Jersey City Master Plan

Circulation Element

Prepared for:

The City of Jersey City

Prepared by:

T&M Associates

Prepared with assistance from:

Eastland Systems Group
Medina Consultants
TechniQuest Corporation

Adopted April 14, 2009
Amended July 14, 2009

T&M ASSOCIATES

This plan was prepared with financial support from the North Jersey Transportation Planning Authority, the NJ Urban Enterprise Zone Authority and the City of Jersey City.

The preparation of this report has been financed in part by the U.S. Department of Transportation, North Jersey Transportation Planning Authority, Inc., Federal Transit Administration and the Federal Highway Administration. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or its use thereof.

Jersey City Master Plan
Circulation Element

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Hudson County, New Jersey

Prepared by:

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This Circulation Element was prepared with funding from the North Jersey Transportation Planning Authority, the NJ Urban Enterprise Zone Authority, and the City of Jersey City.

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CITY OF JERSEY CITY

JERRAMIAH T. HEALY, MAYOR

April 3, 2009

Dear Friends:

I am pleased to present the new Circulation Element of the Jersey City Master Plan. This important document will guide the formation of policy and investment in transportation infrastructure in Jersey City over the coming years. Jersey City's vision is to create a safe, accessible, comfortable, and efficient multi-modal transportation network that meets the current and future needs of the City's residents and visitors and that connects Jersey City's neighborhoods, as well as Jersey City with the region. The Circulation Element provides the framework in which this vision will be realized and includes specific actions that the City will undertake.

From Jersey City's industrial past when the City was a major freight and passenger rail terminus to its transformation into a modern, regional center for office employment, Jersey City's transportation infrastructure has always been critical to its prosperity. One of Jersey City's greatest assets is its transportation infrastructure, which includes historic structures like the Pulaski Skyway and the Bergen Arches, and more recent investments like the Hudson-Bergen Light Rail.

In addition to our abundant transportation resources, I am proud of the fact that the percentage of Jersey City's residents who commute to work by public transportation is among the highest in the country. This is particularly important as we look for ways to lead greener lifestyles to conserve resources for future generations. I firmly believe that the path to sustainable growth is by encouraging the use of mass transit, and one of my priority projects is to extend the Hudson-Bergen Light Rail westward across Route 440, which will allow us to redevelop the Hackensack River waterfront.

As Jersey City grows, it is more critical than ever that we enhance the City's multi-modal transportation system to meet our current needs and to support anticipated redevelopment. I am committed to improving the City's public transportation network that includes bus, PATH train, light rail, ferry, jitneys, and taxis. I am also committed to ensuring that our existing street network safely accommodates pedestrians, bicyclists, and motorists in an aesthetically-pleasing environment. In order to support Jersey City's port activity, I am committed to making investments that improve access and mobility for freight while minimizing impacts to residential neighborhoods.

OFFICE OF THE MAYOR

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Jersey City is a vibrant and dense urban area with a rich history and exciting opportunities for growth. It is my goal to foster a transportation network that is both sensitive to our historic resources and the environment and that provides options for travel on a wide range of modes for all users to, from, and within Jersey City.

Sincerely,

Jerramiah T. Healy
Mayor

Vision Statement

By the year 2050, Jersey City's extensive and sustainable development, redevelopment and neighborhood revitalization activity will have transformed the City into a bustling, "green," world-class center with a range of housing and retail choices, many employment and business opportunities, and excellent recreational, entertainment and cultural amenities. As befits any such center, the City will be served by a multi-modal transportation system that is attractive, clean, safe, efficient, reliable, inclusive, affordable, accessible, and user-friendly. Jersey City's comprehensive and seamless transportation network will provide options to its users and accommodate all types of trips - both local and regional in nature - to, from, and within all neighborhoods, throughout the day and night, and it will mitigate congestion and minimize the amount of single-occupancy vehicular traffic in Jersey City.

The City's transportation network will benefit residents, workers, and visitors alike by giving people a choice in how they travel to, from, and within Jersey City. The principal features of Jersey City's transportation network will be a highly-functioning and efficient multi-modal public transit system, a roadway network that will not only accommodate vehicular traffic but will also provide safe and efficient accommodation for bicyclists and pedestrians, and a network of off-road bicycle and pedestrian paths that complement the City's parks and open spaces.

Photo Source: Bill Wittkop / NJTPA

Executive Summary

The Circulation Element prepares Jersey City for growth through 2050. The Circulation Element gathered feedback from all of its stakeholders through the 2050 Mobility Survey, Focus Group, Visioning Session, and Public Meetings. The City incorporated that feedback into all aspects of its Circulation Element. The City created a Technical Advisory Committee (TAC) consisting of various State, County, and local agencies which play a role in Jersey City's transportation infrastructure, and the TAC vetted all aspects of the Circulation Element. The result is an action-oriented Circulation Element that addresses the needs of the multi-modal system, and facilitates the movement of people and goods safely and efficiently. The Circulation Element develops a Vision for a transformed world-class center served by a multi-modal transportation system that is attractive, clean, safe, efficient, reliable, inclusive, affordable, accessible, and user-friendly. This Vision focuses on travel to, from, and within Jersey City, for bikes, pedestrians, vehicles, buses, ferries, rail, and all mass transit carriers, as well freight movement, both regional movements and local deliveries. The Circulation Element addresses the needs of all of its users, and emphasizes alternatives to the automobile.

Goals, Objectives, Strategies, and Actions were established based on feedback from the TAC and stakeholders, and from recommendations cited in various studies performed in Jersey City and throughout the region. The Action Plan identifies timeframes for the Actions, as well as potential lead implementation agencies, ranges of costs, and possible funding sources. Indicators and Targets are provided for the City to measure its success in attaining the Goals, Objectives, and Strategies, as well as Baselines to use for comparison purposes. The Circulation Element recognizes how the City will grow, and addresses how the Circulation system will address this growth. The Circulation Element identifies right-of-way needs to accommodate the changes to the multi-modal system. A Jersey City Functional Classification System is established which enables the City to apply Typical Roadway sections that maximize the use of existing and future streets for all of its users. The Circulation Element also provides recommendations for Traffic Calming measures, and provisions for sidewalk maintenance.

The Circulation Element relates directly to the land use plan and corresponding development and redevelopment objectives and strategies of the City. It is the purpose of this Circulation Element to provide for the City's current transportation needs, to prepare the City's transportation system for growth through 2050, and to enable Jersey City to achieve its vision.

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Mobility Report 2050

Exhibit A – AM Volume Capacity Ratio Through Year 2050

Exhibit B - PM Volume Capacity Ratio Through Year 2050

Exhibit C – Average Daily Traffic (ADT) Volumes

Jersey City Classification System

- Major Collector
- Minor Collector
- Local Residential Streets
- Local Park Roads

FHWA Classification System

1. Introduction

1.1 Overview

Situated in the heart of the world's premier urban center, the City of Jersey City is a crossroads of local, regional, national, and international travel. The impacts of Jersey City's location are reflected everyday in its vibrant neighborhoods, diverse population, and its rapidly-changing cityscape.

This has always been the case in Jersey City. From its earliest days, the City has been an important center of maritime activity and trade due to its prime waterfront location on the Hackensack River and Newark Bay to the west, and the Hudson River and Upper New York Bay to the east. Later, during America's age of immigration, Jersey City became the Nation's door to the world as it welcomed new Americans at Ellis Island.

Every point in Jersey City's history has been accompanied by a remarkable amount of investment in its infrastructure. This is particularly evident in its extensive freight and passenger rail, ferry, roadway, pedestrian, and bicycle transportation networks.

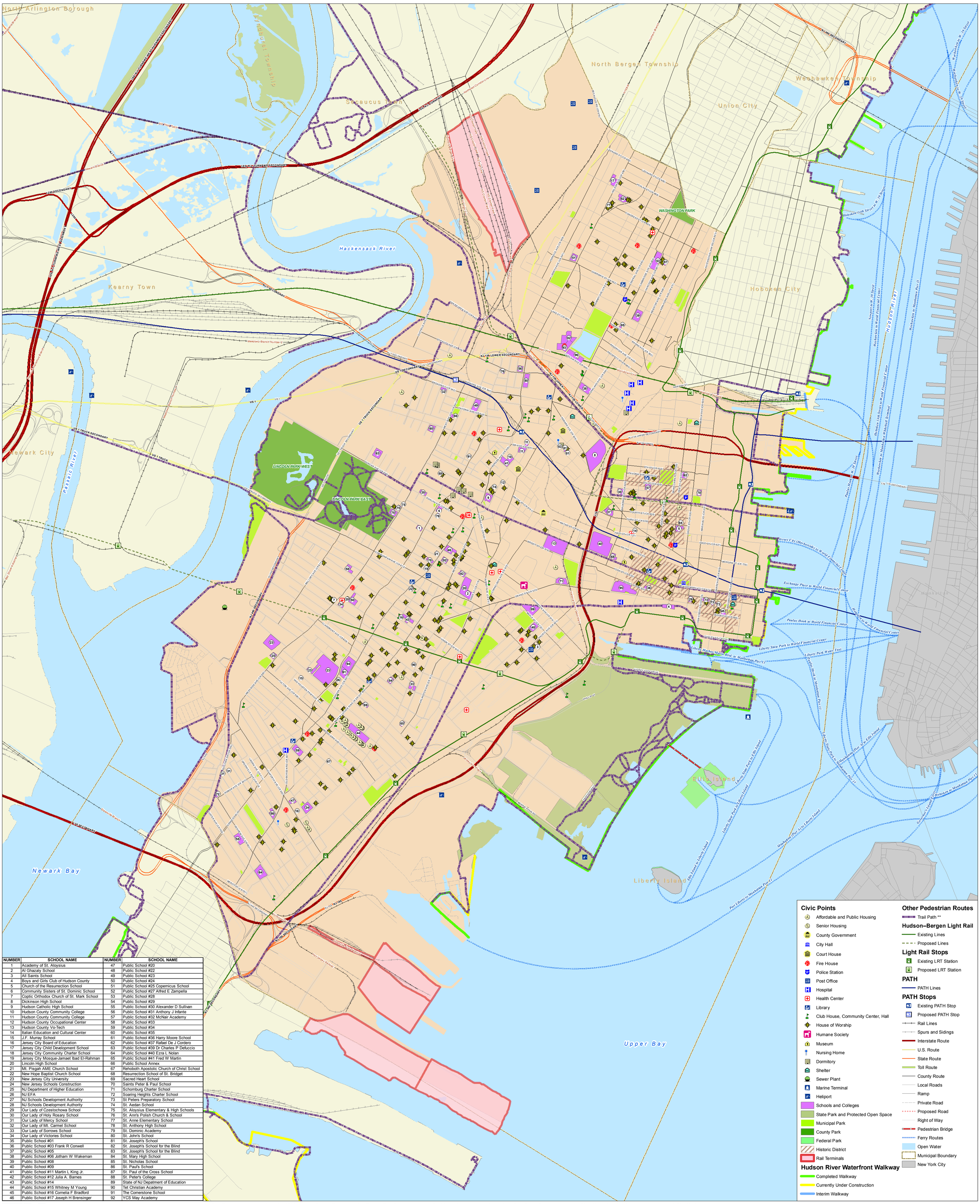
Investment in Jersey City continues today. With its 15 square miles, estimated population of 260,712 residents, and highly-developed, multi-modal transportation system, Jersey City is arguably New Jersey's fastest-growing municipality and has one of the highest modal splits in the United States.

Jersey City is a dense, urban environment with an economically, racially, and linguistically diverse population. It is a city of neighborhoods, each with its own flair, character, and features[1], and a major employment center with approximately fourteen million square feet of prime office space. Moreover, it is a critical transportation hub for trans-Hudson traffic, and, with over seventy redevelopment areas, Jersey City is a city under transformation that is poised to become a world-class destination.

In consideration of the above, the City of Jersey City has prepared this Circulation Element in accordance with NJSA 40:55D-1 *et seq*. It is the purpose of this Circulation Element to provide for the City's current transportation needs and to prepare the City's transportation system for the road that lies ahead and realize the City's vision for 2050.

Photo Source: Jersey City Division of City Planning

[1] Jersey City's community features are mapped in Figure 1.1-1



NUMBER	SCHOOL NAME	NUMBER	SCHOOL NAME
1	Academy of St. Aloysius	47	Public School #20
2	Al Ghazaly School	48	Public School #22
3	All Saints School	49	Public School #23
4	Boys and Girls Club of Hudson County	50	Public School #24
5	Church of the Resurrection School	51	Public School #25 Copernicus School
6	Community Sisters of St. Dominic School	52	Public School #27 Alfred E Zampella
7	Coptic Orthodox Church of St. Mark School	53	Public School #28
8	Dickinson High School	54	Public School #29
9	Hudson Catholic High School	55	Public School #30 Alexander D Sullivan
10	Hudson County Community College	56	Public School #31 Anthony J Infante
11	Hudson County Community College	57	Public School #32 McNair Academy
12	Hudson County Occupational Center	58	Public School #33
13	Hudson County Vo-Tech	59	Public School #34
14	Italian Education and Cultural Center	60	Public School #35
15	J.F. Murray School	61	Public School #36 Harry Moore School
16	Jersey City Board of Education	62	Public School #37 Rafael De J Cordero
17	Jersey City Child Development School	63	Public School #39 Dr Charles P Defuccio
18	Jersey City Community Charter School	64	Public School #40 Ezra L Nolan
19	Jersey City Mosque-Jamaet Ibad El-Rahman	65	Public School #41 Fred W Martin
20	Lincoln High School	66	Public School Annex
21	Mt. Pisgah AME Church School	67	Rehoboth Apostolic Church of Christ School
22	New Hope Baptist Church School	68	Resurrection School of St. Bridget
23	New Jersey City University	69	Sacred Heart School
24	New Jersey Schools Construction	70	Saints Peter & Paul School
25	NJ Department of Higher Education	71	Schomburg Charter School
26	NJ EFA	72	Soaring Heights Charter School
27	NJ Schools Development Authority	73	St Peters Preparatory School
28	NJ Schools Development Authority	74	St. Aedan School
29	Our Lady of Czestochowa School	75	St. Aloysius Elementary & High Schools
30	Our Lady of Holy Rosary School	76	St. Ann's Polish Church & School
31	Our Lady of Mercy School	77	St. Anne Elementary School
32	Our Lady of Mt. Carmel School	78	St. Anthony High School
33	Our Lady of Sorrows School	79	St. Dominic Academy
34	Our Lady of Victories School	80	St. John's School
35	Public School #01	81	St. Joseph's School
36	Public School #03 Frank R Conwell	82	St. Joseph's School for the Blind
37	Public School #05	83	St. Joseph's School for the Blind
38	Public School #06 Jotham W Wakeman	84	St. Mary High School
39	Public School #08	85	St. Nicholas School
40	Public School #09	86	St. Paul's School
41	Public School #11 Martin L King Jr.	87	St. Paul of the Cross School
42	Public School #12 Julia A. Barnes	88	St. Peter's College
43	Public School #14	89	State of NJ Depatment of Education
44	Public School #15 Whitney M Young	90	Tet Christian Academy
45	Public School #16 Cornelia F Bradford	91	The Cornerstone School
46	Public School #17 Joseph H Brensinger	92	YCS May Academy

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Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Dept. - Parks and Open Space; Hudson County GIS - Walkways and Pedestrian Routes
File Path: H:\JCTY\00110\GIS\Projects\Final\jcty110_CommunityPointsFINAL.mxd

** Trail Path indicates trails from the 2008 Hudson County Reexamination Report. Trail Path includes the Old Morris Canal, and portions of the East Coast Greenway, Hudson River Waterfront Walkway, and Hackensack RiverWalk.

CITY OF JERSEY CITY — CORPORATE SEAL

Jersey City Circulation Element 2050
Figure 1.1-1: Community Features
City of Jersey City
Hudson County, New Jersey

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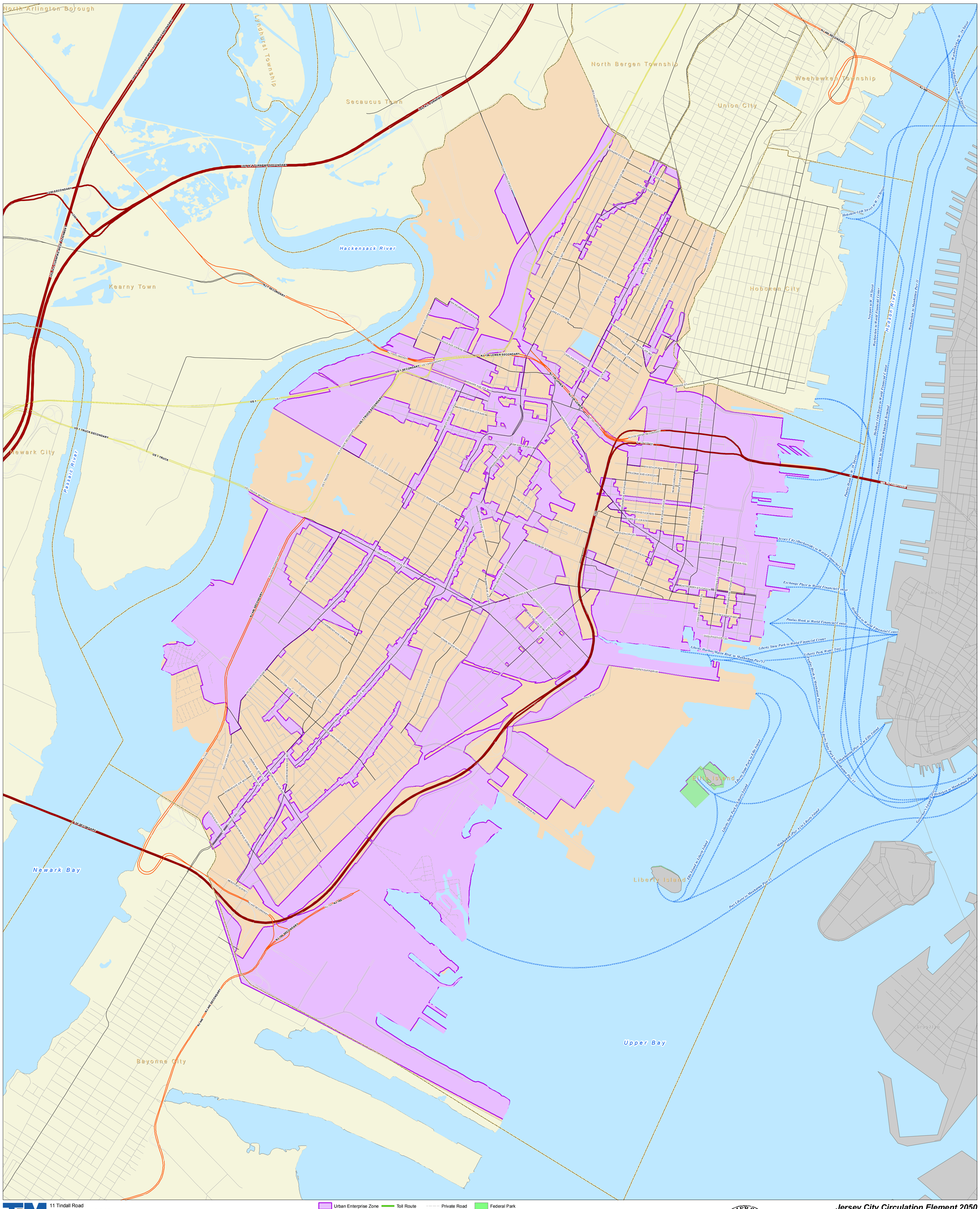
NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.



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Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Dept.: Parks and Open Space; New Jersey Commerce, Economic Growth & Tourism Commission - Urban Enterprise Zone
File Path: H:\JCTY\00110\GIS\Projects\Final\jcty110_UrbanEntZoneFINAL.mxd

- Urban Enterprise Zone
- Interstate Route
- U.S. Route
- State Route
- Toll Route
- County Route
- Local Roads
- Ramp
- Private Road
- Proposed Road
- Right of Way
- Federal Park
- Ferry Routes
- Open Water
- Municipal Boundary
- New York City

CITY OF JERSEY CITY — CORPORATE SEAL

Jersey City Circulation Element 2050
Figure 1.1-2: Urban Enterprise Zone
City of Jersey City
Hudson County, New Jersey

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NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

1.2 Background

Subsequent to the adoption of the City's current Master Plan in 2000, Jersey City experienced the development of the Hudson-Bergen Light Rail (HBLR) system, completion of several notable transportation studies, and increased congestion resulting from a high rate of development within the City and surrounding communities.

As a result of these events, the City has prepared this new, action-oriented Circulation Element. It is the purpose of this Circulation Element to guide the development of the City's transportation network through 2050, and to aid the City in achieving its vision of becoming a world-class destination with a multi-modal transportation network that both accommodates the automobile and supports alternatives to reduce automobile use.

1.3. Technical Advisory Committee

A Technical Advisory Committee (TAC) helped to guide the development of this Circulation Element. The TAC was comprised of transportation, planning, and other professionals from State agencies, City departments, and regional organizations. Specifically, members of the TAC were sourced from the following organizations: Hudson County Division of Engineering, Hudson County Division of Planning, Hudson County Improvement Authority, Hudson Transportation Management Association, Jersey City Division of Engineering, Jersey City Economic Development Corporation, Jersey City Mayor's Office, Jersey City Redevelopment Agency, New Jersey Department of Transportation, New Jersey Meadowlands Commission, New Jersey Transit, New Jersey Turnpike Authority, North Jersey Transportation Planning Authority, Port Authority of New York and New Jersey.

The purpose of the TAC was to assist in the collection of data and to review all consultant deliverables. The TAC also assisted with the development of goals, strategies, objectives, and actions. The Committee met regularly throughout the preparation of this Circulation Element.

1.4 Public Outreach

In recognition of the fact that understanding and support is essential to the success of this Circulation Element, it was a guiding principle of its development that all public and private stakeholders should be actively involved it its preparation. As such, a rigorous public outreach component was included in the development of this Circulation Element.

Among others, specific elements of the public outreach component included a Focus Group, public meetings, and a public survey. Section 1.4 provides complete information on the Circulation Element's public outreach component.

1.4.1 Focus Group

In addition to the TAC, a Focus Group of representatives from neighborhood groups, major employers, the business and development communities, recreational and educational facilities, the City's hospitals, bus and ferry operators and emergency service providers was formed to help plan for the first public meeting, which was the Visioning Session.

1.4.2 Professionals

The Circulation Element's public outreach component was further supported and advanced by the professional planners of the Jersey City Division of City Planning and the Jersey City Department of Housing, Economic Development and Commerce which led the project, and the Consultant team, which included T&M Associates as

the lead consultant, and its sub-consultants, Eastland Systems Group, and Medina Consultants.

Eastland Systems Group was charged with facilitating public participation. This was done through the execution of the 2050 Jersey City Mobility Survey in English and Spanish, coordination and advertisement of public meetings, and the management of a project-specific website.

1.4.3 Public Meetings

Input from the general public was solicited at a series of three public meetings. These meetings were held on May 20, 2008, January 29, 2009, and March 23, 2009.

1.4.3.1 First Public Meeting (May 20, 2008)

The goal of the first public meeting was to shape a vision for Jersey City's future circulation system. At this meeting, the public was invited to share its concerns and ideas about the City's current transportation system and needs.

Major points of discussion included east-west access within the City, expansion of the Hudson-Bergen Light Rail (HBLR) and other mass transit services, pedestrian and bicycle needs, distance to transit stops, accessibility of transit, and reliability of transit.

Also discussed were transit payment options (i.e., universal transit cards), requests for removal of certain truck routes, auto intercept parking at waterfront areas, incentives for commuters, the extension of Jersey Avenue, and the frequency and hours of HBLR service.

The information received during this meeting was primarily used to develop a vision statement and set of goals, strategies, and objectives for the Circulation Element.

1.4.3.2 Second Public Meeting (January 29, 2009)

The second public meeting was oriented toward presenting and obtaining feedback on the vision statement and the set of goals, objectives, and strategies that were developed subsequent to the first public meeting. A general project status update was also provided.

Key points of discussion at the second public meeting were the adequacy of transit, efficiency of transit, the need for more intermodal connections, and the need for traffic calming. These comments were incorporated into the draft Circulation Element. Following Public Meeting 2, a public comment period was held, during which written comments could be submitted through February 5, 2009.

1.4.3.3 Third Public Meeting (March 23, 2009)

The purpose of the third public meeting was to present this Circulation Element to the general public in draft format. Public comments were solicited and used to prepare a final draft version of the Circulation Element for submission to Jersey City Planning Board.

Major points of concern included accommodations for bicycles on roadways, the short-comings of the bus system, the need for an HBLR station at Pacific Avenue, and safety concerns. Following Public Meeting 3, a public comment period was held, during which written comments could be submitted through

March 30, 2009. These comments were considered as the final draft of this Circulation Element.

1.4.4 Jersey City Mobility 2050 Website

As an additional form of public outreach, a project-specific website was created. This website was located at: http://www.jerseycitymobility2050.com, and included complete project information, such as the Circulation Element's purpose, background, and goals; as well as details of the Circulation Element's public input components.

In addition to the above, the website allowed users to download flyers; the vision statement; the goals, strategies, and objectives; TAC meeting minutes; research summaries; and presentations from the aforementioned public meetings in Microsoft PowerPoint format.

1.4.5 2050 Jersey City Mobility Survey

As part of the Circulation Element's background research, a survey was conducted to obtain information on the travel habits and perceptions of residents and people working in Jersey City. The survey was conducted in English and Spanish, and focused on three market segments, specifically: those who work in Jersey City, but live elsewhere; those who live in Jersey City, but work elsewhere; and, those who work and live in Jersey City.

Section 4.3 of this Circulation Element provides complete information about this targeted-outreach survey.

1.4.6 Planning Board Hearing

Final public outreach was provided in the form of a public hearing of the Jersey City Planning Board on April 14, 2009. This hearing included a presentation of this Circulation Element, and afforded the general public an opportunity to make additional comments before Board action was taken.

1.5 Methodology

The goal of the Circulation Element was to create an action-oriented plan for Jersey City's local and regional transportation network. The Circulation Element considers recommendations of various studies of Jersey City and the region, and incorporates City land use plans and policy. The Circulation Element was developed from the feedback of the public, Technical Advisory Committee (TAC), and Jersey City professional planning staff. The Circulation Element encompasses all modes of transportation in Jersey City, and focuses on regional transportation improvements.

2. Existing Conditions

As part of the background work in developing this Circulation Element, a detailed assessment of the history of circulation in Jersey City and an inventory of the baseline conditions of the City's transportation system were prepared.

2.1 History of Circulation in Jersey City

Photo Source: Jersey City Division of City Planning

Strategically located on the Hudson River and with easy access to Upper New York Bay, the City of Jersey City was an important center for shipping and maritime activity during the peak of the industrial revolution of the early nineteenth century. This status was reinforced when the Morris Canal was completed at Jersey City in 1836, giving the City shared direct linkage with the Delaware River at Phillipsburg and with important inland points, such as Newark and Paterson.

Jersey City continued to serve as a transit point between Upper New York Bay and inland points to the west, but as the industrial revolution progressed, new technologies enabled the development of newer, more efficient forms of transport than canals. Consequently, railroads followed and terminals were constructed along the Hudson River waterfront and other points in the City. One example is the historic Central Railroad of New Jersey Terminal, which originally opened in 1864 and is located in what is now Liberty State Park.

With terminals located on the Hudson River, it was not long before ideas about a rail linkage to New York City began to evolve. This led to the construction of what is now known as the Port Authority Trans-Hudson (PATH) train, which commenced operations in 1907 after many arduous years of tunneling under the Hudson River.

At the same time as the PATH train's tunnel was being constructed, new developments in the field of electricity were being made. Electricity was being transformed from a scientific curiosity to an essential component of modern life as America's cities were electrified during the late nineteenth and early twentieth centuries. This period of urban electrification was evident in Jersey City with the development of an electric trolley system in the early twentieth century.

The advent of the mass-produced automobile and a period of growing prosperity led to the rise of the automobile as the dominant form of transport. Consequently, Jersey City witnessed a period of extensive highway construction from the 1920s through the 1960s with the construction of such notable projects as the Holland Tunnel, Pulaski Skyway, and Hudson County Extension of the New Jersey Turnpike. Each of these remains a vital component in Jersey City's transportation system.

In recent years, new investment in Jersey City and growing concerns for the environment have led to the creation of new transportation options, such as light rail and pedestrian walkways, and the recommendations that are identified in this Circulation Element.

2.2 Transportation System Overview

The City of Jersey City has an extensive transportation network that provides quick and convenient connections with New York City, Newark, and all areas of the greater region. This transportation system is broad-based in nature and consists of passenger and freight rail

lines, bus routes, ferry services, truck routes, ports, and proximity to an international airport. Figure 2.2-1 maps the Multi-Modal system in Jersey City, and Figure 2.2-2 maps just the passenger rail system; both maps indicate existing and proposed conditions as indicated in the legends on the respective maps.

2.2.1 Hudson-Bergen Light Rail Service

The Hudson-Bergen Light Rail (HBLR) is a privately-operated light rail service that is owned by NJ TRANSIT. The HBLR consists of three lines that connect with other modes of transportation and link important destinations, such as Exchange Place, Harborside Financial Center, Liberty State Park, and Pavonia-Newport in Jersey City, with the adjacent communities of Bayonne, Hoboken, Union City, and North Bergen, as well as nearby Weehawken.

Photo Source: Ted Ritter / NJTPA

As of March 2009, HBLR operates daily from 5:00AM to 1:00AM with ten-minute headways at peak weekday travel periods. Headways at all other times are fifteen minutes, except between the hours of 9:00PM and 1:00AM when trains run every twenty minutes. Discounts of fifty percent off of the regular-fare one-way tickets are available to senior citizens, children between the ages of five and eleven, and the disabled. Bicycles may be transported free of charge during off-peak hours.

With approximately 12.3 million passenger trips in 2008, HBLR is widely recognized as a tremendous success. Consequently, there have been proposals to expand services.

2.2.1.1 Westside Avenue – Tonnelle Avenue

This line extends from the park-and-ride lot located at Westside Avenue and Claremont Avenue to the park-and-ride lot that is located at Tonnelle Avenue and 51st Street in North Bergen. It serves a total of eleven stations in Jersey City, including Westside Avenue, which has a park-and-ride lot and bus connections; Martin Luther King Drive, which has bus connections; Garfield Avenue; Liberty State Park, which has a park-and-ride lot and bus connections; Jersey Avenue, which has bus connections; Marin Boulevard, which has ferry connections; Essex Street, which has ferry connections; Exchange Place, which has bus, PATH, and ferry connections; Harborside Financial Center, which has ferry connections; Harsimus Cove; and Pavonia-Newport, which has bus, ferry, and PATH connections.

In addition to the above, the line also serves the 9th Street-Congress Street station. While this station is physically located in Hoboken, an elevator from the platform to the top of the Palisades Cliffs provides access to the Heights neighborhood in Jersey City. This station has bus connections.

It is also noted that transfers to other HBLR lines are available at all stations, except for Westside Avenue, Martin Luther King Drive, and Garfield Avenue.

ID	Name
A	HBLR Extension
B	HBLR Extension to Secaucus Junction (Lautenberg Station)
C	HBLR Wye Bypass
D	Jersey Avenue HBLR Realignment
E	New Connection Between Pavonia-Newport HBLR and PATH Newport Station
F	New Danforth Interlocking
G	New Southbound Side Platform at Pavonia-Newport Station
H	Pedestrian Connector to HBLR
J	Pedestrian Passage along HBLR
K	Railroad ROW North of Journal Square

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0 400 800 1,600 Feet

* The existing bike route is a signed route only. In the proposed condition, striped bike lanes will be provided on all City streets where feasible.

** Trail Path indicates trails from the 2008 Hudson County Reexamination Report. Trail Path includes the Old Morris Canal, and portions of the East Coast Greenway, Hudson River Waterfront Walkway, and Hackensack RiverWalk.

Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - New York City; NJDOT - 2008 Roads; Jersey City Planning Department - Walkways, Greenways; PS&S - Hudson River Walkway; RBA - East Coast Greenway; NJ TRANIST - Bus Routes and Stops (Jan 2009), Rail Lines
File Path: H:\JCTY\00110\GIS\Projects\Final\jcty110_MultiModalLongFINAL.mxd

Jersey City Circulation Element 2050
Figure 2.2-1: Multi-Modal Map
City of Jersey City
Hudson County, New Jersey

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

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2.2.1.2 22nd Street – Hoboken Terminal

This line extends northerly from the park-and-ride lot located at 22nd Street and Avenue E in Bayonne to Hoboken Terminal. Within the City of Jersey City, it serves a total of ten stations, including Danforth Avenue; Richard Street; Liberty State Park, which has a park-and-ride lot and bus connections; Jersey Avenue, which has bus connections; Marin Boulevard, which has ferry connections; Essex Street, which has ferry connections; Exchange Place, which has bus, PATH, and ferry connections; Harborside Financial Center, which has ferry connections; Harsimus Cove; and Pavonia-Newport, which has bus, ferry, and PATH connections.

In addition to the above, it is noted that connections to other HBLR lines are available at all stations, except for 22nd Street, 34th Street, and 45th Street in Bayonne, as well as Danforth Avenue and Richard Street in Jersey City.

2.2.1.3 Tonnelle Avenue – Hoboken Terminal

This line connects the park-and-ride lot located at Tonnelle Avenue and 51st Street in North Bergen with Hoboken Terminal.

Although physically located in Hoboken, the line serves the 9th Street-Congress Street station. This station provides direct access to the Heights neighborhood in Jersey City via an elevator from the platform to the top of the Palisades Cliffs. This station has bus connections.

In addition, it is possible to transfer to HBLR lines that serve Jersey City from all stations on the Tonnelle Avenue-Hoboken Terminal line, as well as access PATH and other regional transit services at Hoboken Terminal.

2.2.2 PATH

The Port Authority Trans-Hudson (PATH) is a publicly-owned rail service that links Jersey City with New York City, Hoboken, Harrison, and Newark. It is operated by the Port Authority Trans-Hudson Corporation, which is a subsidiary of the Port Authority of New York and New Jersey. The PATH provides easy connections to the New York City Subway, New Jersey Transit and Amtrak rail services at Newark's Pennsylvania Station, and New Jersey Transit commuter rail at Hoboken Terminal.

Photo Source: Ted Ritter / NJTPA

There are a total of four lines in the PATH system: Newark–World Trade Center; Hoboken–World Trade Center; Hoboken–33rd Street; and Journal Square Transportation Center–33rd Street. These lines operate Monday through Friday from 6:00AM to 11:00PM. During weekends, holidays, and off-peak hours from 11:00PM to 6:00AM, two lines operate, namely Newark–World Trade Center and Journal Square Transportation Center–33rd Street via Hoboken.

Services are frequent during peak travel times. For instance, the Newark–World Trade Center line has headways of three to five minutes during peak weekday travel periods. Similarly, the Journal Square Transportation Center–33rd Street line has headways of four to five minutes during peak travel periods, and peak headways are six minutes for the Hoboken–World Trade Center and Hoboken–33rd Street lines. Off-peak, weekend, and holiday trains have maximum headways of thirty minutes.

Discounts are available on multiple-trip tickets, as well as daily, weekly, and monthly passes. Discounted fares are available for senior citizens, and children under five years old ride for free. The PATH's primary fare card is known as *SmartLink*; however, the Metropolitan Transportation Authority's MetroCard is cross-honored.

In 2007, there was a total of 71.6 million passenger trips on the PATH rail system, of which approximately 21.4 million (29.9 percent) had Jersey City as an origin or destination. Each of the four PATH Stations in Jersey City is discussed below.

2.2.2.1 Journal Square Transportation Center

The Journal Square Transportation Center is served by the Newark–World Trade Center and Journal Square Transportation Center–33rd Street lines. The station is located on Kennedy Boulevard, between Pavonia and Sip Avenues. Multiple bus connections to local and regional destinations, as well as parking, are provided onsite.

Photo Source: Jersey City Division of City Planning

Annual ridership at this station in 2007 was approximately 8.0 million

2.2.2.2 Grove Street

The Grove Street PATH Station is served by the Newark–World Trade Center and Journal Square Transportation Center–33rd Street lines. The station is located on Newark Avenue, between Grove Street and Luis Munoz Marin Boulevard. Local bus connections are provided on-site.

Annual ridership at this station in 2007 was approximately 3.6 million.

2.2.2.3 Exchange Place

The Exchange Place PATH Station is served by the Newark–World Trade Center and Hoboken–World Trade Center lines. The station is located at the terminus of Montgomery Street, along the waterfront of the Hudson River. Connections to the HBLR and local bus and ferry routes are provided within the general vicinity.

Annual ridership at this station in 2007 was approximately 4.8 million.

ID	NAME
A	HBLR Connector
B	HBLR Extension
C	HBLR Extension to Secaucus Junction (Lautenberg Station)
D	HBLR Wye Bypass
E	Jersey Avenue HBLR Realignment
F	New Connection Between Pavonia-Newport HBLR and PATH Newport Station
G	New Danforth Interlocking
H	New Southbound Side Platform at Pavonia- Newport Station
J	Pedestrian Connector to HBLR
K	Pedestrian Passage along HBLR
L	Railroad ROW North of Journal Square
M	Sixth Street Embankment/East-West Connections

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Hudson–Bergen Light Rail
- Existing Lines
- Proposed Lines

Light Rail Stops
- Existing LRT Station
- Proposed LRT Station

PATH
- PATH Lines

PATH Stops
- Existing PATH Stop
- Proposed PATH Stop

Rail Lines
- Bergen County Line
- Bergen Tunnel / Arches
- Boonton Line
- Hoboken Terminal
- Main Line
- Montclair Line
- Morristown Line
- Newark City Subway
- Northeast Corridor Line
- Proposed Rail Projects

- Park and Open Space
- Ferry Routes
- Interstate Route
- U.S. Route
- State Route
- Toll Route
- County Route
- Local Roads
- Ramp
- Private Road
- Proposed Road
- Right of Way
- Open Water
- Municipal Boundary
- New York City

Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads, Rail Lines
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Jersey City Circulation Element 2050
Figure 2.2-2: Passenger Rail Lines
City of Jersey City
Hudson County, New Jersey

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

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2.2.2.4 Pavonia/Newport Station

The Pavonia/Newport PATH Station is served by the Journal Square Transportation Center – 33rd Street and Hoboken – World Trade Center lines. The station is located at the northeastern corner of Pavonia Avenue and Washington Boulevard, near the Newport Centre Mall. Connections to the HBLR, and local bus and ferry routes, are provided within the general vicinity.

Annual ridership at this station in 2007 was approximately 5.0 million.

2.2.3 Bus Service

Jersey City's bus services are a major transportation lifeline of the City. The bus network links Jersey City's diverse neighborhoods, and provides access to many areas of the City and region. The City's current bus system is of great concern to the City residents, visitors, and Stakeholders, as many neighborhoods currently are not receiving efficient nor reliable service. NJ TRANSIT, NJTPA, and Jersey City are conducting a bus study, and the Circulation Element recommends that the findings of the bus study be implemented. Bus services are largely provided by NJ TRANSIT and supplemented by private carriers. The City's bus services are detailed in this section and mapped on Figure 2.2-3.

2.2.3.1 NJ TRANSIT Bus Service

New Jersey Transit operates a total of twenty-two general purpose bus routes serving all areas of Jersey City. In 2008, there was a combined total of 21,795,142 passenger trips.

These routes are mapped in Figure 2.2-3, and summarized in the following table:

Route No.	End Destination	2008 Passenger Trips
1	Newark	4,249,645
2	Secaucus	645,314
6	Jersey City (Merritt Street – Journal Square)	117,983
22	Union City	632,661
43	Newark	42,465
64	Lakewood and Weehawken	423,378
67	Toms River	359,980
68	Old Bridge	209,087
80	Jersey City (Gates Avenue – Exchange Place)	2,003,913
81	Bayonne	847,952
82	Union City	78,189
83	Hackensack	896,078
84	North Bergen	1,574,584
85	Secaucus and Hoboken	558,974
86	North Bergen	460,404
87	Hoboken	3,312,516
88	North Bergen	743,829
123	New York City	685,983
125	New York City	342,061
126	New York City	3,226,637
305	Liberty State Park Shuttle	59,944
319	Wildwood	323,565

Source: NJ TRANSIT

Additional information about NJ TRANSIT's bus services is provided below, in *Bus Terminals*.

2.2.3.2 Private Carriers

In addition to the services of NJ TRANSIT, privately operated bus lines to local destinations in Jersey City include Coach USA, Montgomery & Westside, and Bergen Avenue Bus. Coach USA and Bergen Avenue Bus also connect Jersey City with New York City and Bayonne. Jersey City's private bus routes are mapped in Figure 2.2-3.

2.2.3.3 Paratransit Services

The Americans with Disabilities Act (ADA) requires that all transit services provide access to disabled persons. Consequently, Jersey City's buses are equipped with elevator lifts, kneeling functions, or other such accommodations. Passengers with disabilities are eligible for reduced fares upon presentation of a NJ TRANSIT Reduced Fare ID Card or Medicare Card.

Additionally, Jersey City is served by paratransit services. NJ TRANSIT's WHEELS bus (Route No. 981) provides increased access for disabled patrons on a local route serving the Grove Street PATH Station, Jersey City Medical Center, Liberty State Park HBLR Station, and Port Liberté. NJ TRANSIT also provides a separate on-demand paratransit service within Jersey City.

2.2.3.4 Bus Terminals

There are a number of major, regional bus terminals in Jersey City, namely the facilities at the Journal Square Transportation Center, Grove Street, and Exchange Place. A brief description of each follows.

2.2.3.4.1 Journal Square Transportation Center

In addition to the previously-discussed PATH services, the Journal Square Transportation Center facilitates intermodal transfers by providing direct connections to eleven NJ TRANSIT bus routes. Destinations include Jersey City (multiple routes), as well as Newark (Route No. 1), New York City (Route No. 125), Secaucus (Route No. 2), Lakewood (Route No. 64), Toms River (Route No. 67), Hackensack (Route No. 83), North Bergen (Route Nos. 84 and 88), Hoboken (Route No. 87), Atlantic City (Route No. 319), Wildwood (Route No. 319), and Weehawken (Route No. 64).

Additional local and regional destinations are also available through private bus operators. For instance, Coach USA provides transit to New York City's Port Authority Bus Terminal, and Montgomery & Westside and Bergen Avenue buses provide local connections.

With its off-street bus lanes and loading areas, the Journal Square Transportation Center is particularly well-suited to accommodate its high-volume of bus traffic.

2.2.3.4.2 Grove Street

The Grove Street PATH Station provides connections to a total of seven NJ TRANSIT bus routes. Destinations include Newark (Route

Bus Stops

NJ TRANSIT to New York

Routes to New York (Port Authority Bus Terminal)

- 123: Jersey City-Union City-New York
- 125: Journal Square-New York
- 126: Hoboken-Jersey City-New York

NJ TRANSIT Local

Local Routes

- 1: Newark
- 2: Secaucus-Journal Square
- 6: Ocean Avenue-Journal Square
- 22: Hillside (Hoboken-North Bergen)
- 43: Newark-Jersey City
- 64: Lakewood-Jersey City-Weehawken
- 67: Toms River-Lakewood-Newark
- 68: East Brunswick, Jersey City, Weehawken, Browntown
- 80: Newark Avenue
- 81: Greenville-Bayonne
- 82: Union City-Jersey City
- 83: Jersey City-Hackensack
- 84: Bergenline/ Park Avenues
- 85: Hoboken-Harmon Meadow-Mill Creek
- 86: Union City-Newport Center
- 87: King Drive
- 88: North Boulevard-Journal Square
- 305: Liberty State Park Shuttle
- 319: Atlantic City-New York "Express"
- 981: Port Liberte-Grove Street

Other Carriers

- Coach USA 10/99S: Bayonne-Jersey City-NY
- Coach USA 4: Merrit St-Grove St-Newport Centre
- Bergen Avenue Bus
- Montgomery & West Side: Danforth Ave-Exchange Place
- Montgomery & West Side: Danforth Ave-Newport Mall
- Montgomery & West Side: Society Hill-Journal Square
- Montgomery & West Side 440 Shopper: Hudson Mall-Journal Square
- Montgomery & West Side 440 Shopper: Lafayette Ave-Journal Square

Hudson–Bergen Light Rail

- Existing Lines
- Proposed Lines

Light Rail Stops

- Existing LRT Station
- Proposed LRT Station

PATH

- PATH Lines

PATH Stops

- Existing PATH Stop
- Proposed PATH Stop
- Rail Lines
- Spurs and Sidings
- Ferry Routes
- Interstate Route
- U.S. Route
- State Route
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Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Dept.- Parks and Open Space; NJ TRANSIT - Bus Routes and Stops (Jan 2009)
File Path: H:\JCTY\00110\GIS\Projects\Final\jcty110_BusRoutesFINAL.mxd

Jersey City Circulation Element 2050
Figure 2.2-3: Existing Bus Routes
City of Jersey City
Hudson County, New Jersey

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

No. 43), Lakewood (Route No. 64), Weehawken (Route No. 64), Old Bridge (Route No. 68), East Brunswick (Route No. 68), Jersey City (Route No. 80 and at intermediate points on other routes), Union City (Route No. 82), North Bergen (Route No. 86), Weehawken (Route No. 68), and Bayonne (Route No. 81).

In addition, Montgomery & Westside buses also provide local connections from the Grove Street PATH Station.

2.2.3.4.3 Exchange Place

The Exchange Place PATH Station is served by a total of eight NJ TRANSIT bus routes. Destinations include Newark (Route No. 1), Jersey City (Route No. 80 and at intermediate points on other routes), Bayonne (Route No. 81), Union City (Route No. 82), North Bergen (Route No. 86), Lakewood (Route No. 64), Weehawken (Route No. 64), Old Bridge (Route No. 68), East Brunswick (Route No. 68), Weehawken (Route No. 68), and Newark (Route No. 43).

In addition, Montgomery & Westside buses also provide local connections from the Exchange Place PATH Station.

2.2.4 Commuter Ferry Service

Weekday commuter ferry service to and from Jersey City is largely provided by NY Waterway, which is a privately-owned company that operates a total of six routes between Jersey City and Manhattan. These routes include Port Liberté – Pier 11/Wall Street, Liberty Harbor/Marin Boulevard–Pier 11/Wall Street, Paulus Hook–Midtown/ West 39th Street, Paulus Hook–World Financial Center, Paulus Hook–Pier 11/Wall Street, and Newport–Midtown/West 39th Street. In addition to the services of NY Waterway, the Liberty Landing Marina operates the Liberty Park Water Taxi from its marina to the World Financial Center. Complete details of each route are provided below.

Photo Source: Leon Yost

2.2.4.1 Newport – Midtown/West 39th Street

The Newport–Midtown/West 39th Street ferry route links Newport with the terminal located at 12th Avenue and 39th Street in Midtown Manhattan. Travel time to Midtown Manhattan is ten minutes.

The service operates weekdays from 6:50AM to 9:50AM and 4:09PM to 7:39PM, with headways of thirty minutes.

Discounts are available for children and seniors, as well as on regular and student monthly passes, and ten-trip tickets. Bicycles can be transported for a surcharge.

2.2.4.2 Paulus Hook – Pier 11/Wall Street

The Paulus Hook–Pier 11/Wall Street ferry route links the ferry terminal located along the Hudson River waterfront between Grand Street and York Street with Pier 11, which is located at the terminus of Wall Street in Manhattan. The Paulus Hook Terminal provides easy access to the HBLR, as well as PATH and bus services from nearby Exchange Place. Travel time to Pier 11/Wall Street is seven minutes.

The service operates weekdays from 6:05AM to 8:25PM. The average headway is approximately 13 minutes. Morning departures are generally scheduled every twelve minutes, midday departures every twenty minutes, and evening departures every eight minutes until 6:20PM, after which time the maximum headway is twenty minutes.

Discounts are available for children and seniors, as well as on regular and student monthly passes, and ten-trip tickets. Bicycles can be transported for a surcharge.

2.2.4.3 Paulus Hook – World Financial Center

The Paulus Hook–World Financial Center ferry route links the Paulus Hook Terminal with the World Financial Center in Lower Manhattan. Travel time to the World Financial Center is seven minutes.

The service operates weekdays from 6:00AM to 9:15PM with headways throughout the scheduled operating period of fifteen minutes.

Discounts are available for children and seniors, as well as on regular and student monthly passes, and ten-trip tickets. Bicycles can be transported for a surcharge.

2.2.4.4 Paulus Hook – Midtown/West 39th Street

The Paulus Hook–Midtown/West 39th Street ferry route links the Paulus Hook Terminal with the terminal located at 12th Avenue and 39th Street in Midtown Manhattan. Travel time to Midtown Manhattan is fifteen minutes.

The service operates weekdays from 6:45AM to 9:45AM and 4:15PM to 7:15PM with headways of thirty minutes.

Discounts are available for children and seniors, as well as on regular and student monthly passes, and ten-trip tickets. Bicycles can be transported for a surcharge.

2.2.4.5 Liberty Harbor/Marin Boulevard – Pier 11/Wall Street

The Liberty Harbor/Marin Boulevard–Pier 11/Wall Street ferry route links the ferry terminal located at the terminus of Marin Boulevard in Liberty Harbor with Pier 11, which is located at the terminus of Wall Street in Manhattan. Travel time is twelve minutes, with an intermediate stop at the Paulus Hook Terminal.

The service operates weekdays from 6:00AM to 9:48AM and 4:12PM to 9:50PM, with headways of twelve minutes for most of the day. Morning departures stop at Paulus Hook, while afternoon and evening departures travel to Pier 11/Wall Street directly. When services are non-operational, NY Waterway provides a free shuttle bus from Liberty Harbor to its Paulus Hook Terminal.

Discounts are available for children and seniors, as well as on regular and student monthly passes, and ten-trip tickets. Bicycles can be transported for a surcharge.

2.2.4.6 Port Liberté – Pier 11/Wall Street

The Port Liberté–Pier 11/Wall Street ferry route links the ferry terminal located near the terminus of Chapel Avenue in Port Liberté with Pier 11, which is located at the terminus of Wall Street in Manhattan. Travel time is twenty minutes.

The service operates weekdays from 6:00AM to 10:00AM and 3:05PM to 9:20PM, with headways of forty minutes for most of the day. When services are non-operational, NY Waterway provides a free shuttle bus from Port Liberté to its Paulus Hook Terminal.

Discounts are available for children and seniors, as well as on regular and student monthly passes, and ten-trip tickets. Bicycles can be transported for a surcharge.

2.2.4.7 Liberty Park Water Taxi

The Liberty Park Water Taxi provides service from the Liberty Landing Marina to the World Financial Center, with an intermediate stop at its terminal located at the terminus of Warren Street in Downtown Jersey City. Travel time is fifteen minutes.

Photo Source: Leon Yost

The service operates weekdays from 6:00AM to 11:00AM and 12:00PM to 8:30PM, with headways of thirty minutes for most of the day.

Discounts are available for children and seniors.

2.2.5 Recreational Ferry Service

Recreational ferry service from Liberty State Park to Ellis Island and the Statue of Liberty on Liberty Island is available throughout the year. Ferries depart from the rear of the historic Central Railroad of New Jersey Terminal and Museum, and operate on a loop, stopping first at Ellis Island, and then at Liberty Island, before returning to Liberty State Park.

As of March 2009, this recreational ferry service was privately-operated by Statue Cruises, LLC. Discounts are available for senior citizens and children.

Ferries depart Liberty State Park daily from 9:30AM to 3:30PM. Services generally operate every seventy minutes Monday through Friday, and every forty-five minutes on weekends and holidays.

Photo Source: Jersey City Division of City Planning

2.2.6 Auto Intercept Parking

Auto intercept parking refers to the provision of parking spaces with access to public transportation that are located in strategic positions outside of downtown cores. They are aimed at reducing the number of single-occupancy vehicles travelling in downtown areas. Auto intercept parking areas are commonly called park-and-ride lots.

In Jersey City, park-and-ride lots are provided at select HBLR stations, namely the station that is located at Westside Avenue and Claremont Avenue, and the station at Liberty State Park. Because they are located along HBLR lines with direct service to Jersey City, the park-and-ride lots located at 22nd Street and Avenue E in Bayonne, and at Tonnele Avenue and 51st Street in North Bergen, are of direct benefit to the City.

2.2.7 Freight Rail

Jersey City is a major hub for freight rail. The City is the location of the Greenville Yard, Greenville Auto Terminal, and Croxton Yard, which are directly linked with the Norfolk Southern, and CSX Transportation Class 1[2] railways and have a reach throughout North America. Additionally, the City is served by the short-line Port Jersey Railroad and the Port Authority of New York and New Jersey's rail float service, both of which facilitate integration between the Port of New York/New Jersey and the continental rail network. The City's freight rail network is described below and mapped on Figures 2.2-4.

Photo Source: Jersey City Division of City Planning

2.2.7.1 Greenville Yard

The Greenville Yard is located off of Colony Road in southern Jersey City. The yard is twenty-seven acres in area, and has direct waterfront access. It provides connections to the Norfolk Southern and CSX Transportation railways for direct and connecting North American destinations. The yard is adjacent to the Greenville Auto Terminal, and within close proximity to Port Jersey Marine Complex, to which it is linked by the short-line Port Jersey Railroad. Greenville Yard is also served by rail float service of the Port Authority of New York and New Jersey.

[2] Class 1 railroads are defined by the Surface Transportation Board of the United States Department of Transportation as those having an annual carrier operating revenue of $250,000,000 or more.

While Greenville Yard is operated by the Port Authority of New York and New Jersey, it is owned by Conrail, a jointly-owned subsidiary of CSX Transportation and Norfolk Southern.

2.2.7.2 Greenville Auto Terminal

The Greenville Auto Terminal is located adjacent to the Greenville Yard and the Auto Marine Terminal at the Port Jersey Marine Complex. It provides an intermodal connection for vehicles shipped by sea to surface rail transport by linking the Auto Marine Terminal with Greenville Yard.

2.2.7.3 Croxton Yard

Croxton Yard (also known as North Jersey Intermodal Terminal) is located at 125 County Road, near the border with Secaucus. The yard is owned by Norfolk Southern Railways, and provides linkages to the North American rail system. It is specifically designed for double-stack rail service, on which shipping containers are stacked on flat-bed rail cars.

2.2.7.4 Port Jersey Railroad

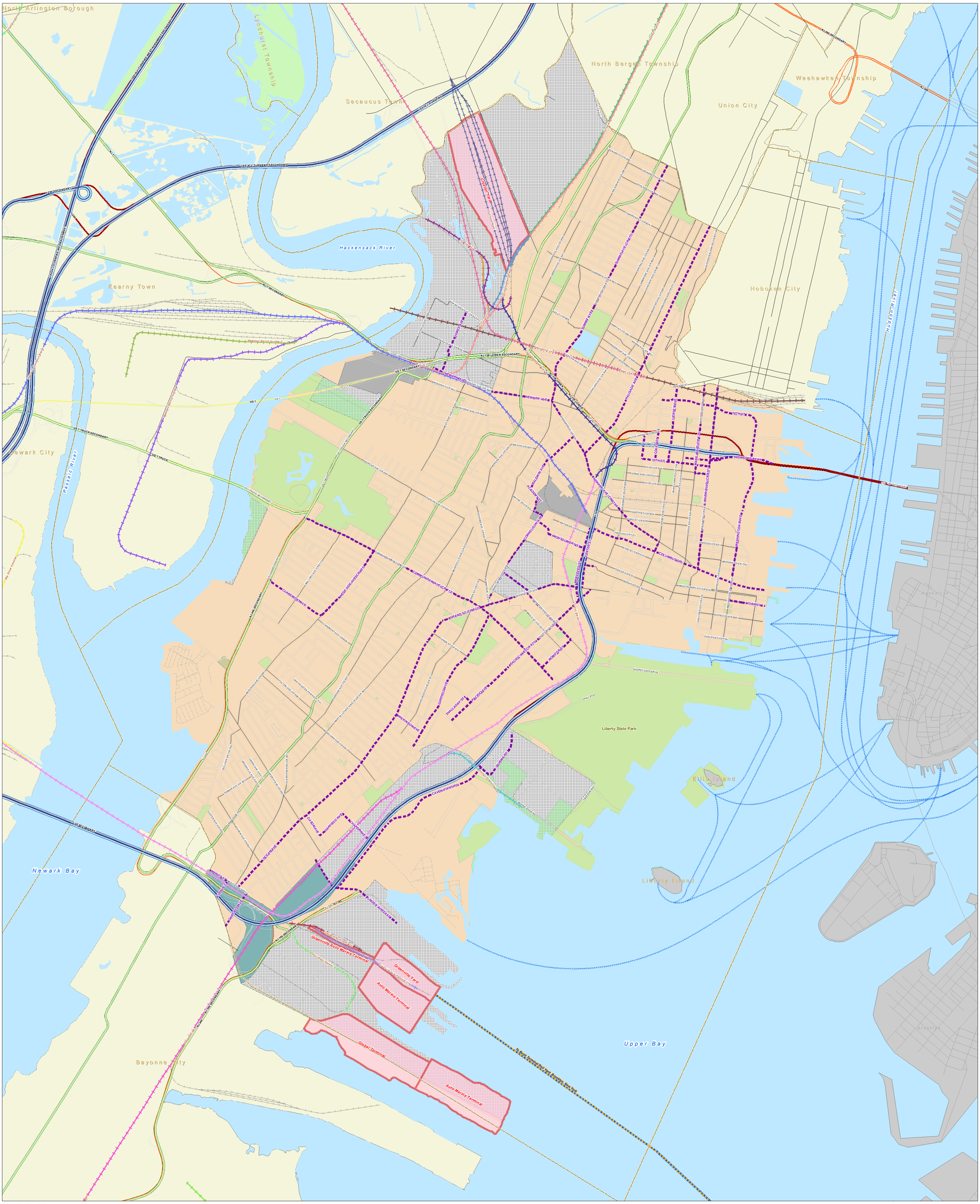
The Port Jersey Railroad is a privately-operated short-line railroad with offices at 203 Port Jersey Boulevard in Jersey City. With its track directly adjacent to the Global Marine Terminal (see Section 2.2.9.2), the Port Jersey Railroad provides connections to the North American Class 1 rail network via the CSX Transportation, and Norfolk Southern railways from Greenville Yard. The focus of the Railroad is providing local transportation from the Global Marine Terminal to the terminals of long-haul carriers.

