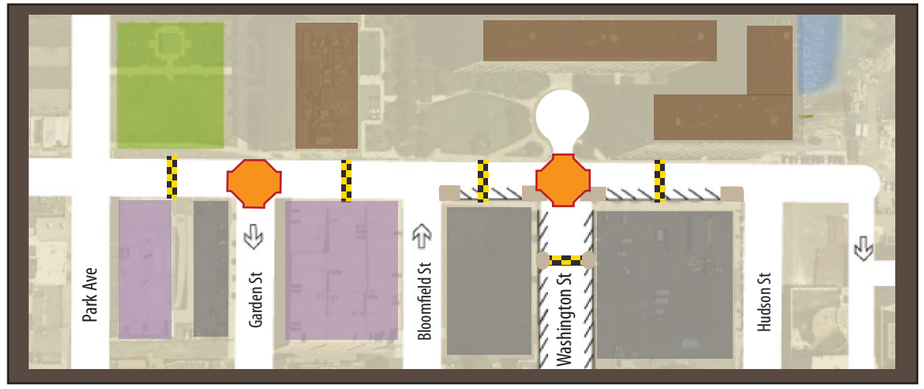
20' angled parking spaces

20' bump out

20' sidewalk

Proposed Design Solutions

Traffic calming measures that impact driver behavior can be categorized into volume control or speed control. Volume control measures include restricted turns, roadway closures or median barriers. Speed control measures include passive concepts such as gateways or streetscape that changes a driver's perspective of a corridor, and active concepts that force a driver to physically alter their travel path. Since passive measures have already been implemented along the corridor, vertical speed control devices are proposed as a more assertive speed control technique.



Vertical speed control devices, including speed humps and raised intersections, are extremely effective at eliminating excessive speeding and reducing speeds at pedestrian-vehicle conflict locations. They are designed for travel speeds between 25-35 mph, and are most effective when used in a series of at least three elements.

Measure	Description of measure	Recommended Location	Example
Raised Intersection	A raised intersection slows traffic through an intersection by placing pedestrians and vehicles on the same plane. This provides a safety advantage for pedestrians, as it puts them on "equal footing" with vehicles.	The intersections of: • 15th Street & Washington Street • 15th Street & Garden Steet	 Photo: Dan Burden, streetswiki.com
Speed Hump	Speed humps are a minimum 6 feet in length and 3-4 inches high. Tapering the hump down to the curb allows existing street drainage to remain unaffected and minimizes impacts to bicyclle travel.	Less than 200 feet from the raised intersection	 Example of a speed hump

Concept 4: Madison Street (between Newark Street and Observer Highway) & Newark Street (between Grove Street and Madison Street)

Issues: Better connectivity to Madison Street bicycle facility from Jersey City

Hoboken and Jersey City both have comprehensive bicycle networks that include on and off road facilities. Among stakeholders, there is a desire to introduce new facilities that will provide better connections between the two bicycle networks.

The current bicycle lane along Madison Street provides a north to south connection within Hoboken but is limited in its connections from the Jersey City gateway along Grove Street. Currently metal barricades are being used by the Fire Department, whose firehouse occupies this portion of the block, to restrict access from Newark Street and to create an informal parking area. These barricades force bicyclists to travel an additional quarter mile to gain access to Madison Street's bike lane.

Metal barricades restrict access from Newark Street to Madison Street

Proposed Design Solutions

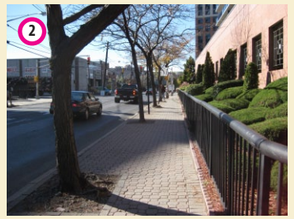
- Extend the northbound bicycle lane on Madison Street south to Newark Street
- Formalize and design the parking configuration adjacent to the firehouse to avoid conflicts with the proposed bicycle lane segment
- Widen the sidewalk along the north side of the Newark Street between Grove Street and Madison Street to create a sidepath to accommodate bicyclists accessing the proposed bicycle lane segment
- Install wayfinding signs leading from the Jersey City gateways along Grove Street and Marin Boulevard/Henderson Street

Angled parking for the firehouse on Madison Street

Madison Street (between Newark Street and Observer Highway) & Newark Street (between Grove Street and Madison Street)

Existing Conditions

Metal crowd control barriers currently restrict travel on Madison Street between Newark Street and Observer Highway. The area is currently being used as parking for the fire station. The current on-road route for bicyclists traveling from Grove Street to access the bike lane on Madison Street is a quarter mile, or four blocks long.