2.2.7.5 New York New Jersey Rail

New York New Jersey Rail is a switching and terminal railroad that links Jersey City's Greenville Yard with the Bush Terminal Yard in Brooklyn. It is unique among the area's railroads insofar as it is the only rail barge service across Upper New York Bay. New York New Jersey Rail provides the only freight crossing of Upper New York Bay and the Hudson River, south of Selkirk, in central New York.

New York New Jersey Rail operates a total of two barges, each with three tracks. Crossing Upper New York Bay and unloading takes approximately one hour. At its loading facility in Greenville Yard, it connects with the CSX Transportation and Norfolk Southern railways.

The Port Authority of New York and New Jersey purchased New York New Jersey Rail in September 2008. As of March 2009, the Port Authority was in the process of developing a business plan to rehabilitate the facilities and expand the services of this service.



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Truck Routes
- National Network
- NJ Access Network
- Jersey City Truck Routes

Rail Freight Lines
- Avenue "A" Run Track
- Bay Shore Industrial
- Bayonne Line
- Bayway Industrial 1 Track
- Chemical Coast Secondary
- Conrail National Docks Branch
- Conrail Northern Branch
- Constable Hook Industrial
- Elizabeth Industrial
- Greenville Auto Terminal Line
- Kingsland Branch
- Lehigh Line
- Main Line
- Meadows Branch Number 1
- Meadows Branch Number 2
- NS Croxton Yard
- NS High Line
- NS Third Track
- NYS&W
- National Docks Branch
- Newark & Elizabeth
- Newark Industrial Track
- Northern Branch
- Northern Running Track
- Orange Branch
- Passaic & Harsimus Branch
- Phillips Street Track
- Port Jersey RR & Terminal
- Port Jersey Railway
- Sound Shore Industrial
- Staten Island RR
- Tropicana Running Track
- West Newark Industrial
- Spurs and Sidings
- Car Float
- Rail Terminals

Industrial Zoning
- I: Industrial
- PI: Port Industrial
- WPD: Waterfront Planned Industrial
- Redevelopment Plan Area (Industrial)
- Park and Open Space

- Interstate Route
- U.S. Route
- State Route
- Toll Route
- County Route
- Ramp
- Private Road
- Proposed Road
- Right of Way
- NYC Streets
- Open Water
- Municipal Boundary
- New York City

Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads, Truck Routes, Freight Lines
File Path: H:\JCTY\00110\GIS\Projects\Final\jcty110_FreightTruckLinesFINAL.mxd

Jersey City Circulation Element 2050
Figure 2.2-4: Truck Routes and Freight Lines
City of Jersey City
Hudson County, New Jersey

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

N

2.2.8 Truck Routes

New Jersey Law permits municipalities to adopt ordinances that prohibit trucks with a combined vehicle and load weight in excess of four tons from traveling on local roadways, and designate certain local[3] roads as truck routes where such trucks are permitted to travel and operate. Truck routes serve to minimize unnecessary commercial truck traffic on local streets, and facilitate the smooth flow of traffic into and out of a municipality.

The City of Jersey City has designated the entire length or a segment of a total of forty-seven streets as truck routes. The following is an inventory of Jersey City streets, or segments thereof, with truck route designations:

- Academy Street (from Mill Road to Baldwin Avenue)
- Avenue C (entire length)
- Baldwin Avenue (from Academy Street to Newark Avenue)
- Bright Street (from Bates Street to Merseles Street)
- Burma Road (entire length)
- Carteret Avenue (from Halladay Street to Pacific Avenue)
- Cator Avenue (from Garfield Avenue to Ocean Avenue)
- Caven Point Road (entire length)
- Center Street (entire length)
- Chapel Avenue (from Caven Point Road to Garfield Avenue)
- Claremont Avenue (from Westside Avenue to Route 440)
- Coles Street (from 14th Street to 10th Street)
- Columbus Drive (entire length)
- Communipaw Avenue (entire length[4])
- Cornelison Avenue (entire length)
- 18th Street (entire length)
- Florence Street (from Montgomery Street to Cornelison Avenue)
- Garfield Avenue (from municipal boundary with Bayonne to Merritt Street; from Cator Avenue to Chapel Avenue; and, from Bayview Avenue to Communipaw Avenue)
- Grand Street (from Center Street to Bramhall Avenue)
- Manila Avenue (from municipal boundary with Hoboken to 14th Street)
- Halladay Street (from Carteret Avenue to Caven Point Road)
- James Avenue (entire length)
- Jersey Avenue (from Columbus Drive to Newark Avenue; from municipal boundary with Hoboken to 10th Street)
- Johnston Avenue (from Monitor Street to Cornelison Avenue[5])
- Linden Avenue East (entire length)
- Manila Avenue (from Boyle Plaza to 9th Street)

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3 NJSA 40:67-16.3 prohibits municipalities from designating State and county roadways as truck routes; NJSA 40:67-16.3 also prohibits municipalities from excluding trucks from State and county roadways.

4 In 2007, an ordinance was proposed to repeal the current truck route-designation of Communipaw Avenue from Pacific Avenue to its eastern terminus. No final action was taken, however, it is a recommended action of this Circulation Element to repeal the designation as indicated. Complete information is provided in Action G4-15b.

5 In 2007, an ordinance was proposed to repeal the current truck route-designation of Johnston Avenue from Pacific Avenue to Monitor Street. No final action was taken, however, it is a recommended action of this Circulation Element to repeal the designation as indicated. Complete information is provided in Action G4-15B.

- Marin Boulevard (from Columbus Drive to the municipal boundary with Hoboken)
- Merritt Street (entire length)[6]
- Merseles Street (from Columbus Drive to Pacific Avenue)
- Mill Road (from Wayne Street to Academy Street)
- Monitor Street (from Communipaw Avenue to Johnston Avenue[7])
- Monmouth Street (from 13th Street to 10th Street)
- Montgomery Street (from NJ Turnpike to Florence Street)
- Newark Avenue (from Jersey Avenue to US Route 1/9)
- Newport Parkway (entire length)
- 9th Street (from Manila Avenue to Marin Boulevard)
- Ocean Avenue (entire length)
- Pacific Avenue (entire length)
- Palisade Avenue (entire length)
- Summit Avenue (from Cornelison Avenue to Grand Street; from Newark Avenue to Secaucus Road)
- 10th Street (from Marin Boulevard to Monmouth Street)
- Washington Boulevard (entire length)
- Washington Street (from Grand Street to 2nd Street)
- Wayne Street (from Cornelison Avenue to Mill Road)
- Westside Avenue (from Claremont Avenue to Communipaw Avenue)
- Wilkinson Avenue (from Garfield Avenue to Ocean Avenue)
- York Street (from Washington Street to eastern terminus)

Collectively, these designations form Jersey City's truck route system. As can be seen in Figure 2.2-4, they provide efficient routing for commercial truck traffic to the State and National highway networks, and thereby limit and reduce unnecessary commercial truck traffic on Jersey City's local streets.

2.2.9 Port Facilities

With its access to Upper New York Bay, Jersey City is at the heart of the Port of New York/New Jersey, which is the largest port on the East Coast of North America. The Port of New York/New Jersey is comprised of several complexes throughout the region. Jersey City and Bayonne host the Port Jersey Marine Complex, which has a competitive advantage among other complexes in that it is the closest complex to the entrance of New York Bay, thereby saving vessels approximately four hours of travel time as compared to Port Newark/Elizabeth. There are two major facilities located within the Port Jersey Marine Complex, namely the Global Marine Terminal and the Auto Marine Terminal. These facilities are discussed below.

2.2.9.1 Auto Marine Terminal

The Auto Marine Terminal is dually-located within the cities of Jersey City and Bayonne. It is a 130-acre port terminal that is used exclusively for vehicle import and export, and includes two ship berths with a combined total of 1,800 linear feet. The terminal is intermodal in nature and served by direct connections to CSX Transportation and Norfolk Southern through the adjacent Greenville Auto

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6 It is recommended in Action G4-15B of this Circulation Element that Merritt Street, west of Avenue C, be de-designated as a truck route.

7 In 2007, an ordinance was proposed to repeal the current truck route-designation of Monitor Street. No final action was taken, however, it is recommended in Action G4-15B of this Circulation Element to repeal the designation as indicated.

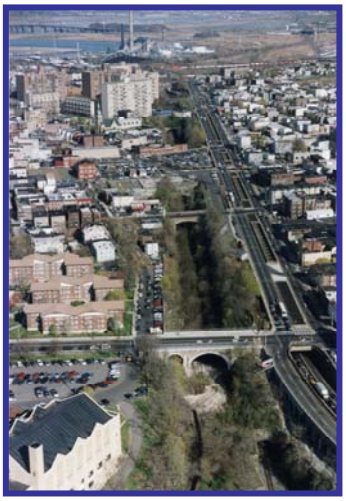
Terminal. The Auto Marine Terminal is owned and operated by the Port Authority of New York and New Jersey.

2.2.9.2 Global Marine Terminal

The Global Marine Terminal is dually-located within Jersey City and Bayonne, directly adjacent to the Auto Marine Terminal. It is a 100-acre container terminal with 1,800 linear feet of ship berth space, and a total of six container cranes. The terminal is oriented to heavy truck traffic, and is located just 1.3 miles from Interchange 14A of the New Jersey Turnpike. Global Terminal and Container Services, LLC owns and operates the Global Marine Terminal.

2.3 Roadway System

Photo Source: Leon Yost



Jersey City's roadway system includes several major roadways of regional importance. These include such notable roadways as State Route No. 440, Interstate No. 78 (I-78)/NJ Turnpike Hudson County Extension, US Route 1/9 (Pulaski Skyway), JFK Boulevard (Hudson County Route No. 501), State Route No. 7, State Route No. 169, State Route No. 440, US Route 1/9 Truck, and State Route No. 139, among others. Collectively, these roadways connect Jersey City with New York City via the Holland Tunnel to the east, as well as destinations to the north, south, and west.

Jersey City is a major hub in the regional roadway system. Being such an important node in the roadway system, the City experiences a high degree of through-traffic and congestion, which often overflows to its local street network.

2.3.1 Traffic Counts

Because of the high degree of through-traffic and resulting congestion in Jersey City, traffic counts at key locations were performed during the development of this Circulation Element. These traffic counts were performed by TechniQuest Corporation, who was a sub-consultant of T&M Associates on the Circulation Element. The results of this work were considered in the formulation of the Circulation Element. The Appendix provides complete results of these traffic counts.

2.4 Bicycle and Multi-Purpose Trail System

Jersey City's multi-purpose trail system enriches the lives of residents and visitors through the promotion of good health and social interaction. It consists of a series of walkways, greenways, and trails that provide the public with eco-friendly transportation alternatives and recreational opportunities. The City's multi-purpose trail system and walkways are mapped on Figure 2.4-1, including existing and proposed conditions, and are described below:

2.4.1 Hudson River Waterfront Walkway

The Hudson River Waterfront Walkway is a planned riverfront walkway that encompasses Hudson County's entire Hudson River waterfront. Once completed, it will not only traverse Jersey City, but also the municipalities of Hoboken, Weehawken, West New York, Gutenberg, and North Bergen to the north; and the City of Bayonne to the south. The goals of this walkway are to provide recreational opportunities, generate economic development, and promote the good health and welfare of City and County residents.

Photo Source: Leon Yost

The Hudson River Waterfront Walkway in Jersey City is in various stages of completion. Of the 18.0 linear miles that have already been planned,[8] which includes interim walkways for Jersey City, a total of approximately 8.7 were completed or under construction as of 2004. Notable destinations that are reached by the walkway include Liberty State Park, Harborside Financial Center, and Exchange Place, among others.

2.4.2 East Coast Greenway Route

Jersey City is a key destination on the East Coast Greenway Route, which is a 2,600 mile path that is currently under development and planned to stretch the entire eastern seaboard; from Calais, Maine to Key West, Florida. The project is being coordinated by the East Coast Greenway Alliance of Wakefield, Rhode Island. On the local level, the East Coast Greenway Route will connect neighborhoods, parks, and various historic and cultural resources. When completed, the East Coast Greenway Route will be a multi-modal, non-motorized transportation corridor for bicyclists, pedestrians, and others. A total of approximately 9.5 linear miles are proposed within the City.

Individual segments of the East Coast Greenway Route are planned or under different stages of completion. In total, Jersey City has approximately 6.0 miles, or 63.2 percent, of its planned segment being completed or currently under development[9].

The long-term vision for the East Coast Greenway Route in Jersey City is an off-road alignment that uses the top of the Sixth Street Embankment and the Bergen Arches rail cut. West of the Bergen Arches, the alignment requires further study but should connect to St. Paul's Avenue and the new Wittpenn Bridge, as well as to Laurel Hill Park and the Lautenberg Station in Secaucus.

In the short-term, the East Coast Greenway Route in Jersey City between the Hudson and Hackensack Rivers uses on-road segments of Montgomery Street, Kennedy Boulevard, Lincoln Park Road, and Communipaw Avenue. Also, the East Coast Greenway Route uses portions of the Hudson River Waterfront Walkway,

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8 Total includes areas with alternative alignments where waterfront areas are inaccessible due to active industrial and other uses.

9 Greenway segments that are under development include those that are either planned, in design, or under construction.

which provides access to ferry service between Jersey City and New York City. An alternate alignment of the East Coast Greenway Route uses the Hudson River Waterfront Walkway north of Hoboken Terminal to the George Washington Bridge.

Before implementation of the long-term vision for the East Coast Greenway Route, an interim-term alignment is an on-road route that uses Sixth Street and Newark Avenue to Palisades Avenue, then parallels the Bergen Arches rail cut on Hoboken Avenue, Underwood Avenue, and St. Paul's Avenue. The segment parallel to the Bergen Arches may be used as a local connector when the off-road facility through the Bergen Arches is constructed.

2.4.3 Liberty – Water Gap Trail

Jersey City is a terminus of the Liberty–Water Gap Trail, which bisects northern New Jersey from Liberty State Park to the site of the Delaware Water Gap in Warren County. The trail is intended exclusively for non-motorized, multi-use recreational activity, and its goal is to foster an appreciation for the region's cultural history and natural landscapes.

While most of the trail is comprised of existing trails in Essex, Morris, Sussex, and Warren counties, the portions that are located within Jersey City are only proposed.

Currently, the trail is proposed to start in the southern section of Liberty State Park, near Morris Pesin Drive, and follow the Hudson River waterfront and the Morris Canal Basin before entering the Downtown. The route is then generally proposed to travel northward into the Journal Square neighborhood via Jersey Avenue, York Street, Grove Street, Mercer Street, Monmouth Street, and Newark Avenue, before heading in a southerly direction through the Marion neighborhood via Lotte Street, Summit Avenue, Academy Street, Bergen Avenue, and Belmont Avenue into Lincoln Park. From Lincoln Park, the proposed trail exits Jersey City as it crosses the Hackensack River. Once completed, the trail will encompass approximately 7.9 linear miles within the City of Jersey City.

2.4.4 Hackensack RiverWalk

The Hackensack RiverWalk is a planned waterfront walkway stretching along the Hackensack River, from Newark Bay in Bayonne to Bellman's Creek in North Bergen. Its goal is to provide a continuous pedestrian trail to connect parks, retail, office, commercial, and residential areas of Hudson County.

The planned right-of-way encompasses the entire length of Jersey City's Hackensack River waterfront, extensions into Lincoln Park, limited areas deviating from a riverfront course near Kellogg Street in Greenville, and the PSE&G power plant near the municipal border with Secaucus.

The Hackensack RiverWalk is an on-going project, and is in various stages of completion. Of the 5.6 linear miles planned for Jersey City, a total of approximately 2.3 miles were completed as of 2004.

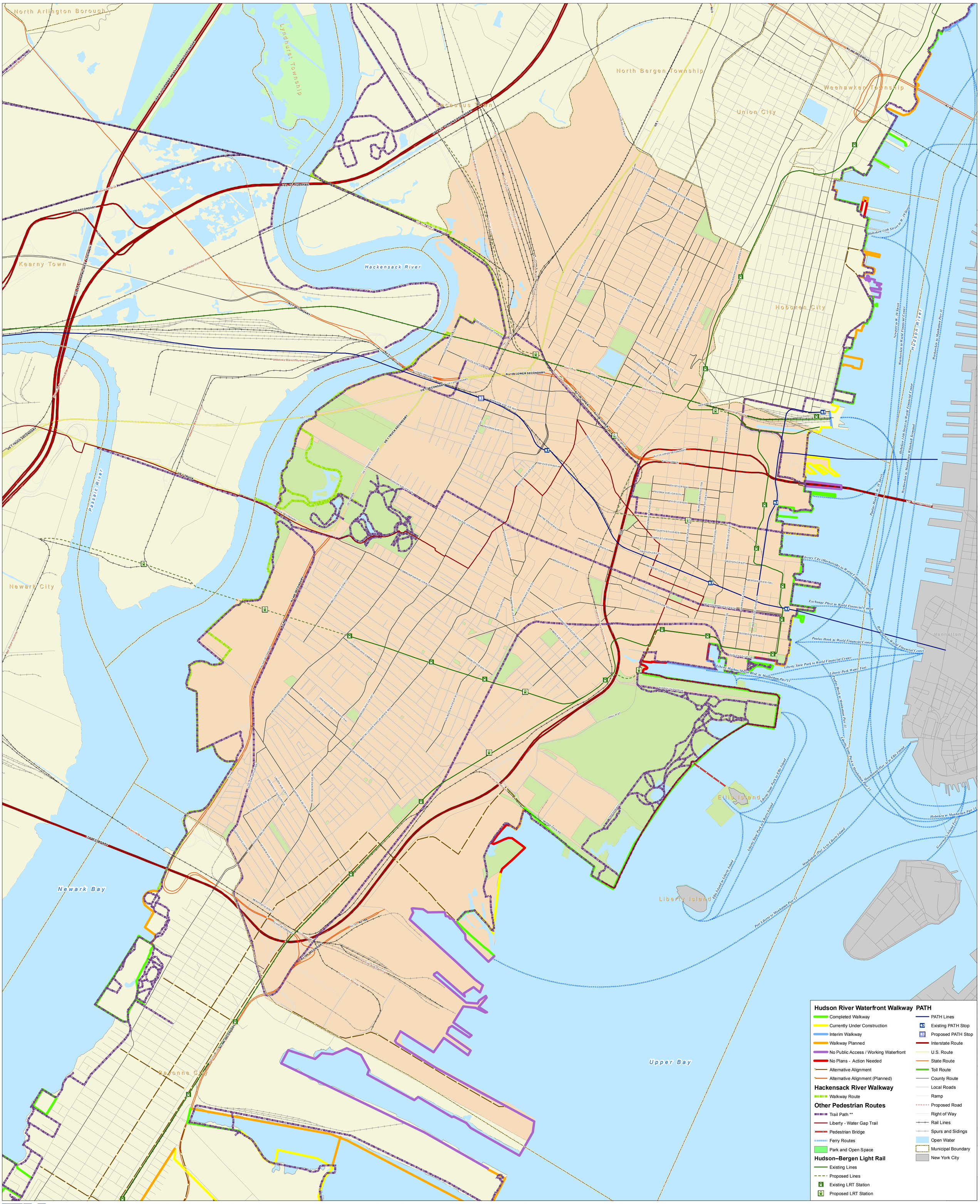
Photo Source: Jersey City Division of City Planning

2.4.5 Bicycle Routes and Paths

In addition to the bicycle facilities provided on the above-described multi-purpose walkways, Jersey City has an extensive number of signed bicycle routes that connect parks and other major destinations throughout the City. There are also extensive bicycle paths within Lincoln Park and Liberty State Park.

Collectively, these bike facilities form a network that not only provides a valuable means for recreational activity and social interaction, but also provides an eco-friendly transportation option that connects the City's diverse neighborhoods and links it with surrounding communities. The City's network of bicycle facilities are mapped in Figure 2.4-2, which includes existing and proposed bike routes.

Photo Source: Daniel Poster



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** Trail Path indicates trails from the 2008 Hudson County Reexamination Report. Trail Path includes the Old Morris Canal, and portions of the East Coast Greenway, Hudson River Waterfront Walkway, and Hackensack RiverWalk.

Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Dept.: Parks and Open Space
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CITY OF JERSEY CITY — LET JERSEY PROSPER — CORPORATE SEAL

Jersey City Circulation Element 2050
Figure 2.4-1: Walkways and Trails
City of Jersey City
Hudson County, New Jersey

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NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

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0 500 1,000 2,000 Feet

* The existing bike route is a signed route only. In the proposed condition, striped bike lanes will be provided on all City streets where feasible.

Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Dept.: Bike Route, Parks and Open Space
File Path: H:\JCTY\00110\GIS\Projects\Final\jcty110_BikeRouteFINAL.mxd

CITY OF JERSEY CITY
1804 JERSEY
CORPORATE SEAL

Jersey City Circulation Element 2050
Figure 2.4-2: Bike Route and Greenway
City of Jersey City
Hudson County, New Jersey

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NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

3. Jersey City's Vision

3.1 Vision Statement

By the year 2050, Jersey City's extensive and sustainable development, redevelopment and neighborhood revitalization activity will have transformed the City into a bustling, "green," world-class center with a range of housing and retail choices, many employment and business opportunities, and excellent recreational, entertainment and cultural amenities. As befits any such center, the City will be served by a multi-modal transportation system that is attractive, clean, safe, efficient, reliable, inclusive, affordable, accessible, and user-friendly. Jersey City's comprehensive and seamless transportation network will provide options to its users and accommodate all types of trips - both local and regional in nature - to, from, and within all neighborhoods, throughout the day and night, and it will mitigate congestion and minimize the amount of single-occupancy vehicular traffic in Jersey City.

The City's transportation network will benefit residents, workers, and visitors alike by giving people a choice in how they travel to, from, and within Jersey City. The principal features of Jersey City's transportation network will be a highly-functioning and efficient multi-modal public transit system, a roadway network that will not only accommodate vehicular traffic but will also provide safe and efficient accommodation for bicyclists and pedestrians, and a network of off-road bicycle and pedestrian paths that complement the City's parks and open spaces.

Photo Source: Jersey City Division of City Planning

Photo Source: Daniel Poster

3.2 Goals, Objectives, Strategies and Actions

In order to achieve its vision, the City of Jersey City established 14 major goals for the short, medium and long term to bring the City forward toward a world-class transportation system and provide a foundation for the City's evolution into a prosperous and lively world-class center.

Objectives and Strategies were established for each Goal, which consider both the movement of people and freight, and maximize the use of existing streets by all modes of transportation, including roads, passenger rail, freight, bus, jitney, bicycle, pedestrian, and ferry. The Objectives and Strategies emphasize alternatives to the automobile, which will reduce traffic congestion, decrease emissions per passenger mile, and encourage environmentally-sensitive policies. The consistent theme is to improve access to, from, and within the City. The Strategies are the plan of action designed to achieve each particular Goal.

The Circulation Element is an action-oriented document that plans for the City's transportation network through 2050. The Strategies and Actions may support more than one Objective, and the Actions should not be considered all-inclusive. Short, medium and long term Actions are provided for each goal, as well as the potential implementation agency and funding source. The Actions describe how the strategies will be implemented. The implementation of the Actions will enable the City to achieve its vision for a green, sustainable world-class center which is served by a multi-modal transit system that is attractive, efficient, accessible, safe, and reliable. It should be noted that although the Goals, Objectives, Strategies, and Actions are numbered, they are not in sequential order of importance. A committee comprised of representatives from appropriate Jersey City departments, divisions, and agencies should be formed to advance the actions described in the Circulation Element. This committee should prioritize the actions in the Circulation Element, identify and secure funding for transportation projects, develop transportation related policy, and monitor the attainment of the goals of the Circulation Element using the Indicators described in the Circulation Element.

3.2.1 Goal 1: Coordinate transportation and land use planning in a systematic and comprehensive manner.

The City aims to coordinate the planning of transportation and land use using smart growth strategies which will result in an efficient, orderly, all-inclusive world-class transportation system. The result will be pedestrian friendly street level environments and meaningful public spaces that integrate the circulation system with the surrounding environment. The circulation system will provide connectivity throughout the City for all elements of the circulation system, including, roadways, passenger rail, freight, buses, bikeways, ferries, trails and pedestrian walkways.

The Objectives to attain Goal 1 are as follows:

Objective G1-1: Develop and implement smart growth strategies that locate new residential development within walking distance of bus stops and passenger rail stations, with the highest density zones located within walking distance of passenger rail stations; that mixes residential land use with commercial land use; and that locates industrial zones near port facilities, freight rail lines, regional highways and the NJDOT Portway projects.

Objective G1-2: Support transit-dependent growth by creating street-level pedestrian-friendly environments, providing frequent and reliable local bus service, and developing new transportation infrastructure.

Objective G1-3: Consider the cumulative impacts of development on traffic congestion and consider traffic congestion impacts on local bus service.

Objective G1-4: Create meaningful public spaces that facilitate integration of the built environment with arterials and major transit routes.

Objective G1-5: Provide for green connectivity between neighborhoods, schools, places of employment, and other community facilities through greenways, parks and trails.

Objective G1-6: Design transportation systems to respect the character of historic districts and landmarks.

Indicator:	Improved coordination of transportation and land use planning will result in increased transit ridership and bicycle and pedestrian activity. Therefore, the indicators of progress toward the realization of Goal 1 are the indicators of Goals 2 through 14.
Target:	See targets for Goals 2 through 14.
Baseline:	See baselines for Goals 2 through 14.

The Strategies to achieve Goal 1 are as follows:

Strategy G1-A: Use zoning, incentives, and capital improvement programs to:

a) Encourage pedestrian-scale, mixed-use development and redevelopment within walking distance of public transportation, and industrial development and redevelopment near port facilities, freight rail lines, regional highways and Portway;

b) Create complete streets that accommodate bicyclists, pedestrians and various types of vehicles (scooters, cars, buses, trucks, light rail, etc.) as appropriate; accommodate on-street parking to buffer pedestrians from moving vehicles; use street trees to establish a street wall, buffer pedestrians from traffic, provide shade, and reduce storm water runoff and urban heat island effect; and create an inviting public realm through building and public space design and building and public space relationship to the street;

c) Create new public spaces and green connectivity, and to increase mass transit connectivity, including development of new stations and services.

Strategy G1-B: Work with regional agencies to identify specific locations for intercept parking facilities outside Jersey City that use existing or new mass transit linkages to Jersey City's downtown employment center.

Strategy G1-C: Evaluate the traffic impacts of new zoning and redevelopment plan proposals.

Strategy G1-D: Market Jersey City as a transit-rich location and market the benefits of using mass transit.

The Actions that should be implemented to achieve Goal 1 are as follows:

Action G1-1: Adopt a form-based zoning code that has special exceptions for historic districts and that incorporates the following:

a) Creation of buildings and structures that relate to human scale, using modular elements (e.g. doors and windows), façade treatments, and design details.

b) Integration of a variety of sizes and types of buildings at similar setbacks.

c) Ground-floor retail uses in residential and commercial buildings, where appropriate.

d) Requirements to provide bicycle amenities for building users, such as interior bicycle storage facilities for residential buildings that are accessible without stairs or tight corners, and bike racks and employee showers for commercial buildings.

e) Evaluation of roadway capacity and traffic impacts, with consideration of anticipated new mass transit infrastructure, and appropriate trip generation and modal split predictions.

f) A bonus incentive program for new public spaces, greenways and transportation facilities.

g) Parking space requirement maximums that reduce the number of permitted parking spaces in development near fixed rail transit stations in proportion to distance and inversely proportional to the intensity of development.

h) Reduction in use of land for parking purposes and increase in use of land for productive use.

Action G1-2: Market Jersey City as a transit-rich location and market the benefits of using mass transit.

Action G1-3: Permit on-street parking that is designed to serve neighborhoods and buffer pedestrians from vehicular traffic.

Action G1-4: Model traffic impacts of proposed zoning changes, zoning density variances, and proposed new redevelopment plans, and work with transit providers to assess development impacts to mass transit ridership.

Action G1-5: Adopt as City standard the use of durable, high-quality and attractive materials for sidewalks, curbs, tree pits, signposts and street furniture.

Action G1-6: Work with PSE&G to provide adequate lighting levels on public sidewalks and to shield lights to prevent light nuisance to residential units in accordance with Ordinance requirements and Illumination Engineering Society Recommended Practice 8 (I.E.S. rp-8). Monitor street lights for operation.

Action G1-7: Develop a Transfer of Development Rights (TDR) program that identifies appropriate TDR sending within the City and receiving zones near major public transit stops.

Action G1-8: Develop a substitution ratio to reduce on-site parking requirements for various zone districts with the on-site accommodation of car sharing programs (e.g., Zipcar).

Action G1-9: Work with NJ TRANSIT and private developers to design and implement the Hoboken Terminal and Yard Redevelopment Plan, which will include high intensity mixed-use development in the Hoboken Terminal area. Conduct traffic impact analysis as part of the redevelopment planning process. Ensure that the cumulative impacts of redevelopment for this site, and other nearby Jersey City redevelopment areas, do not exceed the carrying capacity of Jersey City roadways. This may be achieved through access management, density limitations, street modifications increase in local mass transit service, or other means.

Action G1-10: Advance a phased approach to transportation projects and policies that support the redevelopment of Journal Square.

Action G1-11: A capital investment prioritization study should be undertaken to develop an implementation schedule for transit improvements and use of capital resources.

Action G1-12: Permit use of commercial parking facilities by car sharing programs.

Action G1-13: Adopt a redevelopment plan that accommodates mixed-use development and shared parking on the HBLR Liberty State Park station park and ride lot. Perform traffic impact analysis of redevelopment and determine if there is a need to improve vehicular access in order to support redevelopment.

Action G1-14: All city, county and state capital projects shall be submitted to the Jersey City Planning Board in accordance with N.J.S.A. 40:55D-31.

3.2.2 Goal 2: Increase, improve, and enhance public transit service to, from, and within all areas of Jersey City

The City seeks to increase, improve, and enhance the public transit system to provide better neighborhood connectivity and regional access. The City conducted an extensive public outreach program, and a consistent concern of Jersey City stakeholders was that the Circulation Element address neighborhood connectivity. Additionally, the Mobility 2050 Survey found that the three most desired features of transit were: 1) that it stops close to home, 2) the frequency of service, and 3) the reliability of service. The Objectives, Strategies, and Actions are designed to achieve a public transit system that meets the needs of all of Jersey City's stakeholders.

The Objectives to attain Goal 2 are as follows:

Objective G2-1: Provide affordable, frequent, reliable, and accessible bus service to residents and visitors.

Objective G2-2: Extend, expand and enhance the existing Hudson-Bergen Light Rail (HBLR) system and service to improve connectivity in and between existing neighborhoods, to other transportation systems, and to remote intercept parking locations.

Objective G2-3: Increase convenience and capacity of the PATH system.

Objective G2-4: Provide a ferry system that serves the needs of Jersey City residents and commuters to Jersey City and Manhattan.

Objective G2-5: Make it as easy as possible to use mass transit.

Objective G2-6: Increase mass transit ridership.

Objective G2-7: Use low-emission and emission-free equipment.

Objective G2-8. Support the development of new neighborhoods through expansion of mass transit systems.

Indicator: Annual estimate of percentage of workers commuting to work with public transportation, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 and over commuting to work with public transportation, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 45.2 percent of all Jersey City resident workers aged 16 and over commute to work with public transportation, excluding taxicab (2007 ACS).

Baseline: In 2000, 39.1 percent of all Jersey City resident workers aged 16 and over commuted to work with public transportation, excluding taxicab (2000 US Census).

Baseline: In 2008, 52.8 percent of Jersey City residents commute to work with public transportation (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator: HBLR ridership (data from NJ TRANSIT)

Target: Increase and maintain HBLR ridership.

Baseline: In July 2008, there was an average of 29,125 weekday passenger boardings at stations in Jersey City. This figure includes the station at 9th Street and Congress Street in Hoboken, which is linked to Jersey City via an elevator to Jersey City Heights.

Indicator:	Bus ridership (data from NJ TRANSIT)
Target:	Increase and maintain bus ridership
Baseline:	In 2008, there were 21,677,159 annual passenger trips on NJ TRANSIT bus lines in Jersey City.

Indicator:	PATH ridership (data from the Port Authority of New York and New Jersey)
Target:	Increase and maintain PATH ridership.
Baseline:	In 2008, there were 22,799,783 passengers using PATH to/from Jersey City. This represents a 6.6 percent increase in over 21,381,255 passengers using PATH to/from Jersey City in 2007.

Indicator:	Estimate of vehicle miles travelled within Hudson County (from NJTPA)
Target:	Decreased number of vehicle miles travelled.
Baseline:	In 2007, 6.3 million miles per day were driven in Hudson County.

The Strategies to achieve Goal 2 are as follows:

Strategy G2-A: Work with NJ TRANSIT and other transit providers to improve local bus routing, operations, service, facilities, equipment and congestion points.

Strategy G2-B: Improve the affordability of bus travel for low-income population by working with NJ TRANSIT and other transit providers to reduce or eliminate the cost of transfers for single ride trips between buses and between bus and HBLR.

Strategy G2-C: Work with transit providers to create bus rapid transit service, where feasible.

Strategy G2-D: Work with NJ TRANSIT and other municipalities, where appropriate, to extend, expand and enhance the Hudson-Bergen Light Rail system.

Strategy G2-E: Work with the Port Authority of New York and New Jersey (PANYNJ) to enhance PATH train service.

Strategy G2-F: Work with PANYNJ, NJ TRANSIT and other service providers to create a seamless and user-friendly mass transportation system.

Strategy G2-G: Provide a responsive network of taxis, carshares, jitneys, and other services to fill in the gaps that are not addressed by the fixed-route mass transit system.

Strategy G2-H: Avoid locating commuter parking within Jersey City, particularly near the downtown waterfront employment center, to avoid creating traffic congestion.

There are general Actions that should be implemented to achieve Goal 2, as well as actions that are specific to the bus, HBLR, and PATH systems. These Actions are as follows:

Buses

Action G2-1: Implement the recommendations of the NJ TRANSIT/NJTPA/Jersey City bus study.

Action G2-2: Work with NJ TRANSIT and private carriers to locate bus stops in all residential neighborhoods, and generally within a ¼ mile walk of all residences and closer, where there are topographic considerations. Space bus stops for local bus routes approximately every 530 to 590 feet, and closer within business districts, to balance the need for short walking distances with the need for speedy bus operation.

Action G2-3: Work with NJ TRANSIT and private carriers to provide bus service to all activity centers that consist of employers with combined employment of 500 or more employees, shopping centers and shopping districts with more than 150,000 square feet of leased retail space, or colleges and universities with 500 or more students.

Action G2-4: Work with NJ TRANSIT and private carriers to provide bus service to medical facilities, social service providers and governmental facilities.

Action G2-5: Work with NJ TRANSIT and private carriers to maximize bus system directness and convenience by minimizing route distances and the need for transfers, and by coordinating bus route schedules for easier transfers.

Action G2-6: Identify a strategy to reduce or eliminate the additional fare for bus transfers and transfers between bus and HBLR.

Action G2-7: Create bus priority lanes and traffic light priority where buses are impeded by traffic congestion and other bus preferential treatment, where appropriate.

Action G2-8: Work with NJ TRANSIT and private carriers to operate service between 5 AM and 1 AM every day. In addition, work with NJ TRANSIT and private carriers to identify routes that should operate 24 hours, where appropriate.

Action G2-9: Work with NJ TRANSIT and private carriers to provide the greatest possible frequency of service, with a goal to provide a maximum 15-

minute headway during peak travel time on weekdays, and 30-minute headway off-peak and on weekends, where feasible.

Action G2-10: Work with NJ TRANSIT to install complete and attractive bus stops that include shelters, route and schedule information, lighting, emergency call box, and bike racks, where appropriate. Integrate public art with bus stops. Initiate pilot program to test kiosks with touch screen route planning information at major bus stop locations.

Action G2-11: Work with NJ TRANSIT and private carriers to install GPS units in buses and provide real-time bus status information to customers.

Action G2-12: Install bike racks on all local buses.

Action G2-13: Work with NJ TRANSIT to construct a bus terminal for bus layovers west of the Hudson River, as indicated by the project on the Right-of-Way Needs mapping called 'Bus Layover Facilities'.

Action G2-14: Implement the recommendations of the 2007 Hudson County Bus Circulation and Infrastructure Final Report. Chapter 7 of this report identified the following recommendations for Jersey City that should be implemented:

a) Investigate an aesthetically-pleasing means of guarding pedestrians from crossing mid-block on Newark Avenue in the vicinity of Palisade Avenue. The report found that illegal mid-block crossings significantly slow the traffic flow in this area. The Hudson County Bus Circulation and Infrastructure Final Report recommended that decorative pedestrian guard rails be installed in order to channel pedestrians.

b) Install wider, more visible crosswalks at the intersection of Newark Avenue and Palisade Avenue to encourage the use of the crosswalk and to accommodate high pedestrian volumes.

c) At the intersection of Newark Avenue and Palisade Avenue, adjust the signal timing to allow for a longer left turn phase from Newark Avenue to Palisade Avenue for southbound traffic.

d) Adjust traffic signal offset at York Street to better coordinate with the signal at Montgomery Street to improve circulation along Marin Boulevard.

e) Investigate operational improvements for buses in the vicinity of Exchange Place.

Action G2-15: Work with NJ TRANSIT and private carriers to explore the use of Bus Rapid Transit (BRT) to, from, and within Jersey City and bus preferential treatment within Jersey City.

Action G2-16: Shuttle service to, from, and within Liberty State Park should be enhanced, as recommended in the September 2008 New Jersey's Long Range Transportation Plan-Urban Supplement Report.

Action G2-17: Work with NJ TRANSIT to provide bus shuttle service from Port Liberte to the HBLR. This bus shuttle service is recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.

Action G2-18: Work with NJ TRANSIT and private bus carriers to identify and correct situations that impact the reliability of bus service, such as double parking, parking in bus stops, parking too close to corners, mistimed traffic signals, and pedestrians not using crosswalks.

HBLR Actions:

Action G2-19: Work with NJ TRANSIT to extend Westside Avenue line westward across Route 440 to Bayfront I Redevelopment Area, and preserve Jersey City right-of-way for future additional extension to Kearny and Newark. Work with NJ TRANSIT to provide connectivity with Society Hill.

Action G2-20: Work with NJ TRANSIT to extend Westside Avenue branch of the HBLR across Hackensack River and Passaic River through Kearny and to Newark Liberty International Airport, with a spur to Ferry Street in Newark.

Action G2-21: Work with NJ TRANSIT to extend HBLR on Sixth Street Embankment, through Bergen Arches and connect to Senator Frank R. Lautenberg Station and beyond to a regional park-and-ride lot at the Meadowlands Sports Complex. Design HBLR extensions on Sixth Street Embankment and through Bergen Arches to be compatible with East Coast Greenway Route.

Action G2-22: Work with NJ TRANSIT to add stations to existing HBLR lines within Jersey City, as identified on the Right-of-Way needs Mapping, Figure 4.4-1.

Action G2-23: Work with NJ TRANSIT to increase capacity of existing system. Potential actions include, but are not limited to, providing more frequent service, running more double-car trains, and giving priority to the HBLR at signalized street intersections.

Action G2-24: Work with NJ TRANSIT to install complete and attractive HBLR stops that include shelters, route and schedule information, lighting, emergency call box and bike racks, where appropriate. Integrate public art with HBLR stops. Work with NJ TRANSIT to initiate pilot program to test kiosks with touch screen route planning information.

Action G2-25: Work with NJ TRANSIT to install GPS units in HBLR and provide real-time HBLR status information to customers.

Action G2-26: Work with NJ TRANSIT to install a HBLR bypass of the wye-intersection at 18th Street to increase HBLR system capacity and flexibility.

Action G2-27: Work with NJ TRANSIT to install a HBLR Downtown Circulator Line on the Sixth Street Embankment from the Harsimus Cove station to the Riverline ROW, and with connection to the existing HBLR tracks south of the HBLR Second Street Station (in Hoboken) in the vicinity of Hoboken Avenue.

Action G2-28: Work with NJ TRANSIT to construct a new platform at Pavonia-Newport, as indicated on the Right-of-Way Needs mapping, Figure 4.4-1. This improvement could be patterned after the platforms for northbound trains at the HBLR Exchange Place station. The new side platform on the southbound track would be constructed to improve pedestrian flow on and off the trains and reduce the number of people that cross in front of the stopped southbound trains.

Action G2-29: Work with NJ TRANSIT to construct New Danforth Interlocking for HBLR.

Action G2-30**:** Work with PANYNJ and NJ TRANSIT to construct a new entrance to existing PATH underground mezzanine above the track platforms in Washington Boulevard in order to grade separate the Washington Boulevard pedestrian crossing and shorten the walking distance between the PATH and the HBLR. The new entrance should be located along the west side of Washington Boulevard at the east end of Newport Office Center III (NOC III) passageway from HBLR station.

Action G2-31**:** Work with NJ TRANSIT to re-route the HBLR between the Jersey Avenue station and the Liberty State Park station with a new station near Audrey Zapp Drive.

Action G2-32: Work with NJ TRANSIT to evaluate signal timing at all HBLR crossings and adjust signals where appropriate to minimize vehicular red time.

PATH Actions:

Action G2-33: Work with the Port Authority NYNJ to open a PATH station in the Marion neighborhood, with due consideration of existing and future development activity, overall impact on PATH ridership, cost feasibility, and overall benefits to Jersey City

Action G2-34: Work with the Port Authority NYNJ to open a PATH station adjacent to Hudson County Plaza on Academy Street and re-route trains to serve new station, with due consideration of existing and future development activity, overall impact on PATH ridership, cost feasibility, and overall benefits to Jersey City.

Action G2-35: Work with the Port Authority NYNJ to run trains more frequently on weekends and eliminate the routing of trains between Jersey City and 33rd Street in New York City through Hoboken.

Action G2-36: Work with the Port Authority NYNJ to provide frequent train service between Journal Square and the Hudson County Improvement Authority's parking structure adjacent to the PATH station in Harrison.

Action G2-37: Work with the Port Authority NYNJ to make all PATH stations ADA accessible, including Grove Street station.

Action G2-38: Work with the Port Authority NYNJ to display real-time departure/arrival information at stations.

Action G2-39: Work with the Port Authority NYNJ to improve all stations to accommodate ten (10) car trains, where feasible, to increase capacity.

Action G2-40: Explore a new station entrance for Grove Street at southeast corner of Marin Boulevard and Columbus Drive to improve station access and reduce the number of pedestrians that cross Columbus Drive.

General Mass Transit Actions:

Action G2- 41: Work with NJ TRANSIT and private operators to provide a free transfer between private carrier buses and the Hudson Bergen Light Rail system for single ride trips. Currently, HBLR monthly pass holders can transfer to NJ TRANSIT buses without an additional fare. Additionally, single ride trips currently can purchase "tickets with transfer" for an additional fare.

Action G2-42: Work with Port Authority NYNJ, NJ TRANSIT and other mass transit operators to create a single universal fare card for all mass transit systems, including NJ TRANSIT, PATH, and ferry.

Action G2-43: Work with Port Authority NYNJ and NJ TRANSIT to develop specific HBLR and PATH station area and ferry terminal area improvement plans to optimize connections between buses and other modes by installing wayfinding and ensuring pedestrian access.

Action G2-44: Locate taxi stands in close proximity to transit stations and major activity centers. Allow open stands where any taxi can stop.

Action G2-45: Explore reserving on-street parking spaces for carshare vehicles.

Action G2-46: Evaluate current and future para-transit needs and service levels.

Action G2-47: Advertise the availability of the Hudson TMA's Resource Center, a central repository of mass transit information, including maps, schedules, and brochures.

Action G2-48: Work with taxi companies to establish central dispatch for taxis in Jersey City.

Action G2-49: Work with all mass transit providers to ensure that all mass transit stations are ADA compliant.

Action G2-50: A capital investment prioritization study should be undertaken to develop an implementation schedule for transit improvements and use of capital resources.

Action G2-51: Detailed traffic and transit studies should be conducted to assess the best ways to manage transit passenger demands on the HBLR and vehicular demand on the roadway network.

3.2.3 Goal 3: Integrate and connect neighborhoods, and improve public access to and along waterfront areas

Jersey City aims to improve neighborhood connectivity for the multi-modal system and enhance public access to and from the waterfront. The 2050 Mobility Survey found that people who live and work in Jersey City were the most likely to use their cars due to the short-comings of mass transit to efficiently connect the neighborhoods. Throughout the public outreach process, many members of the public requested better east-west connectivity in the City. Therefore, in order to better integrate the neighborhoods and improve public access to the waterfronts, the following objectives should be achieved:

Objective G3-1: Improve vehicular, pedestrian and bicycle access within and between neighborhoods.

Objective G3-2: Complete a public access walkway along all waterfronts, except where it conflicts with port operations. Provide an alternate route where the walkway conflicts with port operations. Maximize the number of public access points to the walkway. Ensure that the access points appear inviting to the public.

Objective G3-3: Create a seamless mass transit network within and between neighborhoods.

Indicator: Annual estimate of percentage of workers commuting to work by foot, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 and over commuting to work by foot, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 8.0 percent of all Jersey City resident workers aged 16 and over commuting to work by foot (2007 ACS).

Baseline: In 2000, 8.0 percent of all Jersey City resident workers aged 16 and over commuted to work by foot (2000 US Census).

Baseline: In 2008, 15.0 percent of Jersey City residents commuted to work by walking or biking (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator: Annual number of accidents reported that involved pedestrians in NJ Department of Transportation Crash Record Data per 1,000 residents, as measured by American Community Survey (ACS) Table No.: B01003

Target: Annual decrease in number of accidents involving pedestrians occurring in Jersey City per 1,000 residents.

Baseline: In 2007, there were 1.63 accidents involving pedestrians occurring in Jersey City per 1,000 residents of which there were 0.37 accidents involving bicyclists occurring in Jersey City per 1,000 residents.

Indicator: Annual estimate of percentage of workers commuting to work by bicycle, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 and over commuting to work by bicycle, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 0.03 percent of all Jersey City resident workers aged 16 and over commute to work by bicycle (2007 ACS).

Baseline: In 2000, 0.25 percent of all Jersey City resident workers aged 16 and over commuted to work by bicycle (2000 US Census).

Baseline: In 2008, 15.0 percent of Jersey City residents commuted to work by walking or biking (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator: Annual estimate of percentage of workers who do not work at home and have a commute of less than 30 minutes who commute to work with public transportation, as provided in American Community Survey (ACS) Table No.: B08534, US Census Table No.: P32 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 ad over who do not work at home and have a commute of less than 30 minutes who commute to work with public transportation, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 15.6 percent of all Jersey City resident workers aged 16 and over who do not work at home and have a commute of less than 30 minutes commute to work with public transportation, excluding taxicab (2007 ACS).

Baseline: In 2000, 22.1 percent of all Jersey City resident workers aged 16 and over who do not work at home and have a commute of less than 30 minutes commute to work with public transportation (2000 US Census).

Baseline: In 2008, 53.0 percent of Jersey City residents have a commute of less than 30 minutes (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator: Linear miles of gaps in Hudson River Waterfront Walkway and Hackensack RiverWalk (GIS data from August 2008, Hudson County Re-examination Report of Master Plan, and GIS data from the May 2004 Hudson County Hackensack RiverWalk Plan).

Target: Zero gaps in walkways.

Baseline: In 2004, there were 10.23 linear miles of gaps (i.e., areas with no permanent walkway or walkways currently under construction based on GIS data) in the Hudson River Waterfront Walkway and 3.3 linear miles of gaps in the proposed route of the Hackensack RiverWalk.

Indicator: Linear miles of striped bike lanes in Jersey City (source: Jersey City Division of Engineering)

Target: Increase in linear miles of striped bike lanes in Jersey City.

Baseline: In 2009, there were 0 linear miles of striped bike lanes in Jersey City.

The Strategies to achieve Goal 3 are as follows:

Strategy G3-A: Fill in missing links in the street grid by constructing new public streets.

Strategy G3-B: Design all new neighborhood streets in a grid pattern, with small block sizes.

Strategy G3-C: Reduce the length of existing blocks that are greater than 500 feet by creating new mid-block public streets or lanes, where feasible.

Strategy G3-D: Work with NJ TRANSIT, PANYNJ and other operators to ensure the existence of robust HBLR, PATH, bus and/or jitney service within and between neighborhoods.

The Actions that should be implemented to achieve Goal 3 are as follows:

Action G3-1: Extend Jersey Avenue to connect the downtown waterfront and downtown historic districts with the Lafayette neighborhood and Liberty State Park.

Action G3-2: Complete missing links in Hudson River Waterfront Walkway, including connection to Hoboken Terminal.

Action G3-3: Require developers to construct the portion of the Hackensack RiverWalk that is adjacent to their property.

Action G3-4: Implement Actions under Goal 2.

Action G3-5: Complete street grids, as identified on Right-of Way Mapping, Figure 4.4-1, in order to increase connectivity.

Action G3-6: Create new streets and extend existing streets to support development, increase connectivity for the multi-modal system, and to provide access to the waterfront as identified on Right-of Way Mapping, Figure 4.4-1.

Action G3-7: Construct Center and Merseles Street Tunnel under Montgomery Street, as recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.

Action G3-8: Complete study of connectivity between Jersey City and Hoboken in the vicinity of Paterson Plank Road.

Action G3-9: A capital investment prioritization study should be undertaken to develop an implementation schedule for transit improvements and use of capital resources.

3.2.4 Goal 4: Create a city-wide pedestrian-friendly environment

Jersey City strives to create a walkable City that is safe, secure, seamless and aesthetically-pleasing. The City aims to create a pedestrian-friendly environment that is accessible and meets the needs of all of its residents and visitors. To achieve this goal, the following Objectives should be met:

Objective G4-1: Create a network of sidewalks, walkways and paths that allow pedestrians to walk between all neighborhoods and destinations in Jersey City.

Objective G4-2: Provide a safe and secure environment for pedestrians.

Objective G4-3: Create a comfortable, aesthetically-pleasing, and visually-interesting environment for pedestrians.

Objective G4-4: Support and reinforce the existing culture of walking in Jersey City.

Objective G4-5: Encourage walking as a means to reduce carbon emissions and to increase public health.

Objective G4-6: Provide pedestrian linkages to all surrounding municipalities.

Indicator: Linear miles of gaps in Hudson River Waterfront Walkway and Hackensack River Walkway (GIS data from August 2008, Hudson County Re-examination Report of Master Plan, and GIS data from the May 2004 Hudson County Hackensack RiverWalk Plan)

Target: Zero gaps in walkways.

Baseline: In 2004, there were 10.23 linear miles of gaps (i.e., areas with no permanent walkway or walkways currently under construction based on GIS data) in the Hudson River Waterfront Walkway and 3.3 linear miles of gaps in the proposed route of the Hackensack River Walkway.

Indicator: Annual number of accidents reported that involved pedestrians in NJ Department of Transportation Crash Record Data per 1,000 residents, as measured by American Community Survey (ACS) Table No.: B01003.

Target: Annual decrease in number of accidents involving pedestrians occurring in Jersey City per 1,000 residents.

Baseline: In 2007, there were 1.63 accidents involving pedestrians occurring in Jersey City per 1,000 residents, of which there were 0.37 accidents involving bicyclists occurring in Jersey City per 1,000 residents.

The Strategies to achieve Goal 4 are as follows:

Strategy G4-A: Ensure that all streets have sidewalks.

Strategy G4-B: Ensure that all sidewalks are of adequate width and have the capacity to carry current and anticipated future pedestrian volumes. Respect the integrity of historic districts.

Strategy G4-C: Ensure that all sidewalks are well-maintained and well-lit.

Strategy G4-D: Ensure an adequate number of pedestrian street crossings to minimize walking distances.

Strategy G4-E: Locate and design street crossing in a manner that minimizes walking distances and the length of time that pedestrians are in the crosswalk by using narrow travel lane widths and curb extensions. Curb extensions should incorporate vertical elements, such as trees, utility poles, or street furniture, to provide a visual cue to alert snowplow drivers to the presence of curb extensions.

Strategy G4-F: Fill in missing links between existing sidewalks, walkways and paths.

Strategy G4-G: Complete Jersey City sections of regional walkways, greenways and trails.

Strategy G4-H: Provide eyes on the street (and sidewalk, walkway and path) security.

Strategy G4-I: Create safety buffers between pedestrians and moving vehicles.

The Actions that should be implemented to achieve Goal 4 are as follows:

Action G4-1: Adopt as a City standard a street regulating plan that regulates the form of all streets, bike lanes, where feasible, and sidewalks in accordance with the street typologies and illustrated hierarchy of streets that are contained in this Circulation Element.

Action G4-2: Install traffic calming devices on existing streets with problem locations in accordance with the traffic calming plan that is contained in this Circulation Element.

Action G4-3: Adopt uniform City standards, which are ADA compliant and neighborhood appropriate, for pedestrian street crossings and crosswalks, including state-of-the-art techniques to protect pedestrian safety. For example, potential crosswalks may include a combination of crosswalk tables, curb extensions with gaps for drainage and bicycle lanes, polymer resin stamped brick crosswalks, and painted crosswalks as may be appropriate to the particular street. Curb extensions should incorporate vertical elements, such as trees or street furniture, to provide a visual cue to snowplow drivers of roadway alignments.

Action G4-4: Install street trees spaced at a maximum of 30 feet on center to provide shade and a pleasant pedestrian environment and establish a municipal street tree fund to which developers can contribute when trees cannot be installed. Street trees should be of a variety with high branching systems so that lower branches may be pruned to maintain sight lines for public safety purposes.

Action G4-5: Prune trees to remove low branches to provide lines of sight for vehicular and pedestrian safety and security.

Action G4-6: Increase pedestrian safety by utilizing mechanisms, such as on-street parking, street trees, street furniture and bollards, to buffer pedestrians from moving vehicles.

Action G4-7: Create a continuous greenway with pedestrian paths and bike lanes where the Morris Canal was filled in, where feasible.

Action G4-8: As recommended in the Hudson River Waterfront Walkway Plan, an operating entity should be formed to ensure that walkway gaps are filled in and that the entire walkway is consistent in appearance and condition.

Action G4-9: Construct the Lafayette Walkway parallel to the Hudson Bergen Light Rail Line.

Action G4-10: Extend the Morris Street Right-of-Way Pedestrian Extension to the waterfront and the Hudson River Waterfront Walkway.

Action G4-11: Continue the sidewalk on Bayview Avenue, east of the 14B interchange, by means of a designated pathway on the existing roadway, as recommended in the 2005 Liberty Access Study Final Report.

Action G4-12: Conduct a focused study of Westside Avenue to determine the feasibility and appropriateness of Bus Rapid Transit (BRT), sidewalk widening, pedestrian safety measures and off-street parking.

Action G4-13: Advance recommendations from NJTPA Walkable Community Workshop in the Lafayette neighborhood, including:

a) Improving pedestrian access to the HBLR Liberty State Park station by reopening Maple Street and other walkways through the existing park-and-ride lot, constructing a sidewalk on the western edge of the park-and-ride lot, and creating a pedestrian entrance at the gated entrance on Duarte Drive and Communipaw Avenue.

b) Eliminating truck routes through the community along Pacific Avenue and Communipaw Avenue.

c) Constructing a greenway adjacent to the HBLR right-of-way with connection to the Morris Canal Greenway.

d) Replace missing street trees, especially along major pedestrian corridors.

Action G4-14: Advance recommendations from NJTPA Regional Safety Priority Location Report for Central Avenue, including:

a) At intersection with Ferry Street, add crosswalk, enhance existing crosswalk with crosshatching and post advance pedestrian crossing signs on Central Avenue.

b) At signalized intersection with Manhattan Avenue, add pedestrian countdown heads and push buttons to the signal.

c) At intersection with Franklin Street, replace curbing with full-height curb to separate sidewalk from street.

d) At intersection with Hutton Street, install countdown pedestrian heads and actuation buttons.

e) At intersection with Bowers Street, install “No Right Turn” signs on Central Avenue approach.

f) Along Central Avenue between Jefferson Avenue and North Street, repaint crosswalks with crosshatching, install countdown pedestrian heads at all signalized intersections, install ADA pads at all

crosswalk ramps, install signage to warn against wrong-way turns into one-way streets, and conduct analyses of lighting and illumination.

Action G4-15 Advance recommendations from NJTPA Regional Safety Priority Location Report for Martin Luther King Drive, including:

a) Conduct a segment-wide program of pedestrian safety improvements on Martin Luther King Drive between McAdoo Avenue and Kearney Avenue. Pedestrian safety improvements may include:

1. Spot sidewalk repairs to eliminate trip hazards.
2. Installation of texture pads at ADA ramps.
3. Improvements to signage by posting speed limit and pedestrian crossing warnings.
4. Improvements to existing crosswalks by repainting with crosshatching, installing reflectors, and bringing all up to Jersey City's international painted crosswalk standard.
5. Installation of sidewalk tree grates where missing, removal and storage of grates where trees are missing, and filling of planters with brick or gravel until replanted.
6. Painting of curb and corner hatching to create visual refuge for parking lane ends and to emphasize corner sight distance clearance. Paint white stripe along the parking lane to visually restrict and calm the traffic lane.
7. Improvements to bus stop safety and identity by painting yellow curbs at bus stop locations. Review specific bus stop locations to lessen potential traffic hazards.
8. Relocation or removal of sidewalk obstructions (e.g., signs and other obstacles) that pose a hazard to pedestrian travel.

b) At intersection with Bayview Avenue, install countdown pedestrian heads and replace damaged curbing.

c) At intersection with Claremont Avenue, retime traffic signal and improve crosswalk visibility.

d) At intersection with Bidwell Avenue, install new traffic signal and coordinate timing with adjacent Bayview Avenue intersection.

Action G4-16 Continue Jersey City's involvement in the NJDOT Safe Routes to School program, which provides funding for pedestrian safety improvements near school sites.

Action G4-17: Provide pedestrian access to Garfield Avenue HBLR station through Berry Lane Park.

Action G4-18: Preserve the abandoned Lehigh Valley Railroad right-of-way to create greenway trails.

Action G4-19: Construct the East Coast Greenway Route as an off-road facility for pedestrians, bicyclists, and other non-motorized means of travel

between Hudson River and Hackensack River waterfronts. In the interim, complete on-road alignment.

3.2.5 Goal 5: Create a city-wide bicycle-friendly environment

In order to provide a bicycle-friendly environment, the City aims to improve the connectivity of bike routes both within the City and regionally and to provide amenities that support biking. The Circulation Element includes multiple initiatives that will support biking in Jersey City. Specifically, the East Coast Greenway Route is identified as a right-of-way need, and the Typical Roadway Sections include provisions for bike lanes. In order to further meet the Goal of providing a bicycle friendly environment, the following objectives should be achieved:

Objective G5-1: Provide a comprehensive city-wide network of dedicated bike lanes and vehicle/bike share lanes.

Objective G5-2: Improve connectivity between neighborhoods for bicyclists.

Objective G5-3: Provide bicycle network linkages to all surrounding municipalities

Objective G5-4: Provide recreational bike routes through parks and open spaces, where appropriate.

Objective G5-5: Provide a robust set of bicycle system amenities to support bicycle usage.

Objective G5-6: Create a safe and secure bicycling environment.

Objective G5-7: Encourage bicycling as a means to reduce traffic congestion and carbon emissions and to improve public health.

Indicator: Annual estimate of percentage of workers commuting to work by bicycle, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 and over commuting to work by bicycle, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 0.03 percent of all Jersey City resident workers aged 16 and over commute to work by bicycle (2007 ACS).

Baseline: In 2000, 0.25 percent of all Jersey City resident workers aged 16 and over commuted to work by bicycle (2000 US Census).

Baseline: In 2008, 15.0 percent of Jersey City residents commuted to work by walking or biking (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator:	Linear miles of striped bike lanes in Jersey City (source: Jersey City Division of Engineering)
Target:	Increase in linear miles of striped bike lanes in Jersey City.
Baseline:	In 2009, there were 0 linear miles of striped bike lanes in Jersey City.

Indicator:	Annual number of accidents involving bicyclists reported in NJ Department of Transportation Crash Record Date per 1,000 residents, as measured by American Community Survey (ACS) Table No.: B01003.
Target:	Annual decrease in number of accidents involving bicycles occurring in Jersey City per 1,000 residents.
Baseline:	In 2007, there were 0.37 accidents involving bicyclists occurring in Jersey City per 1,000 residents.

The Strategies to achieve Goal 5 are as follows:

Strategy G5-A: Create striped bicycle lanes and vehicle / bike share lanes on existing streets where feasible.

Strategy G5-B: Plan for continuing expansion of dedicated bicycle lanes and vehicle / bike share lanes as new streets are constructed.

Strategy G5-C: Fill in missing links in the street grid with public greenways or new streets.

Strategy G5-D: Complete Jersey City sections of regional greenways.

Strategy G5-E: Incorporate bicycle paths and bike lanes in the design of new parks and retrofit existing parks, where feasible.

Strategy G5-F: Raise public awareness of bicycling.

Strategy G5-G: Work collaboratively with property owners to implement bicycle system amenities. Seek grant funding for implementation of bicycle system amenities.

The Actions that should be implemented to achieve Goal 5 are as follows:

Action G5-1: Adopt as City standard a street regulating plan that regulates the form of all streets, bike lanes, where feasible, and sidewalks in accordance with the street typologies and illustrated hierarchy of streets that are contained in this Circulation Element.

Action G5-2: Construct the Jersey Avenue extension with provisions for bikes lanes.

Action G5-3: Create a continuous greenway with pedestrian paths and bike lanes where the Morris Canal was filled in, where feasible.

Action G5-4: Construct the East Coast Greenway Route as an off-road facility for pedestrians, bicyclists, and other non-motorized means of travel between Hudson River and Hackensack River waterfronts. In the interim, complete on-road alignment.

Action G5-5: Allow bicycles to use the Hudson River Waterfront Walkway and Hackensack RiverWalk, wherever feasible. Provide alternate routes to bypass areas where it is not feasible.

Action G5-6: Adopt zoning and redevelopment plan requirements to provide bicycle amenities for building users, such as interior bicycle storage facilities for residential buildings, that are accessible without stairs or tight corners; and bike racks and employee showers for commercial buildings.

Action G5-7: Work with Port Authority NYNJ, NJ TRANSIT, Jersey City Board of Education, Jersey City Department of Public Works, and commercial property owners to provide robust bicycle storage facilities at HBLR and PATH stations, schools, parks, employment centers and shopping districts citywide.

Action G5-8: Implement “Share the Road” campaign to educate bicyclists and drivers.

Action G5-9: Design and publish a foldable map of the existing signed bike routes for public distribution. Include recreational routes that highlight attractions and points of interest in Jersey City.

Action G5-10: Encourage development of Bike Share businesses with dedicated bike stations at key facilities.

Action G5-11: Organize an annual Jersey City bike tour.

Action G5-12: Create a linear park on the Sixth Street Embankment that incorporates a bike path and walkway. The linear park should share the Sixth Street Embankment with an extension of the HBLR.

Action G5-13: Construct a 0.4-mile railroad-gravel path paralleling the NJ TRANSIT Boonton Line and a 0.7-mile on-road striped bike lane along Westside Avenue south of Boonton Line, as recommended in the 2007 Meadowlands District Transportation Plan.

Action G5-14: Preserve the abandoned Lehigh Valley Railroad right-of-way to create greenway trails.

3.2.6 Goal 6: Maintain existing roadway and public transportation infrastructure in a state of good repair and in a clean condition, and replace obsolete infrastructure

The City identifies that it is equally as important to maintain the circulation network as it is to create it. The circulation system must be kept in a good state of repair in order to accommodate all of its users. Obsolete infrastructure must be replaced. The City identifies the need to provide a well maintained, safe, state of the art circulation system. To achieve this goal, the following Objectives should be achieved:

Objective G6-1: Maintain roadway surface free of potholes.

Objective G6-2: Maintain sidewalks, curbs and crosswalks in good condition.

Objective G6-3: Maintain signage and traffic control devices in good condition and good working order.

Objective G6-4: Maintain cleanliness of shelters and operation of equipment at transit stations and bus stops.

Objective G6-5: Maintain mass transit equipment and facilities in good working order.

Objective G6-6: Replace obsolete infrastructure.

Objective G6-7: Use energy efficient lighting and traffic control devices.

Objective G6-8: Ensure ADA compliance for all mass transit stations, sidewalks, street crossings and building entrances. ADA compliance should be designed to respect the character of historic buildings and districts.

Objective G6-9: Prepare transportation infrastructure for climate change impacts, such as higher sea levels and more intense rain events and hurricanes.

Objective G6-10: Repair, modify or replace unsafe bridges.

Objective G6-11: Safely accommodate bicyclists and pedestrians on all roads and bridges.

Indicator: Annual municipal budget appropriations and expenditures for uses related to city-owned transportation/roadway infrastructure maintenance and repair (as determined by the annual General Municipal Budget).

Target: Maintain or increase the inflation adjusted amount of funds appropriated and expended by annual municipal budget documents for city-owned transportation/roadway infrastructure maintenance and repair.

Baseline: Baseline for 2009 to be determined.

Indicator: Annual number of complaints for potholes in Jersey City and average response time to fill potholes (source: CITISTAT).

Target: Reduce the number of complaints for potholes in Jersey City and fill potholes within 48 hours of a complaint.

Baseline: Baseline for 2009 to be determined.

Indicator: Amount of money paid in insurance claims relative to potholes (source: Jersey City Division of Risk Management).

Target: Reduce the amount of money paid in insurance claims relative to potholes.

Baseline: Baseline for 2009 to be determined.

Indicator: Replacement cycle of all roads in Jersey City (source: Jersey City Division of Engineering).

Target: Reduce the replacement cycle to 10 years.

Baseline: As of 2009, the replacement cycle is every 15 years.

Indicator: Status of 11th Street viaduct extension and grade separation on 14th Street, St. Paul's Avenue viaduct, Wittpenn Bridge replacement, and Route 440/1&9T Multi-Use Urban Boulevard Project.

Target: Completion of the following projects: 11th Street viaduct extension and grade separations of 14th Street, St. Paul's Avenue viaduct, Wittpenn Bridge replacement and Route 440/1&9T Multi-Use Urban Boulevard Project.

Baseline: As of 2009, none of these projects are complete.

The Strategies to achieve Goal 6 are as follows:

Strategy G6-A: Use city, state and federal funds to repair or replace streets, sidewalks, roads and bridges, where needed.

Strategy G6-B: Ensure that all street signs are spelled correctly and conform to uniform font standard.

Strategy G6-C: Identify obsolete infrastructure and establish a priority list of replacement projects.

Strategy G6-D: Work with PANYNJ, NJ TRANSIT, and other mass transit carriers to identify and correct deficiencies in mass transit stations.

Strategy G6-E: Incorporate robust accommodations for bicycles and pedestrians into all new roads and bridges.

Strategy G6-F: Retrofit roads and bridges with bicycle and pedestrian accommodations, where feasible.

The Actions that should be implemented to achieve Goal 6 are as follows:

Action G6-1: Adopt a capital improvement program to:

a) Resurface roads and prioritize road resurfacing needs and repaving to reduce repetitive patch repairs.

b) Repair and replace broken sidewalks in accordance with the sidewalk maintenance plan.

c) Manage storm water runoff.

Action G6-2: Contract with a company or non-profit organization to remove litter from sidewalks and curbs on a frequent and regular basis, particularly in retail districts.

Action G6-3: Contract with a company or non-profit organization to clean sidewalks, particularly in retail districts.

Action G6-4: Allocate sufficient resources to rapidly repair potholes.

Action G6-5: Work with PSE&G to install energy efficient lighting in street lights and to repair broken lights.

Action G6-6: Monitor and report broken lighting, signage and traffic control devices to appropriate entity.

Action G6-7: Identify new products and materials that may be more user-friendly or have cost savings over current products for lighting, signage, traffic control device, crosswalks, bus shelters and recommend upgrades, where feasible.

Action G6-8: Work with transportation agencies to upgrade or replace the following transportation infrastructure:

a) Projects identified under NJDOT Portway project, which include Route 1& 9 Truck, St. Paul's Avenue Viaduct and Wittpenn Bridge replacement, with provisions for the East Coast Greenway Route.

b) 11th Street Viaduct Extension and Grade separation of 14th Street with possible phasing.

c) Route 440 and Route 1&9 Truck corridor with a multi-use urban boulevard.

d) Rehabilitation of Route 139 Hoboken Viaduct and deck replacement and rehabilitation of superstructure of Conrail Viaduct, as indicated in the 2010-2019 NJDOT, Draft Capital Improvement Plan.

e) Rehabilitation of Central Avenue from State Highway to Paterson Plank Road.

f) Design roadway construction to minimize traffic pattern disruption.

Action G6-9: Work with all mass transit providers to ensure that all mass transit stations are ADA compliant.

Action G6-10: Revise City road opening permits to require road repairs to match existing material so that decorative treatments, pavers, colored asphalt, etc., remains uniform and aesthetically pleasing.

Action G6-11: Identify transportation infrastructure that is vulnerable to the effects of climate change (e.g., rising sea levels, more intense rain events etc.) and prepare an infrastructure adaptation plan.

Action G6-12: Add 2, 3, or 4-way supplemental plates to all multi-stop signs to avoid driver confusion on which car has the right-of-way.

3.2.7 Goal 7: Create a safe and accessible environment for vehicles, pedestrians, and bicyclists

Jersey City realizes the importance of safety and accessibility for its circulation system. Pedestrians and motorists need to feel safe using pedestrian facilities, trails, mass transit and roads. Additionally, seniors and the mobility-impaired must be able to access the system efficiently. To reach this goal, the following Objectives should be achieved:

Objective G7-1: Minimize crime against pedestrians, bicyclists and mass transit users.

Objective G7-2: Minimize crashes between motor vehicles, Hudson-Bergen Light Rail (HBLR) vehicles, bicycles, and/or pedestrians.

Objective G7-3: Maximize access and mobility for seniors and the mobility-impaired.

Objective G7-4: Minimize delays within Jersey City for vehicles, pedestrians and bicyclists.

Indicator: Annual number of accidents involving pedestrians, bicyclists, and motor vehicles (collisions with another motor vehicle) reports in NJ Department of Transportation Crash Record Data per 1,000 residents, as measured by American Community Survey (ACS) Table No.: B01003.

Target: Annual decrease in number of accidents involving pedestrians occurring in Jersey City per 1,000 residents.

Baseline: In 2007, there were 1.63 accidents involving pedestrians occurring in Jersey City per 1,000 residents.

Target: Annual decrease in number of accidents involving bicyclists occurring in Jersey City per 1,000 residents.

Baseline: In 2007, there were 0.37 accidents involving bicyclists occurring in Jersey City per 1,000 residents.

Target: Annual decrease in number of motor vehicle accidents (collisions with another vehicle) occurring in Jersey City per 1,000 residents.

Baseline: In 2007, there were 30.96 motor vehicle accidents (collisions with another vehicle) occurring in Jersey City per 1,000 residents.

The Strategies to achieve Goal 7 are as follows:

Strategy G7-A: Develop land in a manner that supports “eyes on the street”.

Strategy G7-B: Work with the Jersey City Police, NJ TRANSIT and PANYNJ Police Departments to create a safe environment for pedestrians, bicyclists and mass transit users.

Strategy G7-C: Identify high crash locations. Investigate sites to determine cause and remedy.

Strategy G7-D: Ensure compliance with cell phone usage restrictions, speed limits, yielding to pedestrians in crosswalks, and other traffic laws.

Strategy G7-E: Educate drivers, pedestrians and bicyclists on traffic laws and best practices.

Strategy G7-F: Work with residents to identify gaps in pedestrian accommodations.

Strategy G7-G: Implement traffic calming devices with community input, to improve pedestrian and vehicular safety.

Strategy G7-H: Design street signage and street crossings to accommodate the needs of an elderly and mobility-impaired population.

Strategy G7-I: Reduce the amount of time that it takes for pedestrians to cross streets by reducing the length of crosswalks using narrow lane widths and curb extensions. Curb extensions should incorporate vertical elements, such as trees, utility poles, or street furniture, to provide a visual cue to snowplow drivers that the roadway ends.

Strategy G7-J: Ensure ADA compliance for all mass transit stations, sidewalks, street crossings and building entrances. ADA compliance should be designed to respect the character of historic buildings and districts.

Strategy G7-K: Ensure adequate para-transit services for seniors and the mobility impaired.

Strategy G7-L: Optimize signal-timing city-wide in a manner that minimizes vehicular congestion during peak hours, accommodates traffic flow at all times, controls speed of traffic and allows frequent pedestrian crossings with sufficient time to cross. Optimize signal timing on key corridors first, and then expand program to address all areas of the City on an ongoing basis.

The Actions that should be implemented to achieve Goal 7 are as follows:

Action G7-1: Connect Jersey City and NJ TRANSIT closed-circuit TV systems.

Action G7-2: Redevelop or rehabilitate vacant land and abandoned buildings.

Action G7-3: Advise PSE&G of locations with inadequate street lighting.

Action G7-4: Conduct traffic safety audits on an ongoing basis that identify high accident locations and analyze causes for accidents at those locations. Implement corrective action, which may include design improvements, installation of pedestrian countdown timers, flashing beacons at HBLR crossings, walk signal head start in signal phasing or other actions.

Action G7-5: Conduct stings whereby plainclothes police officers pose as pedestrians using crosswalks and ticket drivers who do not stop. Combine sting operations with a media campaign to ensure public awareness of the need to yield to pedestrians in crosswalks.

Action G7-6: Require new streets to incorporate traffic calming in accordance with the traffic calming plan that is contained in this Circulation Element.

Action G7-7: Install traffic calming devices on existing streets with problem locations in accordance with the traffic calming plan that is contained in this Circulation Element.

Action G7-8: Develop a traffic safety educational program. Such a program might include a manual of traffic laws and best practices for drivers,

pedestrians and bicyclists or workshops on traffic laws and best practices at schools, community centers, and employment locations.

Action G7-9: Set traffic signal timings to provide adequate time for pedestrians to cross streets.

Action G7-10: Evaluate the existing City street sign standards to facilitate visibility for seniors and the vision-impaired.

Action G7-11: Adopt uniform City standards, which are ADA compliant and neighborhood appropriate, for pedestrian street crossings and crosswalks, including state-of-the-art techniques to protect pedestrian safety. For example, potential crosswalks may include a combination of crosswalk tables, curb extensions with gaps for drainage and bicycle lanes, polymer resin stamped brick crosswalks and painted crosswalks, as may be appropriate to the particular street. Curb extensions should incorporate vertical elements, such as trees or street furniture, to provide a visual cue to snowplow drivers of roadway alignments.

Action G7-12: Adopt as City standard a street regulating plan that regulates the form of all streets, bike lanes, where feasible, and sidewalks in accordance with the street typologies and illustrated hierarchy of streets that are contained in this Circulation Element.

Action G7-13: Optimize signal timing on key corridors on an ongoing basis to respond to changing traffic dynamics and work with adjacent municipalities to coordinate timing.

Action G7-14: Construct extension of Jersey Avenue south to the intersection of Audrey Zapp Drive and Phillip Drive to accommodate bikes and pedestrians, in addition to vehicles and potentially HBLR.

Action G7-15: As recommended in the 2005 Liberty Access Study Final Report, maintain and enhance City wayfinding signage for the following locations:

a) bike/pedestrian pathway from the HBLR Liberty State Park station to the Liberty Science Center to the end of Millennium Walkway;

b) from the Jersey Avenue footbridge to Millenium Walkway;

c) from the Jersey Avenue footbridge through the Philip Drive/Audrey Zapp Drive intersection to Millenium Walkway; and

d) from Morris Pesin Drive to the south Waterfront Walkway.

Action G7-16: Support “eyes on the street” by encouraging the re-use of historic midblock and corner retail properties to fulfill their originally intended retail purpose.

Action G7-17: Advance recommendations from NJTPA Regional Safety Priority Location Report for Central Avenue, including:

a) At intersection with Ferry Street, add crosswalk, enhance existing crosswalk with crosshatching and post advance pedestrian crossing signs on Central Avenue.

b) At signalized intersection with Manhattan Avenue, add pedestrian countdown heads and push buttons to the signal.

c) At intersection with Franklin Street, replace curbing with full-height curb to separate sidewalk from street.

d) At intersection with Hutton Street, install countdown pedestrian heads and actuation buttons.

e) At intersection with Bowers Street, install “No Right Turn” signs on Central Avenue approach.

f) Along Central Avenue between Jefferson Avenue and North Street, repaint crosswalks with crosshatching, install countdown pedestrian heads at all signalized intersections, install ADA pads at all crosswalk ramps, install signage to warn against wrong-way turns into one-way streets, and conduct analyses of lighting and illumination.

Action G7-18 Advance recommendations from NJTPA Regional Safety Priority Location Report for Martin Luther King Drive, including:

a) Conduct a segment-wide program of pedestrian safety improvements on Martin Luther King Drive between McAdoo Avenue and Kearney Avenue. Pedestrian safety improvements may include:

1. Spot sidewalk repairs to eliminate trip hazards.
2. Installation of texture pads at ADA ramps.
3. Improvements to signage by posting speed limit and pedestrian crossing warnings.
4. Improvements to existing crosswalks by repainting with crosshatching, installing reflectors, and bringing all up to Jersey City’s international painted crosswalk standard.
5. Installation of sidewalk tree grates where missing, removal and storage of grates where trees are missing, and filling of planters with brick or gravel until replanted.
6. Painting of curb and corner hatching to create visual refuge for parking lane ends and to emphasize corner sight distance clearance. Paint white stripe along the parking lane to visually restrict and calm the traffic lane.
7. Improvements to bus stop safety and identity by painting yellow curbs at bus stop locations. Review specific bus stop locations to lessen potential traffic hazards.
8. Relocation or removal of sidewalk obstructions (e.g., signs and other obstacles) that pose a hazard to pedestrian travel.

b) At intersection with Bayview Avenue, install countdown pedestrian heads and replace damaged curbing.

c) At intersection with Claremont Avenue, retime traffic signal and improve crosswalk visibility.

d) At intersection with Bidwell Avenue, install new traffic signal and coordinate timing with adjacent Bayview Avenue intersection.

Action G7-19 Continue Jersey City's involvement in the NJDOT Safe Routes to School program, which provides funding for pedestrian safety improvements near school sites.

Action G7-20 Work with regional transportation agencies to construct the 11th Street Viaduct Extension and grade separation of 14th Street with possible phasing, which will mitigate congestion of local Jersey City streets.

Action G7-21: Add 2, 3, or 4-way supplemental plates to all multi-stop signs to avoid driver confusion on which car has the right-of-way.

3.2.8 Goal 8: Improve access between Jersey City and the greater region

Jersey City aims to enhance regional access by increasing mass transit connections and service to and from employment centers, entertainment destinations and vacation destinations. The City seeks to increase regional carpooling options and to complete street grids. These actions are designed to minimize delays to, from, and within Jersey City for all modes of transportation. In order to reach this goal, the following Objectives should be achieved:

Objective G8-1: Increase regional mass transit connections and service to Jersey City employment centers, retail destinations, and entertainment destinations.

Objective G8-2: Increase regional mass transit connections and service between Jersey City and suburban employment centers.

Objective G8-3: Increase regional mass transit connections and service between Jersey City and regional vacation destinations.

Objective G8-4: Fill in missing links between the Jersey City street grid and the street grids of adjoining municipalities.

Objective G8-5: Increase the availability and convenience of carpooling and vanpooling options.

Objective G8-6: Minimize delays in traveling to and from Jersey City for vehicles, pedestrians and bicyclists.

Indicator: Annual estimate of percentage of workers with a commute of more than 30 minutes who commute to work by public transportation or carpool, as provided in American Community Survey (ACS) Table No.: B08134 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 and over with a commute of more than 30 minutes who commute to work by public transportation or carpool, as measured by annual ACS estimates during inter-decennial years.

Baseline: 73.8 percent of all Jersey City resident workers aged 16 and over with a commute of more than 30 minutes commute to work by public transportation or carpool (2007 ACS).

Baseline: In 2008, 47.0 percent of Jersey City resident workers have a commute of more than 30 minutes to work (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator: HBLR ridership (data from NJ TRANSIT).

Target: Increase and maintain HBLR ridership.

Baseline: In July 2008, there was an average of 29,125 weekday passenger boardings at stations in Jersey City. This figure includes the station at 9th Street and Congress Street in Hoboken, which is linked to Jersey City via an elevator to Jersey City Heights.

Indicator: PATH ridership (data from the Port Authority of New York and New Jersey).

Target: Increase and maintain PATH ridership

Baseline: In 2008, there were 22,799,783 passengers using PATH to/from Jersey City. This represents a 6.6 percent increase over the 21,381,255 passengers using PATH to/from Jersey City in 2007.

The Strategies to achieve Goal 8 are as follows:

Strategy G8-A: Work with regional transportation agencies to improve all modes of access between Jersey City and the greater region.

Strategy G8-B: Work with Hudson Transportation Management Association to facilitate and encourage carpooling and vanpooling.

Strategy G8-C: Work with Hudson County and neighboring municipalities to identify missing inter-municipal roadway links and opportunities to develop new roads that improve access between municipalities using complete streets principles.

Strategy G8-D: Encourage regional intelligent transportation systems and non-signage intelligent transportation systems (ITS) within Jersey City, to inform drivers of incidents and delays.

Strategy G8-E: Optimize signal-timing on key corridors in a manner that minimizes vehicular congestion during peak hours, accommodates traffic flow at all times, controls speed of traffic and allows frequent pedestrian crossings with sufficient time to cross. Review signal timing on a periodic basis to address changing conditions.

Strategy G8-F: Eliminate congestion hot spots, particularly for buses, that interfere with local access to and from regional highways.

Strategy G8-G: Provide buses with priority access to and from highways.

The Actions that should be implemented to achieve Goal 8 are as follows:

Action G8-1: Work with NJ TRANSIT, Port Authority NYNJ and private carriers to develop new regional passenger rail, light rail, bus, and bus rapid transit linkages to Jersey City to provide convenient mass transit service to Jersey City employment centers and entertainment destinations.

Action G8-2: Incorporate bus priority and high occupancy vehicle lanes into the design of highways, bridges, access ramps, and on local streets to and from existing highways, where feasible.

Action G8-3: Work with NJ TRANSIT to extend Westside Avenue branch of the HBLR across Hackensack River and Passaic River through Kearny and to Newark Liberty International Airport, with a spur to Ferry Street in Newark.

Action G8-4: Work with NJ TRANSIT to extend HBLR on Sixth Street Embankment, through Bergen Arches and connect to Senator Frank R. Lautenberg Station and beyond to a regional park-and-ride lot at the Meadowlands Sports Complex. Design HBLR extensions on Sixth Street Embankment and through Bergen Arches to be compatible with East Coast Greenway Route.

Action G8-5: Expand marketing of carpool and vanpool support services.

Action G8-6: Support trip reduction performance programs, such as financial incentives, to encourage residents and commuters to carpool or vanpool.

Action G8-7: Work with New York City broadcasters to understand the size of their market share commuting to Jersey City and encourage broadcasters to incorporate traffic information for Jersey City bound commuters in their traffic reports.

Action G8-8: Work with North Jersey Transportation Planning Authority, NJ Department of Transportation and New Jersey Turnpike Authority to improve incident monitoring and response on regional highways.

Action G8-9: Complete study of connectivity between Jersey City and Hoboken in the vicinity of Paterson Plank Road.

Action G8-10: Optimize signal timing on key corridors on an ongoing basis to respond to changing traffic dynamics and work with adjacent municipalities to coordinate timing.

Action G8-11: Work with regional transportation agencies to construct the 11th Street Viaduct Extension and grade separation of 14th Street with possible phasing, which will mitigate congestion of local Jersey City streets.

Action G8-12: Construct Center and Merseles Street Tunnel under Montgomery Street, as recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.

Action G8-13: Provide representation, when requested, on advisory committees for transportation studies spearheaded by transportation agencies, the NJTPA, Hudson County and/or other municipalities that examine access to and from Jersey City.

Action G8-14: A capital investment prioritization study should be undertaken to develop an implementation schedule for transit improvements and use of capital resources.

Action G8-15: Work with NJ TRANSIT to evaluate signal timing at all HBLR crossings and adjust signals where appropriate to minimize vehicular red time.

3.2.9 Goal 9: Facilitate the regional movement of goods and services

Jersey City aims to enhance the movement of goods and services between Jersey City and the greater region by maximizing the use of freight rail lines and improving truck routes and highway access. To meet this goal, the following Objectives should be achieved:

Objective G9-1: Maximize the use of rail to move freight to and from the port and industrial areas within Jersey City and Bayonne to support port and industrial activity, provided that such systems, operations or cargo do not negatively impact Jersey City's existing or planned residential neighborhoods or retail districts.

Objective G9-2: Provide sufficient highway access and capacity to accommodate the movement of trucks to and from the port and industrial areas within Jersey City, provided that there is not a negative impact to Jersey City's existing or planned residential neighborhoods and retail districts.

Objective G9-3: Create an alternate route in order to divert trucks away from Routes 440 and 1-9T between the Bayonne border and Route 7 in order to accommodate the conversion of Routes 440 and 1-9T into a multi-use urban boulevard and the redevelopment of the corridor into a new high-intensity mixed-use district.

Objective G9-4: Provide a comprehensive local truck route network to serve local manufacturing, assembly, warehousing and distribution businesses.

Indicator: Commodity Flow Data, which measures the value, tonnage and ton-miles of fright shipments to/from/within Hudson County (from TRANSSEARCH Freight Data Profile).

Target: Increase and maintain the value and tonnage of freight shipments to/from/within Hudson County.

Baseline: In 2003, the value of freight shipped from/to/within Hudson County was approximately $160.0 billion. A total of about $82 billion was trucked, $18.9 billion was moved by rail, and $59.1 billion was transported by water (Cambridge Schematics, 2003 TRANSSEARCH Freight Data Profile).

Baseline: In 2003, the tonnage of freight shipped from/to/within Hudson County was 71,969,251. A total of 41,608,973 was trucked, 10,185,123 was moved by rail, and 20,175,155 was transported by water (Cambridge Schematics, 2003 TRANSSEARCH Freight Data Profile).

The Strategies to achieve Goal 9 are as follows:

Strategy G9-A: Support construction or rehabilitation of sidings, trans-load facilities, rail yards, car-float operations and other similar railroad infrastructure projects that support port, warehouse, manufacturing, or assembly operations in Jersey City, where such projects are designed to avoid negative impacts to residential neighborhoods and retail districts in Jersey City.

Strategy G9-B: Work with local short line rail operators and regional transportation agencies to increase the use of Ultra Low Emissions Locomotives (ULEL).

Strategy G9-C: Develop a series of alternatives for the conversion of Routes 440 and 1-9T between the Bayonne border and Route 7 to a multi-use urban boulevard that diverts through trucks away from the corridor. Identify and implement a preferred alternative or set of alternatives.

Strategy G9-D: Work with NJDOT and other regional agencies to advance Portway.

Strategy G9-E: Ensure that existing truck routes within Jersey City provide access between port and industrial facilities and regional highways; and that streets that are truck routes are designed to accommodate trucks, including overweight trucks in the port area.

Strategy G9-F: Work with regional agencies and port operators to develop and use special low-emission trucks for short haul trips to distribution centers in the region.

Strategy G9-G: Work with state and regional agencies and rail operators to deter the through transport of nuisance cargo, such as Municipal Solid Waste through Jersey City.

The Actions that should be implemented to achieve Goal 9 are as follows:

Action G9-1: Design and build a multi-use urban boulevard along Route 440 and Route 1&9 Truck corridor between the Bayonne border and Route 7. Divert through trucks from the Route 440 and Route 1&9 Truck corridor to alternate route.

Action G9-2: Adopt a capital improvement plan to upgrade roadbed construction, cartway width and turning radii for truck routes, where needed, in port and industrial areas. Truck routes in Jersey City should be complete streets that accommodate pedestrians, bicycles and buses in accordance with the Roadway Typical Sections in this Circulation Element.

Action G9-3: Remove Linden Avenue jog between Route 185 and Caven Point Road, as recommended in 2005 Jersey City Liberty Access Study, as indicated on the Right-of-Way Needs Mapping, Figure 4.4-1.

Action G9-4: Support the construction of Portway projects to improve the freight connections to, from and within Jersey City

Action G9-5: Support efforts by PANYNJ, NJDOT, NJTPA and other entities to advance capacity expansion within existing port lands, as well as port improvement efforts, including, but not limited to, the following:

a. Increasing the vertical clearances of the two rail tunnels that connect New Jersey to the North American rail system.

b. Channel dredging.

Action G9-6: Implement operational improvements to the Secaucus Road and Postal Service Road intersection as recommended in the 2007 Meadowlands District Transportation Plan

3.2.10 Goal 10: Accommodate the local delivery of goods and services through community-sensitive practices

In order for Jersey City to achieve its vision for a world-class center with employment and business opportunities as well as a range of housing and retail options, then the City must use context-sensitive design and community-sensitive practices to accommodate the local delivery of goods. In order to meet this goal, the following objectives should be achieved:

Objective G10-1: Provide access and mobility for delivery vehicles.

Objective G10-2: Minimize the negative impacts of trucks.

Objective G10-3: Use alternative means to deliver goods and services.

Objective G10-4: Minimize the vehicle-miles traveled within Jersey City of delivery vehicles.

Indicator:	Status of revised Traffic Barricade Manual Ordinance in Jersey City (Jersey City Division of Engineering).
Target:	Adoption of revised Traffic Barricade Manual Ordinance.
Baseline:	As of February 2009, the revised Traffic Barricade Manual Ordinance was not adopted.

The Strategies to achieve Goal 10 are as follows:

Strategy G10-A: Ensure that truck routes within Jersey City provide access to existing and planned industrial and commercial areas.

Strategy G10-B: Design truck route streets to accommodate trucks with context sensitive design.

Strategy G10-C: Design streets to accommodate parcel delivery services.

Strategy G10-D: Design new commercial buildings so that receiving docks and trucks at receiving docks are not visible from the street and sidewalks and landscaping are provided between the street and the property.

Strategy G10-E: Restrict truck size and hours of operation, where appropriate.

Strategy G10-F: Develop alternative means to deliver goods.

The Actions that should be implemented to achieve Goal 10 are as follows:

Action G10-1: Compare existing, designated truck routes with existing and planned commercial, industrial and port areas to determine if there is a need to

add additional routes or eliminate obsolete routes, including, but not limited to, repealing Communipaw Avenue from Pacific Avenue to the eastern terminus, Johnston Avenue from Pacific Avenue to Monitor Street, Monitor Street as truck routes, and Merritt Street west of Avenue C. Evaluate 10th Street to determine if it should be deleted as a truck route.

Action G10-2: Adopt a capital improvement plan to upgrade roadbed construction, cartway width and turning radii for truck routes, where needed, in port and industrial areas. Truck routes in Jersey City should be complete streets that accommodate pedestrians, bicycles and buses in accordance with the Roadway Typical Sections in this Circulation Element.

Action G10-3: Adopt regulations to restrict truck size and hours of operation, where appropriate.

Action G10-4: Adopt zoning to require screening of receiving docks and truck areas with building interior loading docks and/or wing walls with landscaping and sidewalks.

Action G10-5: Adopt the new Traffic Barricade Manual Ordinance.

Action G10-6: Develop City policy and regulation to encourage local deliveries by box trucks rather than by tractor trailers.

Action G10-7: Investigate a shared-use strategy for HBLR to carry freight to local destinations.

Action G10-8: Remove substandard clearances in Coles and Monmouth Streets north of 10th Street. These are both truck routes, but have clearances of approximately 11 feet.

3.2.11 Goal 11: Reduce the amount of energy that is used to travel, improve air and water quality, reduce greenhouse gas emissions, and encourage healthier lifestyles.

The City's vision includes sustainable development and transforming the City into a green, world-class center. To accomplish its vision, the City aims to reduce the distances people travel using smart growth strategies to encourage the use of energy efficient vehicles and to promote the use of environmentally-sensitive materials. Additionally, to encourage healthier lifestyles and support physical activity, the circulation system should be designed to accommodate bicycles and pedestrians. To meet this goal, the following Objectives should be achieved:

Objective G11-1: Minimize the distances that people travel.

Objective G11-2: Minimize the amount of energy that is used by vehicles.

Objective G11-3: Increase the number of passengers per vehicle.

Objective G11-4: Minimize the aggregate amount of greenhouse gas and other emissions that are generated by all trips.

Objective G11-5: Minimize the detrimental impacts of storm water runoff by reducing storm water quantity and improving storm water quality.

Objective G11-6: Provide a built environment that supports physical activity.

Indicator: Annual number of days with good air quality in Jersey City, as reported by US Environmental Protection Agency, Bureau of Air Data.

Target: Increase and maintain annual number of days where air quality is good.

Baseline: In 2007, the US Environmental Protection Agency reported 222 days with good air quality (60.8 percent of all days; US Environmental Protection Agency, Bureau of Air Data).

Indicator: State Department of Health data on number of deaths with underlying cause of chronic lower respiratory disease (includes asthma, but does not include tuberculosis) in Jersey City, as compared to the County.

Target: Decreased annual percentage of deaths with underlying cause of chronic lower respiratory disease.

Baseline: In 2005, 3.79 percent of all reported deaths in Jersey City were attributed to chronic lower respiratory disease; county-wide this cause of death attributed to 4.33 percent of all deaths.

Indicator: State Department of Health data on number of deaths with underlying cause of heart disease in Jersey City, as compared to the County.

Target: Decreased annual percentage of deaths with underlying cause of heart disease.

Baseline: In 2005, 27.67 percent of all reported deaths in Jersey City were attributed to heart disease; county-wide this cause of death attributed to 30.91 percent of all deaths.

Indicator: State Department of Health data on number of deaths with underlying cause of diabetes mellitus in Jersey City, as compared to the County.

Target: Decreased annual percentage of deaths with underlying cause of diabetes mellitus.

Baseline: In 2005, 5.08 percent of all reported deaths in Jersey City were attributed to diabetes mellitus; county-wide this cause of death attributed to 4.97 percent of all deaths.

Indicator: Annual estimate of percentage of workers commuting to work by bicycle, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 and over commuting to work by bicycle, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 0.03 percent of all Jersey City-resident workers aged 16 and over commute to work by bicycle (2007 ACS).

Baseline: In 2000, 0.25 percent of all Jersey City resident workers aged 16 and over commuted to work by bicycle (2000 US Census).

Baseline: In 2008, 15.0 percent of Jersey City residents commuted to work by walking or biking (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator: Annual estimate of percentage of workers commuting to work by foot, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.

Target: Increase and maintain percentage of workers aged 16 and over commuting to work by foot, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 8.0 percent of all Jersey City resident workers aged 16 and over commute to work by foot (2007 ACS).

Baseline: In 2000, 8.0 percent of all Jersey City resident workers aged 16 and over commuted to work by foot (2000 US Census).

Baseline: In 2008, 15.0 percent of Jersey City residents commuted to work by walking or biking (2008 Jersey City Survey, Marketing Segments 2 and 3).

The Strategies to achieve Goal 11 are as follows:

Strategy G11-A: Improve bicycle, pedestrian and mass transit access to all destinations.

Strategy G11-B: Encourage the operation and expansion of bicycle sharing programs.

Strategy G11-C: Work with employers to encourage telecommuting to reduce the number of commuter vehicular trips.

Strategy G11-D: Use environmentally-friendly materials that improve quality of storm water runoff when maintaining, repairing or constructing streets and sidewalks.

Strategy G11-E: Encourage the development of green roofs when greenways are not feasible in order to offset impacts of storm water runoff and greenhouse gas emissions.

Strategy G11-F: Provide preferential parking for carpools and high efficiency vehicles.

Strategy G11-G: Promote active use of streets and public space by providing or encouraging street furniture, outdoor cafes and dining, and venues for festivals and community events.

Strategy G11-H: Support efforts to integrate alternative non-polluting forms of personal transportation into the transportation system.

Strategy G11-I: Work with area healthcare providers and schools to emphasize and encourage use of pedestrian and bikeway networks.

The Actions that should be implemented to achieve Goal 11 are as follows:

Action G11-1: Require that all new development projects and improvements to existing developments provide sidewalks, bike lanes, and other amenities to connect to planned and/or existing bicycle lanes and pedestrian areas.

Action G11-2: Work with NJ TRANSIT and private carriers to run low-emission and emission-free buses.

Action G11-3: Implement Actions under Goals 2, 3, 4, 5, 7, 8, 9, 10 and 12.

Action G11-4: Work with NJ TRANSIT to evaluate signal timing at all HBLR crossings and adjust signals where appropriate to minimize vehicular red time.

3.2.12 Goal 12: Mitigate congestion and reduce the use of the single occupancy vehicles (SOV) in Jersey City

In order to minimize congestion to, from and within Jersey City, hotspots must be mitigated, accidents minimized, single occupancy vehicles reduced, and information systems should be enhanced. Additionally, there should be a shift in the modal split to more mass transit use, specifically by those who work and live in Jersey City, as indicated by the 2050 Mobility Survey. To accommodate this, the circulation system should be improved in accordance with the Circulation Element, and the following Objectives should be achieved:

Objective G12-1: Eliminate hot spots (i.e., intersections or corridors that are regularly congested) in roadway network.

Objective G12-2: Minimize delays caused by unforeseen roadway incidents (e.g., accidents, weather events).

Objective G12-3: Disseminate information on roadway conditions, travel delays, incidents and accidents in a timely and efficient manner to drivers.

Objective G12-4: Provide a comprehensive multi-modal transportation system that reaches all areas of Jersey City and links to destinations outside of Jersey City to provide residents, workers and visitors access to non-SOV modes of transport.

Objective G12-5: Minimize the percentage of daily SOV commuters who drive to Jersey City.

Indicator: Annual estimate of percentage of workers commuting to work with public transportation, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.

Indicator: American Community Survey (ACS) Table No.: B08301 and US Census Table No.: P30

Target: Increase and maintain percentage of workers aged 16 and over commuting to work with public transportation, as measured by annual ACS estimates during inter-decennial years and future US Censuses.

Baseline: 45.2 percent of all Jersey City resident workers aged 16 and over commute to work with public transportation, excluding taxicab (2007 ACS).

Baseline: In 2000, 39.1 percent of all Jersey City resident workers aged 16 and over commuted to work with public transportation, excluding taxicab (2000 US Census).

Baseline: In 2008, 52.8 percent of Jersey City residents commute to work with public transportation (2008 Jersey City Survey, Marketing Segments 2 and 3).

Indicator: HBLR ridership (data from NJ TRANSIT).

Target: Increase and maintain HBLR ridership.

Baseline: In July 2008, there was an average of 29,125 weekday passenger boardings at stations in Jersey City. This figure includes the station at 9th Street and Congress Street in Hoboken, which is linked to Jersey City via an elevator to Jersey City Heights.

Indicator: Bus ridership (Data from NJ TRANSIT).

Target: Increase and maintain bus ridership.

Baseline: In 2008, there were 21,677,159 annual passenger trips on NJ TRANSIT bus lines in Jersey City.

Indicator: PATH ridership (data from the Port Authority of New York and New Jersey).

Target: Increase and maintain PATH ridership.

Baseline: In 2008, there were 22,799,783 passengers using PATH to/from Jersey City. This represents a 6.6 percent increase over the 21,381,255 passengers using PATH to/from Jersey City in 2007.

Indicator: Estimate of vehicle miles travelled within Hudson County (source: from NJTPA).

Target: Decreased number of vehicle miles travelled.

Baseline: NJTPA data for 2005 indicates that 6.2 million miles per day were driven in Hudson County.

Indicator:	Annual estimate of percentage of workers commuting to work by driving alone, as provided in American Community Survey (ACS) Table No.: B08301, US Census Table No.: P30 and private studies, if available.
Target:	Decreased percentage of workers aged 16 and over commuting to work by driving along, as measured by annual ACS estimates during inter-decennial years and future US Censuses.
Baseline:	32.7 percent of all Jersey City resident workers aged 16 and over commute to work by driving along (2007 ACS).
Baseline:	In 2000, 36.4 percent of all Jersey City resident workers aged 16 and over commuted to work by driving along (2000 US Census).
Baseline:	In 2008, 29.0 percent of Jersey City residents commuted to work by single occupancy vehicles (2008 Jersey City Survey, Marketing Segments 2 and 3).

The Strategies to achieve Goal 12 are as follows:

Strategy G12-A: Implement Transportation System Management (TSM) city-wide, such as signal optimization and other mechanisms, to manage vehicle flows.

Strategy G12-B: Encourage Intelligent Transportation Systems (ITS) and other technology to inform drivers of accidents, incidents and delays.

Strategy G12-C: Work with regional agencies to identify mass transit opportunities outside Jersey City that serve Jersey City.

Strategy G12-D: Encourage carpooling, van pooling and ride sharing to reduce the use of the SOV.

Strategy G12-E: Increase incentives to use non-SOV modes of transportation.

Strategy G12-F: Limit commuter parking in Jersey City.

Strategy G12-G: Locate intercept parking facilities outside Jersey City with convenient access to mass transit services that serve Jersey City.

Strategy G12-H: Recognize that traffic impacts of development are cumulative and area wide and not only site-specific.

Strategy G12-I: Within existing retail and mixed-use corridors, maximize pedestrian accommodations within the existing rights-of-way.

Strategy G12-J: Within new retail and mixed-use corridors, maximize pedestrian accommodations within the existing rights-of-way and use building setbacks to increase pedestrian accommodations, where appropriate.

Strategy G12-K: Convert vehicular streets to pedestrian streets, where appropriate.

Strategy G12-L: Work with Hudson TMA (Transportation Management Association) to promote existing congestion mitigation and SOV reduction programs.

The Actions that should be implemented to achieve Goal 12 are as follows:

Action G12-1: Use technology (e.g., television broadcasts, radio announcements, internet, text messages, e-mail alerts) to inform drivers of roadway conditions and travel delays. Encourage subscription to existing ITS that inform drivers of delays such as NJDOT 511, NJ TRANSIT Travel Alerts, PATH Travel Alerts, TRANSCOM, and the Hudson TMA's real-time traffic alert system.

Action G12-2: Work with emergency services to develop an action plan for incident management that minimizes the delays caused by incidents on traffic flow.

Action G12-3: Optimize traffic signal timing city-wide.

Action G12-4: Require that traffic congestion mitigation measures for new development take into account area-wide traffic congestion impacts, as well as impact to key corridors.

Action G12-5: Develop intersection treatments to reduce gridlock, including, but not limited to, markings for "Don't Block the Box".

Action G12-6: Work with regional transportation agencies to construct the 11th Street Viaduct Extension and grade separation of 14th Street with possible phasing, which will mitigate congestion on local Jersey City streets.

Action G12-7: Construct Center and Merseles Street Tunnel under Montgomery Street, as recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.

Action G12-8: Prohibit new commuter park-and-ride parking as recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.

Action G12-9: Develop a substitution ratio to reduce on-site parking requirements for various zone districts with the on-site accommodation of car sharing programs (e.g., Zipcar).

Action G12-10: Locate on-street parking for scooters, where feasible.

Action G12-11: Create intercept parking facilities in conjunction with other agencies and municipalities. Such intercept parking facilities could include:

a) An intercept parking facility in Elizabeth to be coupled with the proposed ferry service.

b) Using Meadowlands Sports Complex Parking together with the proposed HBLR Extension to the Meadowlands to improve access to the regional employment center.

c) A facility west of Newark Bay.

d) An intercept facility at Senator Frank R. Lautenberg Station, as recommended by September 2008 New Jersey's Long Range Transportation Plan- Urban Supplement Report.

e) Intercept parking at an unused rest stop on the NJ Turnpike Extension between Mile Posts 63 and 64. There should be pedestrian connectivity between intercept parking facility and the Richard Street HBLR station.

Action G12-12: Encourage use of incentives and trip-reduction programs of the Hudson TMA, such as Commuter Choice (pre-tax benefit promotion for transit pass purchases), mass transit use incentive program (switch to Mass Transit offers certain employees discounts on monthly transit passes to encourage mass transit use), rideshare matching services, rideshare incentive programs and vanpool incentive programs.

Action G12-13: A capital investment prioritization study should be undertaken to develop an implementation schedule for transit improvements and use of capital resources.

Action G12-14: Work with NJ TRANSIT to evaluate signal timing at all HBLR crossings and adjust signals where appropriate to minimize vehicular red time.

3.2.13 Goal 13: Design transportation infrastructure in a manner that beautifies the city

The City strives to make Jersey City a world-class center with a multi-modal transportation system that is attractive. The City realizes the importance of meaningful gateways and context-sensitive design on pedestrians and the local economy. The City aims to become a world-class center, and in order to achieve this goal, the transportation infrastructure must be designed in a manner that beautifies the City. To accomplish this goal, the following objectives must be achieved:

Objective G13-1: Design new transportation infrastructure, including bridges, overpasses, streets and sidewalks, and mass transit stops and stations, to be attractive and context-sensitive.

Objective G13-2: Improve the aesthetics of existing transportation infrastructure.

Objective G13-3: Provide attractive and meaningful gateways at City and neighborhood entry points.

Indicator:	Linear miles of Streetscape Project in Jersey City (source: Jersey City Division of Engineering).
Target:	Increase linear miles of streetscape projects constructed, monitored on a 5 year cycle.
Baseline:	From January 1, 2004 to December 31, 2008, a total of 1.02 linear miles of streetscape projects were constructed in Jersey City.

The Strategies to achieve Goal 13 are as follows:

Strategy G13-A: Develop a handbook on transportation infrastructure design as a reference tool.

Strategy G13-B: Incorporate public art in and around transportation infrastructure (e.g., medians, mass transit stations).

Strategy G13-C: Preserve and create scenic corridors and view sheds as identified in land use plan element

The Actions that should be implemented to achieve Goal 13 are as follows:

Action G13-1: All city, county and state capital projects shall be submitted to the Jersey City Planning Board in accordance with N.J.S.A. 40:55D-31.

Action G13-2: Design and build a multi-use urban boulevard along Route 440 and Route 1&9 Truck corridor between the Bayonne border and Route 7. Divert through trucks from the Route 440 and Route 1&9 Truck corridor to alternate route.

Action G13-3: Design and build a multi-use urban boulevard along the length of Christopher Columbus Drive and coordinate burying the overhead utility lines.

Action G13-4: Preserve the NJ Turnpike Newark Bay Extension scenic corridor, as discussed in the Land Use Element of the 2000 Jersey City Master Plan.

Action G13-5: Adopt zoning that requires the design of new buildings to consider the public realm in building orientation, articulation, materials and relationship to the street.

Action G13-6: Adopt standards for screening of loading and parking areas from view using landscaping, decorative walls and decorative fencing.

Action G13-7: Explore incorporating landscape requirements into the annual licensing requirements for parking lots.

Action G13-8: Install street trees spaced at a maximum of 30 feet on center to provide shade and a pleasant pedestrian environment and establish a municipal street tree fund to which developers can contribute when trees cannot be installed. Street trees should be of a variety with high branching systems so that lower branches may be pruned to maintain sight lines for public safety purposes.

Action G13-9: Adopt a policy of 1% for public art, whereby new development projects provide 1% of the cost of construction to a Jersey City public art trust fund.

Action G13-10: Work with PSE&G and BPU to locate existing utilities underground, where feasible.

Action G13-11: Adopt zoning and redevelopment plans to require that new development projects locate all utilities underground, where feasible.

Action G13-12: Conduct design competitions and use the results to create a design handbook for Jersey City transportation infrastructure.

3.2.14 Goal 14: Encourage the use of new technologies and innovative techniques that are supportive of the other goals

Moving forward, the City should encourage the use of new technologies and techniques that support all of its Goals.

Indicator:	Qualitative report every 5 years to be prepared by Jersey City Division of Planning that describes new technology and innovative techniques used by Jersey City to achieve the Goals of the Circulation Element.
Target:	Use of new technologies and innovative techniques in Jersey City.
Baseline:	Existing technology in 2009

3.3 Action Plan

The Actions that are contained in the Circulation Element are derived from the Goals, Objectives and Strategies. The Actions consist of projects and policies that are designed to support Jersey City's current and future transportation needs over the short, medium and long-term. This will provide mobility to Jersey City's current resident, workers and visitors. It will also provide the capital infrastructure and public transportation systems that are needed to support planned development and redevelopment over the long-term.

An Action Plan Matrix is provided in Subsection 3.3.5 which provides estimated cost, potential implementing agency and potential funding sources. It should be noted that for each action that is a capital investment, the ranges of costs pertain to administrative, design, construction, and/or inspection costs. For capital projects, the ranges of costs exclude operating and maintenance costs. Operating and maintenance costs are significant factors in assessing project feasibility and a viable operating and maintenance funding plan is an essential component of project advancement.

3.3.1 Timeframes

Timeframes are identified for each Action as short-term, medium-term, and long-term and represent the following timeframes:

- Short-Term: within the next 5 years; 2009-2014
- Medium-Term: within the next 5 to 10 years; 2014-2019
- Long-Term: greater than 10 years; 2019 - beyond

The timeframe of the Actions in many cases coincide with Jersey City's short-term, medium-term, and long-term needs, however, other factors, such as permitting, or the number of agencies involved, also has an affect on the timing. It should be noted that some actions may have activities and phases that may continue through more than one time period, therefore, the timeframe indicated represents the completion date of the respective action. In identifying the timeframes, for short, medium and long-term Actions, the implementing agencies were taken into account. For example, fewer agencies involved in implementation may result in more flexibility or efficiency.

Short-term Actions typically include policy and administrative actions, smaller scale changes to the transit system, as well as City, County, State, or other agency projects that have already been initiated. The medium-term projects typically include larger scale changes to the transit system, and medium scale roadway infrastructure projects that involve multiple agencies, or moderate analysis, permitting, and/or design. Medium term Actions may also include items that are currently in the feasibility stage. The long-term actions typically include large scale projects, such as new rail lines and large scale roadway infrastructure projects that may involve multiple agencies and/or multiple phases, and for which funding has not been secured. These long-term Actions, in many cases, involve detailed analysis, permitting, and/or design.

3.3.2 Lead Implementing Agency

The Action Plan Matrix identifies one or more potential lead agencies for each Action. It is important to note that this document does not commit an outside agency to implementing or funding a specific Action. The identified potential lead implementation agency is the agency that would likely lead the Action through implementation. NJ TRANSIT, Port Authority NYNJ, North Jersey Transportation Planning Authority (NJTPA), Hudson County, NJDOT, and NJ Meadowlands had representation at Technical Advisory Committee (TAC) meetings and helped to identify many of the Actions with the understanding that this document is for planning purposes and does not commit these agencies to commence the projects nor fund them. Additionally, some of the recommendations in this Circulation Element were not offered by the agencies themselves, therefore, one should refer to the specific agency's capital or strategic plans for their approved projects and initiatives. However, the outside agencies that were part of the TAC are committed to working together and with Jersey City on improving circulation and increasing transit ridership in Jersey City. Therefore, in cases where the County, State, NJ TRANSIT, Port Authority NYNJ, NJ Turnpike, NJTPA, NJ Meadowlands, etc., are identified as a potential implementing agency, Jersey City should continue to work with these agencies and emphasize the importance of the Action to Jersey City and the region in order to advance these Actions.