Current on-road route to access the Madison Street bike lane for bicyclists traveling north from Grove Street

Madison Street bike lane

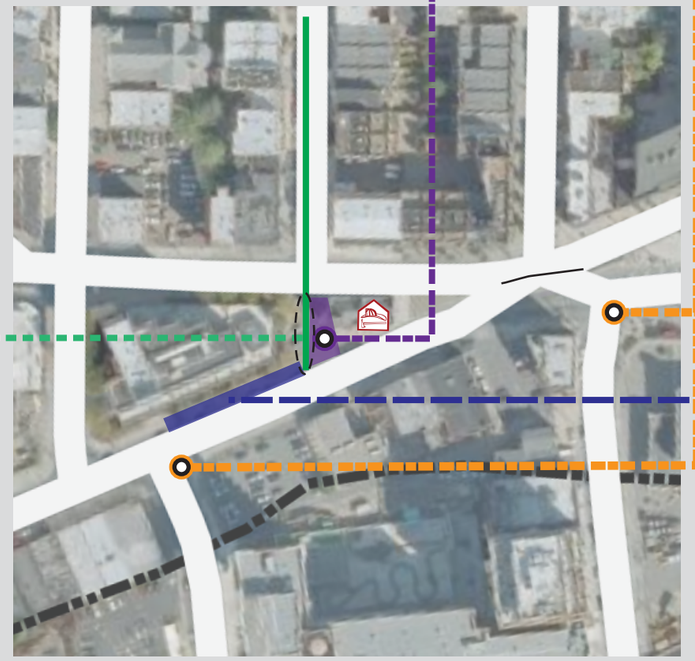
Proposed Design Solutions

The proposed improvements will reduce the distance and time for bicyclists accessing the Madison Street bike lane from Grove Street or Marin Boulevard. Reducing the number of turns bicyclists must make at intersections to access the bike lane on Madison Street also reduces the number of conflict locations between bicyclists and vehicles.

Extend the northbound bicycle lane on Madison St south to Newark St.

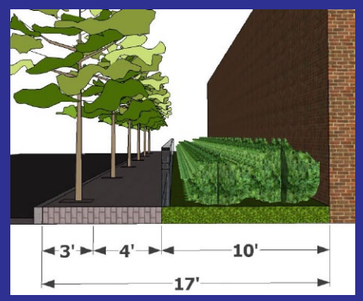
The parking configuration adjacent to the fire house should be formalized with striping, and designed to avoid conflicts with the new bicycle lane segment.

Wayfinding signs should be installed leading from the Grove St and Marin Blvd gateways from Jersey City.

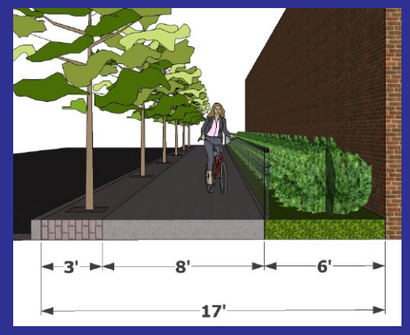


The sidewalk along the north side of the ~ 150' section of Newark St between Grove St and Madison St should be widened to accommodate bicyclists accessing the new bicycle lane segment on Madison St. This sidepath would avoid requiring bicyclists to turn left from Newark St onto Madison St.

Existing



Proposed



RECOMMENDATIONS AND ENHANCED HOBOKEN BICYCLE NETWORK MAPS

The maps on the following pages are supplements to the 5E Action Implementation Plan and Concept Plans that illustrate where design improvements should be made to Hoboken's current transportation system. The **Recommendations Map** illustrates the location of proposed design treatments in conjunction with existing conditions. The Enhanced **Bike Network Map** is provided to illustrate how the implementation of Bicycle Priority Streets (Bicycle Boulevards) could be integrated into the City's existing and proposed bicycle facilities.