3.3.3 Estimated Costs

To provide an order of magnitude cost for each Action, ranges of costs were identified. The ranges of costs pertain to administrative, design, construction, and/or inspection costs. The ranges of costs exclude operating and maintenance costs, as those costs have not been analyzed for any of the projects within the matrix. The costs ranges were established as indicated below:

Code	Group	Range
TBD	To Be Determined	To be Determined
VL	Very Low	Under $500,000
L	Low	$500,000 - $10,000,000
M	Medium	$10,000,000 - $35,000,000
H	High	$35 million - $100 million
VH	Very High	$100 million or higher

The costs were, in many cases, obtained from the studies which recommended the specified Action. However, in other cases, the costs were estimated or derived through input from the potential implementation agency. It should be noted that these cost ranges are in current year 2009 dollars, and also that various economic factors could affect these costs in the future.

3.3.4 Potential Funding Sources

The potential funding sources include the potential implementation agency that would secure the funding, as well other agencies which typically have grants, loans, or programs that could fund a specific Action. Examples include, but are not limited to, Hudson County, New Jersey Department of Transportation (NJDOT), New Jersey Department of Community Affairs (NJDCA), New Jersey Department of Environmental Protection (NJDEP), NJ TRANSIT, Port Authority NYNJ, private capital, FTA- Federal Transit Administration (FTA), North Jersey Transportation Planning Authority (NJTPA), Public Service Energy and Gas (PSE&G), Jersey City, Jersey City Urban Enterprise Zone (UEZ). As previously noted, nothing in this document commits an outside agency or Jersey City to funding a specific Action.

Additional potential funding sources include public/private partnerships using Transportation Enhancement (TE) Districts or dedication of anticipated increases in property tax or other revenues using Revenue Allocation Districts (RAD).

While there are a variety of potential funding sources available, it should be noted that the majority of these funding sources are competitive grant programs and will, therefore, require submission of an applications for funding. It should also be noted that a variety of funding sources may be required to support any one action, and that for many of the actions funding has not yet been secured.

NJDOT provides funding and grants for the following project types under its Local Aid Program:

Municipal Aid Program: In the Municipal Aid Program, funds are appropriated by the Legislature for municipalities in each county based on a formula contained in legislation. Additional funding is allotted for those municipalities that qualify for

Urban Aid. Urban Aid is distributed by a formula that is computed by the Department of Community Affairs.
http://www.state.nj.us/transportation/business/localaid/municaid.shtm

County Aid Program: County Aid funds are appropriated by the Legislature annually for the improvement of public roads and bridges under County jurisdiction. Public transportation and other transportation projects are also included.
http://www.state.nj.us/transportation/business/localaid/countyaid.shtm

Centers of Place Program: The City can apply for funding to finance non-traditional transportation improvements that advance municipal growth management objectives.
http://www.state.nj.us/transportation/business/localaid/centerplace.shtm

Local Aid Infrastructure Fund Program: Subject to funding appropriation, a Local Aid Infrastructure Fund is established to address emergencies and regional needs throughout the State. Any county or municipality may apply at any time. These projects are approved at the discretion of the Commissioner. Payment of project costs is the same as the Municipal Aid Program. Under this program, a county or municipality may also apply for funding for pedestrian safety and bikeway projects.
http://www.state.nj.us/transportation/business/localaid/descrfunding.shtm

Bikeway Program: The City can apply for funding for grants for the construction of new bikeways that are separated from motorized vehicular traffic.
http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm

Safe Streets to Transit Program: This program provides funding to counties and municipalities in improving access to transit facilities and all modes of public transportation.
http://www.state.nj.us/transportation/business/localaid/safe.shtm

Transit Village Program: This program awards grants for non-traditional transportation–related projects to New Jersey municipalities designated as Transit Villages.
http://www.state.nj.us/transportation/business/localaid/transitvillagef.shtm

Safe Routes to School Program: Safe Routes to School (SRTS) is a federal, state and local effort to enable and encourage children, including those with disabilities, to walk and bicycle to school - and to make walking and bicycling to school safe and appealing.
http://www.state.nj.us/transportation/community/srts/

New Jersey Department of Community Affairs (NJDCA)

Transfer of Development Rights (TDR) Grant Program: The State Transfer of Development Rights Act authorizes the State TDR Bank to provide planning assistance grants up to $40,000, with a 50% local match, for the purpose of preparing the documents required by the legislation.
http://www.state.nj.us/dca/divisions/osg/programs/tdr.html

New Jersey Department of Environmental Protection (NJDEP)

Green Acres Program: Green Acres funding provides for the acquisition of land and the construction of parks throughout the State. This includes many parks that serve as cornerstones for redevelopment initiatives in our older suburbs and cities.
http://www.state.nj.us/dep/greenacres/index.html

Federal Transit Administration (FTA)

Large Urban Cities Grant Program: This program (49 U.S.C. 5307) makes Federal resources available to urbanized areas and to Governors for transit capital and operating assistance in urbanized areas and for transportation related planning.
http://www.fta.dot.gov/funding/grants/grants_financing_3561.html

Major Capital Investments (New Starts & Small Starts) Program: The New Starts program provides funds for construction of new fixed guideway systems or extensions to existing fixed guideway systems. Eligible purposes are light rail, rapid rail (heavy rail), commuter rail, monorail, automated fixed guideway system (such as a "people mover"), or a busway/high occupancy vehicle (HOV) facility, or an extension of any of these.
http://www.fta.dot.gov/funding/grants/grants_financing_3559.html

Rail and Fixed Guideway Modernization Program: The transit capital investment program (49 U.S.C. 5309) provides capital assistance for three primary activities: modernization of existing rail systems, new and replacement buses and facilities, and new fixed guideway systems.
http://www.fta.dot.gov/funding/grants/grants_financing_3558.html

Bus and Bus Facilities: The Buses and Bus Related Equipment and Facilities program provides capital assistance for new and replacement buses, related equipment, and facilities. Eligible capital projects include the purchasing of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers and shop and garage equipment.
http://www.fta.dot.gov/funding/grants/grants_financing_3557.html

Transportation for Elderly Persons and Persons with Disabilities: This program (49 U.S.C. 5310) provides formula funding to States for the purpose of assisting private nonprofit groups in meeting the transportation needs of the elderly and persons with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. Funds are apportioned based on each State's share of population for these groups of people.

http://www.fta.dot.gov/funding/grants/grants_financing_3556.html
Alternatives Analysis: The objective of the Alternatives Analysis program (49 U.S.C. 5339) is to assist in financing the evaluation of all reasonable modal and multimodal alternatives and general alignment options for identified transportation needs in a particular, broadly defined travel corridor. Funds may be used to assist State and local governmental authorities in conducting alternatives analyses when at least one

of the alternatives is a new new fixed guideway systems or an extensions to an existing fixed guideway system.
http://www.fta.dot.gov/funding/grants/grants_financing_7395.html

Jersey City Urban Enterprise Zone (UEZ)

Approximately one-third of the City of Jersey City is designated as an Urban Enterprise Zone (UEZ). Under the UEZ designation, funds resulting from the sales-tax collections within the UEZ can be reinvested into capital improvements and municipal services projects that directly support economic development within the UEZ. Types of projects include, but are not limited to, streetscape projects; investments in public safety mechanisms, such as closed-circuit television (CCTV); and historic preservation and restoration. UEZ revenues have been listed as a potential funding source because of the broad scope of projects that may be financed through UEZ revenues, and because these revenues may be used to implement projects in a substantial portion of the City.

3.3.5 Action Plan Matrix

The action plan matrix provided below lists the Actions and identifies the Goal or Goals it supports. Additionally, the matrix indicates short-term, medium-term, and long-term timeframes, the potential lead agency responsible for implementation, potential funding sources, and the ranges of costs. As previously stated, the ranges of costs for capital projects exclude operating and maintenance costs, as these costs have not been analyzed for any of the projects within the matrix.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G1-1	Adopt a form-based zoning code that has special exceptions for historic districts (see full Action G1-1).	Short-Term	VL	Jersey City	Jersey City, NJDCA	•													
G1-2	Market Jersey City as a transit-rich location and market the benefits of using mass transit.	Short-Term	VL	Jersey City	Jersey City, UEZ	•													
G1-3	Permit on-street parking that is designed to serve neighborhoods and buffer pedestrians from vehicular traffic.	Short-Term	VL	Jersey City	Not Applicable	•													
G1-4	Model traffic impacts of proposed zoning changes, zoning density variances, and proposed new redevelopment plans, and work with transit providers to assess development impacts to mass transit ridership.	Short-Term	VL	Private Developers,[12] Jersey City,[13] NJ TRANSIT,[14] PANYNJ	Private Capital, Jersey City, NJ TRANSIT, PA NYNJ	•													
G1-5	Adopt as City standard the use of durable, high-quality and attractive materials for sidewalks, curbs, tree pits, signposts, and street furniture.	Short-Term	VL	Jersey City	Jersey City	•													
G1-6	Work with PSE&G to provide adequate lighting levels on public sidewalks and to shield lights to prevent light nuisance to residential units in accordance with Ordinance requirements and Illumination Engineering Society Recommended Practice 8 (I.E.S. rp-8). Monitor street lights for operation.	Short-Term	VL	Jersey City and PSE&G	PSE&G	•													
G1-7	Develop a Transfer of Development Rights (TDR) program that identifies appropriate TDR sending within the City and receiving zones near major public transit stops.	Short-Term	VL	Jersey City	Jersey City, NJDCA	•													
G1-8 G12-9	Develop a substitution ratio to reduce on-site parking requirements for various zone districts with the on-site accommodation of car sharing programs (e.g., Zipcar).	Short-Term	VL	Jersey City	Jersey City	•											•		

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[12] Private developers would model traffic and transit impacts relative to zoning density variances and some proposed new redevelopment plans.
[13] Jersey City would model traffic and transit impacts for proposed zoning changes and some new development plans.
[14] NJ TRANSIT and Port Authority NJNY could assess development impacts to mass transit ridership.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G1-9	Work with NJ TRANSIT and private developers to design and implement the Hoboken Terminal and Yard Redevelopment Plan, which will include high intensity mixed-use development in the Hoboken Terminal area. Conduct traffic impact analysis as part of the redevelopment planning process. Ensure that the cumulative impacts of redevelopment for this site, and other nearby Jersey City redevelopment areas, do not exceed the carrying capacity of Jersey City roadways. This may be achieved through access management, density limitations, street modifications increase in local mass transit service, or other means.	Long-Term	VH	NJ TRANSIT	Private Capital, NJ TRANSIT	•													
G1-10	Advance a phased approach to transportation projects and policies that support the redevelopment of Journal Square.	Long-Term	VH	NJ TRANSIT, PANYNJ, Jersey City, Developers	NJ TRANSIT, PANYNJ, Jersey City, Private Capital	•													
G1-11 G2-50 G3-9 G8-14 G12-13	A capital investment prioritization study should be undertaken to develop an implementation schedule for transit improvements and use of capital resources.	Short-Term	VL	NJ TRANSIT, PANYNJ	NJ TRANSIT, PANYNJ, FTA	•	•	•					•				•		
G1-12	Permit use of commercial parking facilities by car sharing programs.	Short-Term	Negligible	Jersey City	Negligible	•													
G1-13	Adopt a redevelopment plan that accommodates mixed-use development and shared parking on the HBLR Liberty State Park station park-and-ride lot. Perform traffic impact analysis of redevelopment and determine if there is a need to improve vehicular access in order to support redevelopment.	Medium	VL	Jersey City	Jersey City	•													
G1-14 G13-1	All city, county and state capital projects shall be submitted to the Jersey City Planning Board in accordance with N.J.S.A. 40:55D-31.	Short-Term	Negligible	Jersey City	N/A	•												•	
G2-1	Implement the recommendations of the NJ TRANSIT/NJTPA/Jersey City bus study.	Short-Term	TBD	NJTPA, NJ TRANSIT, Jersey City, Private Bus Carriers	TBD		•												
G2-2	Work with NJ TRANSIT and private carriers to locate bus stops in all residential neighborhoods, and generally within a ¼ mile walk of all residences and closer, where there are topographic considerations. Space bus stops for local bus routes approximately every 530 to 590 feet, and closer within business districts, to balance the need for short walking distances with the need for speedy bus operation.	Short-Medium	L	NJ TRANSIT and Private Bus Carriers	NJ TRANSIT, Private Bus Carriers, FTA		•												

[11] For all capital projects, estimated cost does not include operation and maintenance costs.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G2-3	Work with NJ TRANSIT and private carriers to provide bus service to all activity centers that consist of employers with combined employment of 500 or more employees, shopping centers and shopping districts with more than 150,000 square feet of leased retail space, or colleges and universities with 500 or more students.	Short-Medium	L	Private Bus Carriers, NJ Transit	Private Bus Carriers, NJ TRANSIT, FTA		•												
G2-4	Work with NJ TRANSIT and private carriers to provide bus service to medical facilities, social service providers and governmental facilities.	Short-Medium	L	Private Bus Carriers, NJ Transit	Private Bus Carriers, NJ TRANSIT,		•												
G2-5	Work with NJ TRANSIT and private carriers to maximize bus system directness and convenience by minimizing route distances and the need for transfers, and by coordinating bus route schedules for easier transfers.	Short-Term	VL	Private Bus Carriers, NJ Transit	NJ TRANSIT, Private Bus Carriers, FTA		•												
G2-6	Identify a strategy to reduce or eliminate the additional fare for bus transfers and transfers between bus and HBLR.	Short-Term	L	NJ TRANSIT, Private Bus Carriers	TBD		•												
G2-7	Create bus priority lanes and traffic light priority where buses are impeded by traffic congestion and other bus preferential treatment, where appropriate.	Short-Term	M	Jersey City, State of NJ, Hudson County	Jersey City, State of NJ, Hudson County, FTA, NJTPA		•												
G2-8	Work with NJ TRANSIT and private carriers to operate service between 5 AM and 1 AM every day. In addition, work with NJ TRANSIT and private carriers to identify routes that should operate 24 hours, where appropriate.	Short-Medium	L[15]	NJ TRANSIT, Private Bus Carriers, Jersey City	FTA		•												
G2-9	Work with NJ TRANSIT and private carriers to provide the greatest possible frequency of service, with a goal to provide a maximum 15-minute headway during peak travel time on weekdays, and 30-minute headway off-peak and on weekends, where feasible.	Short-Medium	L[15]	NJ TRANSIT, Private Bus Carriers, Jersey City	FTA		•												

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[15] This cost consists of purchase of additional vehicles, if necessary; otherwise all costs are operation and maintenance, which have not been analyzed.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G2-10	Work with NJ TRANSIT to install complete and attractive bus stops that include shelters, route and schedule information, lighting, emergency call box, and bike racks, where appropriate. Integrate public art with bus stops. Initiate pilot program to test kiosks with touch screen route planning information at major bus stop locations.	Short-Medium	L	NJ TRANSIT, Jersey City	NJ TRANSIT, Hudson County, FTA, UEZ		•												
G2-11	Work with NJ TRANSIT and private carriers to install GPS units in buses and provide real-time bus status information to customers.	Short-Medium	L	NJ TRANSIT	NJ TRANSIT, FTA		•												
G2-12	Install bike racks on all local buses.	Short-Medium	VL	NJ TRANSIT, Private Bus Carriers	FTA, Private Capital, NJ TRANSIT		•												
G2-13	Work with NJ TRANSIT to construct a bus terminal for bus layovers west of the Hudson River, as indicated by the project on the Right-of-Way Needs mapping, called 'Bus Layover Facilities'.	Short-Term	TBD	NJ TRANSIT	NJ TRANSIT, FTA		•												
G2-14	Implement the recommendations of the 2007 Hudson County Bus Circulation and Infrastructure Final Report. Chapter 7 of this report identified recommendations for Jersey City that should be implemented (see full Action G2-14).	Short-Medium	L	Hudson County, NJ TRANSIT, Private Bus Carriers	NJ TRANSIT, Hudson County, Private Bus Carriers		•												
G2-15	Work with NJ TRANSIT and private carriers to explore the use of Bus Rapid Transit (BRT) to, from, and within Jersey City and bus preferential treatment within Jersey City.	Short-Medium	L	Jersey City, Hudson County, NJDOT, NJ Turnpike Authority	NJDOT, Hudson County, Jersey City, NJTPA, NJ TRANSIT, NJ Turnpike Authority, FTA		•												
G2-16	Shuttle service to, from, and within Liberty State Park should be enhanced, as recommended in the September 2008 New Jersey's Long Range Transportation Plan- Urban Supplement Report.	Short-Term	L[15]	Liberty State Park	Liberty State Park, NJDEP Division of Parks and Forestry		•												
G2-17	Work with NJ TRANSIT to provide bus shuttle service from Port Liberte to the HBLR. This bus shuttle service is recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.	Short-Term	L[15]	NJ TRANSIT	Private Capital, FTA		•												

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[15] This cost consists of purchase of additional vehicles, if necessary; otherwise all costs are operation and maintenance, which have not been analyzed.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G2-18	Work with NJ TRANSIT and private bus carriers to identify and correct situations that impact the reliability of bus service, such as double parking, parking in bus stops, parking too close to corners, mistimed traffic signals, and pedestrians not using crosswalks.	Short-Term	VL	NJ TRANSIT	Jersey City		•												
G2-19	Work with NJ TRANSIT to extend Westside Avenue branch of the HBLR westward across Route 440 to Bayfront I Redevelopment Area, and preserve Jersey City right-of-way for future additional extension to Kearny and Newark. Work with NJ TRANSIT to provide connectivity with Society Hill.	Short-Term	VH	Jersey City, NJ TRANSIT	NJ TRANSIT, Private Capital, FTA		•												
G2-20 G8-3	Work with NJ TRANSIT to extend Westside Avenue branch of the HBLR across Hackensack River and Passaic River through Kearny and to Newark Liberty International Airport, with a spur to Ferry Street in Newark.	Long-Term	VH	Jersey City, NJ TRANSIT	FTA		•						•						
G2-21 G8-4	Work with NJ TRANSIT to extend HBLR on Sixth Street Embankment, through Bergen Arches and connect to Senator Frank R. Lautenberg Station and beyond to a regional park-and-ride lot at the Meadowlands Sports Complex. Design HBLR extensions on Sixth Street Embankment and through Bergen Arches to be compatible with East Coast Greenway Route.	Long-Term	VH	Jersey City, NJ TRANSIT	FTA		•						•						
G2-22	Work with NJ TRANSIT to add stations to existing HBLR lines within Jersey City, as identified on the Right-of-Way needs Mapping, Figure 4.4-1.	Short-Medium	M[17]	NJ TRANSIT	NJ TRANSIT FTA Private Capital[16]		•												
G2-23	Work with NJ TRANSIT to increase capacity of existing system. Potential actions include, but are not limited to, providing more frequent service, running more double-car trains, and giving priority to the HBLR at signalized street intersections.	Short-Medium	M	NJ TRANSIT	FTA, NJ TRANSIT		•												
G2-24	Work with NJ TRANSIT to install complete and attractive HBLR stops that include shelters, route and schedule information, lighting, emergency call box and bike racks, where appropriate. Integrate public art with HBLR stops. Work with NJ TRANSIT to initiate pilot program to test kiosks with touch screen route planning information.	Short-Term	H	NJ TRANSIT	NJ TRANSIT, FTA		•												
G2-25	Work with NJ TRANSIT to install GPS units in HBLR and provide real-time HBLR status information to customers.	Short-Term	M	NJ TRANSIT	NJ TRANSIT, FTA		•												

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[16] Private capital may be a potential funding source in cases where a station is built to serve.
[17] Estimated cost is per HBLR station.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G2-26	Work with NJ TRANSIT to install a HBLR bypass of the wye-intersection at 18th Street to increase HBLR system capacity and flexibility.	Medium	L	NJ TRANSIT	NJ TRANSIT, FTA		•												
G2-27	Work with NJ TRANSIT to install a HBLR Downtown Circulator Line on the Sixth Street Embankment from the Harsimus Cove station to the Riverline ROW, and with connection to the existing HBLR tracks south of the HBLR Second Street Station (in Hoboken) in the vicinity of Hoboken Avenue.	Medium	VH	NJ TRANSIT	NJ TRANSIT, FTA, Private Capital		•												
G2-28	Work with NJ TRANSIT to construct a new platform at Pavonia-Newport as indicated on the Right-of-Way Needs mapping, Figure 4.4-1. This improvement could be patterned after the platforms for northbound trains at the HBLR Exchange Place station. The new side platform on the southbound track would be constructed to improve pedestrian flow on and off the trains and reduce the number of people that cross in front of the stopped southbound trains.	Short-Term	L	NJ TRANSIT	NJ TRANSIT, FTA, Private Capital		•												
G2-29	Work with NJ TRANSIT to construct New Danforth Interlocking for HBLR.	Short-Term	L	NJ TRANSIT	American Recovery and Reinvestment Act		•												
G2-30	Work with PANYNJ and NJ TRANSIT to construct a new entrance to existing PATH underground mezzanine above the track platforms in Washington Boulevard in order to grade separate the Washington Boulevard pedestrian crossing and shorten the walking distance between the PATH and the HBLR. The new entrance should be located along the west side of Washington Boulevard at the east end of Newport Office Center III (NOC III) passageway from HBLR station.	Short-Medium	L	NJ TRANSIT, PANYNJ	NJ TRANSIT, FTA, PANYNJ		•												
G2-31	Work with NJ TRANSIT to re-route the HBLR between the Jersey Avenue station and the Liberty State Park station with a new station near Audrey Zapp Drive.	Short-Term	M	NJ TRANSIT	NJ TRANSIT, FTA		•												
G2-32 G8-15 G11-4 G12-14	Work with NJ TRANSIT to evaluate signal timing at all HBLR crossings and adjust signals were appropriate to minimize vehicular red time.	Short-Term	VL	NJ TRANSIT	NJ TRANSIT		•						•			•	•		

[11] For all capital projects, estimated cost does not include operation and maintenance costs.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G2-33	Work with the Port Authority NYNJ to open a PATH station in the Marion neighborhood, with due consideration of existing and future development activity, overall impact on PATH ridership, cost feasibility, and overall benefits to Jersey City.	Long-Term	H	PANYNJ	PANYNJ, FTA		•												
G2-34	Work with the Port Authority NYNJ to open a PATH station adjacent to Hudson County Plaza on Academy Street and re-route trains to serve new station, with due consideration of existing and future development activity, overall impact on PATH ridership, cost feasibility, and overall benefits to Jersey City.	Long-Term	VH	PANYNJ	PANYNJ, FTA		•												
G2-35	Work with the Port Authority NYNJ to run trains more frequently on weekends and eliminate the routing of trains between Jersey City and 33rd Street in New York City through Hoboken.	Short-Term	L[15]	PANYNJ	PANYNJ, FTA		•												
G2-36	Work with the Port Authority NYNJ to provide frequent train service between Journal Square and the Hudson County Improvement Authority's parking structure adjacent to the PATH station in Harrison.	Short-Term	L[15]	PANYNJ	PANYNJ		•												
G2-37	Work with the Port Authority NYNJ to make all PATH stations ADA accessible, including Grove Street station.	Short-Medium	M	PANYNJ	PANYNJ, FTA		•												
G2-38	Work with the Port Authority NYNJ to display real-time departure/arrival information at stations.	Medium	L	PANYNJ	PANYNJ, FTA		•												
G2-39	Work with the Port Authority NYNJ to improve all stations to accommodate ten (10) car trains, where feasible, to increase capacity.	Short-Medium	H	Port Authority	PANYNJ, FTA		•												
G2-40	Explore a new station entrance for Grove Street at southeast corner of Marin Boulevard and Columbus Drive to improve station access and reduce the number of pedestrians that cross Columbus Drive.	Medium-Long	M	Port Authority	PANYNJ, FTA		•												
G2-41	Work with NJ TRANSIT and private operators to provide a free transfer between private carrier buses and the Hudson Bergen Light Rail system for single ride trips. Currently, HBLR monthly pass holders can transfer to NJ TRANSIT buses without an additional fare. Additionally, single ride trips currently can purchase "tickets with transfer" for an additional fare.	Short-Term	VL	NJ TRANSIT, Private Bus Carriers	TBD		•												

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[15] This cost consists of the purchase of additional vehicles, if necessary; otherwise all costs are operation and maintenance, which have not been analyzed.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G2-42	Work with Port Authority NYNJ, NJ TRANSIT and other mass transit operators to create a single universal fare card for all mass transit systems, including NJ TRANSIT, PATH, and ferry.	Short-Medium	L	TBD	NJ TRANSIT, PANYNJ, Private Bus Carriers, FTA, Ferry Companies		•												
G2-43	Work with Port Authority NYNJ and NJ TRANSIT to develop specific HBLR and PATH station area and ferry terminal area improvement plans to optimize connections between buses and other modes by installing wayfinding and ensuring pedestrian access.	Short-Medium	L	PANYNJ, NJ TRANSIT, Ferry Companies, Jersey City	PANYNJ, NJ TRANSIT, Ferry Companies, Jersey City, NJDOT		•												
G2-44	Locate taxi stands in close proximity to transit stations and major activity centers. Allow open stands where any taxi can stop.	Short-Term	VL	Jersey City	Jersey City		•												
G2-45	Explore reserving on-street parking spaces for carshare vehicles.	Short-Term	VL	Jersey City	Jersey City, Private Capital		•												
G2-46	Evaluate current and future para-transit needs and service levels.	Short-Term	VL	NJ TRANSIT, Jersey City, Hudson TMA	NJ TRANSIT, Hudson County, NJTPA		•												
G2-47	Advertise the availability of the Hudson TMA's Resource Center, a central repository of mass transit information, including maps, schedules, and brochures.	Short-Term	VL	Hudson TMA	Hudson TMA		•												
G2-48	Work with taxi companies to establish central dispatch for taxis in Jersey City.	Short-Term	VL	Jersey City	Taxi Companies		•												
G2-49	Work with all mass transit providers to ensure that all mass transit stations are ADA compliant.	Short-Term	M	PANYNJ	PANYNJ, FTA		•												

[11] For all capital projects, estimated cost does not include operation and maintenance costs.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G2-51	Detailed traffic and transit studies should be conducted to assess the best ways to manage transit passenger demands on the HBLR and vehicular demand on the roadway network.	Short-Term	VL	NJ TRANSIT	NJ TRANSIT FTA		•												
G3-1	Extend Jersey Avenue to connect the downtown waterfront and downtown historic districts with the Lafayette neighborhood and Liberty State Park.	Long-Term	M	Jersey City	Jersey City			•											
G3-2	Complete missing links in Hudson River Waterfront Walkway, including connection to Hoboken Terminal.	Short-Term	L	Hudson County, NJDEP	Federal, Private Capital, Hudson County, NJDEP[18] NJDOT[19]			•											
G3-3	Require developers to construct the portion of the Hackensack RiverWalk that is adjacent to their property.	Short-Medium	L	NJDEP	Private Capital			•											
G3-5	Complete street grids as identified on Right-of Way Mapping, Figure 4.4-1, in order to increase connectivity.	Short-Medium - Long-Term	H	Jersey City	Jersey City, Private Capital, FHWA			•											
G3-6	Create new streets and extend existing streets to support development, increase connectivity for the multi-modal system, and to provide access to the waterfront as identified on Right-of Way Mapping, Figure 4.4-1.	Long-Term	VL[20]	Jersey City, Developers	Jersey City, Private Capital			•											
G3-7 G8-12 G12-7	Construct Center and Merseles Street Tunnel under Montgomery Street, as recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.	Long-Term	H	Jersey City	TBD			•					•				•		
G3-8 G8-9	Complete study of connectivity between Jersey City and Hoboken in the vicinity of Paterson Plank Road.	Short-Term	VL	Jersey City, Hoboken, Hudson County	NJTPA			•					•						
G4-1 G5-1 G7-12	Adopt as a City standard a street regulating plan that regulates the form of all streets, bike lanes, where feasible, and sidewalks in accordance with the street typologies and illustrated hierarchy of streets that are contained in this Circulation Element.	Short-Term	VL	Jersey City	Jersey City, NJDCA, NJDOT, NJTPA, UEZ				•	•		•							

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[18] NJDEP Green Acres Grant Program.
[19] NJDOT Local Aid Safe Streets to Transit Grant Program.
[20] This cost is per street, not for the summation of all street extensions on Figure 4.4-1.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G4-2 G7-7	Install traffic calming devices on existing streets with problem location streets in accordance with the traffic calming plan that is contained in this Circulation Element.	Short-Medium	M	Jersey City	Jersey City, NJDOT, NJTPA				•			•							
G4-3 G7-11	Adopt uniform City standards, which are ADA compliant and neighborhood appropriate, for pedestrian street crossings and crosswalks, including state-of-the-art techniques to protect pedestrian safety. For example, potential crosswalks may include a combination of crosswalk tables, curb extensions with gaps for drainage and bicycle lanes, polymer resin stamped brick crosswalks, and painted crosswalks as may be appropriate to the particular street. Curb extensions should incorporate vertical elements, such as trees or street furniture, to provide a visual cue to snowplow drivers of roadway alignments.	Short-Term	VL	Jersey City	Jersey City				•			•							
G4-4 G13-8	Install street trees spaced at a maximum of 30 feet on center to provide shade and a pleasant pedestrian environment and establish a municipal street tree fund to which developers can contribute when trees cannot be installed. Street trees should be of a variety with high branching systems so that lower branches may be pruned to maintain sight lines for public safety purposes.	Short-Term	VL	Jersey City	Private Capital, Jersey City, NJDEP[18]				•									•	
G4-5	Prune trees to remove low branches to provide lines of sight for vehicular and pedestrian safety and security.	Short-Term	VL	Jersey City	Jersey City				•										
G4-6	Increase pedestrian safety by utilizing mechanisms, such as on-street parking, street trees, street furniture and bollards, to buffer pedestrians from moving vehicles.	Short-Medium	VL	Jersey City, Hudson County	Jersey City Hudson County				•										
G4-7 G5-3	Create a continuous greenway with pedestrian paths and bike lanes where the Morris Canal was filled in, where feasible.	Short-Medium-Long-Term	L	Jersey City	Jersey City, NJDEP[18]				•	•									

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[18] NJDEP Green Acres Grant Program.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G4-8	As recommended in the Hudson River Waterfront Walkway Plan, an operating entity should be formed to ensure that walkway gaps are filled in and that the entire walkway is consistent in appearance and condition.	Short-Term	VL	Hudson County, NJDEP	Hudson County, NJDEP				•										
G4-9	Construct the Lafayette Walkway parallel to the Hudson-Bergen Light Rail Line.	Short-Medium	L	Jersey City	Developers, Jersey City, NJDEP[18]				•										
G4-10	Extend the Morris Street Right-of-Way Pedestrian Extension to the waterfront and the Hudson River Waterfront Walkway.	Medium	L	Jersey City	Jersey City				•										
G4-11	Continue the sidewalk on Bayview Avenue east of the 14B interchange, by means of a designated pathway on the existing roadway, as recommended in the 2005 Liberty Access Study Final Report.	Short-Term	VL	Jersey City	Jersey City				•										
G4-12	Conduct a focus study of Westside Avenue to determine the feasibility and appropriateness of Bus Rapid Transit (BRT), sidewalk widening, pedestrian safety measures and off-street parking.	Short-Medium	VL	Jersey City	Jersey City, NJTPA, UEZ				•										
G4-13	Advance recommendations from NJTPA Walkable Community Workshop in the Lafayette neighborhood (see full Action G4-13).	Medium	M	Jersey City	NJTPA, NJDEP,[18] NJDOT,[19] NJ TRANSIT, Jersey City				•										
G4-14 G7-17	Advance recommendations from NJTPA Regional Safety Priority Location Report for Central Avenue (see full Action G4-14).	Medium	L	Jersey City	NJTPA Jersey City				•			•							
G4-15 G7-18	Advance recommendations from NJTPA Regional Safety Priority Location Report for Martin Luther King Drive (see full Action G4-15).	Medium	L	Jersey City	NJTPA, Jersey City				•			•							

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[18] NJDEP Green Acres Grant Program.
[19] NJDOT Local Aid Safe Streets to Transit Grant Program.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G4-16 G7-19	Continue Jersey City's involvement in the NJDOT Safe Routes to School program, which provides funding for pedestrian safety improvements near school sites.	Short-Term	L	Jersey City	Jersey City, NJDOT[21]				•			•							
G4-17	Provide pedestrian access to Garfield Avenue HBLR station through Berry Lane Park.	Short-Term	VL	Jersey City. Redevelopment Agency	Jersey City NJDEP NJDOT[19]				•										
G4-18 G5-14	Preserve the abandoned Lehigh Valley Railroad right-of-way to create greenway trails.	Medium	L	Jersey City	NJDEP,[18] Jersey City				•	•									
G4-19 G5-4	Construct the East Coast Greenway Route as an off-road facility for pedestrians, bicyclists, and other non-motorized means of travel between Hudson River and Hackensack River waterfronts. In the interim, complete on-road alignment.	Long-Term	M	Jersey City	Jersey City, NJDEP,[18] NJDOT[22]				•	•									
G5-2	Construct the Jersey Avenue extension with provisions for bikes lanes.	Short-Term	TBD	Jersey City	Jersey City, NJDEP[18] NJDOT[19]					•									
G5-5	Allow bicycles to use the Hudson River Waterfront Walkway and Hackensack RiverWalk, wherever feasible. Provide alternate routes to bypass areas where it is not feasible.	Medium	L	Jersey City Hudson County	Hudson County, Jersey City NJDOT[22]					•									
G5-6	Adopt zoning and redevelopment plan requirements to provide bicycle amenities for building users, such as interior bicycle storage facilities for residential buildings that are accessible without stairs or tight corners, and bike racks and employee showers for commercial buildings.	Short-Term	VL	Jersey City	Jersey City					•									
G5-7	Work with Port Authority NYNJ, NJ TRANSIT, Jersey City Board of Education, Jersey City Department of Public Works, and commercial property owners to provide robust bicycle storage facilities at HBLR and PATH stations, schools, parks, employment centers and shopping districts citywide.	Short-Medium	L	Jersey City, Hudson TMA	Jersey City, PANYNJ, NJ TRANSIT, Board of Education, Hudson County, Ferry Companies, UEZ, Private Capital					•									

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[18] NJDEP Green Acres Grant Program.
[19] NJDOT Local Aid Safe Streets to Transit Grant Program.
[21] NJDOT Local Aid Safe Routes to School Program.
[22] NJDOT Local Aid Bikeway Grant Program.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G5-8	Implement "Share the Road" campaign to educate bicyclists and drivers.	Short-Term	VL	Jersey City, Hudson TMA	Jersey City, Hudson County					•									
G5-9	Design and publish a foldable map of the existing signed bike routes for public distribution. Include recreational routes that highlight attractions and points of interest in Jersey City.	Short-Term	VL	Jersey City, Hudson County	Jersey City, Hudson County					•									
G5-10	Encourage development of Bike Share businesses with dedicated bike stations at key facilities.	Medium	L	Jersey City	Jersey City, Private Capital					•									
G5-11	Organize an annual Jersey City bike tour.	Short-Term	VL	Jersey City, Hudson County	Jersey City, Hudson County					•									
G5-12	Create a linear park on the Sixth Street Embankment that incorporates a bike path and walkway. The linear park should share the Sixth Street Embankment with an extension of the HBLR.	Medium	M	Jersey City	Jersey City, NJDOT[22]					•									
G5-13	Construct a 0.4-mile railroad-gravel path paralleling the NJ TRANSIT Boonton Line and a 0.7-mile on-road striped bike lane along Westside Avenue south of Boonton Line, as recommended in the 2007 Meadowlands District Transportation Plan.	Medium	L	NJ Meadowlands Commission	NJ Meadowlands Commission, NJDOT[22]					•									
G6-1	Adopt a capital improvement program (see full Action G6-1).	Medium	L	Jersey City	Jersey City, NJDOT						•								
G6-2	Contract with a company or non-profit organization to remove litter from sidewalks and curbs on a frequent and regular basis, particularly in retail districts.	Short-Term	VL	Jersey City	UEZ						•								
G6-3	Contract with a company or non-profit organization to clean sidewalks, particularly in retail districts.	Short-Term	L	Jersey City	UEZ						•								
G6-4	Allocate sufficient resources to rapidly repair potholes.	Short-Term	L	Jersey City, Hudson County, NJDOT	Jersey City, Hudson County, NJDOT						•								

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[22] NJDOT Local Aid Bikeway Grant Program.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G6-5	Work with PSE&G to install energy efficient lighting in street lights and to repair broken lights.	Medium	L	PSE&G	PSE&G						•								
G6-6	Monitor and report broken lighting, signage and traffic control devices to appropriate entity.	Short-Term	VL	Jersey City	Jersey City						•								
G6-7	Identify new products and materials that may be more user-friendly or have cost savings over current products for lighting, signage, traffic control device, crosswalks, bus shelters and recommend upgrades, where feasible.	Short-Term	L	Jersey City	Jersey City						•								
G6-8	Work with transportation agencies to upgrade or replace the transportation infrastructure (see full Action G6-8).	Long-Term	TBD	NJDOT, NJ Turnpike Authority, Hudson County, Jersey City	NJDOT Hudson County, Jersey City NJ Turnpike Authority						•								
G6-9	Work with all mass transit providers to ensure that all mass transit stations are ADA compliant.	Short-Term	M	NJ TRANSIT, PANYNJ, FTA	NJ TRANSIT, PANYNJ, FTA						•								
G6-10	Revise City road opening permits to require road repairs to match existing material so that decorative treatments, pavers, colored asphalt, etc., remains uniform and aesthetically pleasing.	Short-Term	VL	Jersey City	Jersey City						•								
G6-11	Identify transportation infrastructure that is vulnerable to the effects of climate change (e.g., rising sea levels, more intense rain events, etc.) and prepare an infrastructure adaption plan.	Short Term	VL	Jersey City	TBD						•								
G6-12 G7-21	Add 2, 3 or 4-way supplemental plates to all multi-way stop signs to avoid drive confusion on which car has the right-of-way.	Short-Term	VL	Jersey City	Jersey City						•	•							
G7-1	Connect Jersey City and NJ TRANSIT closed-circuit TV systems.	Medium	VL	NJ TRANSIT, Jersey City	NJ TRANSIT, Jersey City							•							
G7-2	Redevelop or rehabilitate vacant land and abandoned buildings.	Short-Medium	M	Jersey City	Private Capital, USHUD							•							
G7-3	Advise PSE&G of locations with inadequate street lighting.	Short-Term	VL	Jersey City	Negligible							•							

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Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G7-4	Conduct traffic safety audits on an ongoing basis that identify high accident locations and analyze causes for accidents at those locations. Implement corrective action, which may include design improvements, installation of pedestrian countdown timers, flashing beacons at HBLR crossings, walk signal head start in signal phasing or other actions.	Medium	L	Jersey City, State of NJ, Hudson County, NJTPA	NJTPA, Jersey City, Hudson County, NJDOT[19]							•							
G7-5	Conduct stings whereby plainclothes police officers pose as pedestrians using crosswalks and ticket drivers who do not stop. Combine sting operations with a media campaign to ensure public awareness of the need to yield to pedestrians in crosswalks.	Short-Term	VL	Jersey City	Jersey City							•							
G7-6	Require new streets to incorporate traffic calming in accordance with the traffic calming plan that is contained in this Circulation Element.	Short-Term	VL	Jersey City	Jersey City, Private Funding, NJDOT[23]							•							
G7-8	Develop a traffic safety educational program. Such a program might include a manual of traffic laws and best practices for drivers, pedestrians and bicyclists or workshops on traffic laws and best practices at schools, community centers, and employment locations.	Short-Term	VL	Hudson TMA	Hudson TMA							•							
G7-9	Set traffic signal timings to provide adequate time for pedestrians to cross streets.	Short-Term	L	Jersey City, Hudson County	Jersey City, Hudson County							•							
G7-10	Evaluate the existing City street sign standards to facilitate visibility for seniors and the vision-impaired.	Short-Term	VL	Jersey City	Negligible							•							
G7-13 G8-10	Optimize signal timing on key corridors on an ongoing basis to respond to changing traffic dynamics and work with adjacent municipalities to coordinate timing.	Medium	L	Jersey City, Hudson County	Jersey City, Hudson County							•	•						
G7-14	Construct extension of Jersey Avenue south to the intersection of Audrey Zapp Drive and Phillip Drive to accommodate bikes and pedestrians, in addition to vehicles and potentially HBLR.	Long-Term	M	Jersey City, NJ TRANSIT	Jersey City, NJ TRANSIT, NJDOT[19]							•							

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[19] NJDOT Local Aid Safe Streets to Transit Grant Program.
[23] NJDOT Local Aid Municipal Aid Grant Program.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G7-15	As recommended in the 2005 Liberty Access Study Final Report, maintain and enhance City wayfinding signage (see full Action G7-15).	Medium	VL	Jersey City	Jersey City							•							
G7-16	Support "eyes on the street" by encouraging the re-use of historic midblock and corner retail properties to fulfill their originally intended retail purpose.	Short-Term	L	Jersey City	Private Capital							•							
G7-20 G8-11 G12-6	Work with regional transportation agencies to construct the 11th Street Viaduct Extension and Grade separation of 14th Street with possible phasing, which will mitigate congestion on local Jersey City streets.	Long-Term	H-VH	NJ Turnpike Authority	NJ Turnpike Authority							•	•				•		
G8-1	Work with NJ TRANSIT, Port Authority NYNJ and private carriers to develop new regional passenger rail, light rail and bus rapid transit linkages to Jersey City to provide convenient mass transit service to Jersey City employment centers and entertainment destinations.	Short-Medium-Long-Term	TBD	NJ TRANSIT, PANYNJ, Private Bus Carriers, Ferry Companies	NJTPA, PANYNJ, NJ TRANSIT, Private Bus Carriers, Ferry Companies								•						
G8-2	Incorporate bus priority and high occupancy vehicle lanes into the design of new highways, bridges, access ramps, and on local streets to and from existing highways, where feasible.	Medium	L	NJDOT, Hudson County, Jersey City, NJ Turnpike Authority	NJDOT, Jersey City, Hudson County, NJ Turnpike Authority								•						
G8-5	Expand marketing of carpool and vanpool support services.	Short-Term	VL	Hudson County, Jersey City, NJDOT	NJDOT, Hudson County, Jersey City								•						
G8-6	Support trip reduction performance programs, such as financial incentives, to encourage residents and commuters to carpool or vanpool.	Short-Term	Negligible	Hudson TMA	Hudson TMA								•						
G8-7	Work with New York City broadcasters to understand the size of their market share commuting to Jersey City and encourage broadcasters to incorporate traffic information for Jersey City bound commuters in their traffic reports.	Short-Term	Negligible	Jersey City, TRANSCOM, Hudson TMA	Hudson TMA								•						

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G8-8	Work with North Jersey Transportation Planning Authority, NJ Department of Transportation and New Jersey Turnpike Authority to improve incident monitoring and response on regional highways.	Medium	L	NJTPA, NJ Turnpike Authority, NJDOT	NJTPA, NJ Turnpike Authority, NJDOT								•						
G8-13	Provide representation, when requested, on advisory committees for transportation studies spearheaded by transportation agencies, the NJTPA, Hudson County and/or other municipalities that examine access to and from Jersey City.	Short-Term	Negligible	Jersey City	N/A								•						
G9-1 G13-2	Design and build a multi-use urban boulevard along Route 440 and Route 1&9 Truck corridor between the Bayonne border and Route 7. Divert through trucks from the Route 440 and Route 1&9 Truck corridor to alternate route.	Short-Medium-Long-Term	H	Jersey City, NJDOT	FHWA, NJDOT, Private Capital									•				•	
G9-2 G10-2	Adopt a capital improvement plan to upgrade roadbed construction, cartway width and turning radii for truck routes, where needed, in port and industrial areas. Truck routes in Jersey City should be complete streets that accommodate pedestrians, bicycles and buses in accordance with the Roadway Typical Sections in this Circulation Element.	Short-Medium	VL	Jersey City	Jersey City, NJDOT[22, 23]									•	•				
G9-3	Remove Linden Avenue jog between Route 185 and Caven Point Road, as recommended in 2005 Jersey City Liberty Access Study, as indicated on the Right-of-Way Needs Mapping, Figure 4.4-1.	Long-Term	H	Jersey City	NJDOT,[23] Hudson County, Jersey City									•					
G9-4	Support the construction of Portway projects to improve the freight connections to, from and within Jersey City.	Short-Medium-Long-Term	VH	NJDOT	NJDOT									•					

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[22] NJDOT Local Aid Bikeway Grant Program.
[23] NJDOT Local Aid Municipal Aid G rant Program.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G9-5	Support efforts by PANYNJ, NJDOT, NJTPA and other entities to advance capacity expansion within existing port lands, as well as port improvement efforts (see full Action G9-5).	Short-Medium-Long-Term	VH	PANYNJ, NJDOT, NJTPA, Private Ports	Private Capital, NJDOT, PANYNJ									•					
G9-6	Implement operational improvements to the Secaucus Road and Postal Service Road intersection as recommended in the 2007 Meadowlands District Transportation Plan.	Short-Term	L	Hudson County, NJ Meadowlands Commission	Hudson County, NJ Meadowlands Commission									•					
G10-1	Compare existing, designated truck routes with existing and planned commercial, industrial and port areas to determine if there is a need to add additional routes or eliminate obsolete routes, including, but not limited to, repealing Communipaw Avenue from Pacific Avenue to the eastern terminus, Johnston Avenue from Pacific Avenue to Monitor Street, Monitor Street as truck routes, and Merritt Street west of Avenue C. Evaluate 10th Street to determine if it should be eliminated as a truck route.	Short-Term	Negligible	Jersey City	Jersey City										•				
G10-3	Adopt regulations to restrict truck size and hours of operation, where appropriate.	Short-Term	Negligible	Jersey City	Jersey City										•				
G10-4	Adopt zoning to require screening of receiving docks and truck areas with building interior loading docks and/or wing walls with landscaping and sidewalks.	Short-Term	VL	Jersey City	Jersey City										•				
G10-5	Adopt the new Traffic Barricade Manual Ordinance.	Short-Term	Negligible	Jersey City	Jersey City										•				
G10-6	Develop City policy and regulation to encourage local deliveries by box trucks rather than by tractor trailers.	Short-Term	Negligible	Jersey City	Jersey City										•				
G10-7	Investigate a shared-use strategy for HBLR to carry freight to local destinations.	Short-Term	VL	Jersey City	Jersey City										•				
G10-8	Remove substandard clearances in Coles and Monmouth Streets north of 10th Street. These are both truck routes, but have a clearance of approximately 11 feet.	Medium	L	Jersey City	Jersey City										•				

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						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G11-1	Require that all new development projects and improvements to existing developments provide sidewalks, bike lanes, and other amenities to connect to planned and/or existing bicycle lanes and pedestrian areas.	Short-Term	VL	Jersey City	Private Capital, Jersey City											•			
G11-2	Work with NJ TRANSIT and private carriers to run low-emission and emission free buses.	Medium	M	NJ TRANSIT, Private Carriers	FTA, NJDOT											•			
G12-1	Use technology (e.g., television broadcasts, radio announcements, internet, text messages, e-mail alerts) to inform drivers of roadway conditions and travel delays. Encourage subscription to existing ITS that inform drivers of delays such as NJDOT 511, NJ TRANSIT Travel Alerts, PATH Travel Alerts, TRANSCOM, and the Hudson TMA's real-time traffic alert system.	Medium	L	NJDOT, NJ TRANSIT, PANYNJ, TRANSCOM, Hudson TMA	NJDOT, NJ TRANSIT, PANYNJ, TRANSCOM, Hudson County												•		
G12-2	Work with emergency services to develop an action plan for incident management that minimizes the delays caused by incidents on traffic flow.	Short-Term	VL	Jersey City, Hudson County, NJDOT	NJTPA, NJDOT												•		
G12-3	Optimize traffic signal timing city-wide.	Short-Medium-Long-Term	L-M	Jersey City, Hudson County	Jersey City Hudson County, NJDOT, NJTPA												•		
G12-4	Require that traffic congestion mitigation measures for new development take into account area-wide traffic congestion impacts, as well as impact to key corridors.	Short-Term	VL	Jersey City	Jersey City												•		
G12-5	Develop intersection treatments to reduce gridlock, including, but not limited to, markings for "Don't Block the Box".	Short-Term	VL	Jersey City	Jersey City												•		
G12-8	Prohibit new commuter park-and-ride parking as recommended in the 2007 Jersey City Regional Waterfront Access and Downtown Circulation Study Final Report.	Short-Term	VL	Jersey City	Jersey City												•		
G12-10	Locate on-street parking for scooters, where feasible.	Short-Term	VL	Jersey City	Jersey City												•		

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Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G12-11	Create intercept parking facilities in conjunction with other agencies and municipalities (see full Action G12-11).	Short-Medium-Long-Term	VH	NJ TRANSIT, Developers	NJ TRANSIT, FTA, Private Capital												•		
G12-12	Encourage use of incentives and trip-reduction programs of the Hudson TMA, such as Commuter Choice (pre-tax benefit promotion for transit pass purchases), mass transit use incentive program (switch to Mass Transit offers certain employees discounts on monthly transit passes to encourage mass transit use), rideshare matching services, rideshare incentive programs and vanpool incentive programs.	Medium	L	Hudson TMA, NJ TRANSIT, PANYNJ	Hudson County, NJ TRANSIT, PANYNJ												•		
G13-3	Design and build a multi-use urban boulevard along the length of Christopher Columbus Drive and coordinate burying the overhead utility lines.	Long-Term	L	Jersey City	USEDA NJDOT,[23] Hudson County, PSE&G, Verizon, Cable Co.													•	
G13-4	Preserve the NJ Turnpike Newark Bay Extension scenic corridor, as discussed in the Land Use Element of the 2000 Jersey City Master Plan.	Short-Medium-Long-Term	N/A	Jersey City	N/A													•	
G13-5	Adopt zoning that requires the design of new buildings to consider the public realm in building orientation, articulation, materials and relationship to the street.	Short-Term	VL	Jersey City	Jersey City													•	
G13-6	Adopt standards for screening of loading and parking areas from view using landscaping, decorative walls and decorative fencing.	Short-Term	VL	Jersey City	Jersey City													•	
G13-7	Explore incorporating landscape requirements into the annual licensing requirements for parking lots.	Short-Term	VL	Jersey City	Jersey City													•	
G13-9	Adopt a policy of 1% for public art, whereby new development projects provide 1% of the cost of construction to a Jersey City public art trust fund.	Short-Term	VL	Jersey City	Jersey City													•	

[11] For all capital projects, estimated cost does not include operation and maintenance costs.
[23] NJDOT Local Aid Municipal Aid Grant Program.

						Goal													
Action #	**Action**	**Estimated Timeframe**	**Estimated Cost[11]**	**Potential Lead Implementing Agencies**	**Potential Funding Sources**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
G13-10	Work with PSE&G and BPU to locate existing utilities underground, where feasible.	Medium	M	PSE&G, BPU	PSE&G, BPU, Private Capital													•	
G13-11	Adopt zoning and redevelopment plans to require that new development projects locate all utilities underground, where feasible.	Short-Term	VL	Jersey City	Jersey City													•	
G13-12	Conduct design competitions and use the results to create a design handbook for Jersey City transportation infrastructure.	Short-Term	VL	Jersey City	Jersey City													•	

[11] For all capital projects, estimated cost does not include operation and maintenance costs.

3.3 Indicators, Targets and Baselines

The Goals, Objectives, Strategies and Actions represent the full vision of the Circulation Element. To enable Jersey City to monitor the attainment of its progress in implementing its Circulation Element, Indicators and Targets have been established for each Goal. The Indicators measure progress toward the Goals, Objectives and Strategies. The targets are a measurable milestone of achievement. Baselines are provided for comparison in the future, so that the City can measure its progress in implementing the Circulation Element.

3.4.1 Matrix of Indicators

The Matrix of Indicators shows that many of the Indicators measure the attainment of several Goals, Objectives, and Strategies. This demonstrates the linkages between each goal. As indicated in the Matrix below, the progress towards the City's Goals is measured not only by changes in the travel behavior, but also by economic, environmental, and fiscal parameters, as well as accidents. Therefore, the attainment of the City's Goals would have a positive measureable impact on the overall quality of life for Jersey City's stakeholders.

INDICATOR	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	GOAL 13	GOAL 14
Percentage of workers commuting by public transit	X	X										X		
HBLR ridership	X	X						X				X		
Bus ridership	X	X										X		
PATH ridership	X	X						X				X		
Estimate of vehicle miles travelled in Hudson County	X	X										X		
Percentage of workers commuting by foot	X		X								X			
Annual number of accidents involving pedestrians	X		X	X			X							
Percentage of workers commuting by bicycle	X		X		X						X			
Percentage of workers commuting by public transit (<30 min)	X		X											
Percentage of workers commuting by transit/carpool (>30 min)	X							X						
Linear miles of gaps in Hudson and Hackensack river walks	X		X	X										
Linear miles of striped bike lanes	X		X		X									
Annual number of accidents involving bicyclists	X				X		X							
Budget appropriations/expenditures for infrastructure maintenance/repair	X					X								
Complaints for potholes, average response time to complaint	X					X								
Amount of money paid in insurance claims due to potholes	X					X								

INDICATOR	GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9	GOAL 10	GOAL 11	GOAL 12	GOAL 13	GOAL 14
Replacement cycle of all roads in Jersey City	X					X								
Status of roadway projects	X					X								
Annual number of accidents involving 2 or more vehicles	X						X							
Commodity flow data (value and tonnage of freight)	X								X					
Adoption of revised Barricade Manual Ordinance	X									X				
Annual days with good air quality	X										X			
Deaths from chronic lower respiratory disease	X										X			
Deaths from heart disease	X										X			
Deaths from diabetes mellitus	X										X			
Percentage of workers driving to work alone	X											X		
Linear miles of streetscape projects in Jersey City	X												X	
Bi-decennial qualitative analysis/report	X													X

Photo Source: Jersey City Division of City Planning

4. Analysis

Jersey City's Circulation Element is an action-oriented plan which identifies the Actions necessary to facilitate the movement of people and goods through 2050. As stated in the City's vision, "by the year 2050, Jersey City's extensive and sustainable development, redevelopment and neighborhood revitalization activity will have transformed the City into a bustling, "green," world-class center with a range of housing and retail choices, many employment and business opportunities, and excellent recreational, entertainment and cultural amenities." Therefore, the multi-modal system must be prepared to serve this world-class city.

Many of the Actions within this Circulation Element require rights-of-way to be preserved, and modifications to the layout of the existing roadways so all users are accommodated efficiently and safely including motorists, bicyclists, and pedestrians. The Actions support a pedestrian-friendly, traffic-calmed, aesthetically-appealing circulation system that serves pedestrians, bicyclists, vehicles, mass-transit, and freight. The multi-modal system must be seamless, reliable, and efficient, within the City and to and from the region. This Circulation Element provides Jersey City a plan to accommodate growth through 2050, and enables the City to strengthen the link between land use and transportation, while serving the needs of all of its users.

4.1 Projected Growth

Any act of planning for the future requires a sense of what is to come. As such, forecasts of population and future growth are integral to this Circulation Element, since they yield valuable information about the City's future development. The following sections describe the future growth of the City, as forecasted by the North Jersey Transportation Planning Authority (NJTPA) and the City's professional city planning staff.

4.1.1 North Jersey Transportation Planning Authority Projections

In its capacity as the Metropolitan Planning Organization (MPO) for Hudson County and twelve other counties in northern New Jersey, North Jersey Transportation Planning Authority (NJTPA) has prepared municipal-level growth projections for Jersey City and the other subregions.

These projections examine population, household, and employment growth through 2030, and are used as a basis for studies and plans of the NJTPA. The NJTPA's projections for Jersey City and Hudson County are presented in the table below.

	2010	2015	2020	2025	2030	Percent Change
Jersey City						
Population	265,610	281,630	296,340	302,690	308,180	16.0
Households	101,180	109,600	117,360	120,940	124,330	22.9
Employment	130,780	137,640	144,790	148,480	155,570	19.0
Hudson County						
Population	667,000	694,000	720,800	740,600	760,700	14.0
Households	257,100	271,300	285,700	297,100	309,100	20.2
Employment	297,000	311,200	328,300	339,900	361,600	21.8

Source: NJTPA

As shown above, the NJTPA projects a significant level of growth for both Jersey City and Hudson County from 2010 to 2030. With particular regard to Jersey City,

the NJTPA projects a 16.0 percent increase in population, 22.9 percent increase in households, and a 19.0 percent increase in employment. These increases exceed those projected for Hudson County in all categories but employment.

The counts of population, households, and jobs will experience significant growth in Jersey City during the NJTPA-projected period and beyond. However, a closer look at the future growth of the City is warranted, since the NJTPA does not project to 2050, which is the horizon year of this Circulation Element and the regionally-focused methodology employed in the NJTPA projections limits the depth of local analysis, which is particularly important in communities with extensive redevelopment activity. As such, the City prepared independent analyses of future residential development and additional non-residential development anticipated through 2050.

4.1.2 Future Residential Development

To estimate Jersey City's future population development potential, an inventory of all residential redevelopment projects that are expected to be completed by 2050 was prepared by Jersey City's professional planning staff. This inventory revealed that as of May 2008, it is anticipated that Jersey City will gain 80,330 residential units through redevelopment activity by the year 2050.

This information can be used to estimate potential population in 2050 by converting the 80,330 anticipated residential units in redevelopment areas to population, and adding it to the City's estimated May 2008 population of 260,712 residents[24]. When the 2000 US Census' estimate of average household size (2.67 members/household) is used as a conversion factor for the 80,330 anticipated residential units, it is then determined that the City has the potential for a population of at least 475,193 residents in 2050[25,26,27]. The following chart illustrates this population growth potential.

Photo Source: Leon Yost

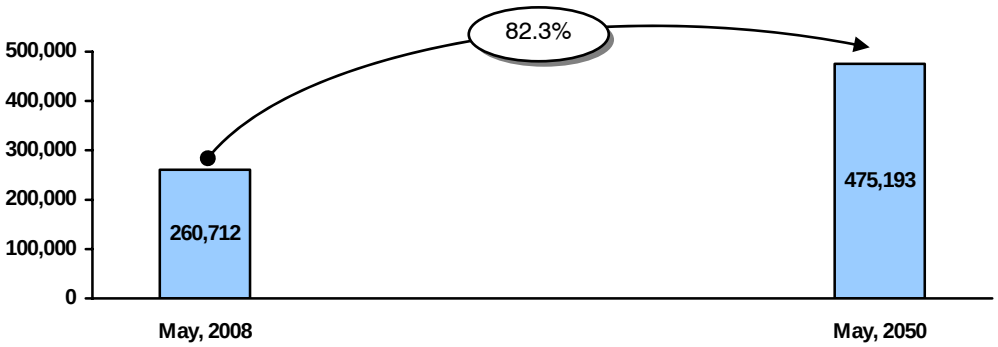
[24] The May 2008 Estimate is equal to the pro-rated difference between the NJTPA's (April 1) 2010 projection of 265,610 residents, and the (April 1) 2000 US Census Bureau's count of 240,055 residents, calculated on a monthly basis.

[25] This figure is derived with the following operations: (80,330 new units anticipated in redevelopment areas from May 2008 through 2050 x 2.67 members per household) + Estimated May 2008 population of 260,712 residents = Potential minimum population of 475,193 residents in May 2050.

[26] This figure is hypothetical. Actual population will be impacted by other factors, such as fertility and mortality.

[27] Assumes all units created through redevelopment activity would be occupied.

Figure 4.1-1 – Growth Projection



When the population growth potential for the period from May 2008 through May 2050 is examined, it is clear that there is significant growth potential in Jersey City's population. In total, it is anticipated that the City's population could grow by about 82.3 percent during this period, based on current development and redevelopment trends. The build-out data can be found in the appendices and is identified in Figure 4.1-2.

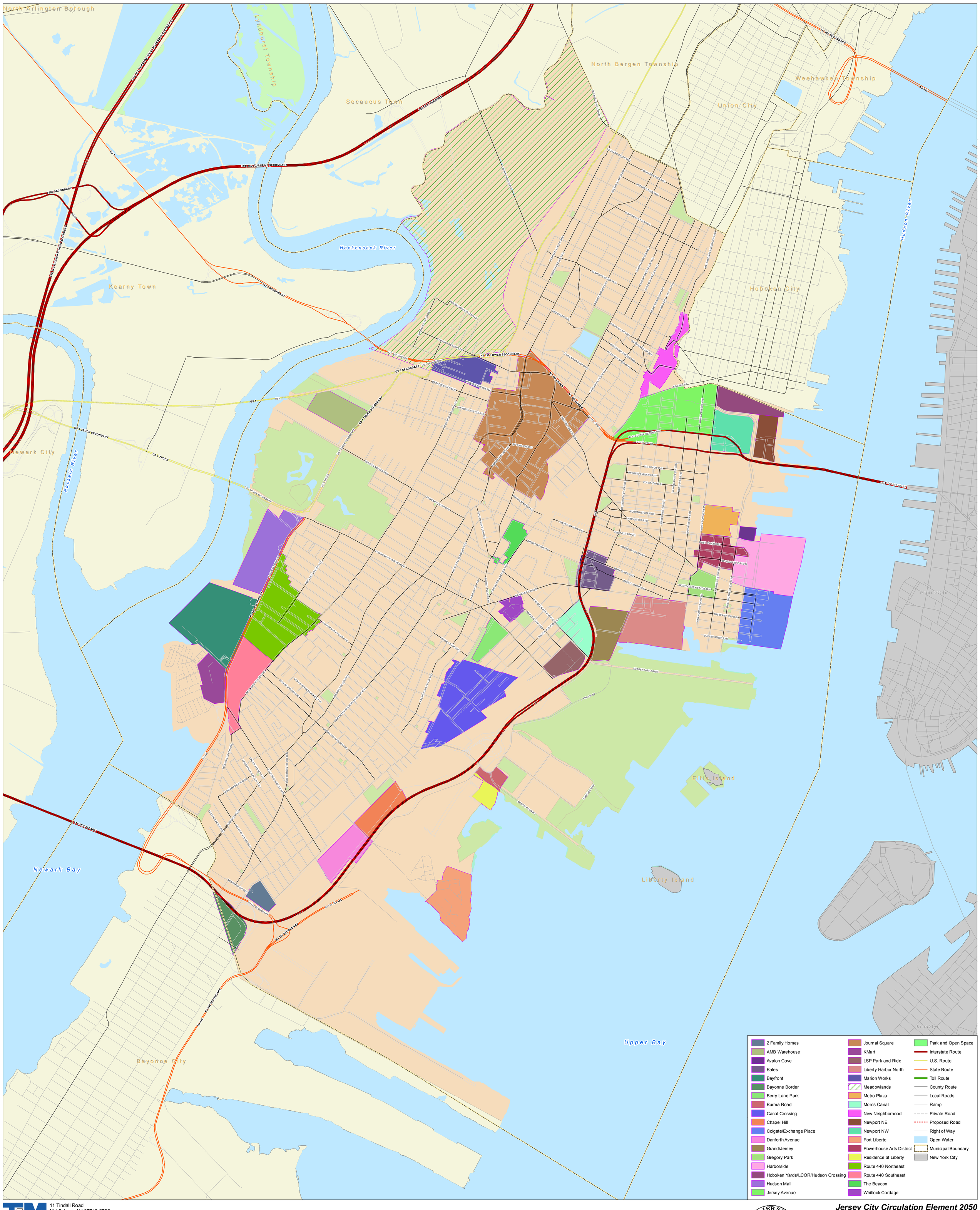
4.1.3 Additional Non-Residential Development

The Division of City Planning also carefully examined non-residential development activity and determined that Jersey City can expect approximately 9.8 million square feet of new non-residential development through 2050.

4.2 Circulation

Photo Source: Leon Yost

As indicated in the Action Plan, various roadway and transit improvements are proposed to be studied, designed and eventually implemented over the next 40 years in and around Jersey City. In reviewing the adequacy of the multi-modal circulation system to accommodate the growth of the City, the redevelopment projects were reviewed that are anticipated to be implemented over the next 40 years within Jersey City as outlined in Section 4.1. It is anticipated that by 2050, redevelopment will result in 80,330 units and 9,844,000 square feet of commercial space. The population of Jersey City is anticipated to be 475,193 by the year 2050. The proposed Actions address improvements to the multi-modal transportation system. These Actions address many of the anticipated areas of congestion within Jersey City. However, in the future, individual assessments of the impacts of the proposed roadway and proposed transit improvements, and the proposed redevelopment and development projects on the roadway



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Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Dept.: Parks and Open Space, Major and Downtown Developments
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Jersey City Circulation Element 2050
Figure 4.1-2: Anticipated Growth Areas 2050
City of Jersey City
Hudson County, New Jersey

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

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network and the transit system, should be made. Many of these assessments will occur in the Planning and Zoning Board review process, when traffic impact studies are conducted on a development-by-development basis. Later in this document, there is a Traffic Calming Plan, which provides a means to manage traffic volume and travel speeds within the various neighborhoods in Jersey City.

4.2.1 Adequacy of the Circulation System through 2050

In order to identify roadway locations where congestion is anticipated through 2050, the anticipated growth identified in Section 4.1 was imported into the North Jersey Transportation Planning Authority's North Jersey Regional Transportation Model-Enhanced (NJRTM-E). The NJRTM-E analyzed the volume of the roadway system versus the capacity of the system. Areas of insufficient capacity were identified and categorized by delay: one (1) hour, two (2) hours, or greater than three (3) hours of congestion. Copies of these maps can be found in the appendices of this report and are entitled Exhibits A, B and C.

Once areas of congestion were identified, the congestion-mitigating effects of the proposed improvements identified in the Action Plan in the vicinity of the congested roadways were examined. In most cases the Actions appear to provide the infrastructure necessary to support approved and anticipated development and redevelopment. This confirms that the Action Plan supports the land use plan and the corresponding development and redevelopment objectives and strategies of the City.

The Actions that were reviewed include extensions to the roadway network and completion of street grids, which helps to provide alternative routes for traffic, pedestrians and the movement of goods and services within Jersey City. Actions related to infrastructure projects were reviewed, as well as new roadways outside of the City that provide relief to congestion on the local roadway system within the City. Other Actions which increase the efficiency of the existing roadway network include interchange improvements, traffic signal coordination/synchronization, timing adjustments and reversible lanes. Transit improvements reviewed included additional stations and extension of the Hudson Bergen Light Rail Transit system, improvements to the PATH system, better connectivity between PATH, HBLR and bus, and additional bus service.

Although the NJRTM-E provided a useful tool to examine the Actions in conjunction with proposed development, the model should not be used out of context. The NJRTM-E is based on the year 2000 traffic and transit data and does not capture the capacity of the local street grid in detail. The year 2000 did not account for the Hudson-Bergen Light Rail Transit system. Therefore, the transit ridership projections of the NJRTM-E for the year 2030 do not show significant ridership for the HBLR. As a result, the modeling identified areas of congestion that would likely have been eliminated if the HBLR were imported into the model. This was taken into account in reviewing the adequacy of the Action Plan. Additionally, the NJRTM-E includes the demographics of the year 2030 and the infrastructure improvements that in the NJTPA Transportation Improvement Projects (TIP) through the year 2012 and the Project Development Work Program (PDWP) through the year 2010, including major projects such as Portway and the rehabilitation of the Route 139 Viaduct. The street grid improvements in this plan are not included in the NJRTM-E. Therefore, the

effects of the proposed improvements in the Action Plan were considered when evaluating congested areas identified by the NJRTM-E.

The NJRTM-E identified congested areas in the vicinity of Route 440, in the Downtown Hudson River Waterfront, in the vicinity of Journal Square, and in the vicinity of the NJ Turnpike Extension in the Greenville neighborhood. Proposed Actions in each of these areas were reviewed to examine their impacts on anticipated congestion.

4.2.2 Vicinity of Route 440 (Bergen and Greenville)

Redevelopment of the area to the west of Route 440 will generate traffic and transit needs. The Volume/Capacity ratios of Route 440, Routes 1&9 Truck, and many of the local streets are anticipated to exceed acceptable values by 2050 if not mitigated. Therefore, decreases to volumes, increases to capacity or a combination of both need to be implemented. The Action Plan identifies improvements to the roadway network and improvements to the transit system in the vicinity of the Bayfront I Redevelopment and the Future New Urbanist Street Grid. These improvements include new streets grids, an HBLR extension, and HBLR station, 440/Route 1&9 Truck Multi-Use Urban Boulevard, the recommended use of Intelligent Transportation Systems (ITS), and completion of the Portway projects.

The extension of the HBLR line across Route 440 with a new station for both Bayfront I and the New Urbanist Street Grid would be a positive improvement to provide an alternative to the automobile. The HBLR extension should be grade separated from Route 440 to eliminate the impact of the HBLR on the traffic operations of Route 440. Completion of the Route 440/Route 1&9 Truck Multi-Use Urban Boulevard could provide additional roadway capacity for vehicle trips associated with these two development projects. The Portway projects should also provide some relief to the congestion along Routes 1&9T and Route 440.

The use of Intelligent Transportation Systems (ITS) should provide another means to manage the traffic and transit networks. Media broadcasts to motorists and dynamic message signs could be deployed and incorporated into the mix of improvements. These ITS measures should provide benefits to motorists by managing traffic demand, identifying incidents and developing quick response to clear incidents. ITS for transit could also be deployed. Mass transit systems that are equipped with advanced transit management systems could improve transit efficiencies by providing information to transit riders regarding times of arrival/departure, available seats and alternative routes.

However, it should be noted that the combination of the above mentioned Actions which complete street grids, extend the HBLR, add ITS, and complete the Portway and Route 440/Routes 1&9T Urban Boulevard may not add enough capacity to the roadway and transit system or reduce the demand enough to accommodate the demand of the area at build-out. More detailed traffic and transit studies should be conducted to assess the best ways to manage transit passenger demands on the HBLR and vehicular demand on the roadway network.

4.2.3 Vicinity of the Hudson River Waterfront (Downtown)

Photo Source: Jersey City Division of City Planning

Anticipated redevelopment activity in Downtown Jersey City will generate additional traffic and transit demand. In the 2050 horizon, the modeling showed that there will be many streets within the Downtown that have V/C ratios that exceed acceptable conditions. In order to address the excessive demand and the lack of capacity within the Downtown, investments in the roadway and transit infrastructure must be made. The Downtown is served well by existing HBLR stations. The extension of Jersey Avenue across the Mill Creek would improve access to and from Downtown Jersey City.

A comprehensive transit study needs to be conducted for the Downtown street grid and the HBLR. The focus of this transit study would be to develop a balance between HBLR service, vehicular capacity and pedestrian access within Downtown. Access must be provided for the movement of goods and services; however, a balance must be struck to provide more efficient movement of goods, services and patrons to the Downtown. When completing the street grids within the Downtown, sensitivity and balance must be given to the HBLR service and the movement of people and goods. The Downtown HBLR Circulator should help to reduce vehicle trips within the Downtown area. The HBLR Wye Bypass on the Hoboken border should improve travel times for HBLR vehicles in and out of Jersey City. Improved connections between HBLR and PATH should remove some vehicles from the road network, thus mitigating traffic. Grade separation of 14th Street and the 11th Street viaduct should separate Holland Tunnel-bound traffic from Downtown-bound traffic and improve circulation in the vicinity of the entrance and exit of the Holland Tunnel.

Improvements that facilitate the movement of pedestrians, vehicles, goods and services within the Downtown are necessary to provide access between places of employment and other commercial destinations and the transportation system. Restrictions on parking should be considered, as well as maximum parking ratios in the Downtown.

4.2.4 Vicinity of Journal Square (Journal Square and Marion)

Photo Source: Jersey City Division of City Planning

Journal Square is well served with PATH and bus service. There are also parking facilities that serve passenger cars entering Journal Square. In order to support redevelopment of Jersey City's Central Business District, improvements to pedestrian access, reduction of vehicular trips, improved bicycle access, and improvements to transit are necessary. This policy of reducing the number of cars would help to reduce congestion within Journal Square. Adequate transit systems should be provided to shuttle passengers into and out of Journal Square in a timely manner and to potentially connect Journal Square with parking facilities outside of Journal Square.

4.2.5 Vicinity of NJ Turnpike Newark Bay Extension (Greenville)

The implementation of the Canal Crossing redevelopment plan and construction of the street grids of the Claremont Industrial and Danforth Transit Village redevelopment plans would facilitate the completion of a roadway grid network, but redevelopment would also generate demand for passengers on the HBLR and traffic on the road network. The Action Plan includes projects like the Turnpike Interchange 14A Reconfiguration to improve access between these areas and the Turnpike.

The HBLR provides service and stations along this corridor; however, the future demand and the capacity of this leg of the HBLR and the confluence of the Westside line into the Downtown should be assessed. Garfield Avenue improvements, and the NJ Turnpike Interchange 14A Reconfiguration should also facilitate better movement in this area. Connections to the HBLR and street grids should facilitate better access to the HBLR. The Danforth Interlocking should allow HBLR trains to be turned around at this location to provide additional service during peak demand. The Morris Canal Greenway and preservation of the Lehigh Valley Railroad right-of-way should also provide improved pedestrian and bicycle circulation in this area.

4.2.6 Additional Recommendations

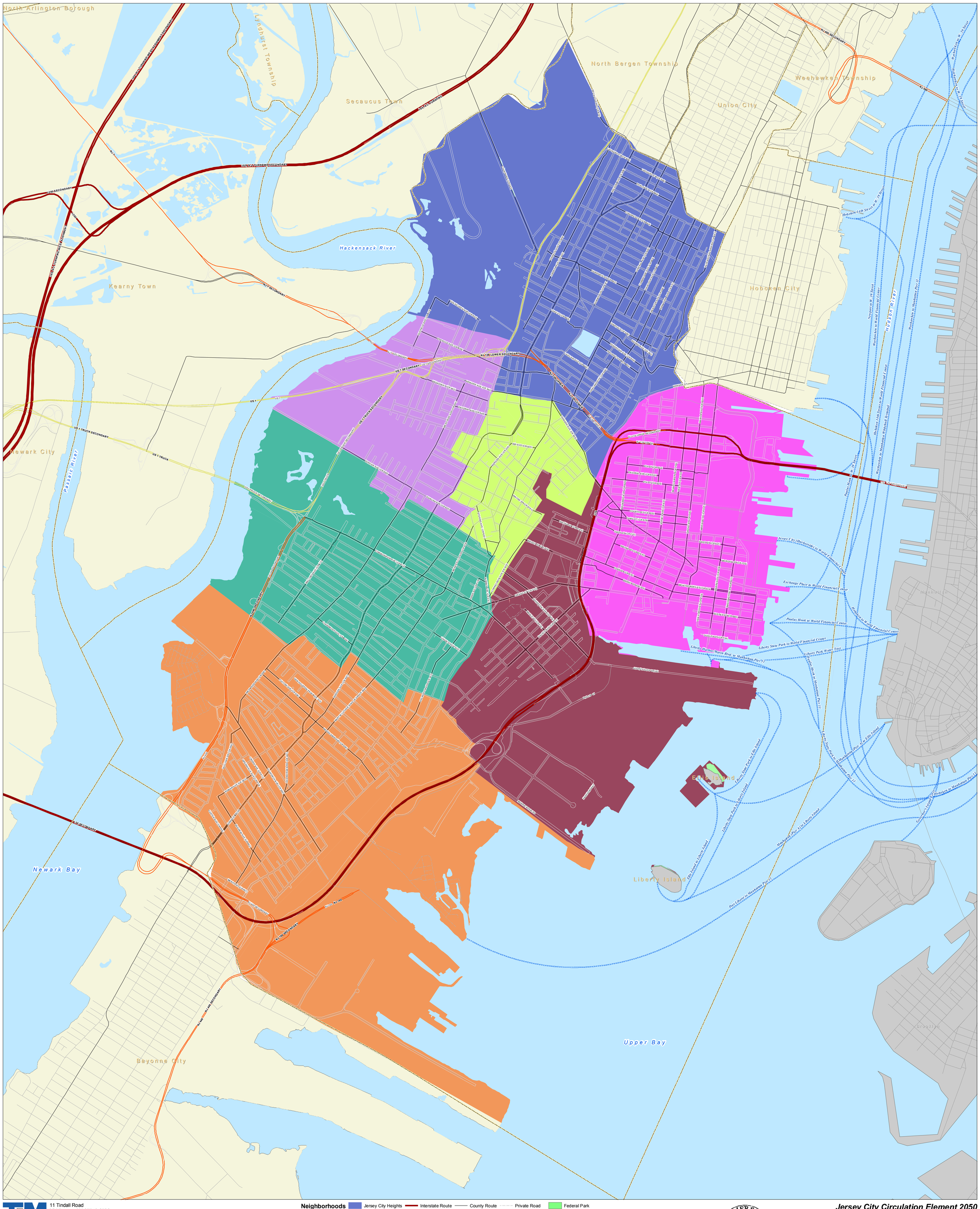
In most cases, the proposed Actions in the Circulation Plan Element appear to provide the infrastructure necessary to support approved and anticipated development and redevelopment. In addition to the Actions, future development and redevelopment will be reviewed on a case-by-case basis. Future traffic studies should analyze the modal splits of vehicular, pedestrian and transit for each redevelopment and development project based on the proximity to existing and proposed transit systems and roadway networks.

Off-site improvements should be assessed for development and redevelopment projects to mitigate congestion. An assessment of the capacity of the HBLR system to accommodate the additional ridership of these developments should also be

conducted. The transit system must be developed, expanded and improved to maximize efficiency and provide as much coverage to Jersey City without compromising the system. A capital investment prioritization study should be undertaken to develop an implementation schedule for transit improvements and use of capital resources. The goals of the capital investment prioritization study should include improved efficiency, reduced delays, and improved reliability. Buses, Light Rail, and PATH should all be assessed together. Issues such as seamless service and coordination of connections and capacity should be considered in the study.

4.3 Mobility Study Findings

As part of the research performed to produce the Circulation Plan Element, the City conducted a mobility survey entitled "Jersey City 2050 Mobility Survey", which collected data on the origins and destinations of commuters to and from Jersey City, as well as data on intermediate trips on the way to or from work. A copy of this report is located in the Appendices of this Plan. The survey was conducted by Eastland Systems Group, with insight from Resource Systems Group and T&M Associates. The mobility survey solicited responses to survey questions pertaining to travel to, from and within Jersey City. The survey began in April 2008 and ended in May 2008. The purpose of the survey was to obtain current, neighborhood-specific data that could be used to determine the shortcomings of the multi-modal transportation system to, from, and within Jersey City, and to determine the mobility patterns of the City's residents and workers. Therefore, data was obtained from seven neighborhoods as defined by New Jersey Transit, which are depicted on Figure 4.3-1.



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Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water, Census Tracts; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Dept.: Parks and Open Space
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Neighborhoods

- Bergen
- Downtown
- Greenville
- Jersey City Heights
- Journal Square
- Lafayette
- Marion

- Interstate Route
- U.S. Route
- State Route
- Toll Route
- County Route
- Local Roads
- Ramp
- Private Road
- Proposed Road
- Right of Way
- Ferry Routes
- Federal Park
- Open Water
- Municipal Boundary
- New York City

CITY OF JERSEY CITY — CORPORATE SEAL

Jersey City Circulation Element 2050
Figure 4.3-1: Transit Neighborhoods
City of Jersey City
Hudson County, New Jersey

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NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

4.3.1 Overview

The 2050 Mobility Survey focused on three (3) market segments. The market segments and sample sizes are as follows:

- Market Segment 1: People who work in Jersey City and live elsewhere.
  Sample size: 1,437

- Market Segment 2: People who work elsewhere or do not work and live in Jersey City.
  Sample size: 668

- Market Segment 3: People who work and live in Jersey City
  Sample size: 694

The Jersey City Mobility Survey was conducted primarily online through the project website. Responses were supplemented with paper surveys conducted in the field at multiple locations, including the public libraries in each neighborhood, local community organizations, and City Hall.

4.3.2 Key Findings

Most stakeholders agreed that mass transit had several shortfalls, and that improvements are needed to provide better neighborhood connectivity within Jersey City, and enhanced service to the region. Many reported that mass transit needed extended hours, and more frequent service. Roadway maintenance was a concern, and many congested areas were cited. Some stakeholders voiced a need for biking incentives at work, bike facilities on streets, and bike accommodations on mass transit carriers and at mass transit stations. Mobility concerns for the disabled were raised, which included ADA compliant mass transit facilities and walkways, and adequate capacity. There were concerns raised relative to the safety of the circulation system, for vehicles, bicycles, and pedestrians.

The survey found that the overall transit share by market segment was much higher than the 2000 Journey-to-Work Census, which may be due to the opening of the Hudson-Bergen Light Rail in 2000 and the significant increase in office and residential development, especially in Downtown Jersey City, after 2001. Specifically, the following is a breakdown of how survey respondents commute to work by market segment:

- Market Segment 1: People who work in Jersey City and live elsewhere.
  62% Transit; 38% Non-Transit

- Market Segment 2: People who work elsewhere or do not work and live in Jersey City.
  76% Transit; 24% Non-Transit

- Market Segment 3: People who work and live in Jersey City
  35% Transit; 65% Non-Transit

- Combination of Market Segments 1, 2, &3
  58% Transit; 42% Non-Transit

The survey found that the overall busiest time for morning travel within Jersey City among all markets is between 6:00 AM and 10:00 AM. The busiest time in the evening was between 4:00 PM and 7:45 PM. Overall, a large number of commuters are traveling to and from New York counties that are east-of-the-Hudson River, and also to and from Monmouth, Middlesex, Union or Ocean counties. Additionally the lowest transit share is experienced by people going to work in Lafayette (14%) Greenville (28%) and Jersey City Heights (28%) which indicates the need for more neighborhood connectivity for mass transit.

Lastly, the survey identified that the most important aspects of mass transit for Jersey City stakeholders are that it stops close to home, that the service is frequent, safe, and reliable, and cheaper than driving.

4.3.3 Incorporation with Circulation Element

The respondents' concerns were used to form the fourteen (14) Goals, as well as the Objectives, Strategies, and Actions of the Circulation Plan Element. The first priority for all market segments corresponds to Goal 2: "Increase, improve, and enhance public transit service to, from, and within all areas of Jersey City". The second priority for market segments 1 and 3 corresponds to Goal 8: "Improve access between Jersey City and the greater region". The second priority for market segments 1 and 3 corresponds to Goal 3: "Integrate and connect neighborhoods, and improve public access to waterfront areas".

The report that summarizes the findings of the mobility survey recommends multiple Actions that were incorporated in the Circulation Plan Element. Notably, the mobility report recommends that Jersey City work closely with New Jersey Transit to support and collaborate on the design of future study that examines the anticipated expansion of the Hudson-Bergen Light Rail in Jersey City. This Plan recommends that the City work with NJ TRANSIT and other mass transit carriers for the expansion of services, including the Hudson Bergen Light Rail, and recommends that mass transit carriers analyze the efficiencies of the system and prepare for growth. Additionally, the plan recommends implementing the recommendations of the NJ TRANSIT/NJTPA/Jersey City local bus study and identifies rights-of-way for the extension of the HBLR as well as for other circulation needs.

The Plan facilitates improvements to the multi-modal system. The survey revealed that people who worked and lived in Jersey were the most likely to drive. Therefore, there are multiple Goals, Objectives, Strategies, and Actions that address improved neighborhood connectivity. In regards to safety and maintenance, the Plan includes a Traffic Calming Plan and a Sidewalk Maintenance Plan, to achieve a safer streets and sidewalks that are well maintained. The Plan provides a means to monitor the City's achievement of their Goals which ultimately will improve the multi-modal system and meet the identified needs of all of its stakeholders.

4.4. Right-of-Way Needs

Right-of-way is a parcel of land with a specific owner where the public at large or a specific private party has a legal right to traverse the land in some specified manner. In essence, right-of-way makes up and connects the circulation system. Right-of-way may contain public or private roads, sidewalks, trails, walkways, and private rail lines. Jersey City will require additional right-of-way through 2050 in order to connect the various aspects of its

circulation system. As indicated on the Right of Way Needs mapping, Figure 4.4-1, fifty-seven (57) locations of new potential right-of-way were identified within Jersey City. The mapping indicates proposed projects and potential projects. The proposed projects are projects that are past the feasibility stage, and potential projects are still in the concept phase.

4.4.1 Rail

There are various locations where right-of-way is needed for rail projects. These projects have been identified in the Action plan, and will allow for extensions of mass transit services, will facilitate better efficiency of service, and provide for new stations, platforms, and walkways. These projects include:

- Downtown HBLR Circulator (#11 on Figure 4.4-1) and HBLR Extension to Senator Frank R. Lautenberg Station (#17 on Figure 4.4-1) – The HBLR Downtown Circulator would originate from the Harsimus Cove station, use the Sixth Street Embankment, connect to the Riverline ROW, and connect to the existing HBLR tracks south of the HBLR Second Street Station (in Hoboken) in the vicinity of Hoboken Avenue. Eventually, another phase would extend the light rail system to Senator Frank R. Lautenberg Station via the Bergen Arches as recommended in the 2003 Bergen Arches Best Uses Study, which found that this would divert over 4,000 auto trips per day to transit trips by 2025. Abutting the light rail, a linear bike-pedestrian multi-use path should be created on the Sixth Street Embankment and through the Bergen Arches. This project will improve access to the regional employment center in Downtown Jersey City.

- HBLR Extension (#16 on Figure 4.4-1) – In the first phase, the HBLR Extension is envisioned to extend from the Westside Avenue station to the Bayfront I redevelopment area, and would include a new HBLR station west of Route 440. In a later phase, it is envisioned that the HBLR would extend across the Hackensack River possibly in the location of the existing piers, through Kearny, and over the Passaic River into Newark. This project would provide greater regional connectivity to and from Jersey City.

- HBLR Wye Bypass (#18 on Figure 4.4-1) – The HBLR bypass of the wye-intersection at 18th Street will increase HBLR system capacity and flexibility.

- Jersey Avenue HBLR Realignment (#21 on Figure 4.4-1) – The realignment of the HBLR will eliminate the existing awkward geometry of the tracks and share right-of-way with the Jersey Avenue Extension (#20 on Figure 4.4-1) south to the intersection of Zapp Drive and Phillip Drive. NJ TRANSIT may provide an additional station along this new realigned segment.

- New Connection Between Pavonia-Newport HBLR and PATH Newport Station (#37 on Figure 4.4-1) – A new entrance to the existing PATH underground mezzanine above the track platforms in Washington Boulevard in order to grade separate the Washington Boulevard pedestrian crossing and shorten the walking distance between the PATH and HBLR. The new entrance should be located along the Westside of Washington Boulevard at the east end of Newport Office Center (NOC III) passageway from HBLR Station.

- HBLR Danforth Interlocking (#38 on Figure 4.4-1) – The new Danforth Interlocking would be used to run both AM and PM peak service between Danforth and Pavonia-Newport Stations using the pocket track to turn. It would provide additional service and additional capacity for Jersey City local riders. This is critical given that Jersey City local riders may eventually experience crowding from new riders from the Bayonne extension to 8th Street, future extension to Rt. 440 on the Westside Avenue line, and continued development between Essex Street and Liberty State Park. Light Rail vehicles from Bayonne and Westside are projected to be operating at or near capacity prior to reaching "inner" portions of Jersey City, and therefore the New Danforth interlocking could ameliorate a degradation of service.

- New Southbound Side Platform at Pavonia/Newport HBLR Station (#42 on Figure 4.4-1) – A new platform would be constructed on the southbound track. It would improve pedestrian flows on and off the trains at one of the busiest stations on the system. It would reduce the numbers of people that cross in front of the stopped southbound trains and would cut down on station dwell time. This improvement could be patterned after the design of the platforms for northbound HBLR trains at the Exchange Place station.

- Rail Road Right-of-Way North of Journal Square(#51 on Figure 4.4-1) – This unused right-of-way could be used to improve connectivity for the rail system.

In addition to the above rail right-of-way locations, right-of-way would also be required for the following proposed HBLR stations that are identified in Figure 4.4-1:

- Jersey Avenue Station
- Baldwin Avenue Station
- Tonnele Avenue Station
- 18th Street Station
- Mill Creek Station
- Station between Pacific Avenue and Halladay Street
- Caven Point Avenue Station
- Bayfront Station (west of Westside Avenue Station and Route 440)
- A station in Kearny and in Newark at the line extending west from Bayfront Station

PROPOSED PROJECTS			
ID	NAME	ID	NAME
1	11th Street Viaduct Extension and Grade Separation of 14th Street	32	Marin Boulevard Extension
2	Academy Street Bus, Bike and Pedestrian Extension	33	Metro Plaza Future Grid
3	Bay Street Extension	34	Morgan Street Extension
4	Bayfront I	35	Morris Canal Greenway**
5	Bus Layover Facility	36	Morris Street ROW Pedestrian Extension
6	Canal Crossing	37	New Connection Between Pavonia-Newport HBLR and PATH Newport Station
7	Claremont RDP Future Street Grid	38	New Danforth Interlocking
8	Corbin Avenue Extension	39	New Jersey Turnpike Exit 14A Reconfiguration
9	Danforth Transit Village RDP Street Grid	40	New Street
10	Dey Street Extension	41	New Grid to Support Potential Development on Burma Road
11	Downtown HBLR Circulator	42	New Southbound Side Platform at Pavonia- Newport Station
12	Future New Urbanist Street Grid	43	New Street to connect Woodward and Van Horne Streets
13	Garabrant Street Extension	44	New Urbanist Street Grid
14	Garfield Avenue Widening	45	Newport NE Quadrant
15	Grand/Jersey Redevelopment Plan	46	NJCU West Campus
16	HBLR Extension	47	Old Colony Shopping Center Future Grid
17	HBLR Extension to Secaucus Junction (Lautenberg Station)	48	Pedestrian Connector to HBLR
18	HBLR Wye Bypass	49	Pedestrian Passage along HBLR
19	Hoboken Terminal	50	Portway
20	Jersey Avenue Extension (south)	50A	Portway: New 1-9T Extension
21	Jersey Avenue HBLR Realignment	50B	Portway: Route 1-9T/St. Paul's Avenue Viaduct
22	Jersey Avenue Park Redevelopment Plan	50C	Portway: Wittpenn Bridge
23	Proposed Journal Square Redevelopment Plan*	50D	Portway: New Road under St. Pauls Avenue Viaduct
24	Kellogg Street Extension	51	Railroad ROW North of Journal Square
25	Lafayette Gardens Hope VI	52	Route 440/Route 1-9T Multiuse Urban Boulevard
26	Lafayette Walkway	53	Sip Avenue Connector
27	Lehigh Valley RR ROW Preservation	54	Sixth Street Embankment/East-West Connections
28	Liberty Harbor North	55	State Street Extension
29	Linden Avenue Realignment	56	Warren Street Extension
30	Maple Street - Bishop Street Connector	57	Water Street Redevelopment
31	Maple Street Extension		

* pending adoption by the City Council

** where feasible

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Prepared by: STK, April 20, 2009

Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - New York City; NJDOT - 2008Roads; Jersey City Planning Department - Walkways, Greenways, Proposed Projects; PS&S - Hudson River Walkway; RBA - East Coast Greenway

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Proposed Projects **Hudson–Bergen Light Rail PATH**

ConceptStatus

- Proposed Project
- Conceptual Project
- Existing Lines
- Proposed Lines
- Existing LRT Station
- Proposed LRT Station
- PATH Lines
- Existing PATH Stop
- Proposed PATH Stop
- Rail Lines
- Spurs and Sidings
- Ferry Routes
- Pedestrian Bridge
- Interstate Route
- U.S. Route
- State Route
- Toll Route
- County Route
- Local Roads
- Ramp
- Private Road
- Proposed Road
- Right of Way
- Park and Open Space
- Open Water
- Municipal Boundary
- State of New York

NOTE: Please contact the Jersey City Division of Planning for specific information on mapped areas.

Jersey City Circulation Element 2050
Figure 4.4-1: Right of Way Needs
City of Jersey City
Hudson County, New Jersey

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

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4.4.2 Bus

The majority of recommended bus improvements are within existing rights-of-way and are therefore not indicated on the right-of-way mapping. However, one improvement, a bus layover facility (#5 on Figure 4.4-1) could potentially require right-of-way, or would be built on land purchased by NJ TRANSIT. Regardless, there is a need for a bus layover facility that is accessible to Downtown Jersey City, since buses are no longer permitted to idle in Exchange Place Plaza for home land security reasons. Exchange Place is closed to vehicular traffic except for emergency vehicles. The potential bus layover facility would serve buses for temporary storage for the mid-day between the AM and PM peak hours. This would make it easier to serve the afternoon peak period. The proposed location would require coordination with several agencies including NJ TRANSIT and the NJ Turnpike since the location for this facility may be underneath the NJ Turnpike Extension structures.

4.4.3 Road

The plan identifies multiple street grids to serve potential development and redevelopment, and proposes multiple roadway extensions to serve developments for bikes, vehicles, and pedestrians. The plan also identifies rights-of-way that are potential or proposed for state highways and county roads. These projects are to alleviate congestion and to better serve the region and enhance the movement of goods and services. As stated in section 4.2, many of these roadway extensions, grids, and projects are necessary to alleviate the congestion that is projected through 2050 and provide the infrastructure necessary to support approved and anticipated development and redevelopment. These street grids, roadway extensions and projects requiring right-of-way include:

<u>Street Grids in Adopted Redevelopment Plans</u>

- Bayfront I (#4 on Figure 4.4-1) - The City and Honeywell have entered into an agreement to redevelop the site together. Site cleanup is well underway, and utility relocation is anticipated in near future. The future street grid will accommodate buses, include pedestrian walkways, and provide access to a new HBLR station.

- Canal Crossing (#6 on Figure 4.4-1) - This is a large, mixed-use redevelopment area that may include up to 5,000 residences and 600,000 square feet commercial space. A new street grid is proposed for this area, along with an additional HBLR station at Pacific Avenue. The new light rail station and the existing station at Garfield Avenue may be adequate to handle the anticipated increase to transit ridership. The feasibility of the proposed Pacific Avenue station along the Westside HBLR line is to be determined.

- Claremont Redevelopment Plan Area Future Street Grid (#7 on Figure 4.4-1), Danforth Transit Village Redevelopment Plan Area Street Grid (#9 on Figure 4.4-1) - These are future street grids to accommodate redevelopment.

- Grand Jersey Redevelopment (#15 on Figure 4.4-1) - The Grand Jersey Redevelopment plan proposes a new grid system west of Liberty Harbor North. The proposed roadway network includes the extension of Jersey Avenue south over Mill Creek to the intersection of Zapp Drive and Phillip Drive. A proposed

realignment of the HBLR line is also envisioned, which will eliminate a sharp curve in the light rail tracks. A new HBLR station may be situated south of Mill Creek. The proposed realignment of the HBLR will share right-of-way with the Jersey Avenue extension.

- Jersey Avenue Park Redevelopment Plan (#22 on Figure 4.4-1) - This area could accommodate new residential development.

- Liberty Harbor North (#28 on Figure 4.4-1) - This area is partially developed and there is a proposed grid. This is an adopted redevelopment plan.

- NJCU West Campus (#46 on Figure 4.4-1) - This new street network will serve the campus and follow the NJCU West Campus Redevelopment Plan.

- Water Street Redevelopment (#57 on Figure 4.4-1) - This area will be developed to provide a grid system east of Route 440 and north of the proposed Westside HBLR extension. This redevelopment plan has been adopted.

<u>Future Street Grids or Future Modifications to Street Grids</u>

- Future New Urbanist Street Grid (#12 on Figure 4.4-1) - This area will accommodate a future street grid along the Hackensack River Waterfront north of Bayfront I. The Bayside Development Study examined the development potential in the west side of Jersey City and included improvements to the street grid. This new urbanist street grid will extend the grid from Bayfront I and change the character of the area from industrial/commercial to a residential neighborhood.

- Proposed Journal Square Redevelopment Plan (#23 on Figure 4.4-1) – Modifications to the right-of-way may include changes to the directionality of streets, increases in sidewalk widths, construction of bike lanes, and accommodation of a narrow-gauge trolley system.

- Metro Plaza Future Grid (#33 on Figure 4.4-1) - This area is envisioned for residential towers. This grid will support the development and accommodate the HBLR.

- New roads to support Potential Development on Burma Road (#41 on Figure 4.4-1) - These new roads would create a street grid to support potential residential development.

- New Urbanist Street Grid (#44 on Figure 4.4-1) - Future redevelopment of this area should include the creation of a new urbanist street grid. Currently, this area is not in an adopted redevelopment plan.

- Newport Northeast Quadrant (#45 on Figure 4.4-1) - This grid will continue the Newport grid to support residential/commercial development.

- Old Colony Shopping Center Future Grid (#47 on Figure 4.4-1) – Currently, there is not an adopted redevelopment plan for this area. Future redevelopment should include a new street grid.

- Hoboken Terminal (#19 on Figure 4.4-1) – Hoboken Terminal and Yard Redevelopment Plan will include high intensity mixed-use development in the Hoboken Terminal area.

Local Street Extensions

- Academy Street Bus, Bike, and Pedestrian Extension (#2 on Figure 4.4-1) continues from Baldwin Avenue to Columbus Drive - The continuation of Academy Street could use existing right-of-way behind the Block Drug building, the NJ Turnpike Extension, and PATH tracks, and could potentially be used for bus, pedestrians, and bicyclists. This project would require a bridge over the railroad tracks. This project should be coordinated with the Sip Avenue Connector (#53 on Figure 4.4-1).

- Bay Street Extension (#3 on Figure 4.4-1), Kellogg Street Extension (#24 on Figure 4.4-1), Morgan Street Extension (#34 on Figure 4.4-1), and New Street to Connect Woodward Street and Van Horne Street (#43 on Figure 4.4-1) - These are all roadway extensions to enhance the existing street grids.

- Corbin Avenue Extension (#8 on Figure 4.4-1) Dey Street Extension (#10 on Figure 4.4-1) – These are future street grids and extensions to support the Canco Loft Redevelopment.

- Garabrant Street Extension (#13 on Figure 4.4-1) - The Garabrant Street extension continues the street grid through the park and ride lot at the Liberty State Park HBLR station, which will support its redevelopment.

- Jersey Avenue Extension (South) (#20 on Figure 4.4-1) - This southerly extension of Jersey Avenue will connect to the intersection of Audrey Zapp Drive and Phillip Drive and improve circulation The design can accommodate limited vehicular traffic and provide right-of-way for the realignment of the HBLR. It will also be bicycle and pedestrian friendly.

- Linden Avenue Realignment (#29 on Figure 4.4-1) - This removes a jog in Linden Avenue where it connects to Caven Point Road.

- Maple Street Bishop Street Connector (#30 on Figure 4.4-1) - Whitlock Cordage is a residential development that is in the vicinity of this potential street grid extension. This extension will provide connectivity to Grand Street and the Lafayette neighborhood to provide alternate neighborhood access. This is in the Morris Canal Redevelopment Plan.

- Maple Street Extension (#31 on Figure 4.4-1) - Maple Street will be extended from Monitor Street to provide easier access to the HBLR. This is a proposed street which was vacated that would be re-established. This right-of-way will accommodate pedestrian and bicycle travel.

- Marin Boulevard Extension (#32 on Figure 4.4-1) - This extension will provide access to Liberty Harbor North Redevelopment Plan Area.

- New Street (#40 on Figure 4.4-1) - This area would be private right-of-way which would extend from Pavonia Avenue to support residential development.

- Sip Avenue Connector (#53 on Figure 4.4-1) - This roadway connection would provide better East-West connectivity in the City by enabling vehicles, pedestrians, and bicyclists to travel from Columbus Drive to Sip Avenue.

- State Street Extension (#55 on Figure 4.4-1) - This roadway extension is in support of Whitlock Cordage.

- Warren Street Extension (#56 on Figure 4.4-1) - This extension is between 2nd Street and Thomas Gangemi Drive which is in the Metro Plaza Area, and should accommodate a future HBLR crossing. The Metro Plaza Area future grid should include the Warren Street Extension.

<u>Roadway Projects</u>

- 11th Street Viaduct and Grade separation of 14th Street (#1 on Figure 4.4-1) - This project will relieve congestion on local Jersey City Streets and could have possible phasing. The 11th Street viaduct and ramp improvement will provide separate facilities for Holland Tunnel-bound traffic and Jersey City-bound traffic. The 14th Street Viaduct and new ramp will improve traffic flow for outbound traffic from the Holland Tunnel and Washington Boulevard and provide smoother access to Jersey City.

- Garfield Avenue Widening between Bayview Avenue and Grand Street (#14 on Figure 4.4-1) will support an additional travel lane on Garfield Avenue.

- New Jersey Turnpike Interchange 14A Reconfiguration (#39 on Figure 4.4-1) - This project will involve right-of-way however it is still in the planning stage. The project should ease congestion and provide for safer and smoother commercial traffic access to freight terminals.

- Portway (#50 on Figure 4.4-1) - This is a multi-jurisdictional, regional series of projects by NJDOT meant to facilitate truck movements within the port area. The projects include:

  - New 1& 9 Truck Extension (#50A on Figure 4.4-1) between St. Paul's Avenue and Secaucus Road. Currently, this project is in the preliminary design phase.

  - St. Paul's Avenue Viaduct/ Route 1&9T (#50B on Figure 4.4-1 - The Route 1 & 9 Viaduct over St. Paul's Avenue has been awarded for construction. It includes replacing the Routes 1&9 Viaduct over St. Paul's Avenue with a new structure on a new alignment north of the present structure. It will build new approach roads to safely connect to Route 1&9T, Route 7, Pulaski Skyway, Route 139, Route 1&9 north of Tonnele Circle and local streets in Jersey City. This provides a more continuous flow of traffic from Routes 1&9 southbound to the Pulaski Skyway. The Charlotte Circle has been

eliminated and a reconfiguration of Tonnele Circle will be included in this project.

- Wittpenn Bridge replacement (#50C on Figure 4.4-1) - Wittpenn Bridge will remain a vertical span but be raised to reduce the number of bridge openings. The bridge will be rebuilt north of the existing bridge. It will accommodate sidewalks and be bicycle compatible for the East Coast Greenway Route. The project includes the realignment of Fish House Road on the west side of the Hackensack River. The project will be completed in phases, and the last phase is anticipated to be completed in Fall 2015.
- New Road Under St. Paul's Avenue Viaduct (#50D on Figure 4.4-1) - There will be a new road constructed under the St. Paul's Avenue Viaduct to connect to the new 1&9T (#50A).

- Route 440/Route 1 & 9T Multi-use Urban Boulevard (#52 on Figure 4.4-1) - This project will have an urban, context-sensitive design to make this corridor into a bicycle-friendly and pedestrian-friendly Main Street that supports future redevelopment in the area. The City received a federal earmark to design the boulevard.
- Layfayette Gardens Hope VI (#25 on Figure 4.4-1) – This is a future street grid to accommodate redevelopment.

4.4.4 Bike and Pedestrian

Many of the bike and pedestrian accommodations recommended in this plan utilize the existing rights-of-way, however there are several locations where right-of-way needs to be obtained or preserved for trails, walkways and pedestrian accommodations. These locations include:

- Lafayette Walkway (#26 on Figure 4.4-1) - The Lafayette Walkway is a proposed project included in the Morris Canal Redevelopment Plan.
- Lehigh Valley Railroad Right-of-Way Preservation (#27 on Figure 4.4-1) - This area is intended to be used as a greenway or park.
- Maple Street Extension (#31 on Figure 4.4-1) - Maple Street will facilitate pedestrian and bicycle access to the HBLR station at Liberty State Park.
- Morris Canal Greenway (#35 on Figure 4.4-1) - This is a greenway that is envisioned, where feasible, along the former Morris Canal.
- Morris Street Right-of-Way Pedestrian Extension (#36 on Figure 4.4-1) - This right-of-way extension will provide pedestrian access to the waterfront and Hudson River Waterfront Walkway.
- Pedestrian Connector to HBLR (#48 on Figure 4.4-1) - This right-of-way supports the creation of intercept parking at an unused rest stop on the NJ Turnpike Extension between Mile Posts 63 and 64. There should be pedestrian connectivity between intercept parking facility and the Richard Street HBLR station.
- Pedestrian Passage along HBLR (#49 on Figure 4.4-1) – There is a pedestrian path on the southern side of the HBLR tracks, and there is potential to provide

pedestrian access along the northern side of the tracks, which would improve access to the HBLR station at Marin Boulevard.

- Sixth Street Embankment/ East-West Connections (#54 on Figure 4.4-1) - The Sixth Street Embankment should be reused as a linear multi-use path/park for bikes and pedestrians. The Sixth Street Embankment should also include space for a future extension of the HBLR.

4.5 Functional Classification System

Functional classification is the process by which roads are grouped according to the service they are intended to provide, and how these roads fit into the circulation network so that travel can be efficient and serve all of its users. Smaller, less traveled roadways provide motorists with a high degree of access. Larger roadways provide motorists with a high degree of mobility.

The Federal Highway Administration has a Federal functional classification system. Additionally, other agencies have either a classification system with standards, or roadway standards, which include the NJDOT State Highway Access Management Code that applies to State highways, the NJDCA Residential Site Improvement Standards, and Hudson County. Jersey City's Land Development Ordinance also has standards that apply to roads and streets.

The Circulation Plan Element has established a roadway classification system for the purpose of establishing Typical Roadway Sections that are applicable to the intensity of the street. Jersey City's roadway classification system is not intended to replace the Federal designations. The Jersey City designations are separate from the Federal designations and serve a specific purpose for the plan, which is to establish the street design. The Jersey City designations were established with guidance from NJDCA Residential Site Improvement Standards, and the service they were intended to provide.

4.5.1 Federal Designations

The Federal Highway Administration's (FHWA) functional classification system is developed in cooperation with county and Metropolitan Planning Organization officials. The Federal system is updated every ten years after the US Census is released. With input from Hudson County and NJDOT, the Federal Highway Administration (FHWA) develops a classification of roads and highways using Federal guidelines. The system is divided into urban and rural categories. All Jersey City streets fall in the urban category. The Federal designations are as follows:

Urban Interstate: Limited access highway, serving high-volume traffic that connects major generators. An example of an urban interstate in Jersey City is I-78 which leads to the Holland Tunnel.

Urban Freeway/Expressway: Expressway and limited access, serving high-volume traffic that connect major generators. US Route 1 Secondary is considered an example of this roadway type.

Urban Principal arterial highway: Major streets or highways, many of multilane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel. Some examples in Jersey City are: NJ Route 440, US Routes 1&9 T, NJ Route 7, and NJ Route 139.

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Prepared by: STK, April 20, 2009
Source: NJDEP - Municipal Boundary, Open Water; NYC Department of City Planning - Borough Boundary, Roads; NJDOT - 2007 Roads; Jersey City Planning Department - Zoning, One Way Streets, Future Street Grids
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Federal Highway Administration Designation
- Urban Interstate
- Urban Freeway/Expressway
- Urban Principal Arterial

Jersey City Functional Class Designation
- Major Collector
- Minor Collector
- Minor Collector*
- Local Residential Street
- Local Park Road
- Undetermined

- Interstate Route
- U.S. Route
- State Route
- Toll Route
- County Route
- Ramp
- Private Road
- Proposed Road
- One Way Street
- Minor Collector
- Future Residential Street Grid
- Park and Open Space
- Open Water
- Municipal Boundary
- New York City

* Requires special design attention to accomodate buses.

CITY OF JERSEY CITY — CORPORATE SEAL

Jersey City Circulation Element 2050
Figure 4.5-1: Roadway Functional Class
City of Jersey City
Hudson County, New Jersey

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NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Urban Minor arterial highway: Major streets or highways, many of multilane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel. In urban areas, the minor arterial roads distribute trips to small geographic areas but typically do not penetrate into neighborhoods. Examples of roads in Jersey City that are classified as urban minor arterials are: Danforth Ave (CR-602), Patterson Plan Road (CR-681), and Secaucus Road (CR-678).

Urban collector: Roads that primarily serve intra-county trips characterized by moderate volume and speed, and that provide for land access, traffic circulation, and access to arterial routes. In urban areas, these streets provide direct access to neighborhoods and arterials. Examples in Jersey City include: Pacific Ave. (CR-621), Pavonia Ave, and Old Bergen Road (CR-601).

A full listing of FHWA Functional Classifications for the City roadways is found in the Appendices.

4.5.2 Jersey City Functional Classification System

Jersey City's Functional Classification system was established with guidance from NJDCA Residential Site Improvement Standards. Jersey City's Functional Classification System was based on how streets fit into Jersey City's roadway network and the service they were intended to provide. As previously stated, Jersey City's roadway classification system is not intended to replace the Federal designations. The Jersey City designations will be used in conjunction with the proposed typical sections that are found in Section 4.6. The Jersey City Functional Classification System designations are as follows:

Major collector: These streets include major City streets whose primary function is to collect and distribute traffic between minor collector streets, local streets, and the arterial system. These roads are characterized by moderate volume, and provide for land access, traffic circulation, and access to arterial routes. These streets may also serve industrial and warehouse areas. Examples of major collectors are Christopher Columbus Drive, Grand Street (from Communipaw Avenue to Washington Street), Jersey Avenue (from Newark Avenue to 18th Street), and Grove Street.

Minor Collector: Streets that serve multiple land uses, and whose primary function is to provide land access and inter-neighborhood traffic movement. These streets typically feed into a higher level street and serve as small local neighborhood commercial and residential areas. Examples of minor collectors in Jersey City include Newark Avenue, Summit Avenue, Tonnele Avenue, and Thomas Gangemi Drive.

Local Residential Street: Streets that primarily serve residential areas with full access for all users. These streets carry low traffic volumes. These streets provide ample access, and can exist in any land use setting and involve travel to and from a collector facility. Examples of local residential streets include: Vroom Street, Water Street, Clarke Avenue, and Cubberly Place.

Local Park Street: Streets that serve parks that focus on full access for all users. These streets carry low traffic volumes. Examples of local park streets include: Freedom Way, Morris Pesin Drive, and Lincoln Park Road

A full listing of Jersey City Functional Classifications is found in the Appendices.

4.6 Typical Sections

The Typical Sections provide design guidelines for new and existing streets in Jersey City. In most cases it is not possible to widen existing local streets due to the locations of existing structures. Therefore, this Plan establishes Typical Roadway Sections that utilize the existing right-of-way in a manner that accommodates all of its users. These Typical Sections should also be applied to all new roads, where applicable. These Typical Sections, where feasible, accommodate vehicles, bikes, pedestrians, street trees, bike racks and street amenities.

Typical Sections were established for Major Collectors, Minor Collectors, and Local Residential Streets as identified in Jersey City's Functional Classification system. Jersey City does not control the Local Park Streets. Therefore, Typical Roadway Sections were not established for this classification. However, Local Park Streets should be designed to accommodate all users and include amenities for bikes and pedestrians.