City of Hoboken
Bicycle & Pedestrian Plan
MAP 3. RECOMMENDATIONS

December 2010

WEEHAWKEN
UNION CITY
JERSEY CITY
HOLLAND TUNNEL

HARBOR BLVD
Place wayfinding signs directing southbound bicyclists traveling from Weehawken along the HRWW to use the Park Ave "side street" instead of the Park Ave Bridge. Resurface "side street" to better accommodate bicycle traffic.
Weehawken/ Hoboken Cove
16TH ST
15TH ST
14TH ST
13TH ST
12TH ST
11TH ST
10TH ST
9TH ST
8TH ST
7TH ST
6TH ST
5TH ST
4TH ST
3RD ST
2ND ST
1ST ST
MANHATTAN AVE
JEFFERSON ST
CLINTON ST
GRAND ST
PARK AVE
WASHINGTON ST
HUDSON ST
SHIPYARD LANE
SINATRA DR N
Clearview Cinemas
Install yield compliance signs along HRWW.
MONROE ST
ADAMS ST
WILLOW ST
GARDEN ST
CASTLE POINT TERRACE
SINATRA DR
Elysian Park
Maxwell Place Beach
Columbus Park
Shop Rite
Castle Point Park
Walkway/Fishing Pier
Provide additional bicycle parking.
MADISON ST
BLOOMFIELD ST
Stevens Institute of Technology
Sinatra Park
Church Square Park
Stevens Park
Pier C
COURT ST
RIVER ST
Pier A
Multi-Service Community Center
Carlos Bakery
PATERSON PLANK RD
HARRISON ST
MARSHALL ST
JACKSON ST
MOUNTAIN ROAD
PATERSON AVE
Consolidate welcome signage, perhaps on a kiosk.
NEWARK ST
HUDSON PL
Reclaim Warrington Plaza for public use. Provide expanded pedestrian amenities and bicyle parking.
Install more bicycle parking facilities around the terminal.
OBSERVER HWY
Extend Madison St. bicycle lane south through the fire station parking area to Newark St. Install wayfinding signs from Grove St and Marin Blvd.
JERSEY AVE
GROVE ST
MARIN BLVD
NORTH
0.25 Miles

LEGEND

EXISTING CONDITIONS

- BIKE PATH (physically separated from motor vehicle traffic)
- BIKE LANE (5' lane for preferential use by bicyclists)
- ROAD WITH SHARED LANE MARKINGS (road right-of-way shared by cyclists and motor vehicles)
- EXISTING TRAIL (Hudson River Waterfront Walkway)
- EXISTING BIKE RACK
- BIKE SHOP
- ONE WAY STREET
- RAIL STATION
- FERRY TERMINAL
- BUS TERMINAL
- CITY HALL
- POLICE STATION
- MUNICIPAL PARKING GARAGE
- HOSPITAL
- LIBRARY
- POST OFFICE
- ANGLED PARKING
- BRIDGE
- ACTIVE RAILROAD
- COBBLESTONE ALLEY
- PLANTED MEDIAN
- PARK
- SCHOOL
- UNIVERSITY
- COMMERCIAL PARCEL*