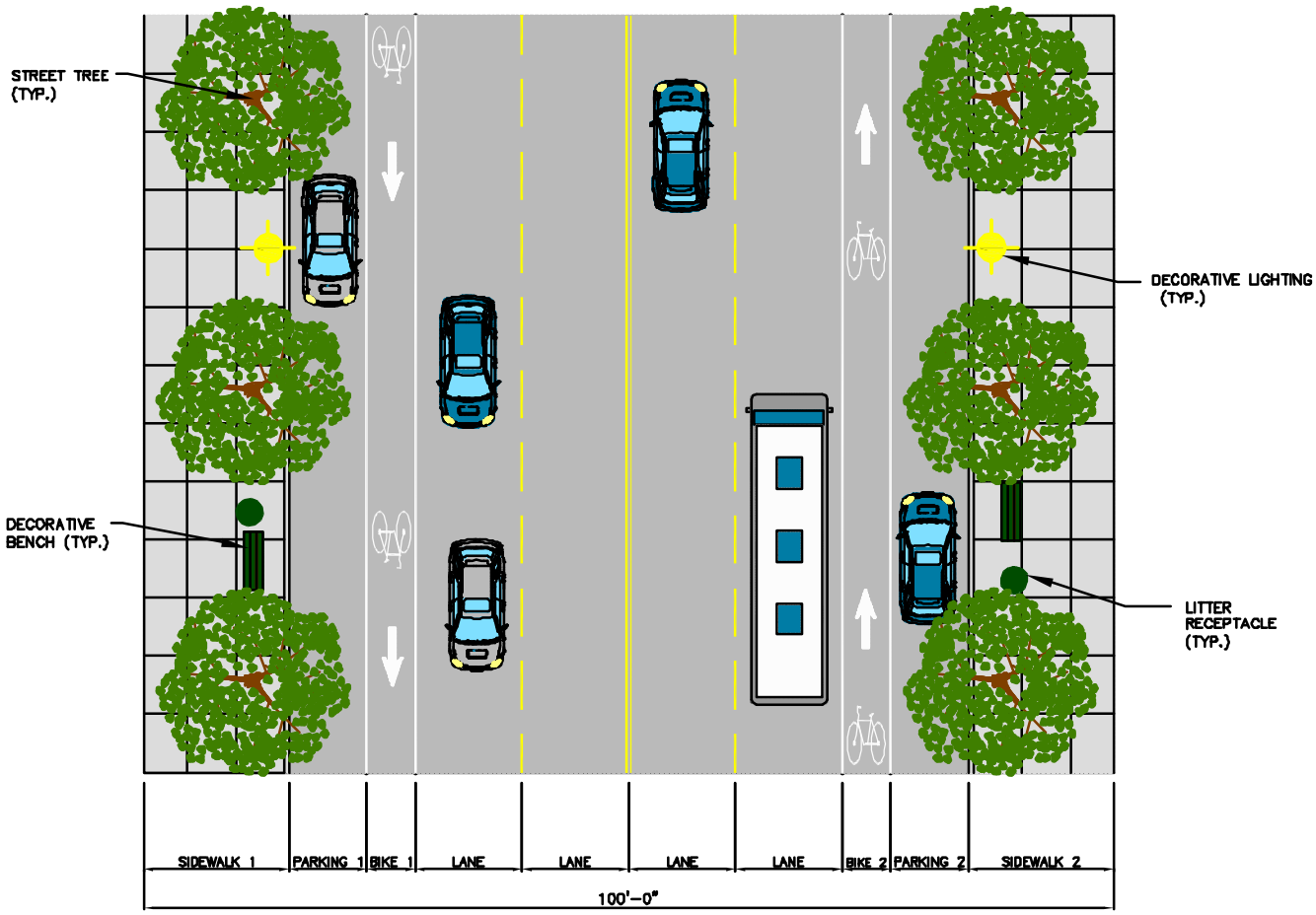
Jersey City has multiple right-of-way widths, therefore, five (5) predominant right-of-way widths were chosen for Typical Sections: 100 foot, 80 foot, 66 foot, 60 foot, and 50 foot rights-of-way. A Typical Section was developed for each classification (Major Collector, Minor Collector, and Local Residential Street) for each of the five right-of-way widths, where applicable. Typical Sections are established for the following roadway types, where applicable:

- Two-way Street; two-sided parking
- Two-way Street; two-sided alternate side parking and cycle track
- Two-way Street; one-sided parking
- Two-way Street; no parking
- Boulevard or Center Turn Lane
- One-way Street; two-sided parking
- One-way Street; one-sided parking

The Typical Sections show locations of sidewalk amenities. In addition, examples of traffic calming layouts can be found in the Traffic Calming section of the Plan. The following table shows a listing of Figure numbers for typical roadway sections of various right-of-ways which follow.

Figure #	Right-of-Way	Roadway Layout
Figure 4.6-1	100 Foot Right-of-Way	Two-Way Street; Two-Sided Parking
Figure 4.6-2	100 Foot Right-of-Way	Two-Way Street; Two-Sided Alternate Side Parking and Cycle Track
Figure 4.6-3	100 Foot Right-of-Way	Two-Way Street; One-Sided Parking
Figure 4.6-4	100 Foot Right-of-Way	Boulevard or Center Turn Lane
Figure 4.6-5	80 Foot Right-of-Way	Two-Way Street; Two-Sided Parking (Major and Minor)
Figure 4.5-5a	80 Foot Right-of-Way	Two-Way street; Two-Sided Parking (Local)
Figure 4.6-6	80 Foot Right-of-Way	Two-Way Street; Two-Sided Alternate Side Parking and Cycle Track
Figure 4.6-7	80 Foot Right-of-Way	Two-Way Street; One-Sided Parking
Figure 4.6-8	80 Foot Right-of-Way	Two-Way Street; No Parking
Figure 4.6-9	80 Foot Right-of-Way	Boulevard or Center Turn Lane
Figure 4.6-10	80 Foot Right-of-Way	One-Way Street; Two-Sided Parking
Figure 4.6-10a	80 Foot Right-of-Way	One Way Street; Two Sided Parking (Local)

Figure #	Right-of-Way	Roadway Layout
Figure 4.6-11	80 Foot Right-of-Way	One-Way Street; One-Sided Parking
Figure4.6-11a	80 Foot Right-of-Way	One Way Street; One Sided Parking (Local)
Figure 4.6-12	66 Foot Right-of-Way	Two-Way Street; Two-Sided Parking
Figure 4.6-12a	66 Foot Right-of-Way	Two-Way Street; Two-Sided Park (Minor and Local)
Figure 4.6-13	66 Foot Right-of-Way	Two-Way Street; One-Sided Parking
Figure 4.6-13a	66 Foot Right-of-Way	Two-Way Street; One-Sided Parking (Minor and Local)
Figure 4.6-14	66 Foot Right-of-Way	Two-Way Street; No Parking
Figure 4.6-14a	66 Foot Right-of-Way	Two-Way Street; No Parking (Minor Collector)
Figure 4.6-15	66 Foot Right-of-Way	Boulevard or Center Turn Lane
Figure 4.6-15a	66 Foot Right-of-Way	Boulevard or Center Turn Lane (Minor and Local)
Figure 4.6-16	66 Foot Right-of-Way	One-Way Street; Two-Sided Parking
Figure 4.6-16a	66 Foot Right-of-Way	One-Way Street; Two-Sided Parking (Minor and Local)
Figure 4.6-17	66 Foot Right-of-Way	One-Way Street; One-Sided Parking
Figure 4.6-18	60 Foot Right-of-Way	Two-Way Street; Two-Sided Parking
Figure 4.6-19	60 Foot Right-of-Way	Two-Way Street; One-Sided Parking
Figure 4.6-20	60 Foot Right-of-Way	Two-Way Street; No Parking
Figure 4.6-21	60 Foot Right-of-Way	Boulevard or Center Turn Lane
Figure 4.6-22	60 Foot Right-of-Way	One-Way Street; Two-Sided Parking
Figure 4.6-22a	60 Foot Right-of-Way	One-Way Street; Two-Sided Parking (Local)
Figure 4.6-23	60 Foot Right-of-Way	One-Way Street; One-Sided Parking
Figure 4.6-24	50 Foot Right-of-Way	Two-Way Street; Two-Sided Parking
Figure 4.6-25	50 Foot Right-of-Way	Two-Way Street; One-Sided Parking
Figure 4.6-26	50 Foot Right-of-Way	Two-Way Street; No Parking
Figure 4.6-27	50 Foot Right-of-Way	One-Way Street; Two-Sided Parking
Figure 4.6-28	50 Foot Right-of-Way	One-Way Street; One-Sided Parking
Figure 4.6-28a	50 Foot Right-of-Way	One-Way Street; One-Sided Parking (Minor and Local)



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	LANE	LANE	BIKE 2	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	15'-0"	8'-0"	5'-0"	11'-0"	11'-0"	11'-0"	11'-0"	5'-0"	8'-0"	15'-0"
MINOR COLLECTOR	14'-0"	8'-0"	8'-0"	10'-0"	10'-0"	10'-0"	10'-0"	8'-0"	8'-0"	14'-0"

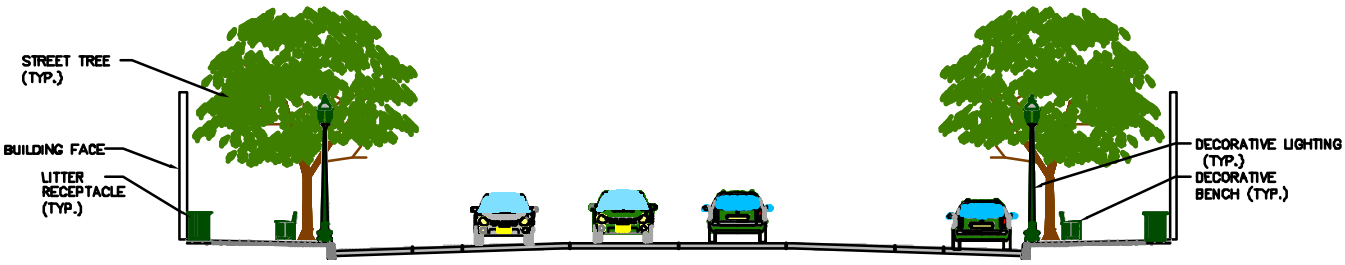
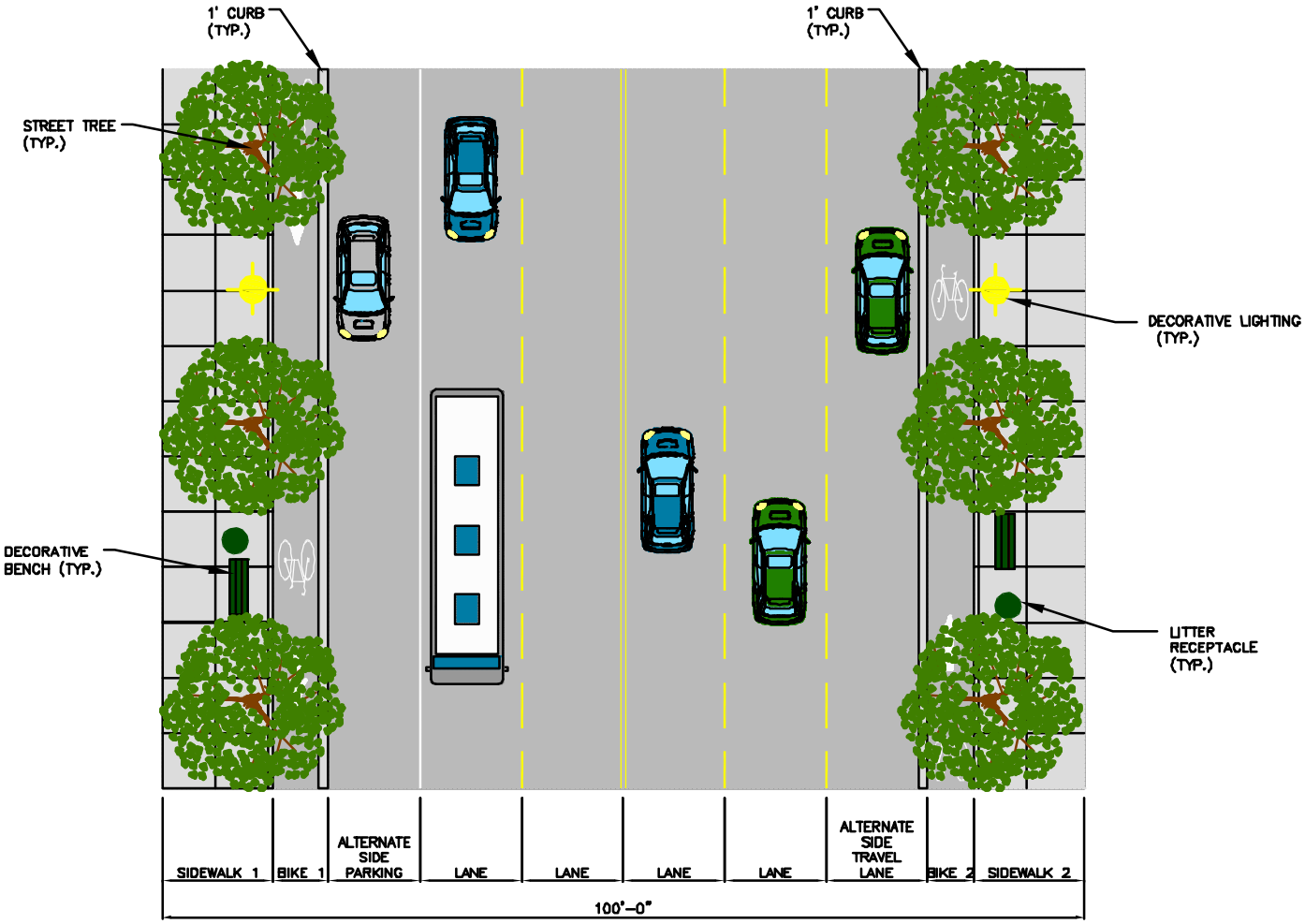


FIGURE 4.6-1
100' R.O.W.
TWO-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	BIKE 1		PARKING 1	LANE	LANE	LANE	LANE	LANE		BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	12'-0"	5'-0"	*	10'-0"	11'-0"	11'-0"	11'-0"	11'-0"	10'-0"	*	5'-0"	12'-0"
MINOR COLLECTOR	14'-0"	5'-0"	*	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	*	5'-0"	14'-0"

* =1' CURB

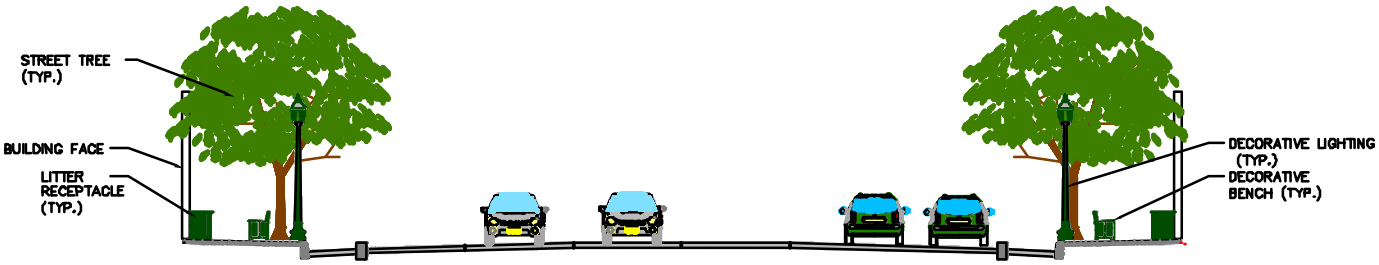
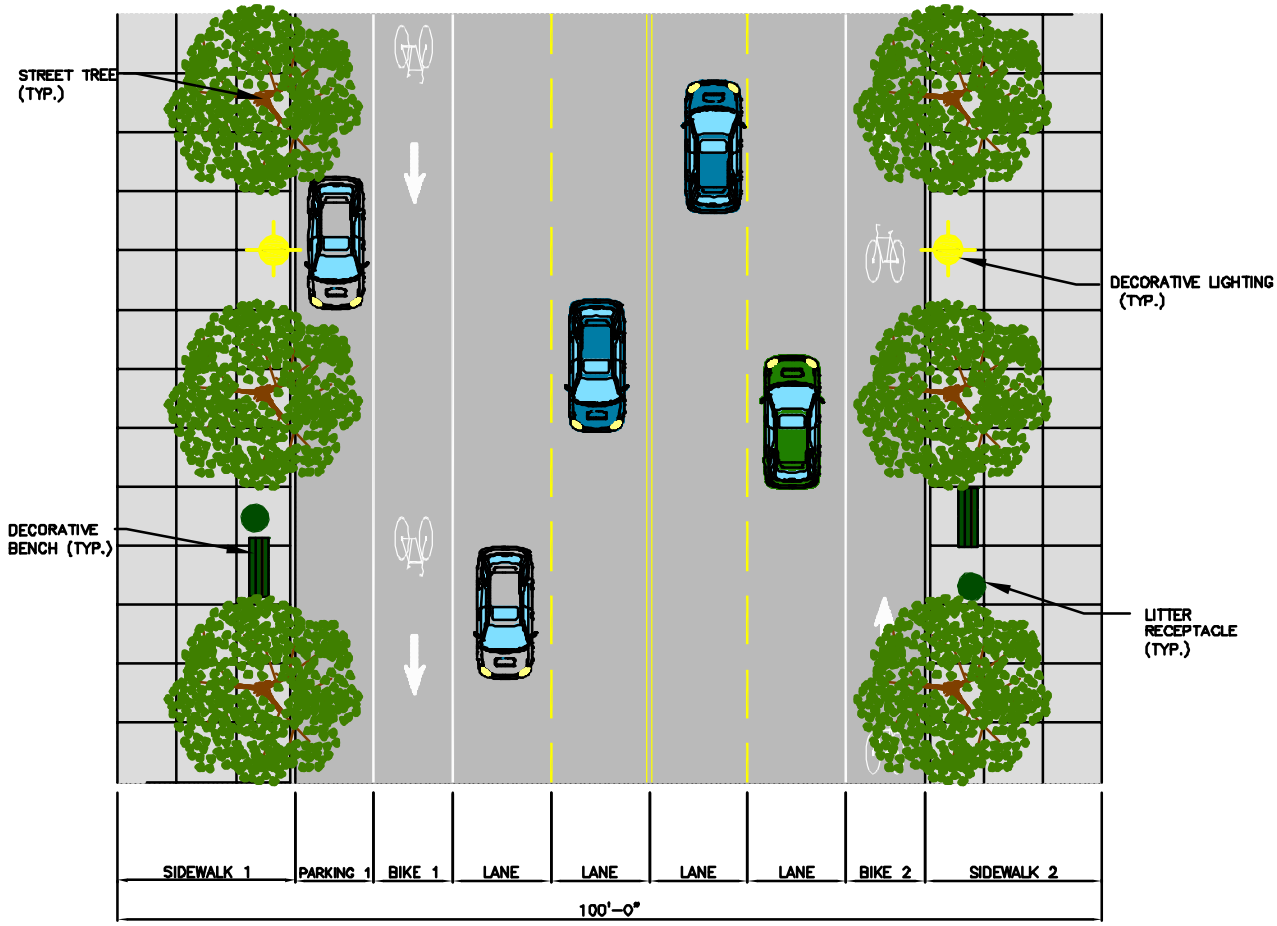


FIGURE 4.6-2
100' R.O.W.
TWO-WAY STREET;
TWO-SIDED ALTERNATE SIDE PARKING
& CYCLE TRACK



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	LANE	LANE	BIKE 2	SIDEWALK 2
MINOR COLLECTOR	18'-0"	8'-0"	8'-0"	10'-0"	10'-0"	10'-0"	10'-0"	8'-0"	18'-0"

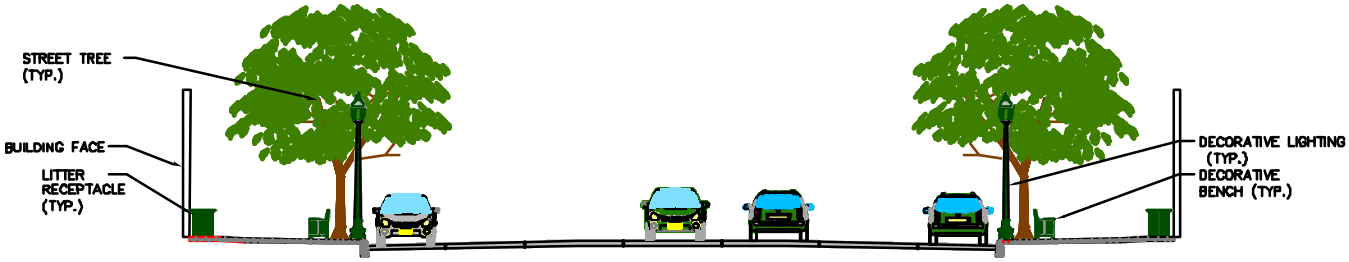
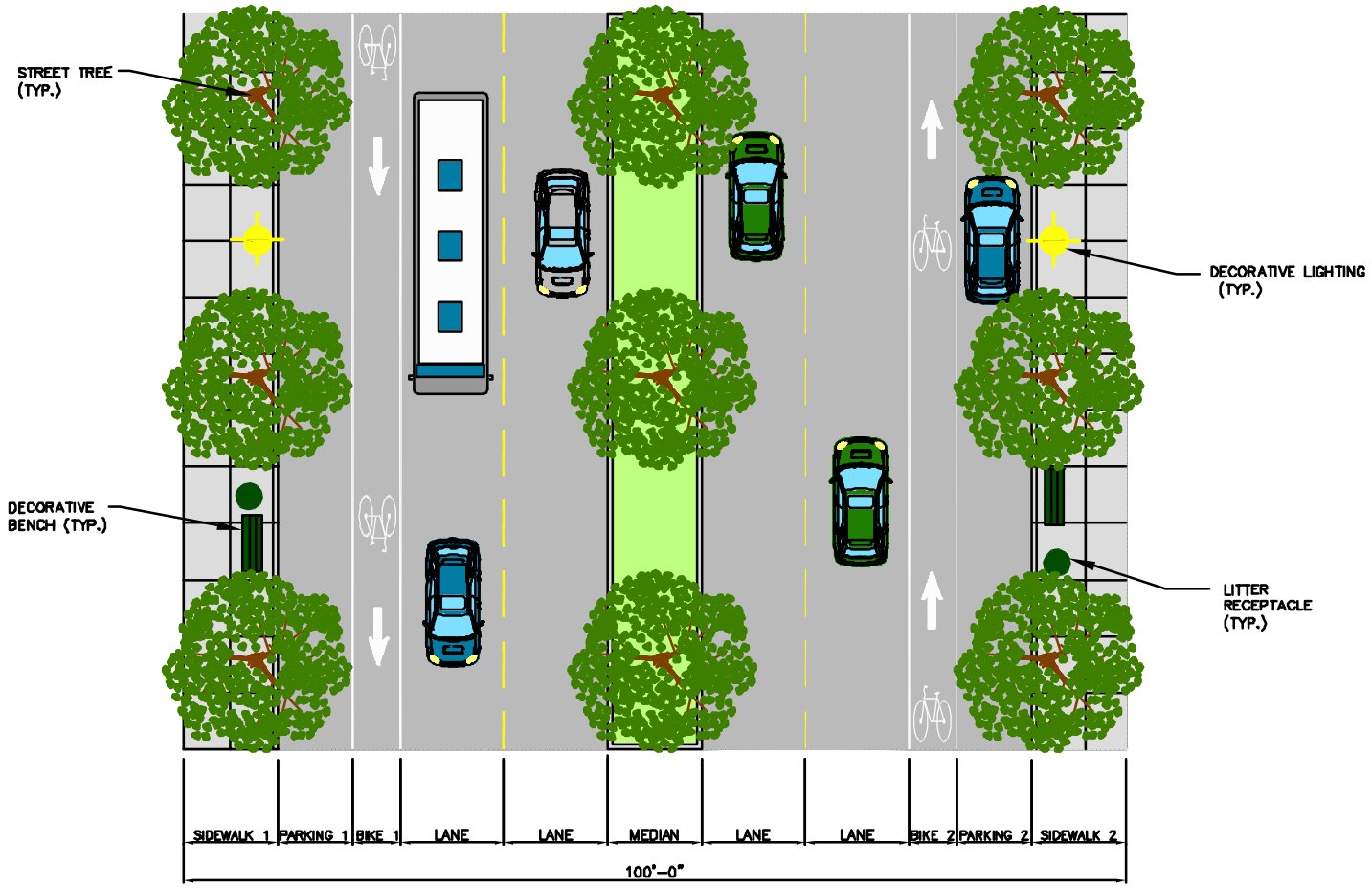
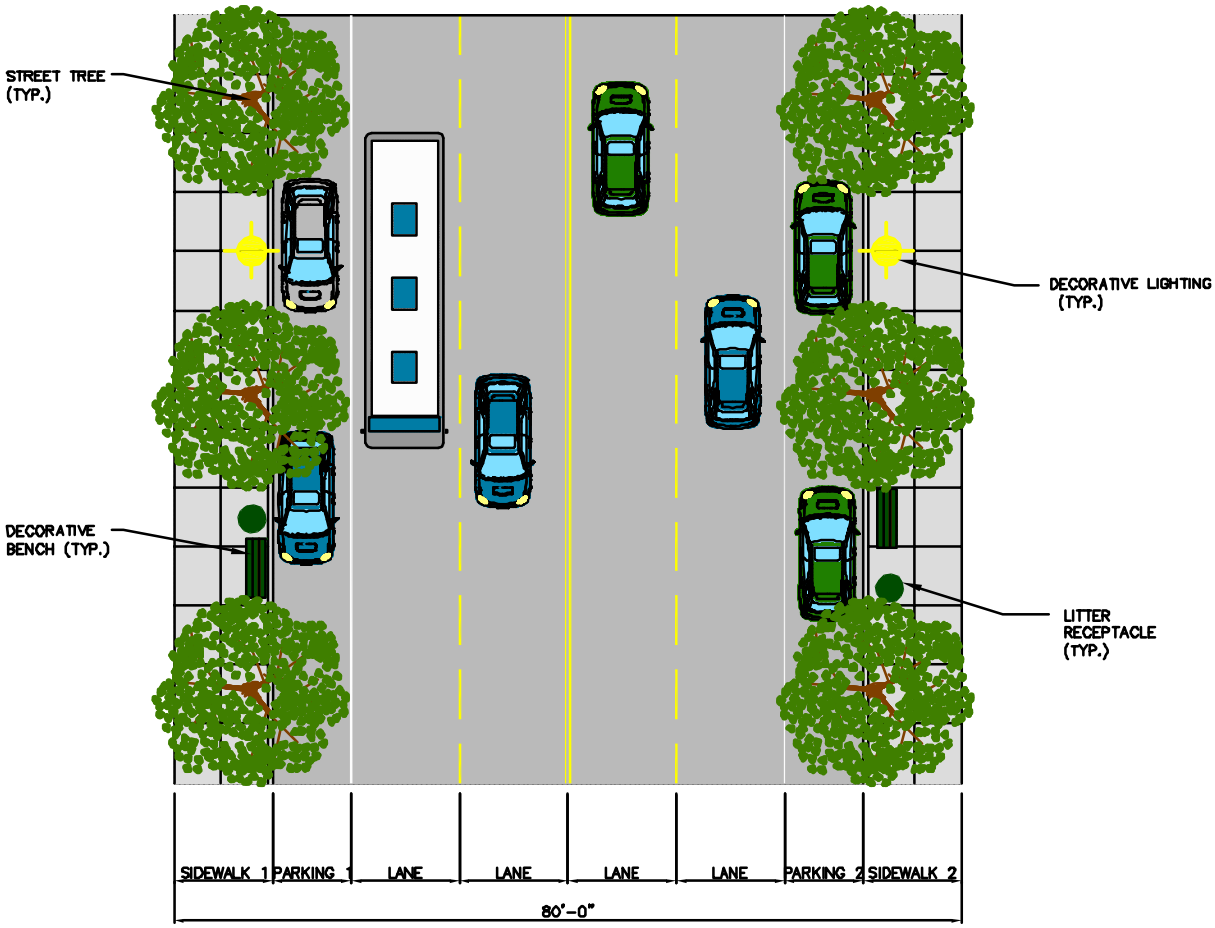


FIGURE 4.6-3
100' R.O.W.
TWO-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	MEDIAN	LANE	LANE	BIKE 2	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	5'-0"	11'-0"	11'-0"	10'-0"	11'-0"	11'-0"	5'-0"	8'-0"	10'-0"
MINOR COLLECTOR	10'-0"	8'-0"	5'-0"	10'-0"	10'-0"	14'-0"	10'-0"	10'-0"	5'-0"	8'-0"	10'-0"

FIGURE 4.6-4
100' R.O.W.
BOULEVARD OR CENTER TURN LANE



	SIDEWALK 1	PARKING 1	LANE	LANE	LANE	LANE	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	11'-0"	11'-0"	11'-0"	11'-0"	8'-0"	10'-0"
MINOR COLLECTOR	12'-0"	8'-0"	10'-0"	10'-0"	10'-0"	10'-0"	8'-0"	12'-0"
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR TYPICAL TWO-WAY STREET, TWO SIDED PARKING PLAN & SECTION.							

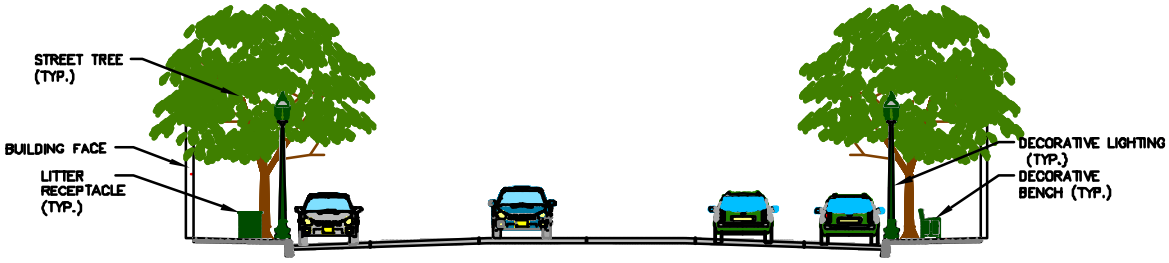
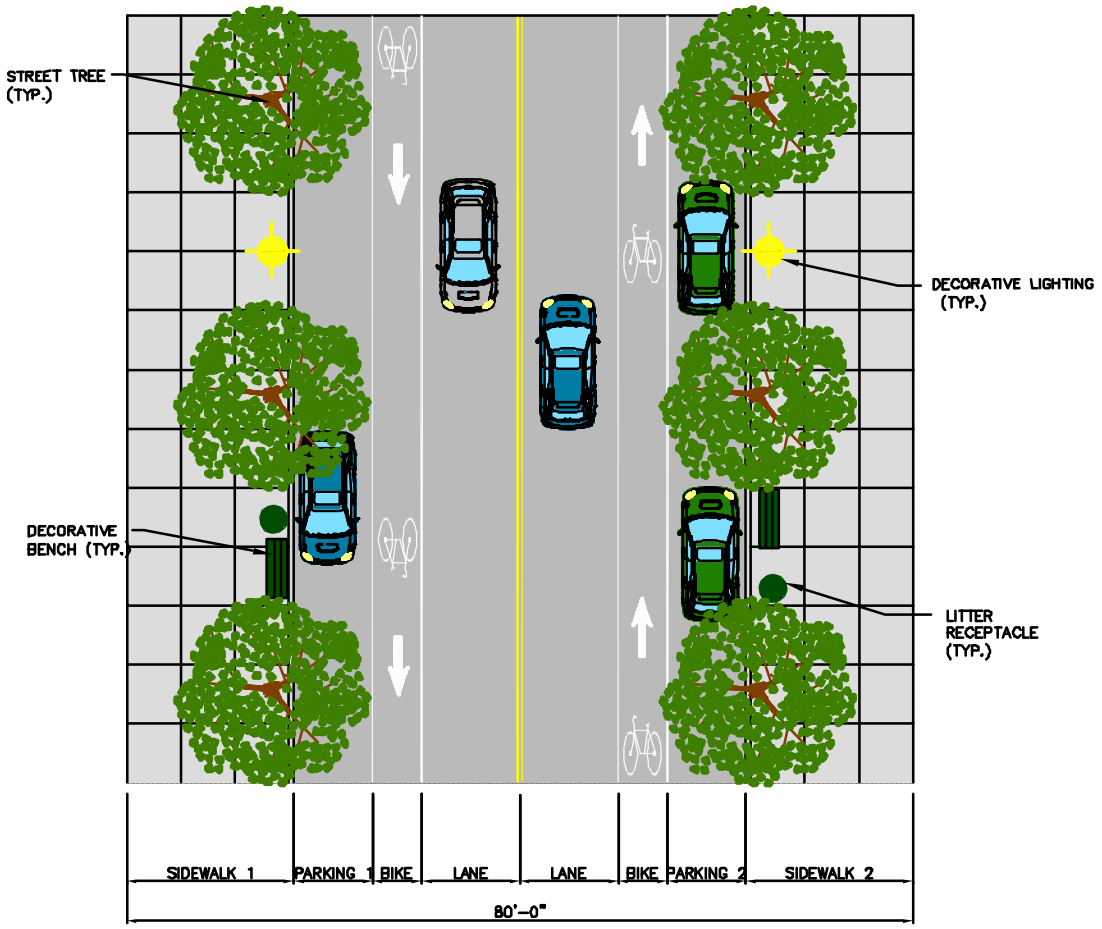


FIGURE 4.6-5
80' R.O.W
TWO-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	BIKE 2	PARKING 2	SIDEWALK 2
LOCAL RESIDENTIAL	17'-0"	8'-0"	5'-0"	10'-0"	10'-0"	5'-0"	8'-0"	17'-0"

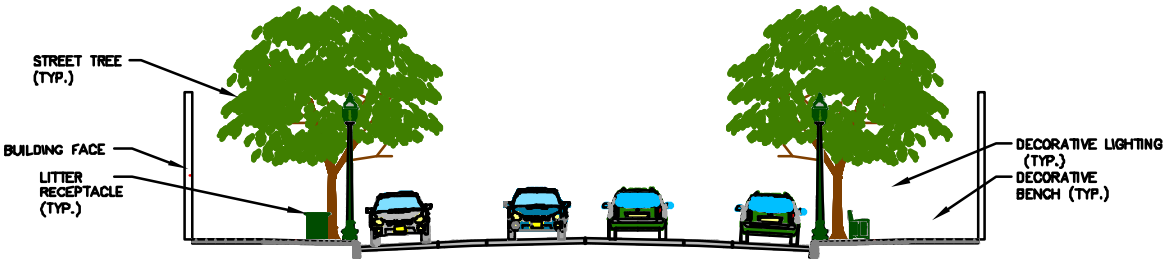
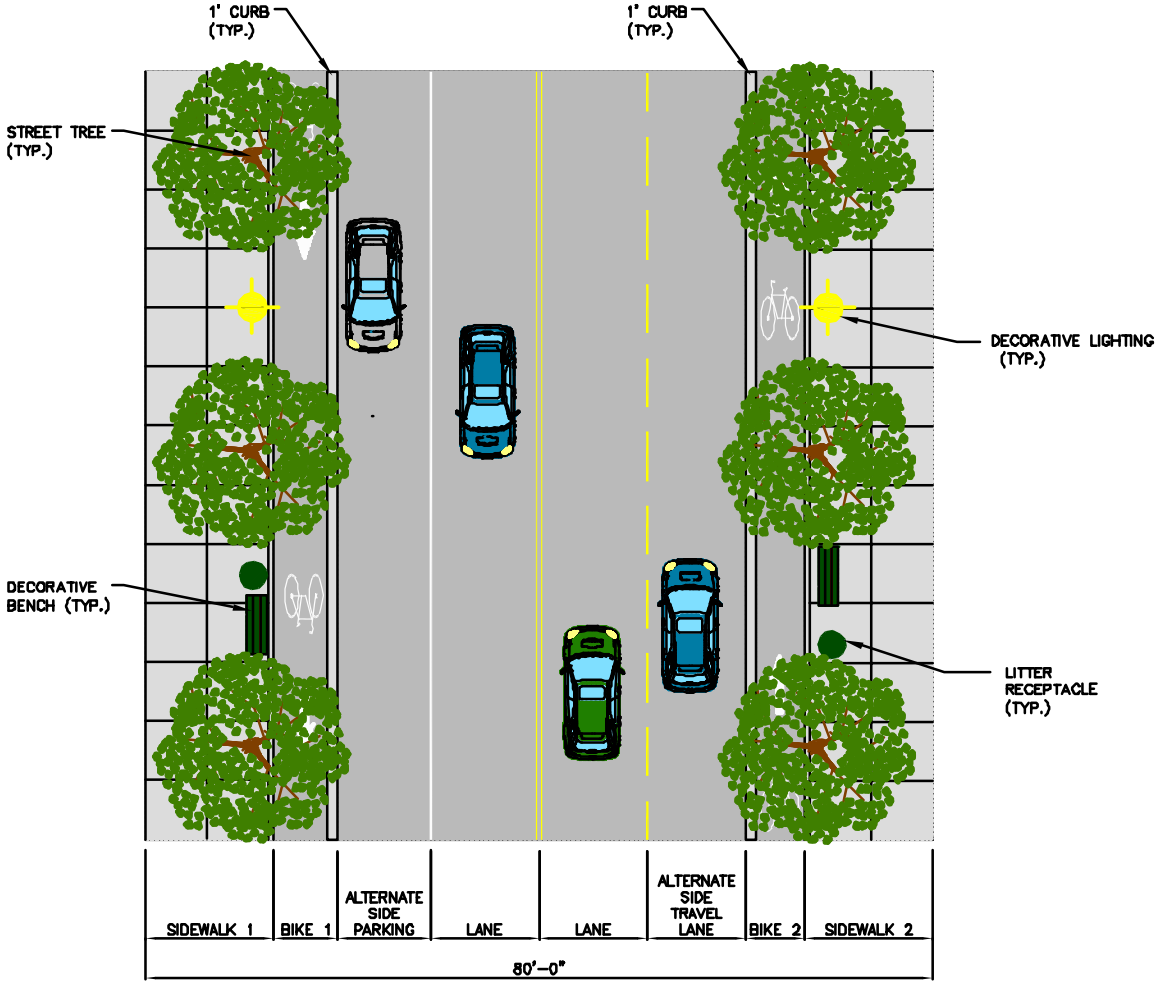


FIGURE 4.6-5a
80' R.O.W
TWO-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	BIKE 1	ALTERNATE SIDE PARKING	LANE	LANE	ALTERNATE SIDE TRAVEL LANE	BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	13'-0"	5'-0"*	10'-0"	11'-0"	11'-0"	10'-0"	* 5'-0"	13'-0"
MINOR COLLECTOR	14'-0"	5'-0"*	10'-0"	10'-0"	10'-0"	10'-0"	* 5'-0"	14'-0"

* = 1' CURB

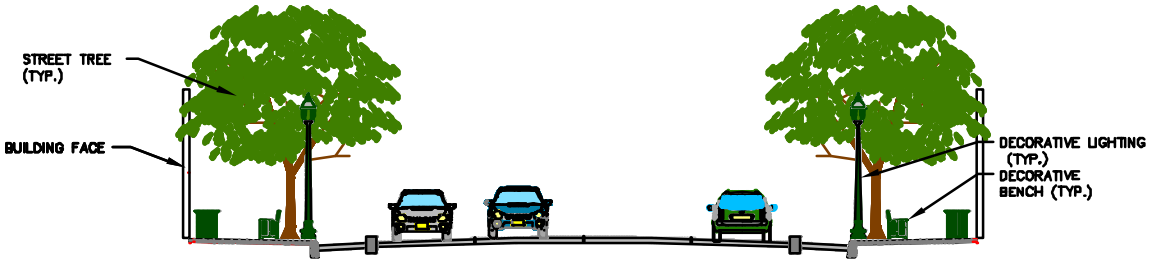
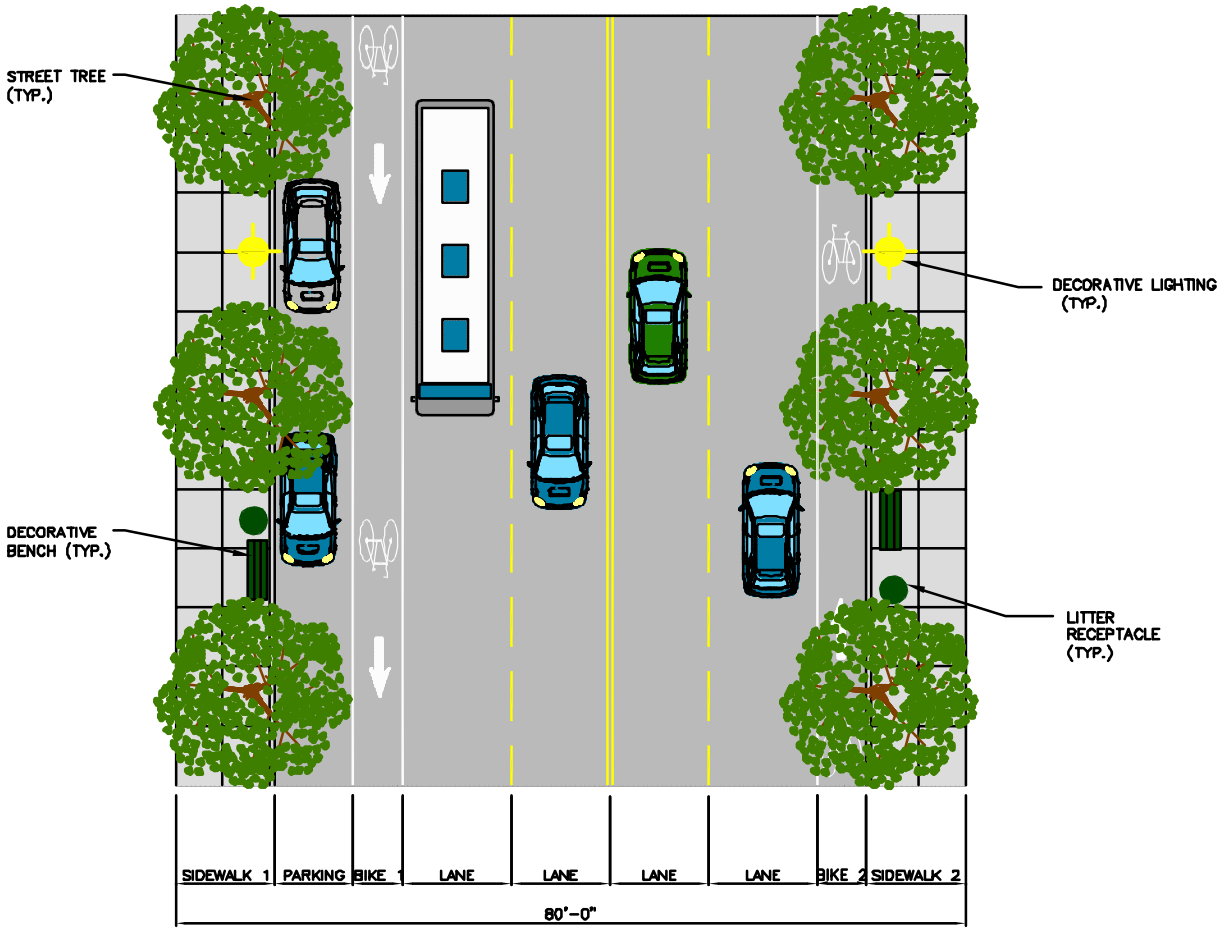


FIGURE 4.6-6
80' R.O.W
TWO-WAY STREET
TWO SIDED ALTERNATE SIDE PARKING
& CYCLE TRACK



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	LANE	LANE	BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	5'-0"	11'-0"	10'-0"	10'-0"	11'-0"	5'-0"	10'-0"
MINOR COLLECTOR	10'-6"	8'-0"	5'-0"	10'-0"	10'-0"	10'-0"	10'-0"	6'-0"	10'-6"
LOCAL RESIDENTIAL	11'-0"	8'-0"	5'-0"	10'-0"	10'-0"	10'-0"	10'-0"	5'-0"	11'-0"

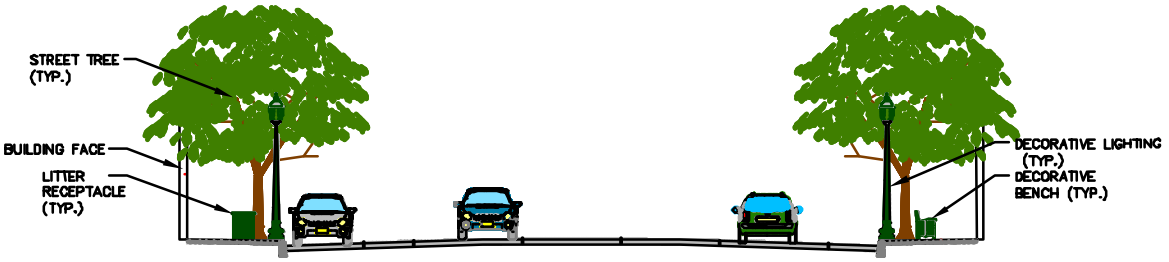
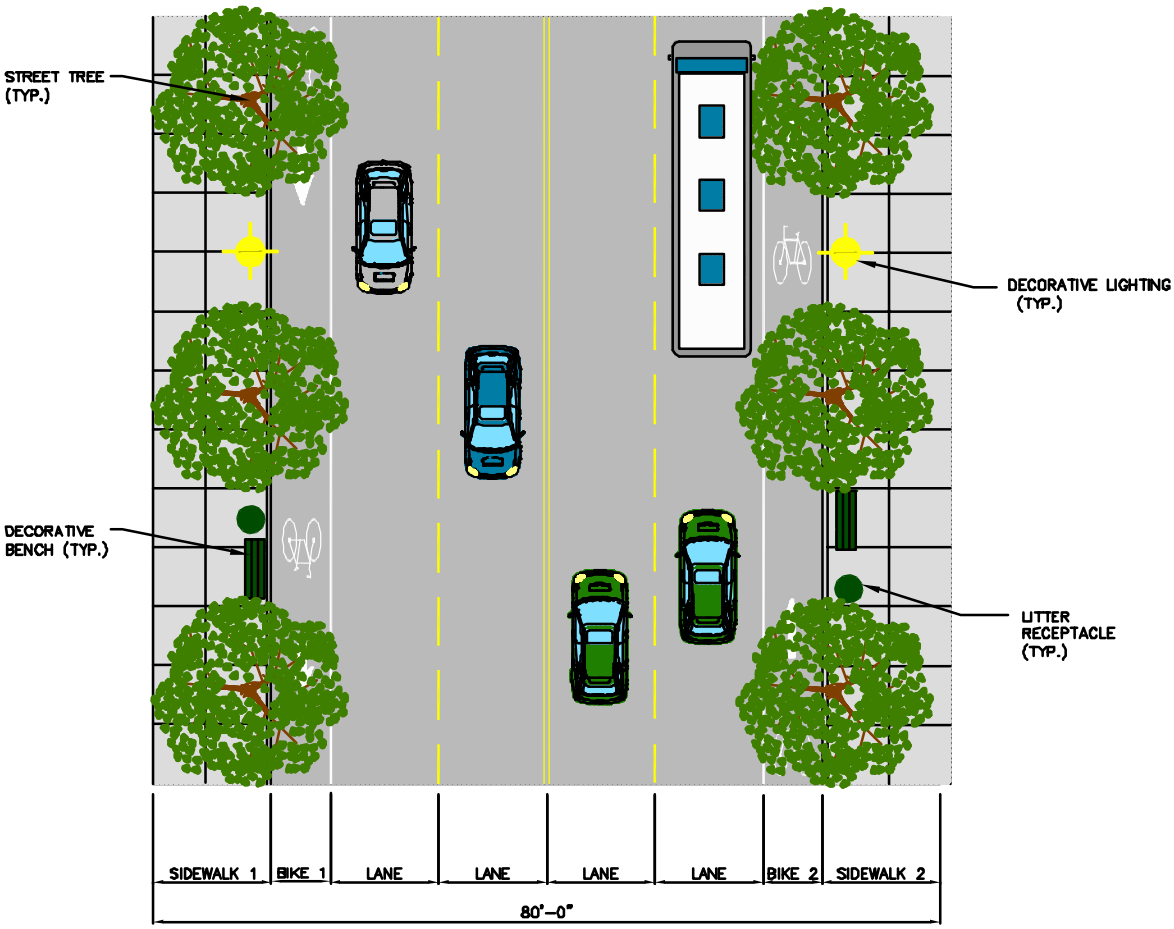


FIGURE 4.6-7
80' R.O.W
TWO-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	BIKE 1	LANE	LANE	LANE	LANE	BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	12'-0"	6'-0"	11'-0"	11'-0"	11'-0"	11'-0"	6'-0"	12'-0"
MINOR COLLECTOR	14'-0"	6'-0"	10'-0"	10'-0"	10'-0"	10'-0"	6'-0"	14'-0"

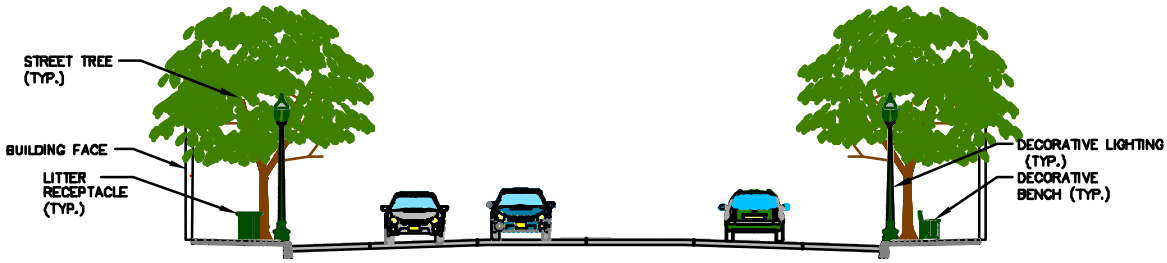
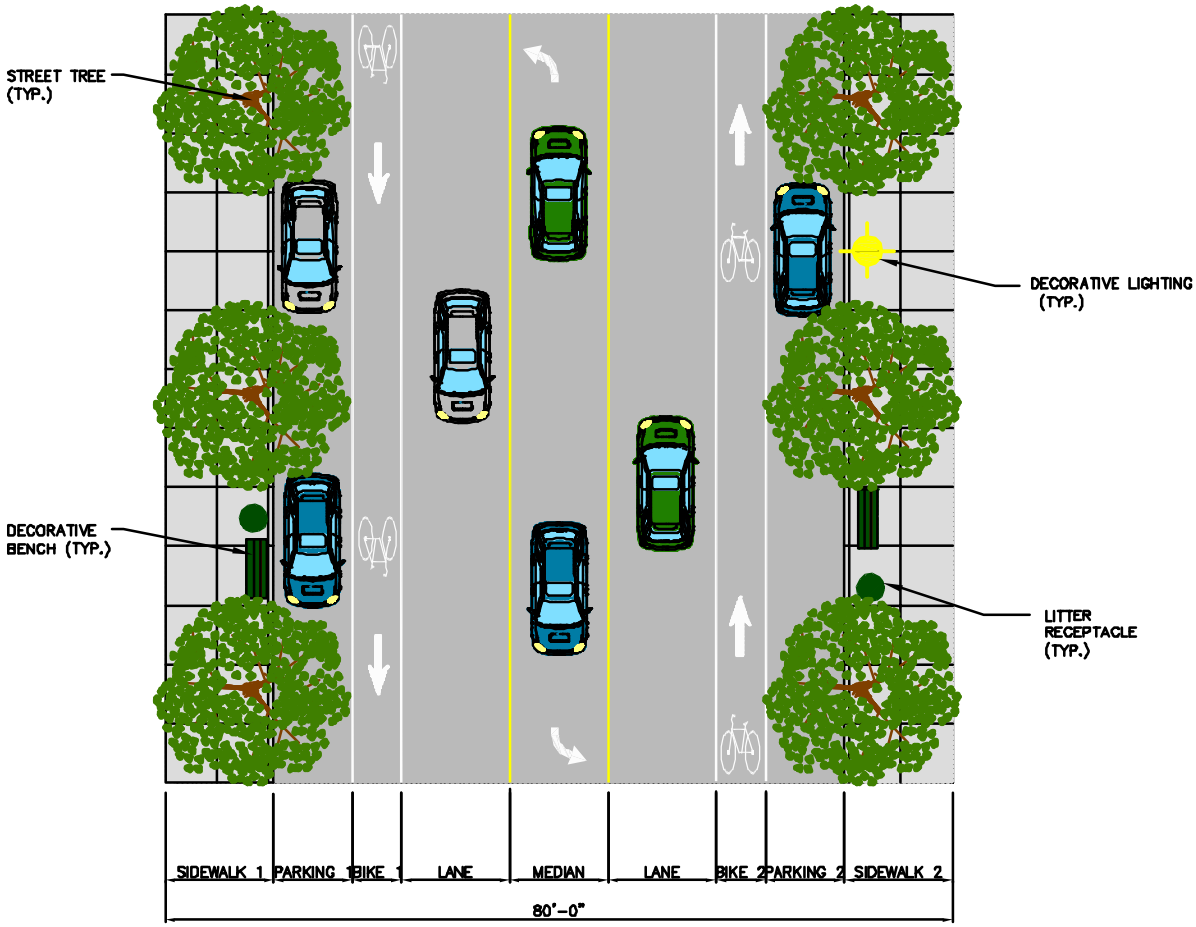


FIGURE 4.6-8
80' R.O.W
TWO-WAY STREET
NO PARKING



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	LANE	BIKE 2	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	11'-0"	8'-0"	5'-0"	11'-0"	10'-0"	11'-0"	5'-0"	8'-0"	11'-0"
MINOR COLLECTOR	12'-0"	8'-0"	14'-0"*		12'-0"	14'-0"*		8'-0"	12'-0"
LOCAL RESIDENTIAL	12'-0"	8'-0"	5'-0"	10'-0"	10'-0"	10'-0"	5'-0"	8'-0"	12'-0"

* SHARED THROUGH/BIKE LANE

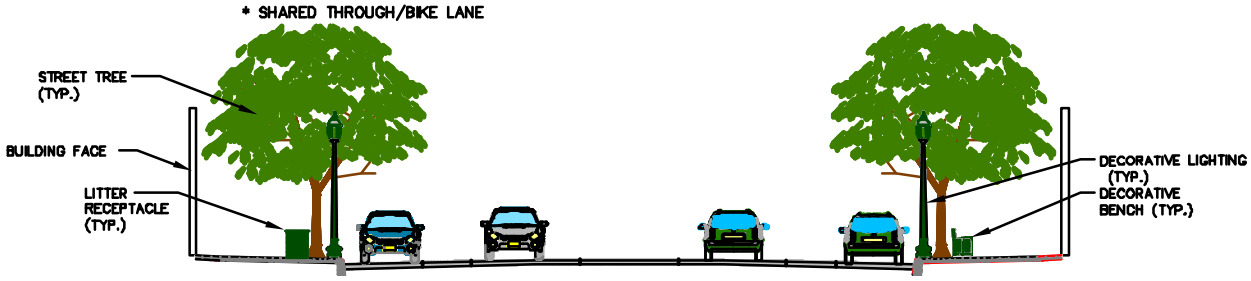
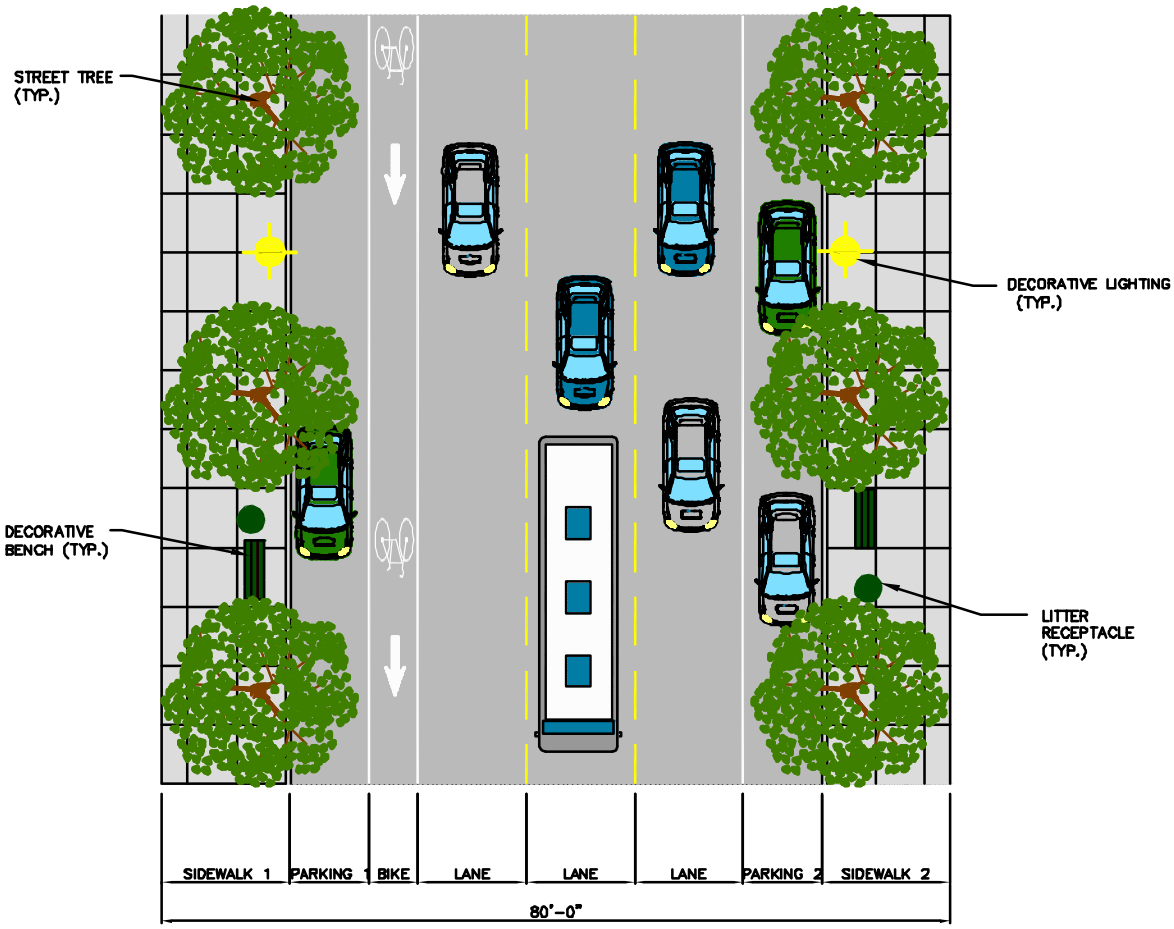


FIGURE 4.6-9
80' R.O.W
BOULEVARD OR CENTER TURN LANE



	SIDEWALK 1	PARKING 1	BIKE	LANE	LANE	LANE	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	13'-0"	8'-0"	5'-0"	11'-0"	11'-0"	11'-0"	8'-0"	13'-0"
MINOR COLLECTOR	13'-0"	8'-0"	8'-0"	10'-0"	10'-0"	10'-0"	8'-0"	13'-0"
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR TYPICAL ONE-WAY STREET, ONE SIDE PARKING PLAN & SECTION.							

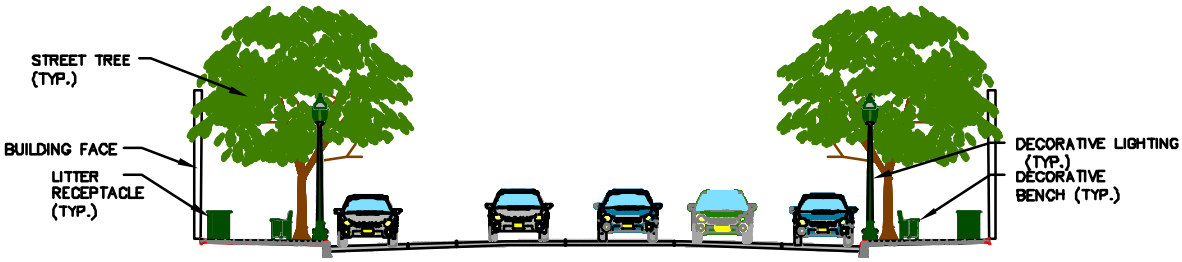
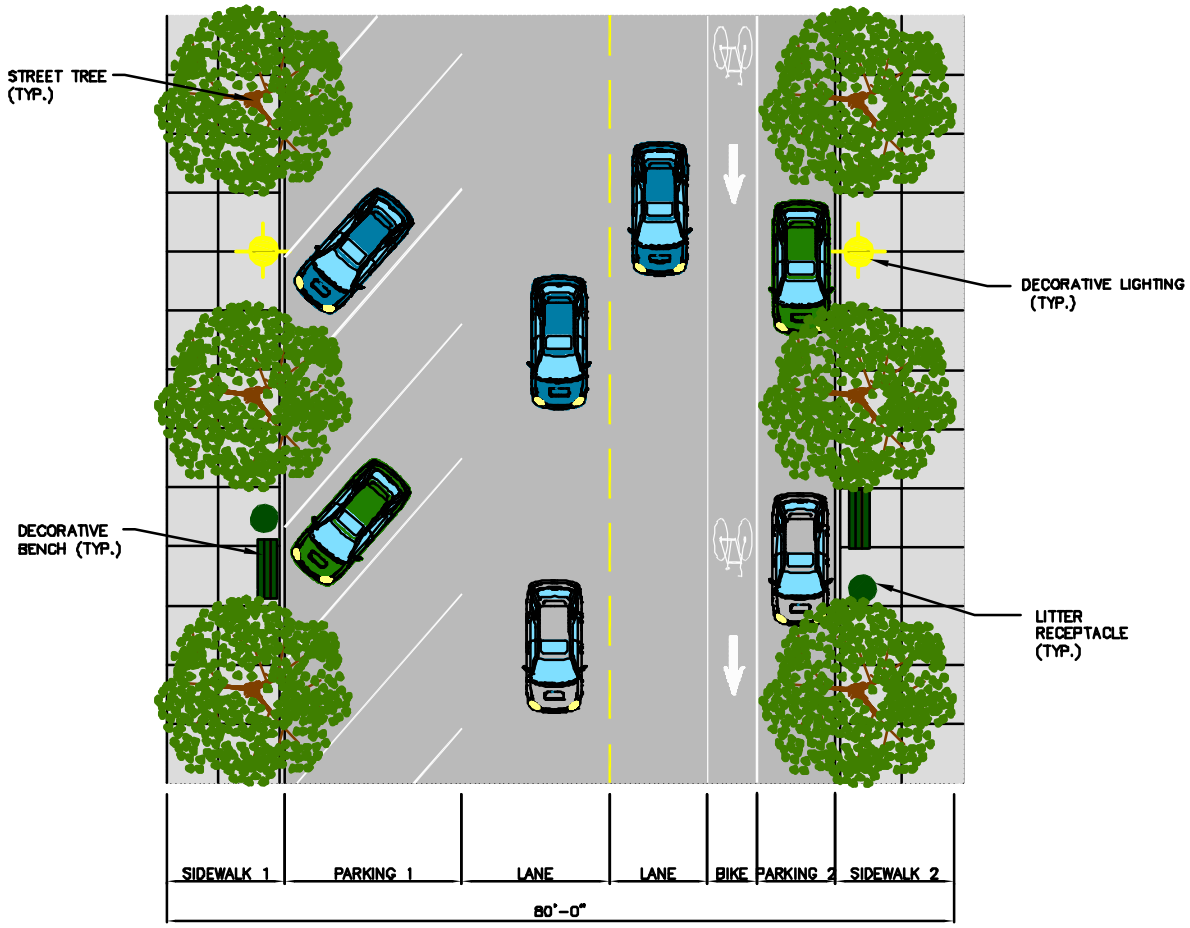


FIGURE 4.6-10
80' R.O.W
ONE-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	BIKE	PARKING 2	SIDEWALK 2
LOCAL RESIDENTIAL	12'-0"	18'-0"	15'-0"	10'-0"	5'-0"	8'-0"	12'-0"

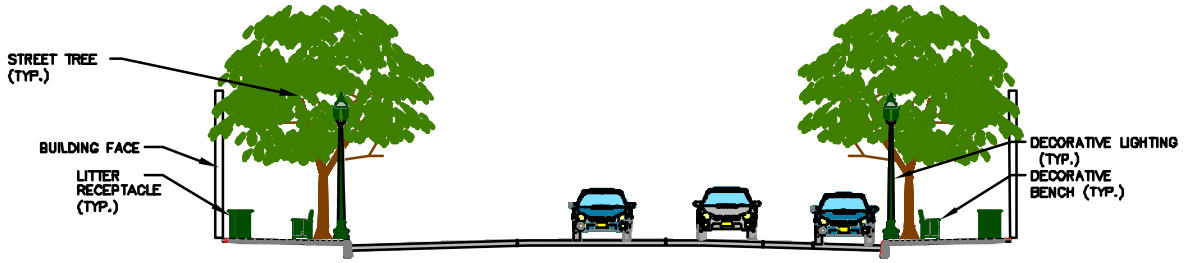
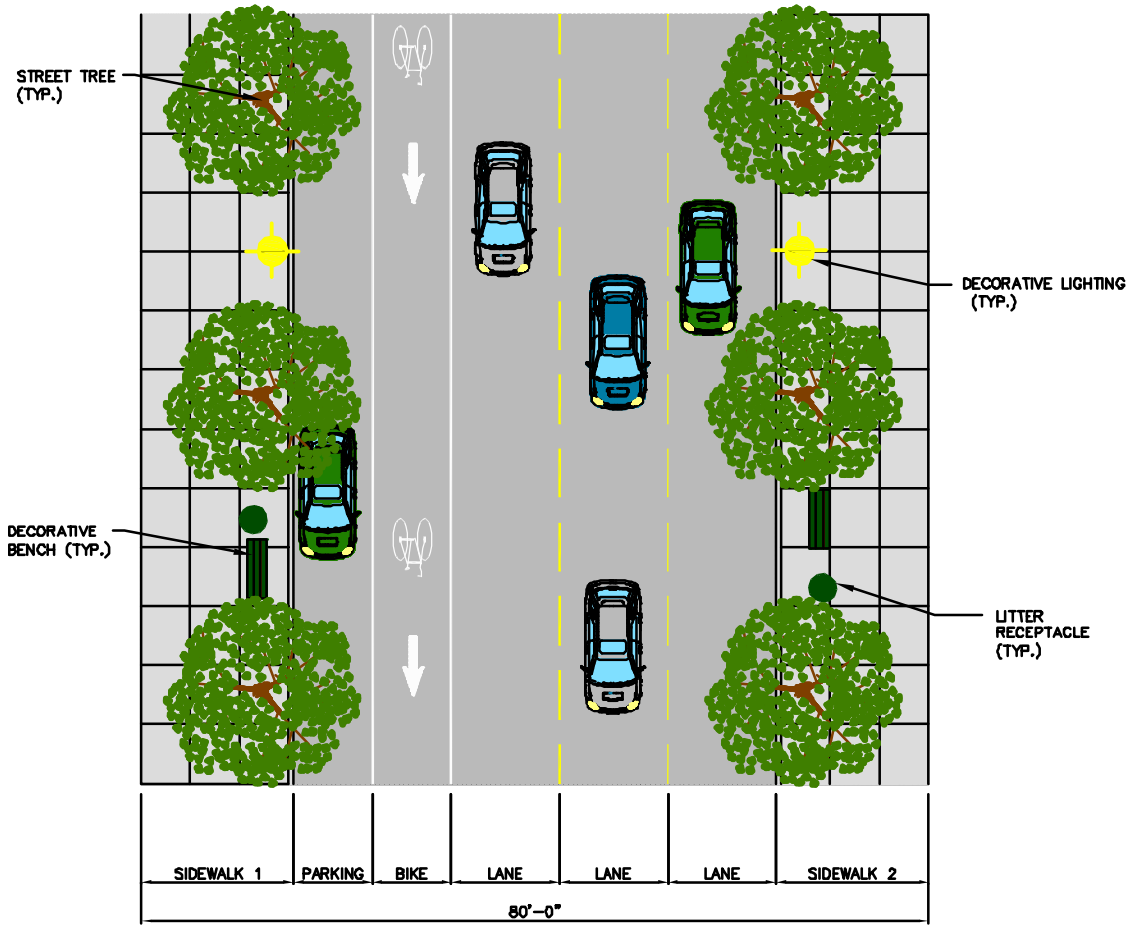


FIGURE 4.6-10a
80' R.O.W
ONE-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING	BIKE	LANE	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	15'-6"	8'-0"	8'-0"	11'-0"	11'-0"	11'-0"	15'-6"
MINOR COLLECTOR	17'-0"	8'-0"	8'-0"	10'-0"	10'-0"	10'-0"	17'-0"
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR TYPICAL ONE-WAY STREET, ONE SIDE PARKING PLAN & SECTION.						

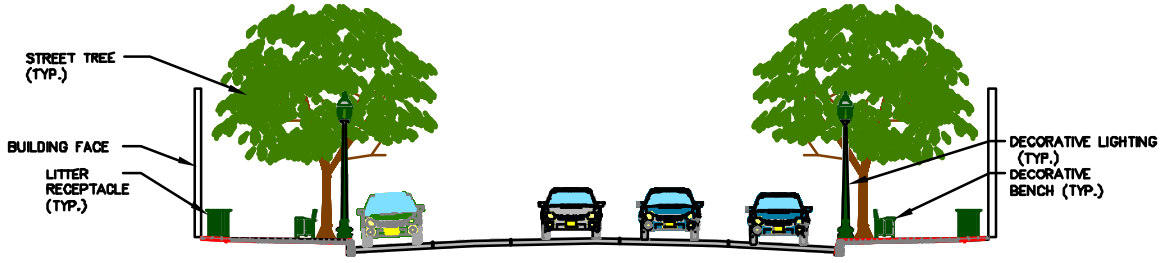
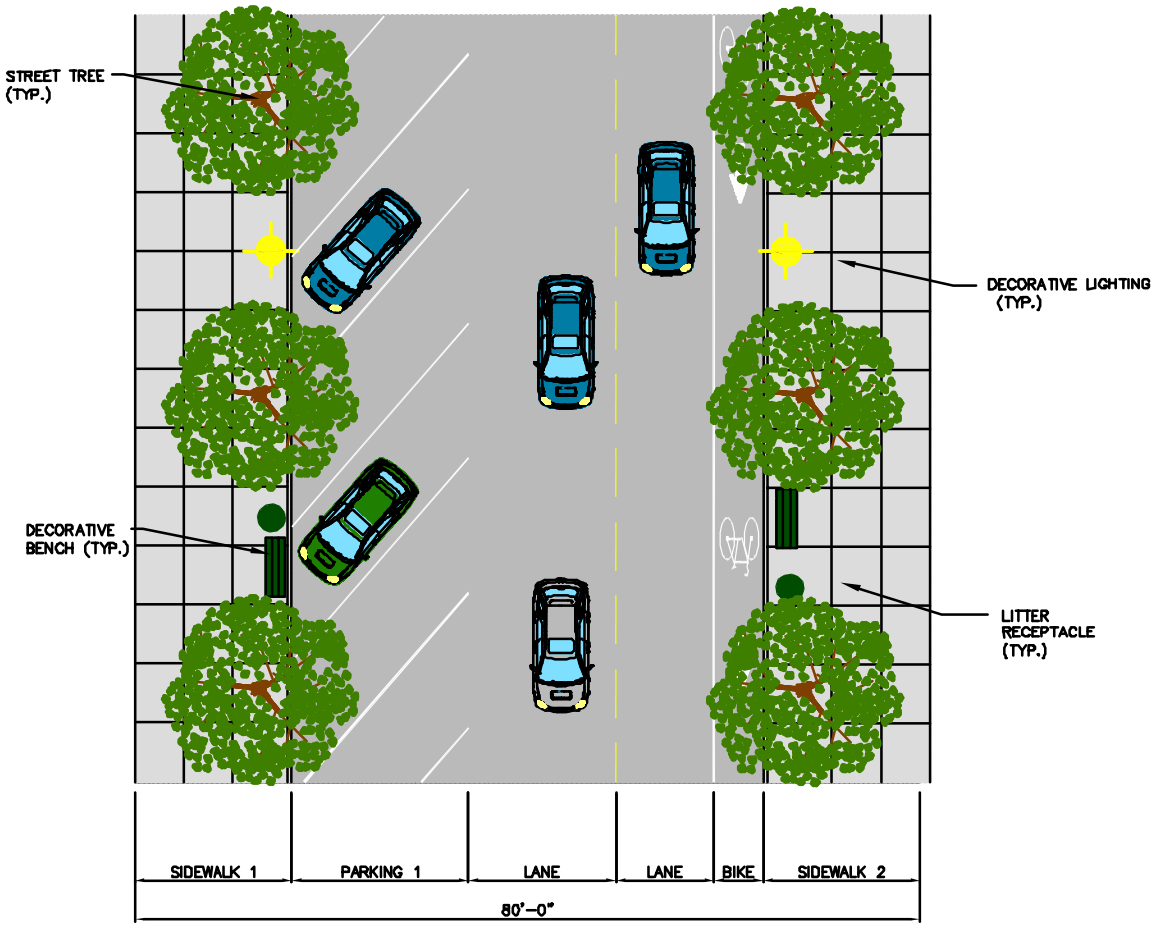


FIGURE 4.6-11
80' R.O.W
ONE-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	BIKE	SIDEWALK 2
LOCAL RESIDENTIAL	16'-0"	18'-0"	15'-0"	10'-0"	5'-0"	16'-0"

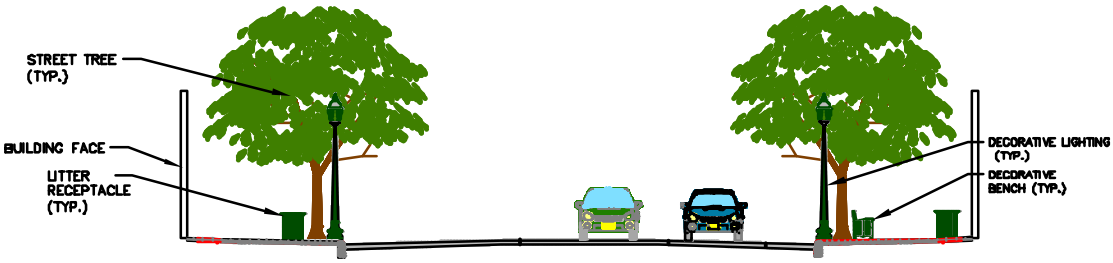
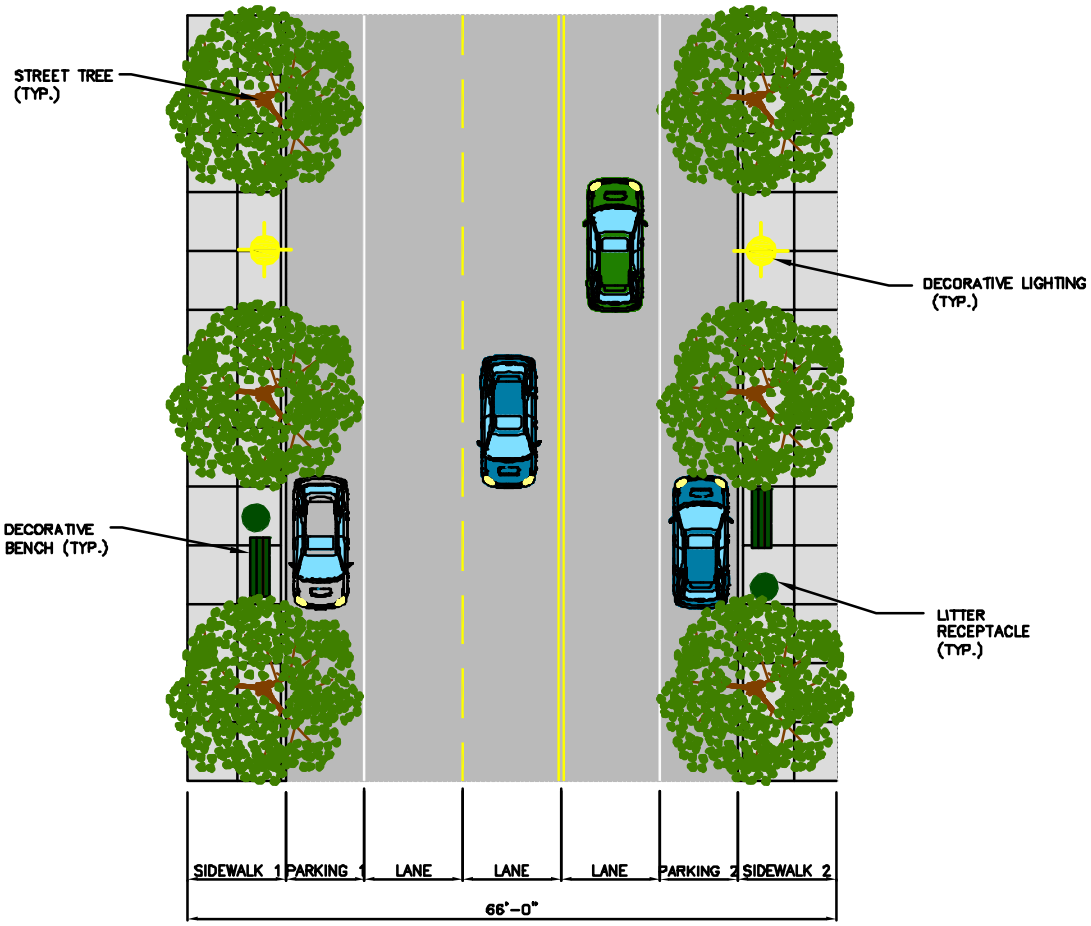


FIGURE 4.6-11a
80' R.O.W
ONE-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	LANE	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	10'-0"	10'-0"	10'-0"	8'-0"	10'-0"
MINOR COLLECTOR	SEE NEXT SHEET FOR TYPICAL TWO-WAY STREET, ONE SIDE PARKING PLAN & SECTION.						
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR TYPICAL TWO-WAY STREET, ONE SIDE PARKING PLAN & SECTION.						

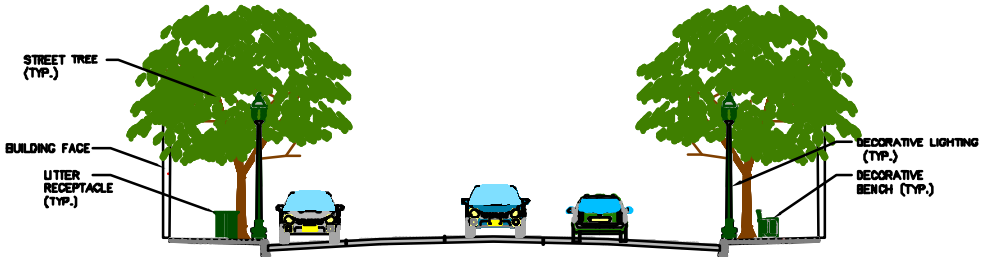
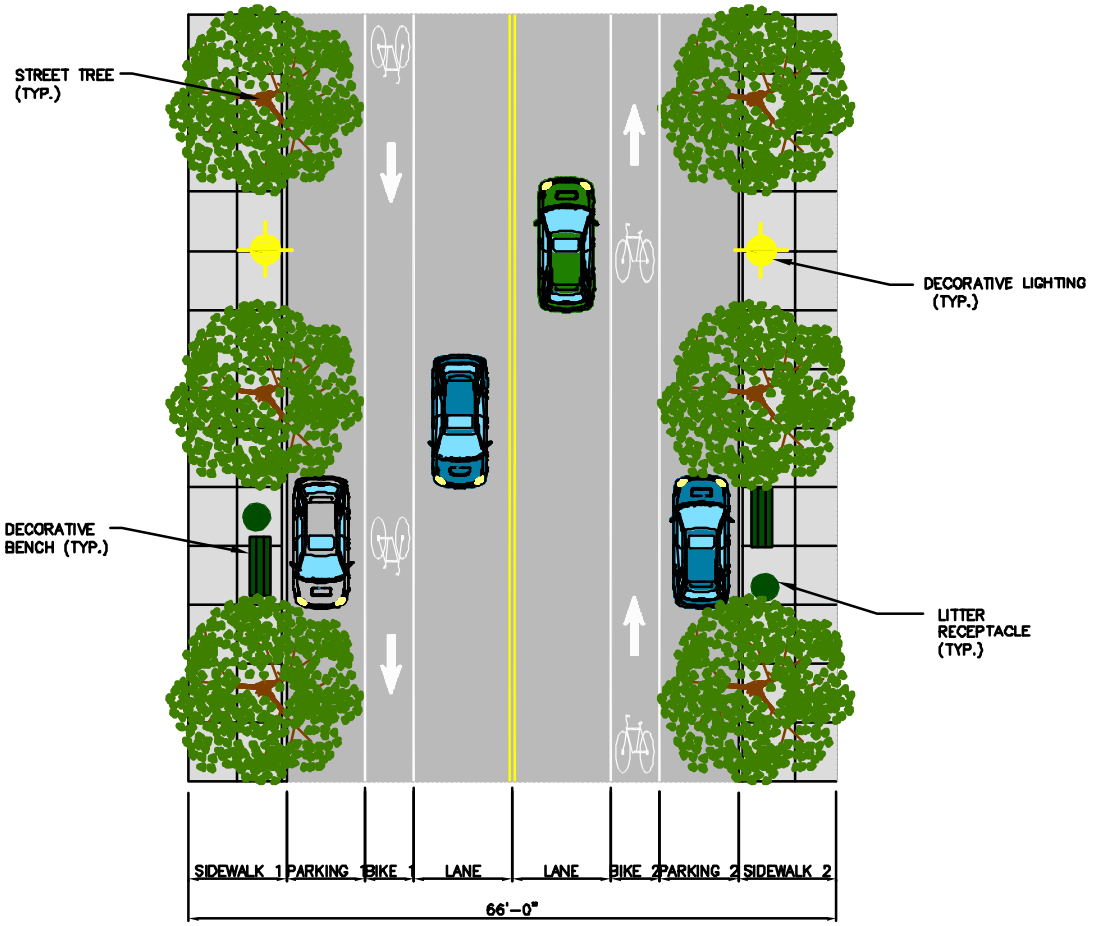


FIGURE 4.6-12
66' ROW
TWO-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	BIKE 2	PARKING 2	SIDEWALK 2
MINOR COLLECTOR	10'-0"	8'-0"	5'-0"	10'-0"	10'-0"	5'-0"	8'-0"	10'-0"
LOCAL RESIDENTIAL	10'-0"	8'-0"	5'-0"	10'-0"	10'-0"	5'-0"	8'-0"	10'-0"

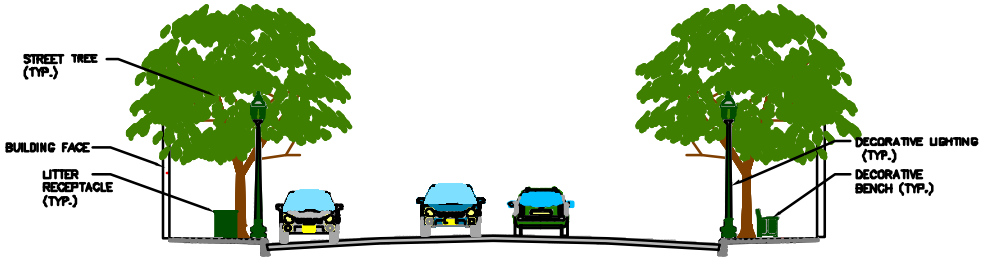
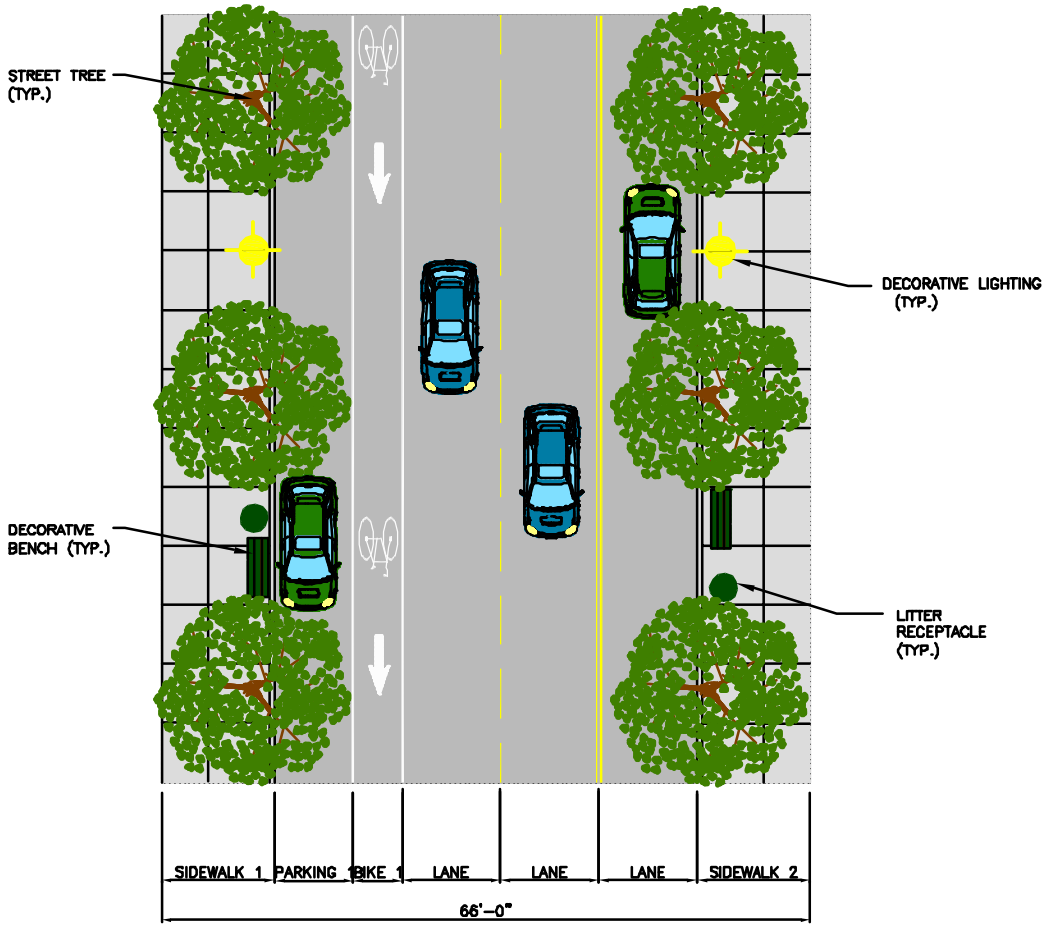


FIGURE 4.6-12a
66' ROW
TWO-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING	BIKE	LANE	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	11'-6"	8'-0"	5'-0"	10'-0"	10'-0"	10'-0"	11'-6"
MINOR COLLECTOR	SEE NEXT SHEET FOR TYPICAL TWO-WAY STREET, ONE SIDE PARKING PLAN & SECTION.						
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR TYPICAL TWO-WAY STREET, ONE SIDE PARKING PLAN & SECTION.						

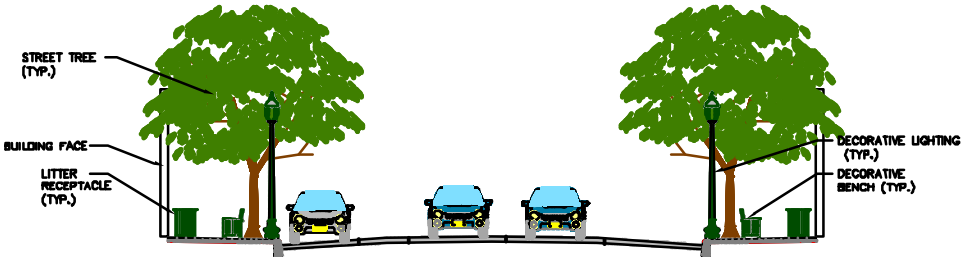
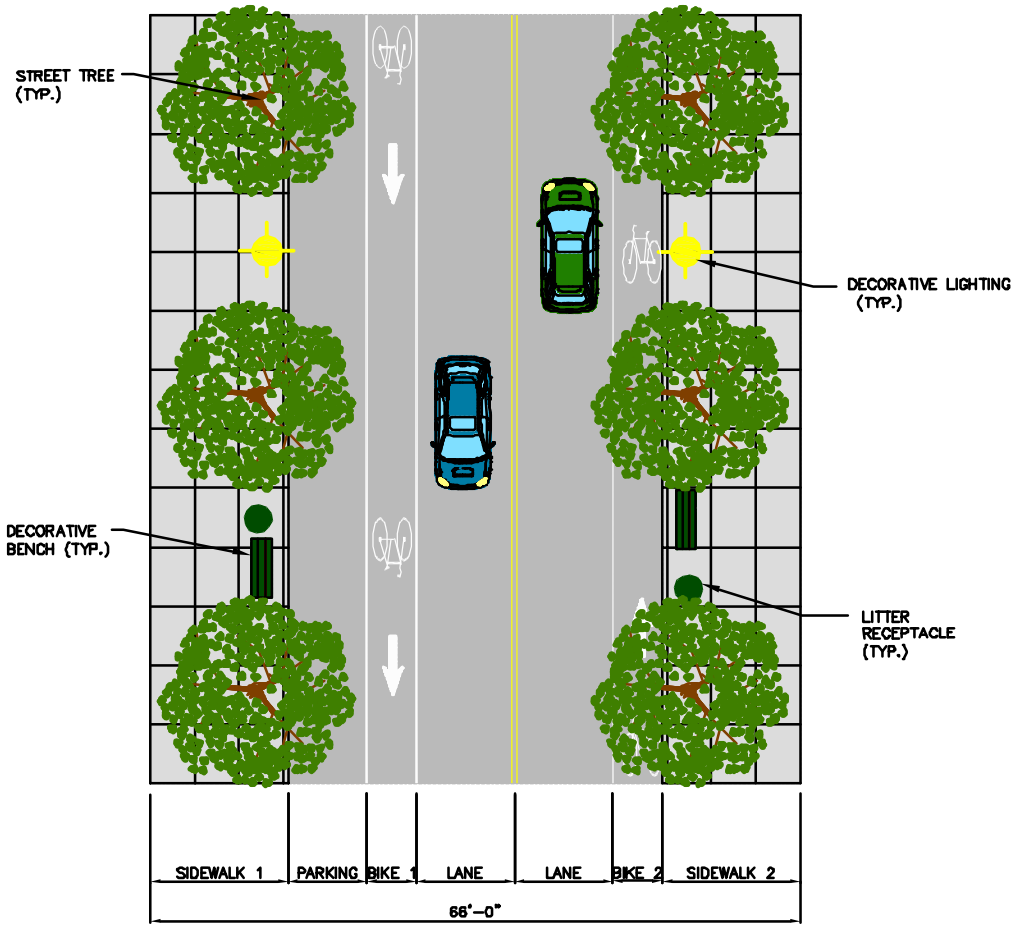


FIGURE 4.6-13
66' ROW
TWO-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	PARKING	BIKE 1	LANE	LANE	BIKE 2	SIDEWALK 2
MINOR COLLECTOR	14'-0"	8'-0"	5'-0"	10'-0"	10'-0"	5'-0"	14'-0"
LOCAL RESIDENTIAL	12'-6"	8'-0"	6'-0"	10'-0"	10'-0"	7'-0"	12'-6"

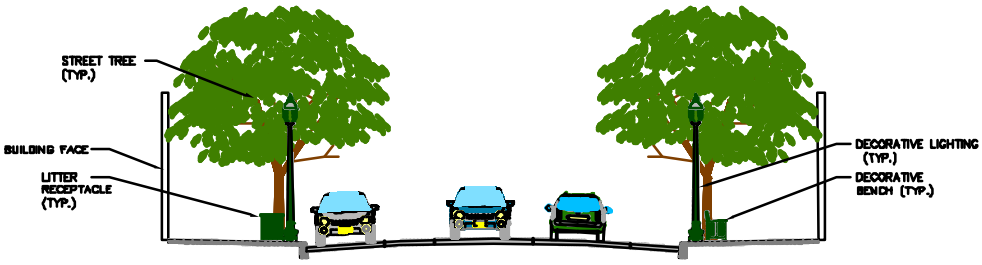
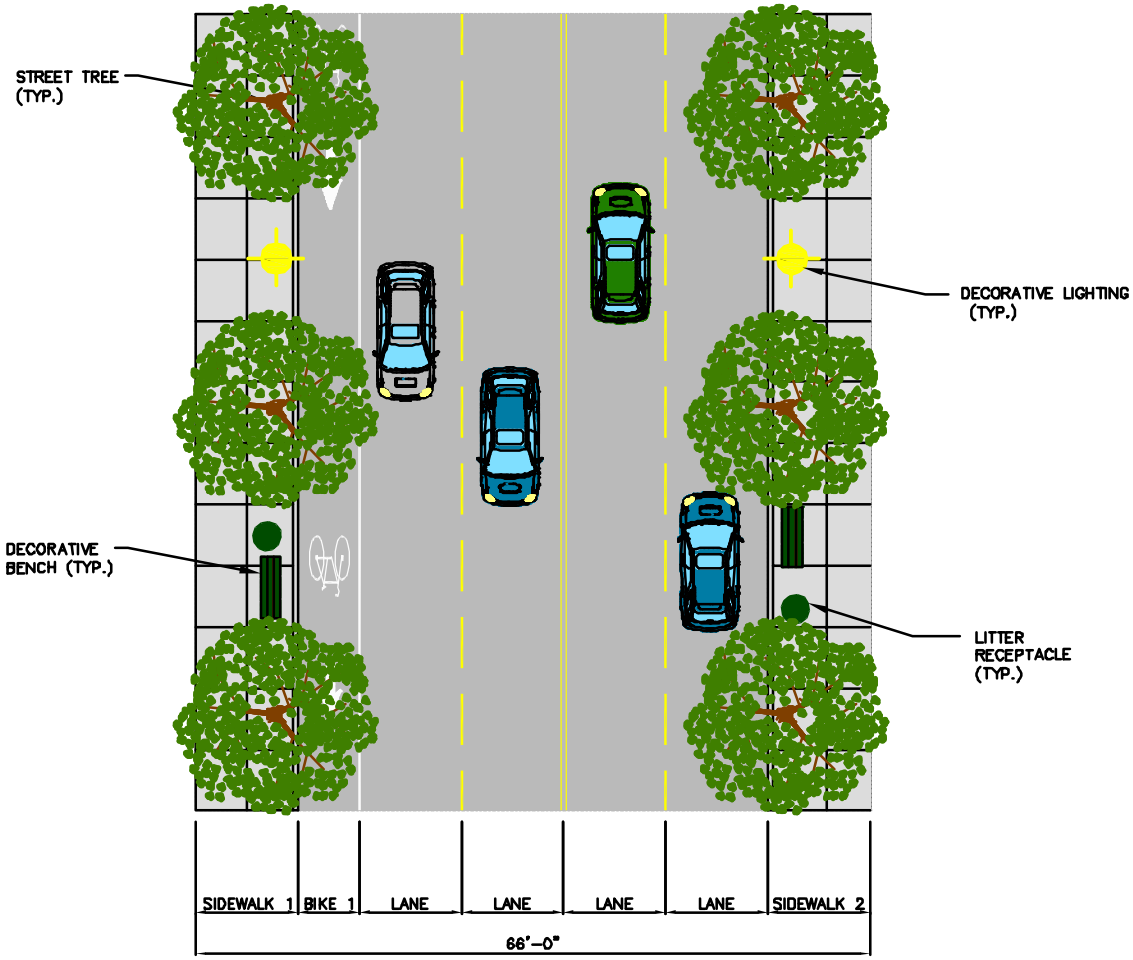


FIGURE 4.6-13a
66' ROW
TWO-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	BIKE 1	LANE	LANE	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	6'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
MINOR COLLECTOR	SEE NEXT SHEET FOR TYPICAL TWO-WAY STREET, NO PARKING PLAN & SECTION.						

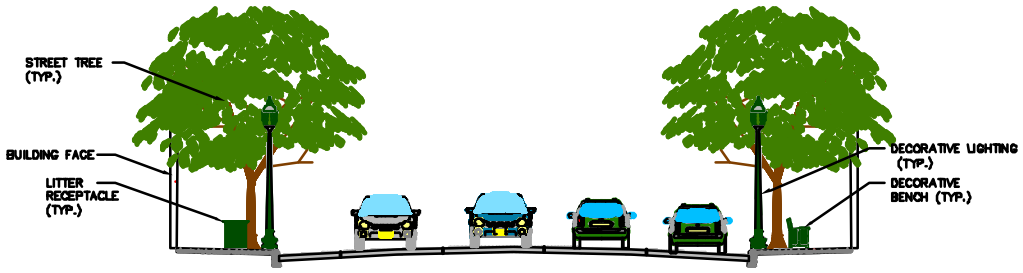
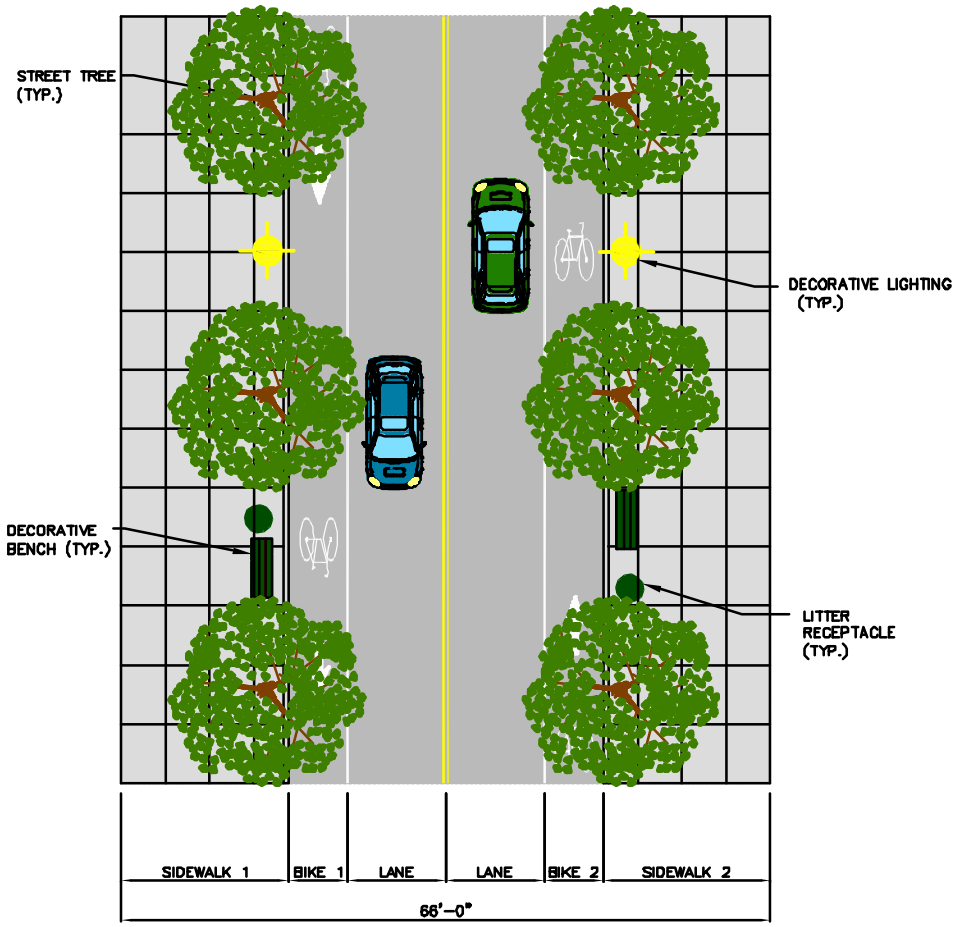


FIGURE 4.6-14
66' ROW
TWO-WAY STREET
NO PARKING



	SIDEWALK 1	BIKE 1	LANE	LANE	BIKE 2	SIDEWALK 2
MINOR COLLECTOR	17'-0"	6'-0"	10'-0"	10'-0"	6'-0"	17'-0"

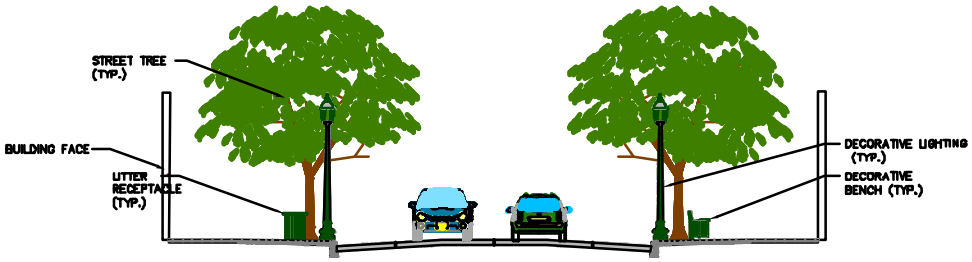
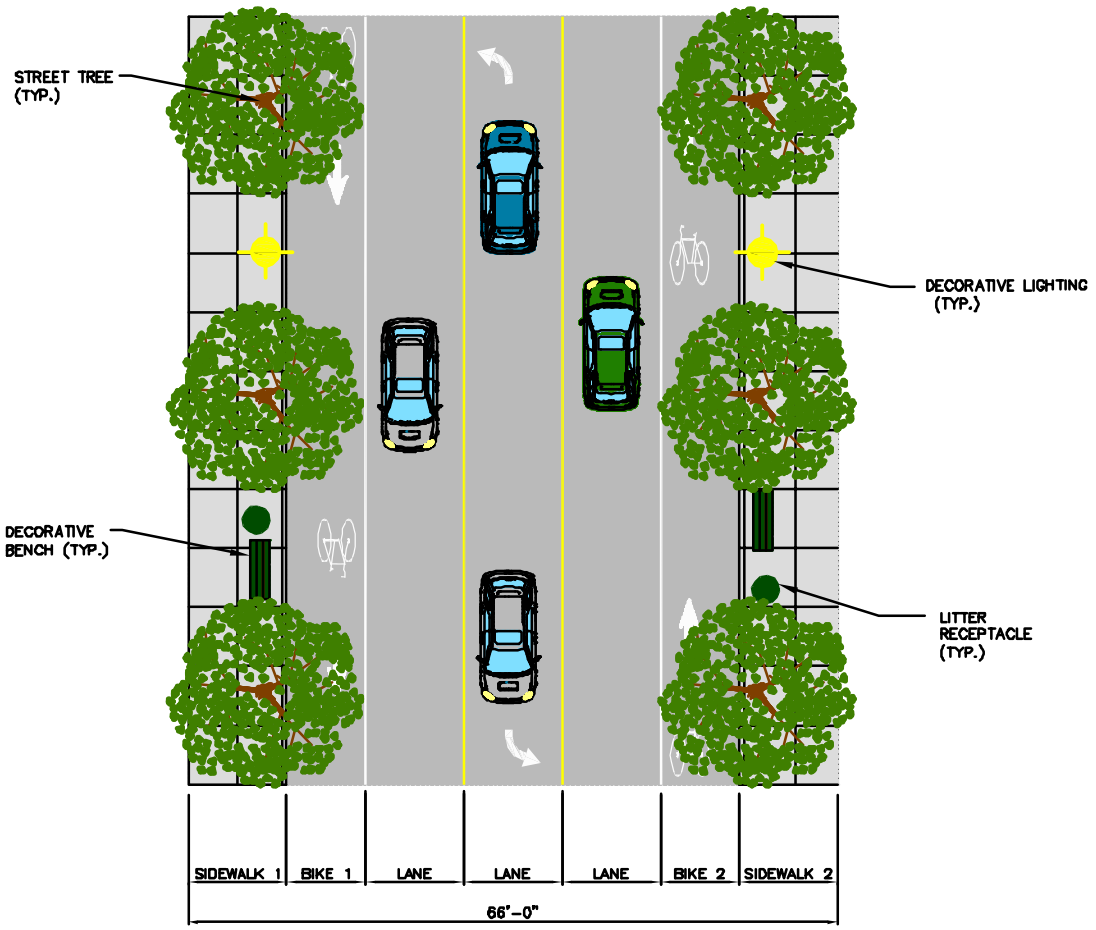


FIGURE 4.6-14a
66' ROW
TWO-WAY STREET
NO PARKING



	SIDEWALK 1	BIKE 1	LANE	LANE	LANE	BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	10'-0"	10'-0"	10'-0"	8'-0"	10'-0"
MINOR COLLECTOR	SEE NEXT SHEET FOR TYPICAL BOULEVARD OR CENTER TURN LANE PLAN & SECTION.						
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR TYPICAL BOULEVARD OR CENTER TURN LANE PLAN & SECTION.						

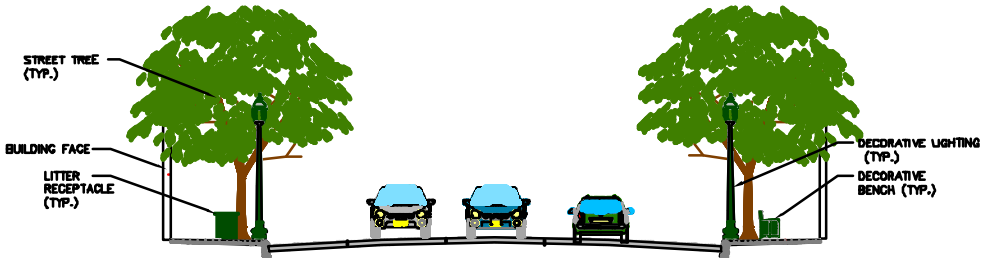
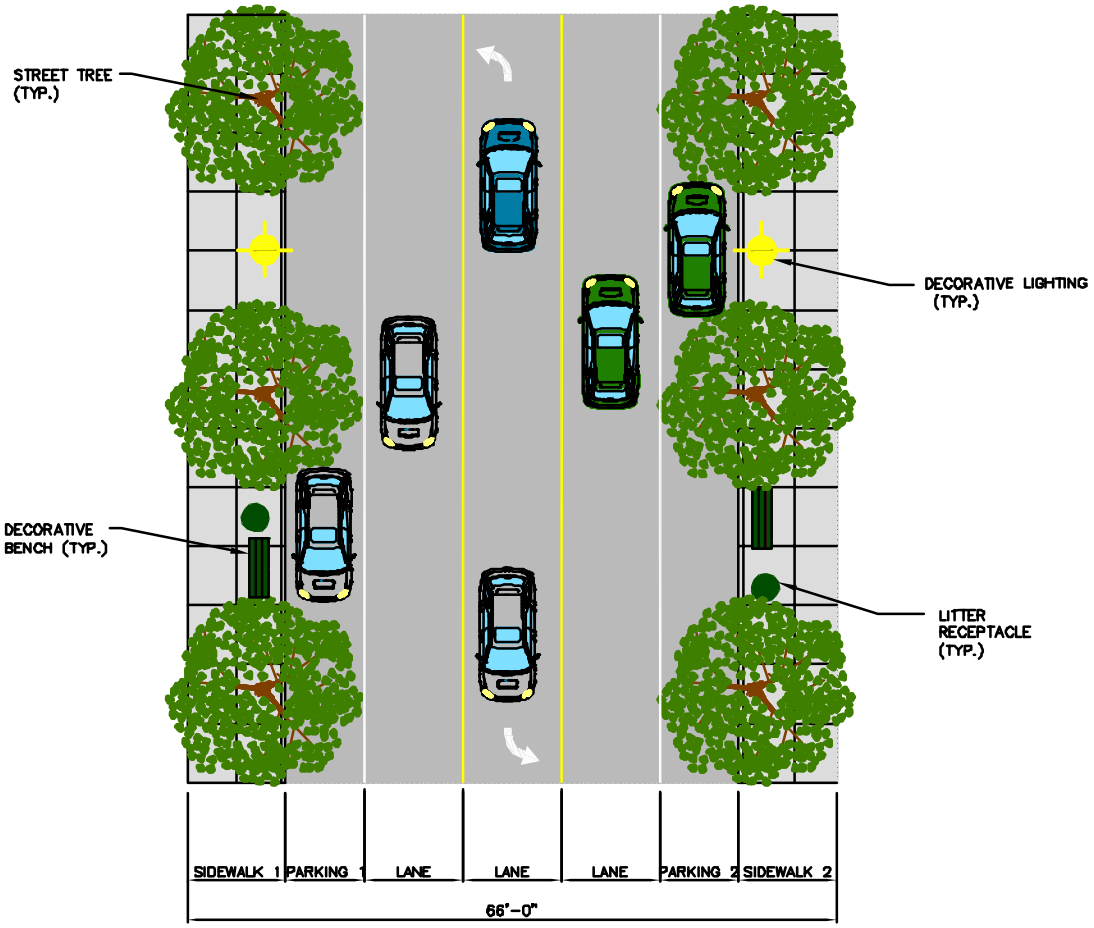


FIGURE 4.6-15
66' ROW
BOULEVARD OR CENTER TURN LANE



	SIDEWALK 1	PARKING 1	LANE	LANE	LANE	PARKING 2	SIDEWALK 2
MINOR COLLECTOR	10'-0"	8'-0"	10'-0"	10'-0"	10'-0"	8'-0"	10'-0"
LOCAL RESIDENTIAL	10'-0"	8'-0"	10'-0"	10'-0"	10'-0"	8'-0"	10'-0"

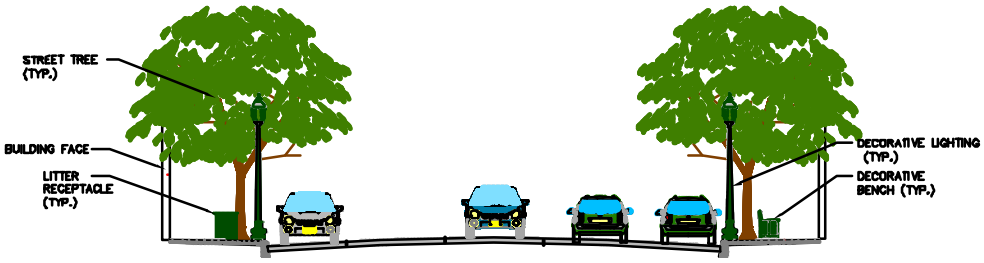
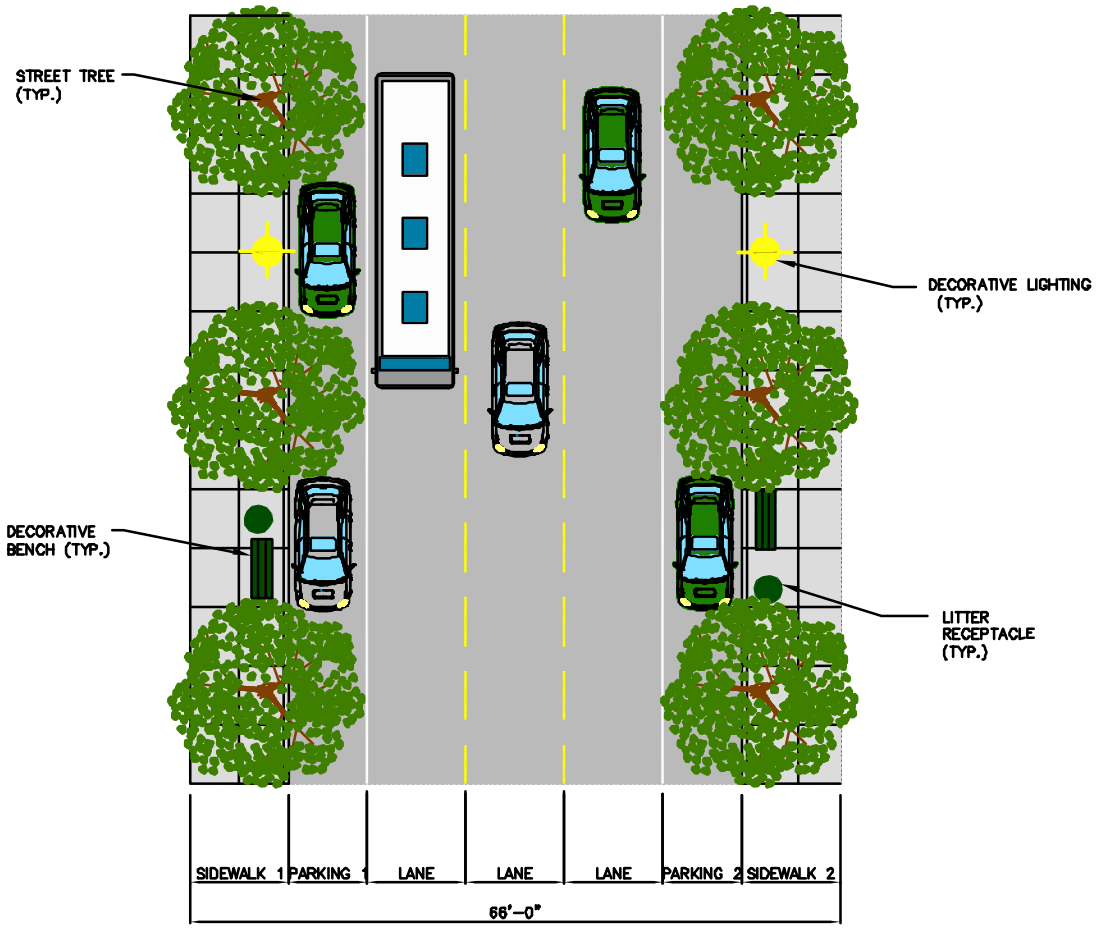


FIGURE 4.6-15a
66' ROW
BOULEVARD OR CENTER TURN LANE



	SIDEWALK 1	PARKING 1	LANE	LANE	LANE	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	10'-0"	10'-0"	10'-0"	8'-0"	10'-0"
MINOR COLLECTOR	SEE NEXT SHEET FOR TYPICAL ONE-WAY STREET, TWO SIDE PARKING PLAN & SECTION.						
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR TYPICAL ONE-WAY STREET, TWO SIDE PARKING PLAN & SECTION.						