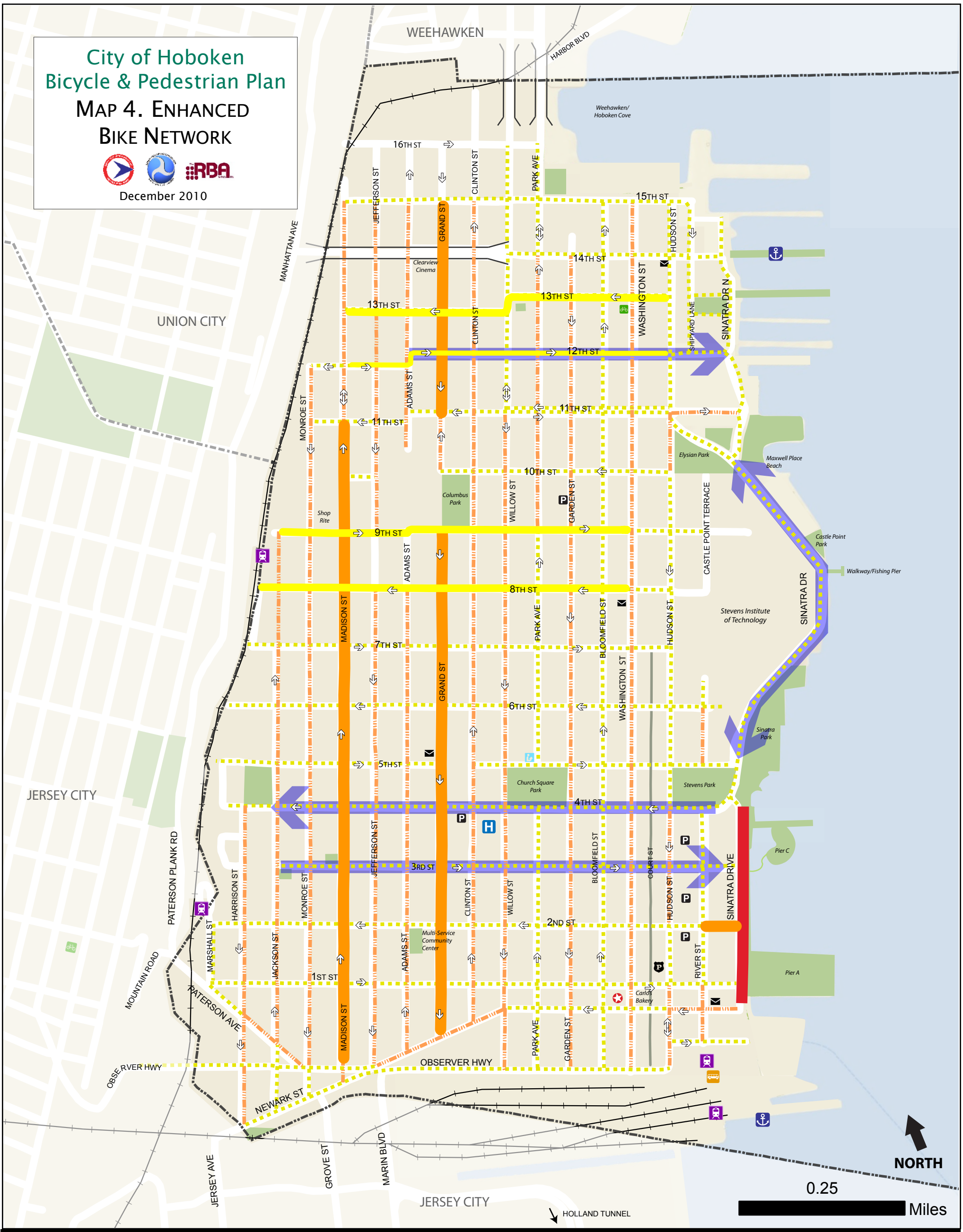
RECOMMENDATIONS

- PRIORITY INTERSECTION IMPROVEMENTS
- PAINTED INTERSECTION
- PEDESTRIAN SCRAMBLE
- BLOCKBUSTER
- BICYCLE BOX
- BICYCLE PRIORITY ST/ "BIKE BLVD"
- BICYCLE LANES ON WASHINGTON ST (with colorized advance bicycle boxes & through bicycle lanes at intersections)
- TWO WAY BIKE PATH or CYCLE TRACK (along Observer Hwy's eastbound frontage/"Vezzetti Way" & along the north side of Newark St between Grove St & Madison St)
- COMPLETE GAPS IN SIDEWALK
- TRAFFIC CALMING
- GATEWAY TREATMENT
- CONVERT TO BACK-IN ANGLED PARKING
- COMPLETE GAPS IN HRWW
- CONCEPT AREA

Sources: City of Hoboken; NJDOT; State of NJ Division of Taxation, NJ Office of Technology (NJOIT), Office of Geographic Information Systems (OGIS)
*Note: The match rate of the parcels data set from the NJOIT OGIS and the State of NJ Division of Taxation 2010 MOD-IV tables was 95%.

City of Hoboken
Bicycle & Pedestrian Plan
Map 4. Enhanced Bike Network

December 2010



LEGEND

EXISTING BICYCLE FACILITIES

- BIKE PATH (physically separated from motor vehicle traffic)
- BIKE LANE (5' lane for preferential use by bicyclists)
- ROAD with SHARED LANE MARKINGS (road right-of-way shared by cyclists and motor vehicles)

PLANNED BICYCLE FACILITIES

- BIKE LANE
- ROAD with SHARED LANE MARKINGS

- RECOMMENDED BICYCLE PRIORITY ST/"BIKE BLVD"

- RAIL STATION
- FERRY TERMINAL
- BUS TERMINAL
- CITY HALL
- POLICE STATION
- HOSPITAL
- LIBRARY
- POST OFFICE
- MUNICIPAL PARKING GARAGE
- BRIDGE
- COBBLESTONE ALLEY
- ACTIVE RAILROAD
- ONE WAY STREET

Sources: City of Hoboken; NJDOT; State of NJ Division of Taxation, NJ Office of Technology (NJOIT), Office of Geographic Information Systems (OGIS)

Appendices (Separate Document)

Appendix A. Design Guidelines

Appendix B. Funding Sources

Appendix C. Field Visit Memo and Photo Log

Appendix D. Local Ordinance Review

Appendix E. Bicycle and Pedestrian Demand and Suitability Technical Memorandum

Appendix F. Summary of Crash Data

Appendix G. Bicycle and Pedestrian Safety Education Resource List

Appendix H. Sample Policies and Programs

i. Burlington, Vermont Bicycle Parking Ordinance

ii. CityRyde "Bicycle Sharing Systems Worldwide: Selected Case Studies," September 2010

iii. B-cycle™ Bicycle Sharing Community Assessment and Example of Residential Community Program

iv. San Francisco Planning Department – RFP for Temporary Sidewalk Extensions "Parklets"

v. Bike Maryland's Community Pace Car Program

Appendix I. Manual on Uniform Traffic Control Devices (MUTCD) Request to Experiment

Appendix J. Document Bibliography

Appendix K. Meeting Summaries

i. Kick-Off Meeting

ii. Public Visioning Meeting

iii. Public Information Center