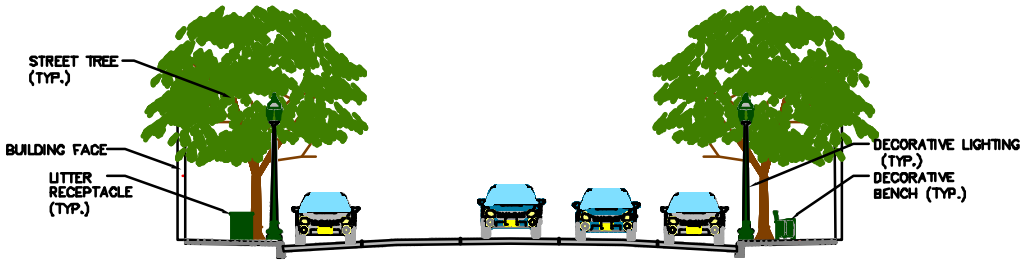
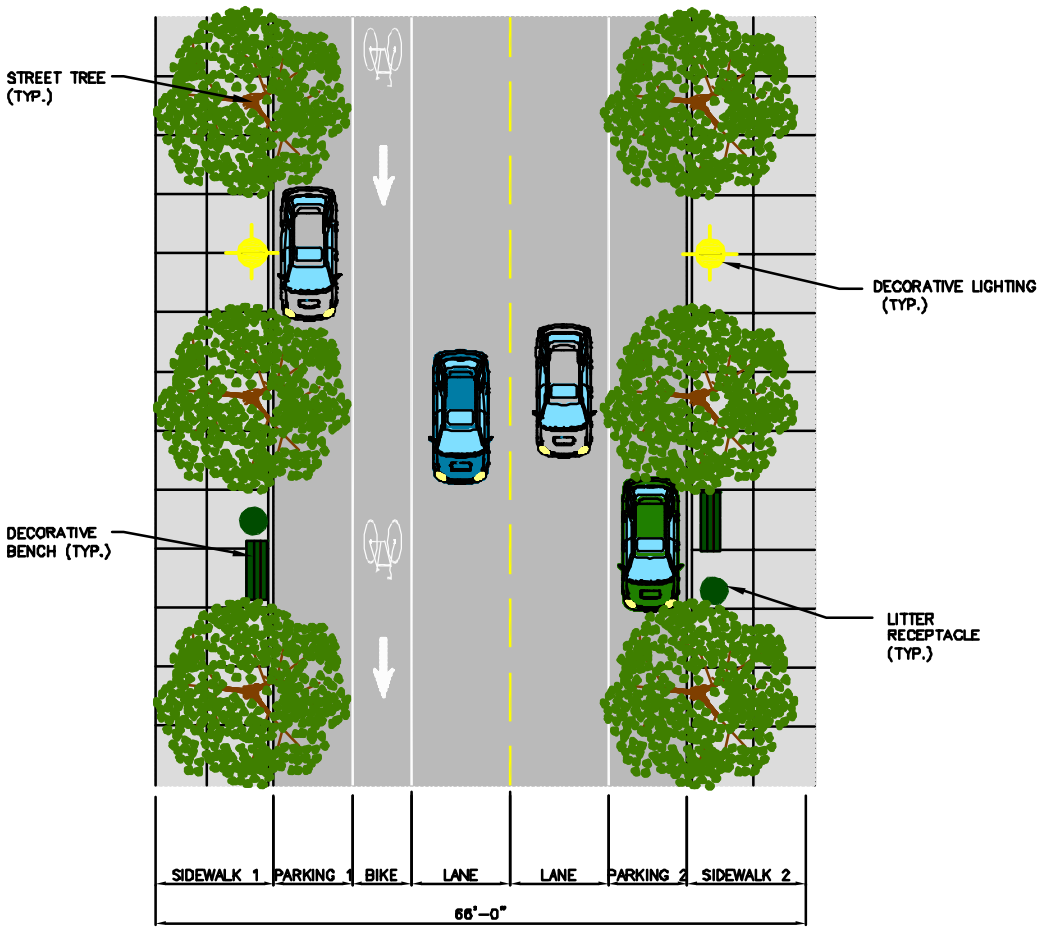


FIGURE 4.6-16
66' ROW
ONE-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	BIKE	LANE	LANE	PARKING 2	SIDEWALK 2
MINOR COLLECTOR	12'-0"	8'-0"	6'-0"	10'-0"	10'-0"	8'-0"	12'-0"
LOCAL RESIDENTIAL	12'-6"	8'-0"	5'-0"	10'-0"	10'-0"	8'-0"	12'-6"

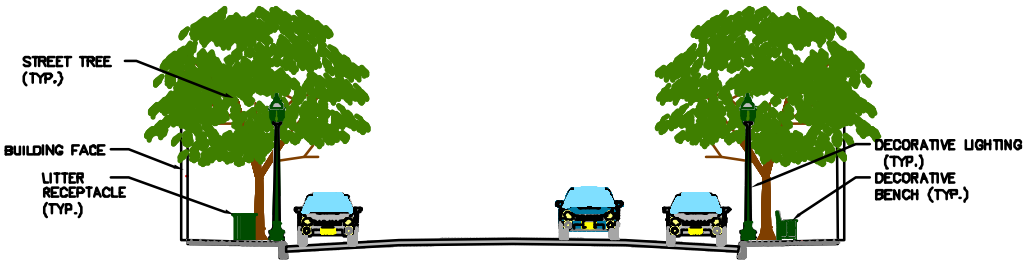
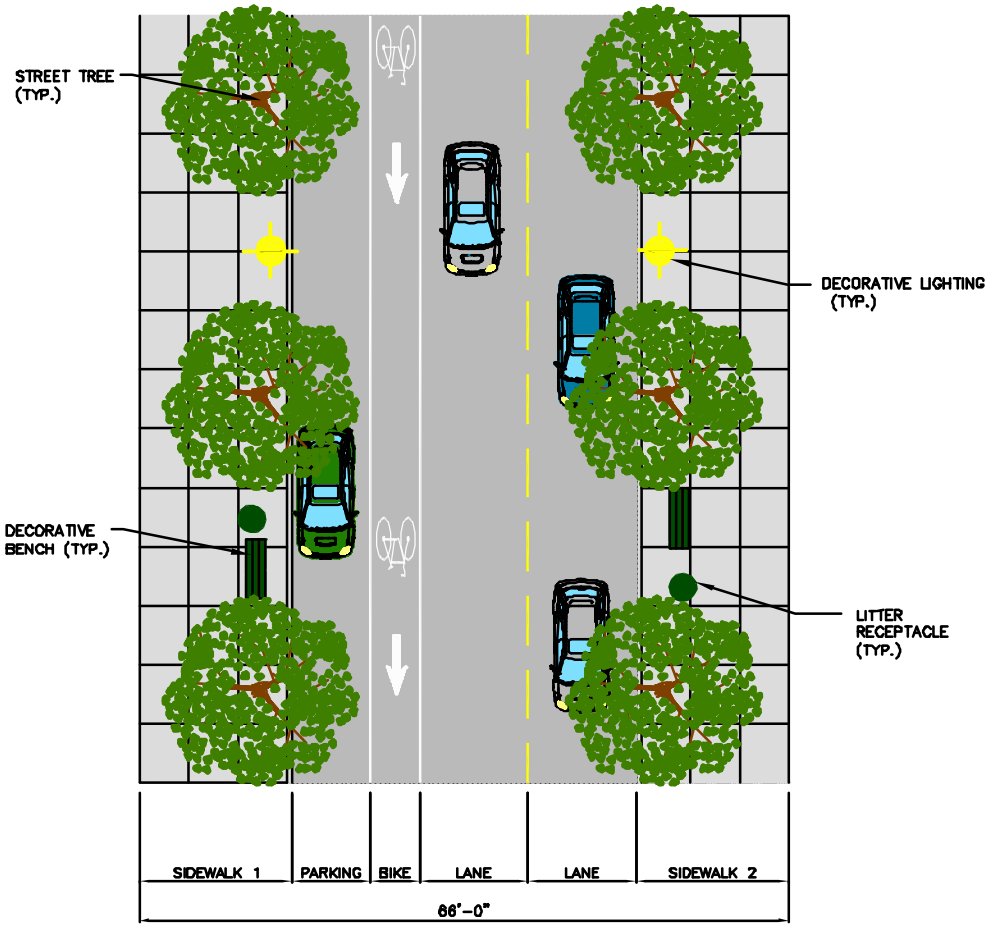


FIGURE 4.6-16a
ONE-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING	BIKE	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	15'-6"	8'-0"	5'-0"	11'-0"	11'-0"	15'-6"
MINOR COLLECTOR	15'-0"	8'-0"	8'-0"	10'-0"	10'-0"	15'-0"
LOCAL RESIDENTIAL	16'-6"	8'-0"	5'-0"	10'-0"	10'-0"	16'-6"

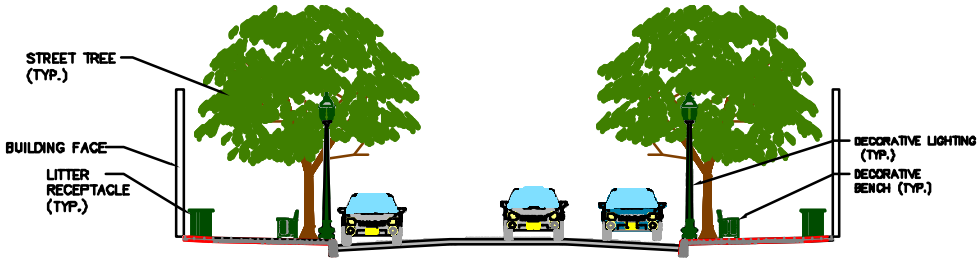
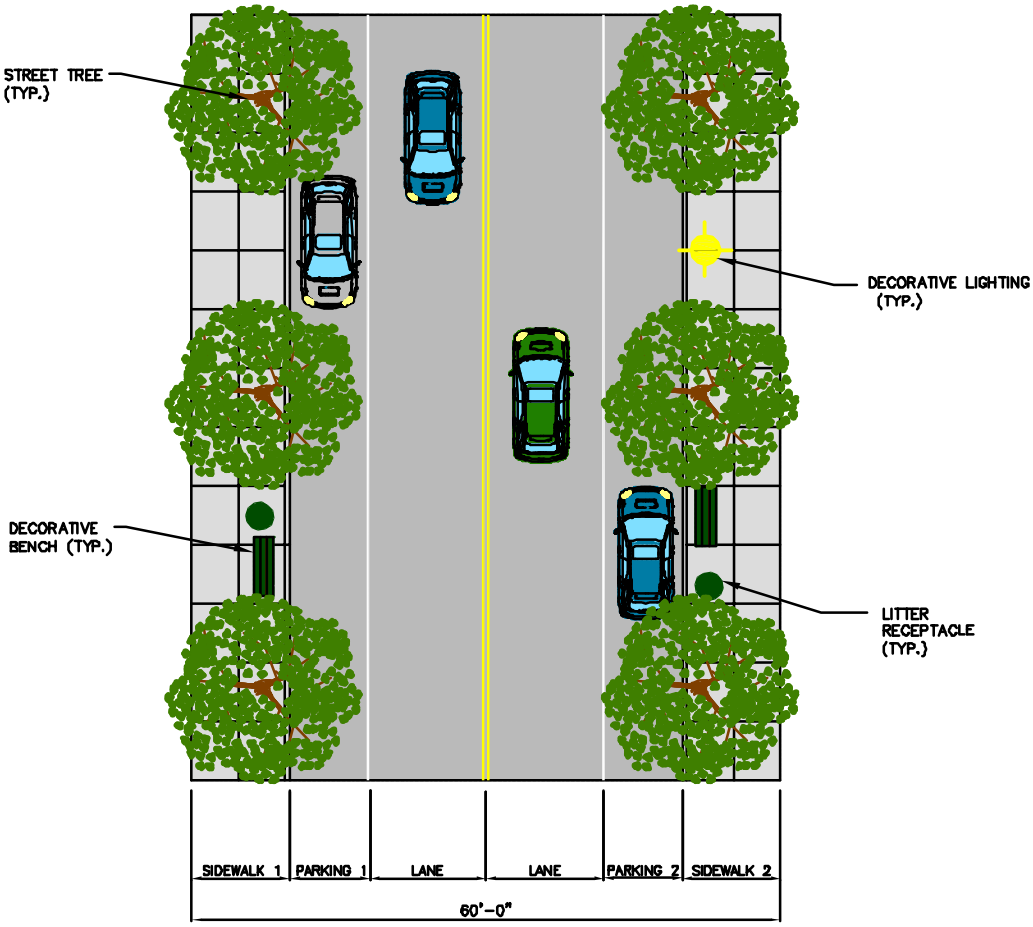


FIGURE 4.6-17
66' ROW
ONE-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	12'-0"	12'-0"	8'-0"	10'-0"
MINOR COLLECTOR	12'-0"	8'-0"	10'-0"	10'-0"	8'-0"	12'-0"
LOCAL RESIDENTIAL	12'-0"	8'-0"	10'-0"	10'-0"	8'-0"	12'-0"

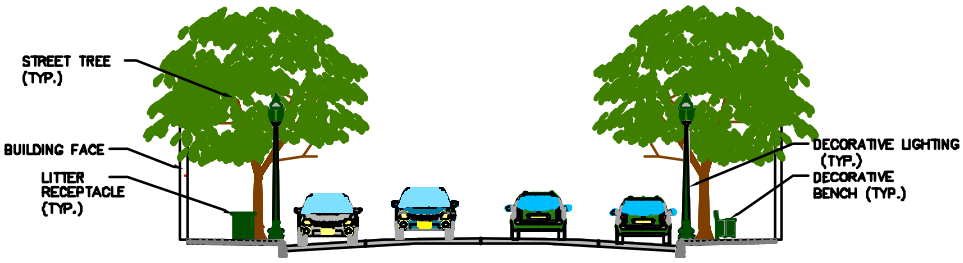
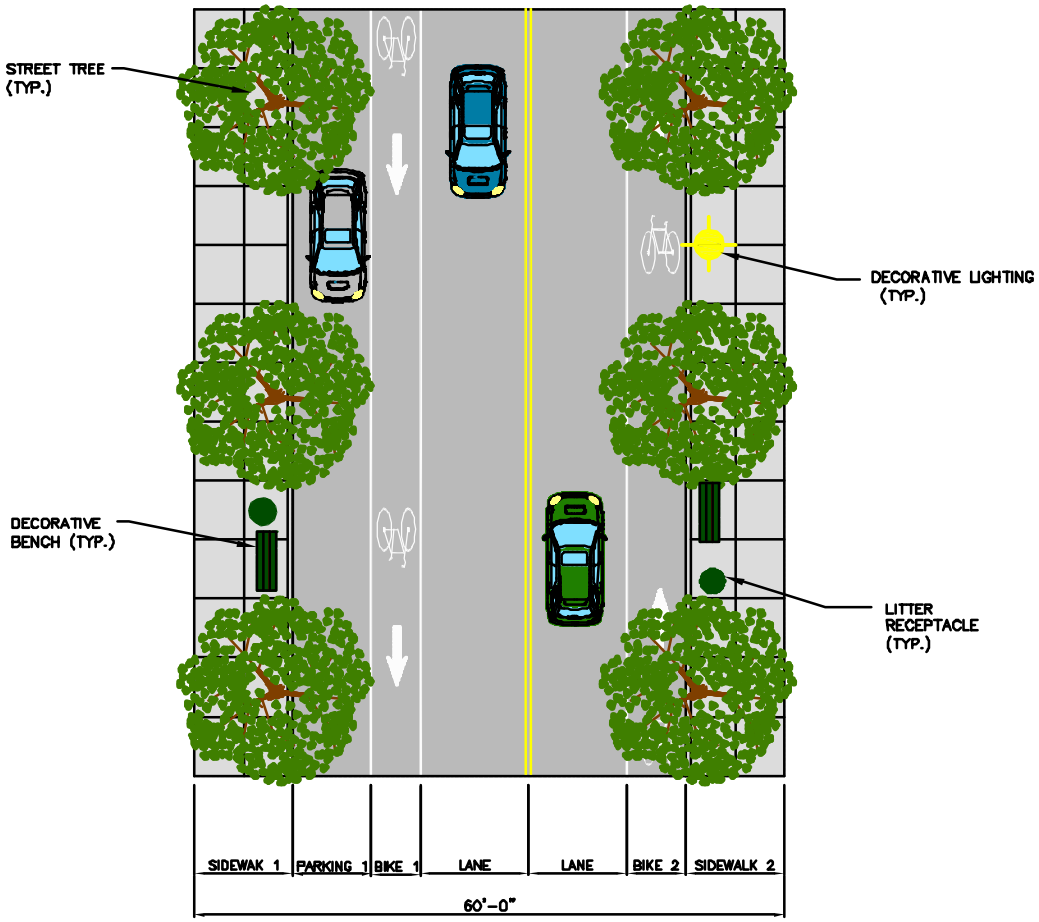


FIGURE 4.6-18
60' R.O.W.
TWO-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	5'-0"	11'-0"	10'-0"	6'-0"	10'-0"
MINOR COLLECTOR	10'-0"	8'-0"	6'-0"	10'-0"	10'-0"	6'-0"	10'-0"
LOCAL RESIDENTIAL	10'-0"	8'-0"	6'-0"	10'-0"	10'-0"	6'-0"	10'-0"

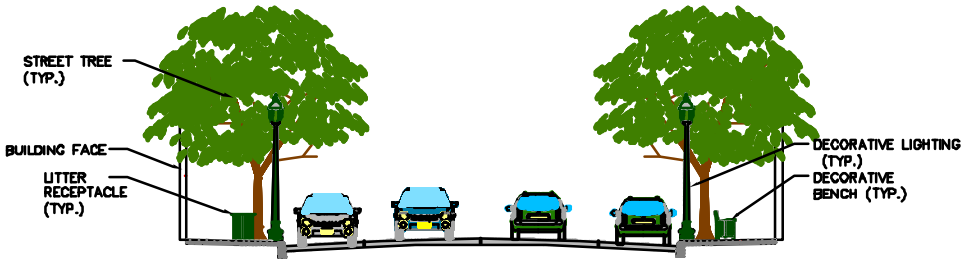
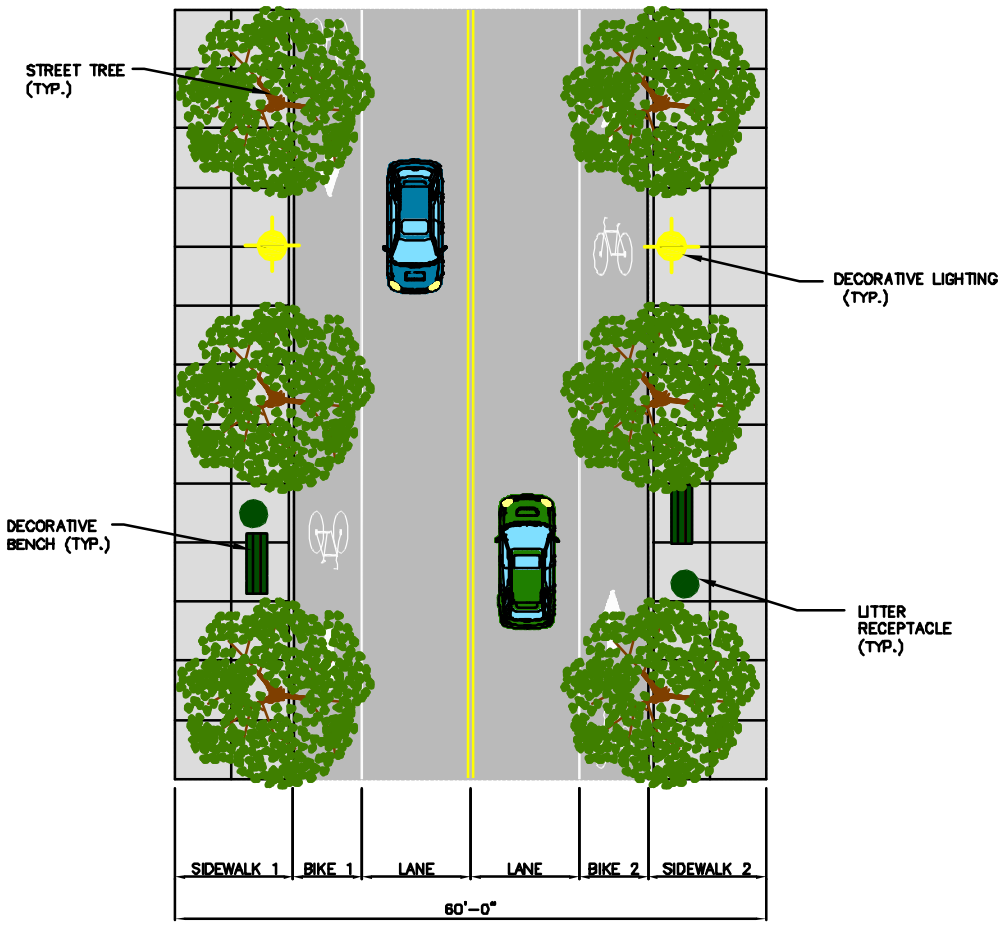


FIGURE 4.6-19
60' R.O.W.
TWO-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	BIKE 1	LANE	LANE	BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	12'-0"	7'-0"	11'-0"	11'-0"	7'-0"	12'-0"
MINOR COLLECTOR	14'-0"	6'-0"	10'-0"	10'-0"	6'-0"	14'-0"

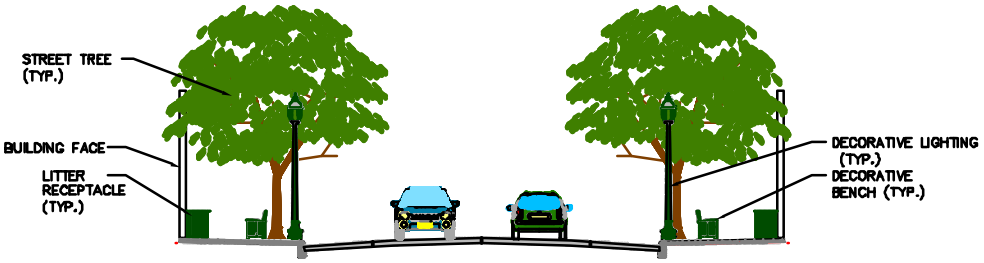
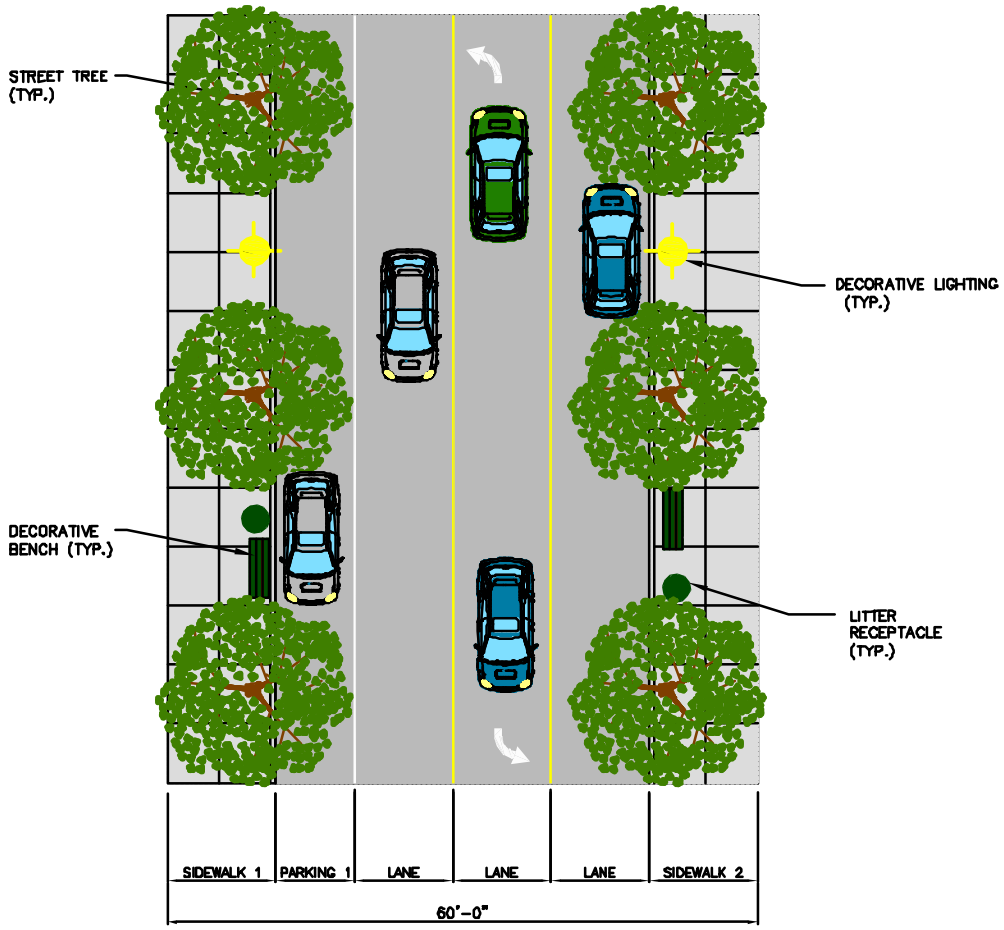


FIGURE 4.6-20
60' R.O.W.
TWO-WAY STREET
NO PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	11'-0"	8'-0"	10'-0"	10'-0"	10'-0"	11'-0"
MINOR COLLECTOR	11'-0"	14'-0" *		10'-0"	14'-0" *	11'-0"

* SHARED THROUGH/BIKE LANE

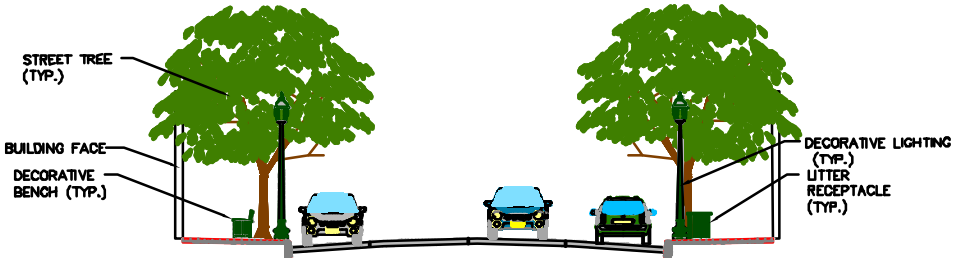
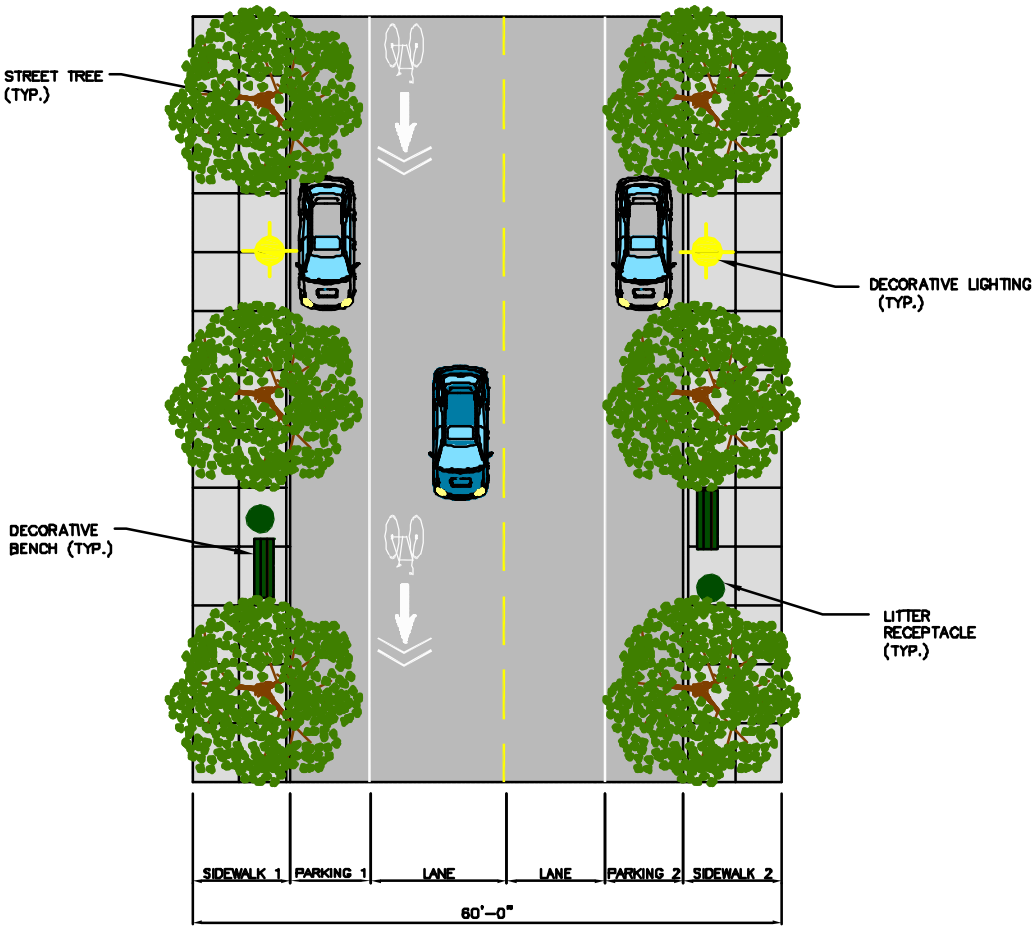


FIGURE 4.6-21
60' R.O.W.
BOULEVARD OR CENTER TURN LANE



	SIDEWALK 1	PARKING 1	LANE	LANE	PARKING 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	8'-0"	14'-0" *	10'-0"	8'-0"	10'-0"
MINOR COLLECTOR	10'-0"	8'-0"	14'-0" *	10'-0"	8'-0"	10'-0"
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR ONE-WAY, TWO SIDED STREET PLAN & SECTION.					

* SHARED THROUGH/BIKE LANE

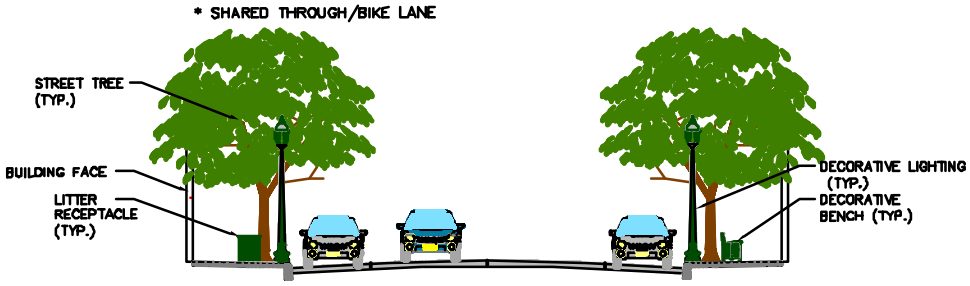
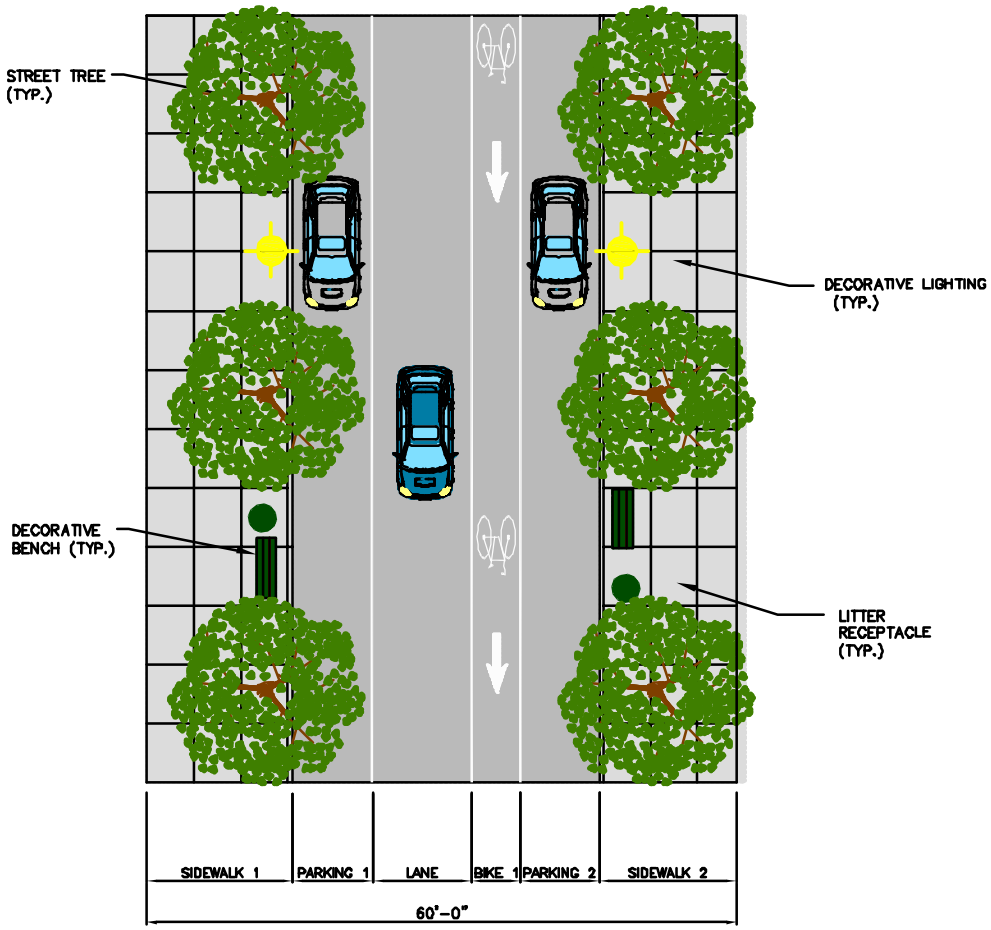


FIGURE 4.6-22
60' R.O.W.
ONE-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	BIKE	PARKING 2	SIDEWALK 2
LOCAL RESIDENTIAL	15'-0"	8'-0"	10'-0"	5'-0"	8'-0"	14'-0"

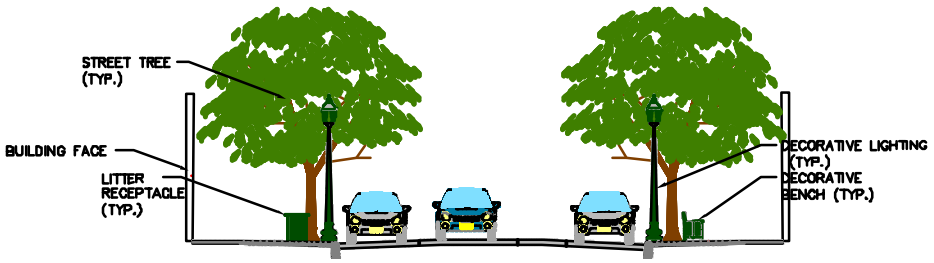
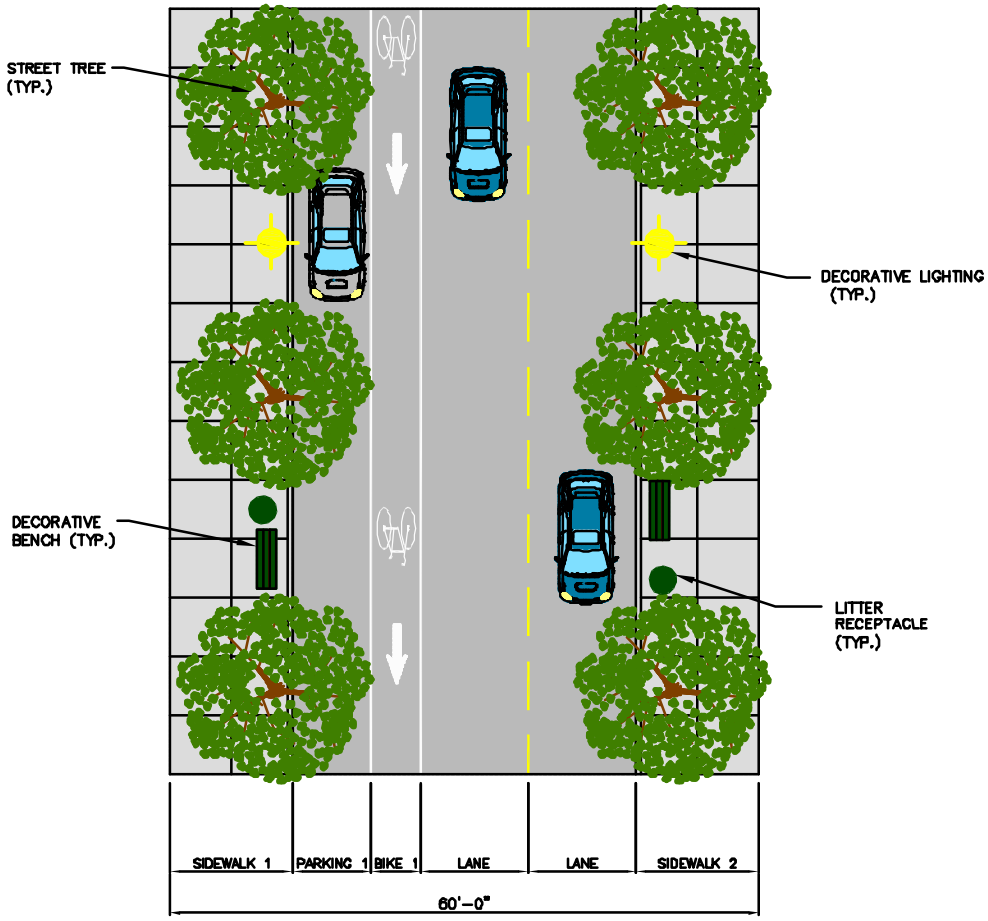


FIGURE 4.6-22a
60' R.O.W.
ONE-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	BIKE 1	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	12'-6"	8'-0"	5'-0"	11'-0"	11'-0"	12'-6"
MINOR COLLECTOR	13'-0"	8'-0"	6'-0"	10'-0"	10'-0"	13'-0"
LOCAL RESIDENTIAL	13'-0"	8'-0"	6'-0"	10'-0"	10'-0"	13'-0"

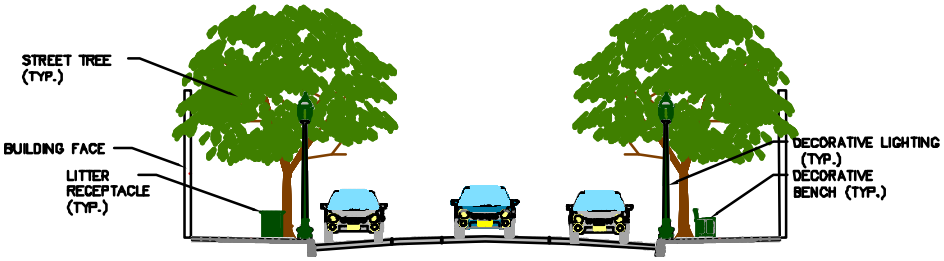
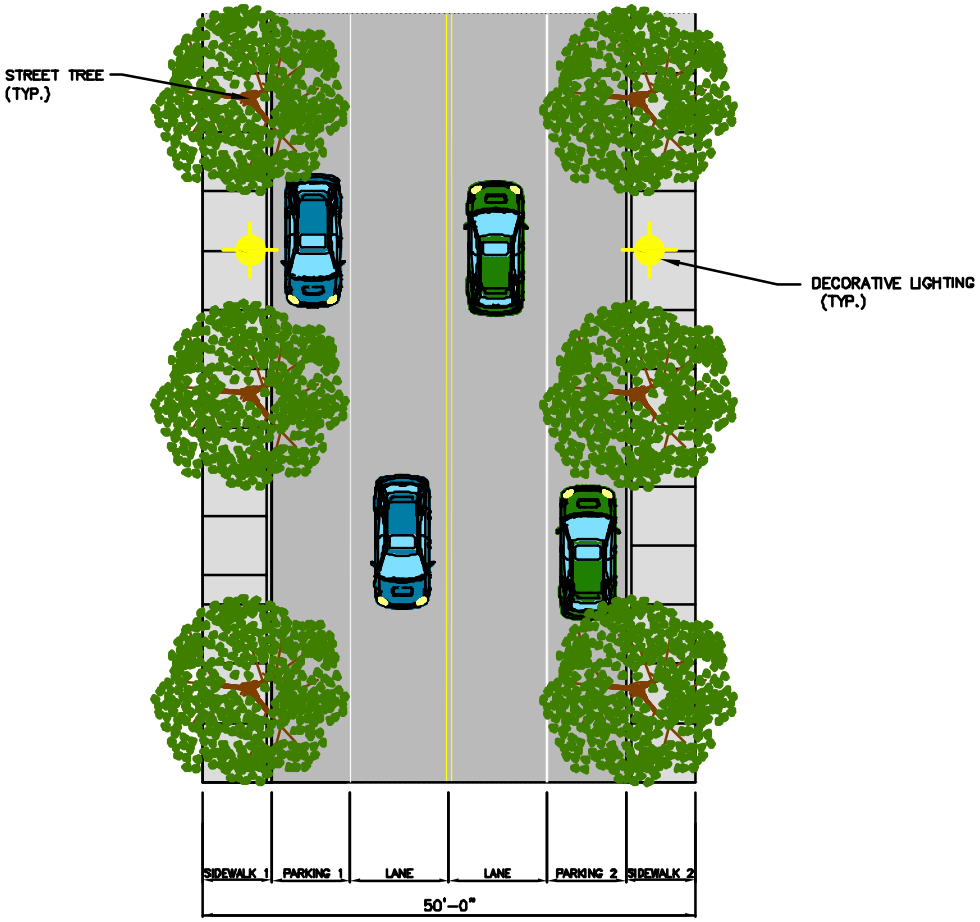


FIGURE 4.6-23
60' R.O.W.
ONE-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	PARKING 2	SIDEWALK 2
LOCAL RESIDENTIAL	7'-0"	8'-0"	10'-0"	10'-0"	8'-0"	7'-0"

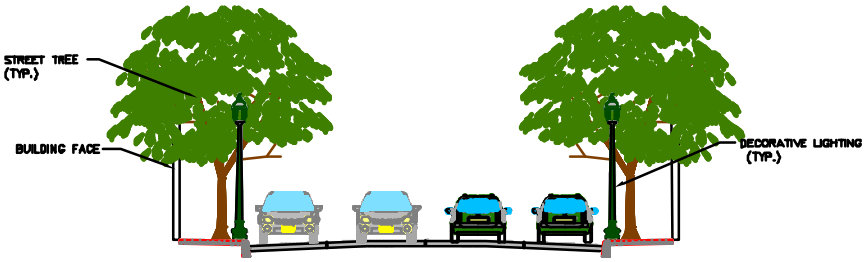
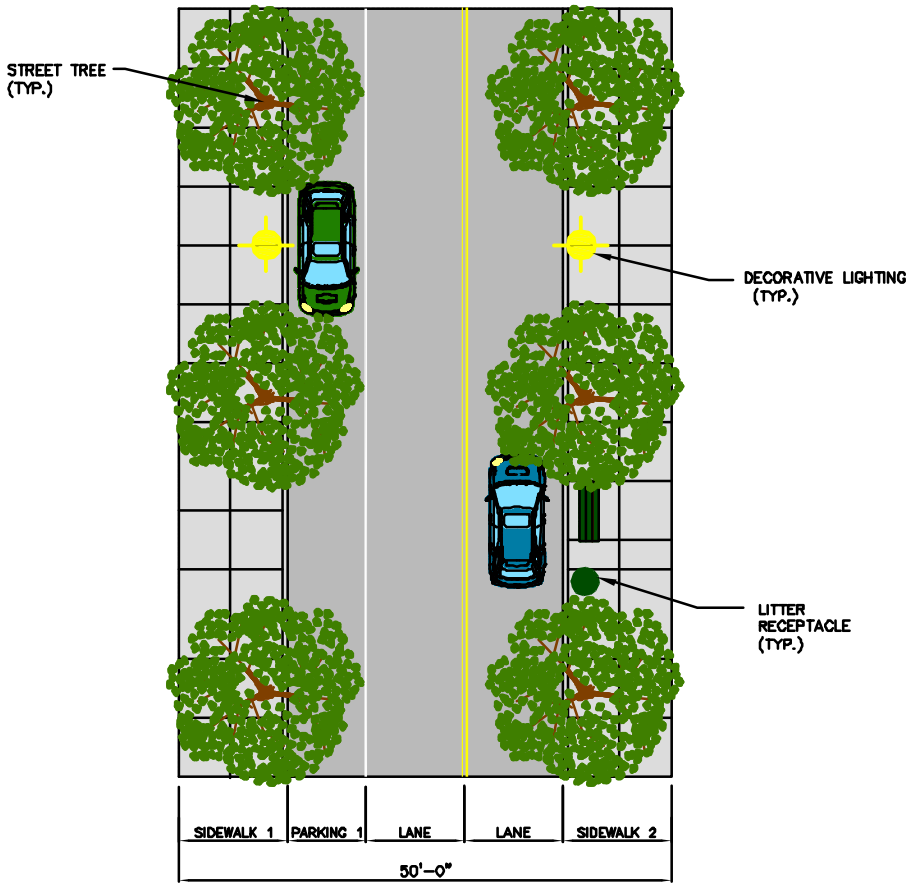


FIGURE 4.6-24
50'R.O.W.
TWO-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	11'-0"	8'-0"	10'-0"	10'-0"	11'-0"
MINOR COLLECTOR	11'-0"	8'-0"	10'-0"	10'-0"	11'-0"
LOCAL RESIDENTIAL	11'-0"	8'-0"	10'-0"	10'-0"	11'-0"

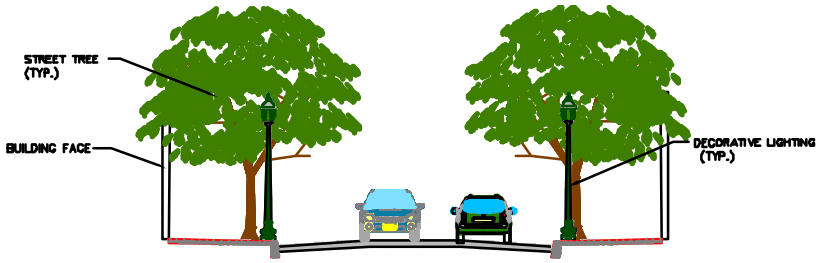
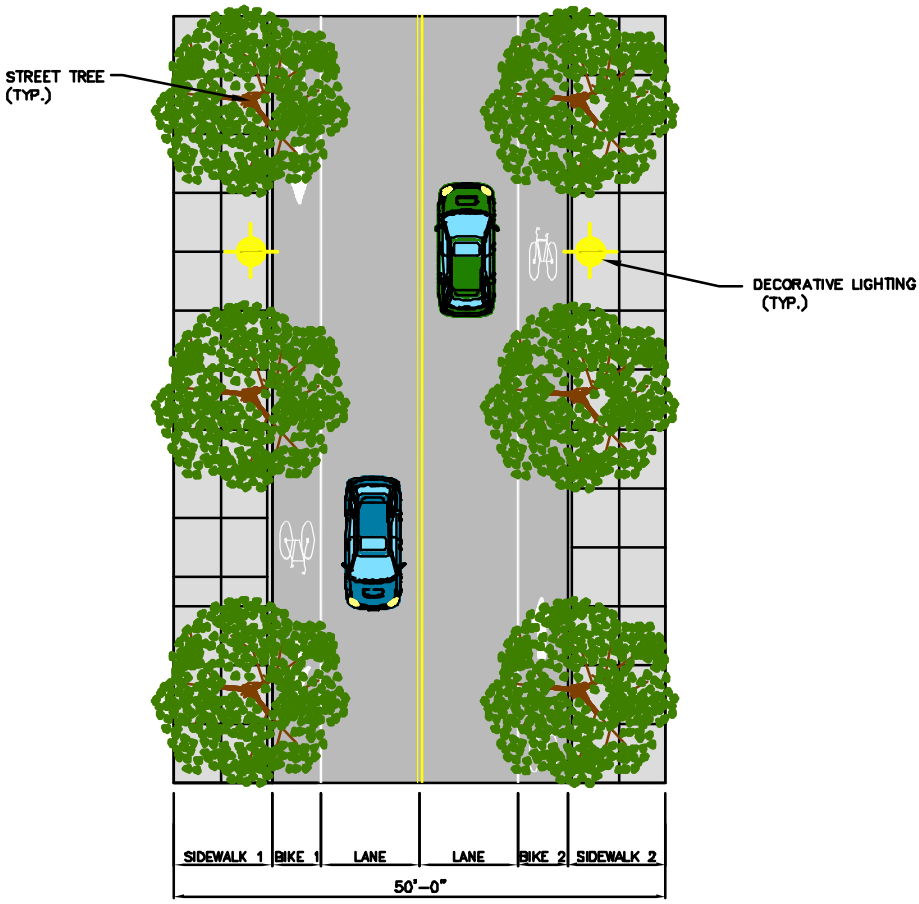


FIGURE 4.6-25
50' R.O.W.
TWO-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	BIKE 1	LANE	LANE	BIKE 2	SIDEWALK 2
MAJOR COLLECTOR	10'-0"	5'-0"	10'-0"	10'-0"	5'-0"	10'-0"
MINOR COLLECTOR	11'-0"	14'-0" *		14'-0" *		11'-0"

* SHARED THROUGH/BIKE LANE

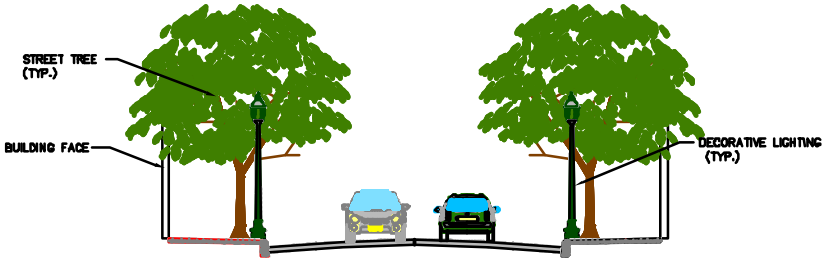
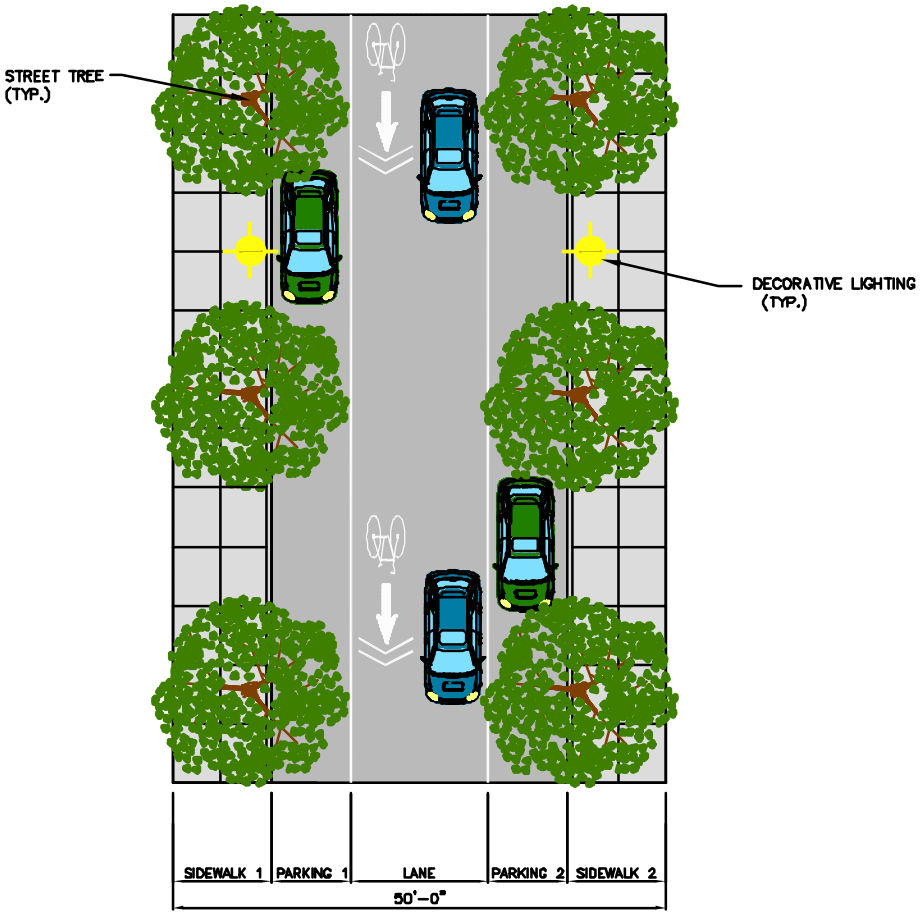


FIGURE 4.6-26
50' R.O.W.
TWO-WAY STREET
NO PARKING



	SIDEWALK 1	PARKING 1	LANE	PARKING 2	SIDEWALK 2
MINOR COLLECTOR	10'-0"	8'-0"	14'-0" *	8'-0"	10'-0"
LOCAL RESIDENTIAL	10'-0"	8'-0"	14'-0" *	8'-0"	10'-0"

* SHARED THROUGH/BIKE LANE

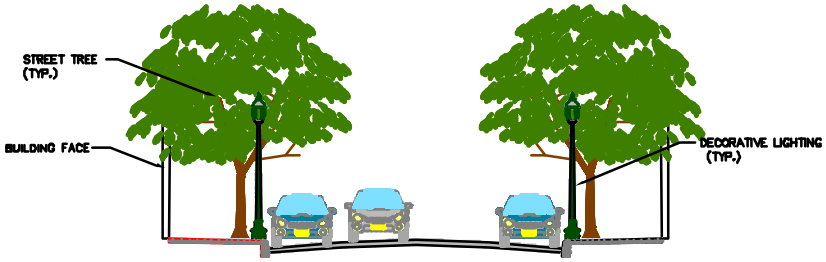
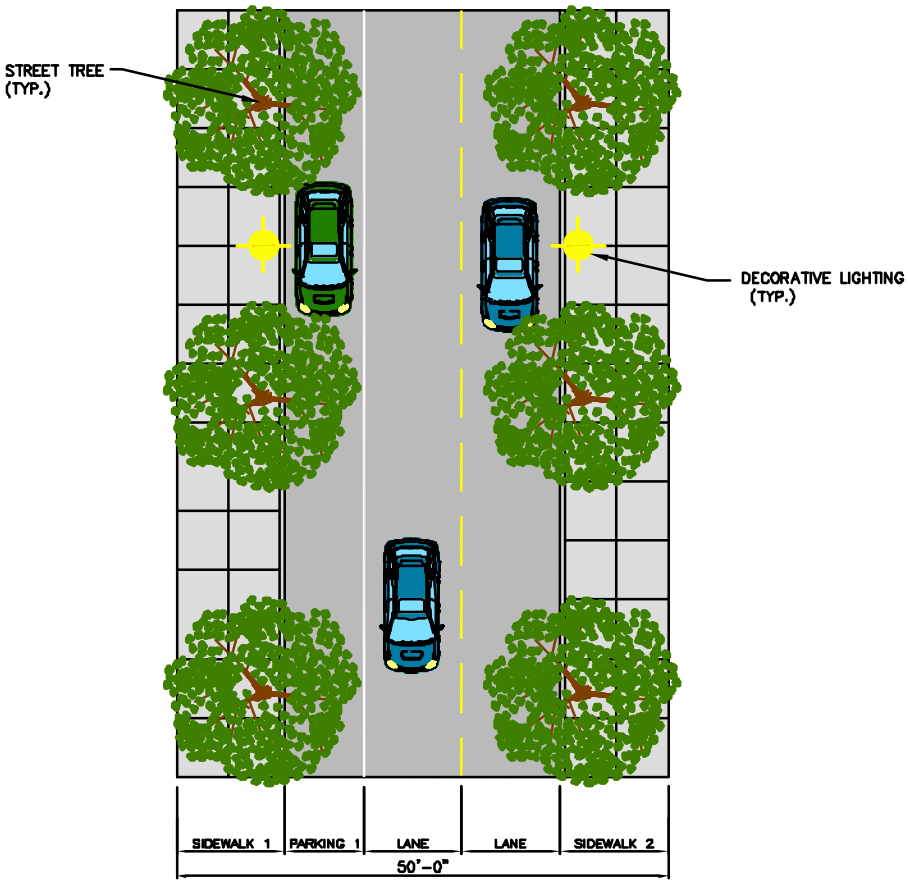


FIGURE 4.6-27
50' R.O.W.
ONE-WAY STREET
TWO SIDED PARKING



	SIDEWALK 1	PARKING 1	LANE	LANE	SIDEWALK 2
MAJOR COLLECTOR	11'-0"	8'-0"	10'-0"	10'-0"	11'-0"
MINOR COLLECTOR	SEE NEXT SHEET FOR ONE-WAY, ONE SIDED STREET PLAN & SECTION.				
LOCAL RESIDENTIAL	SEE NEXT SHEET FOR ONE-WAY, ONE SIDED STREET PLAN & SECTION.				

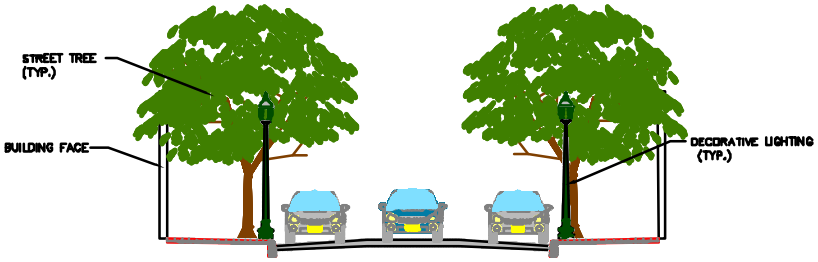
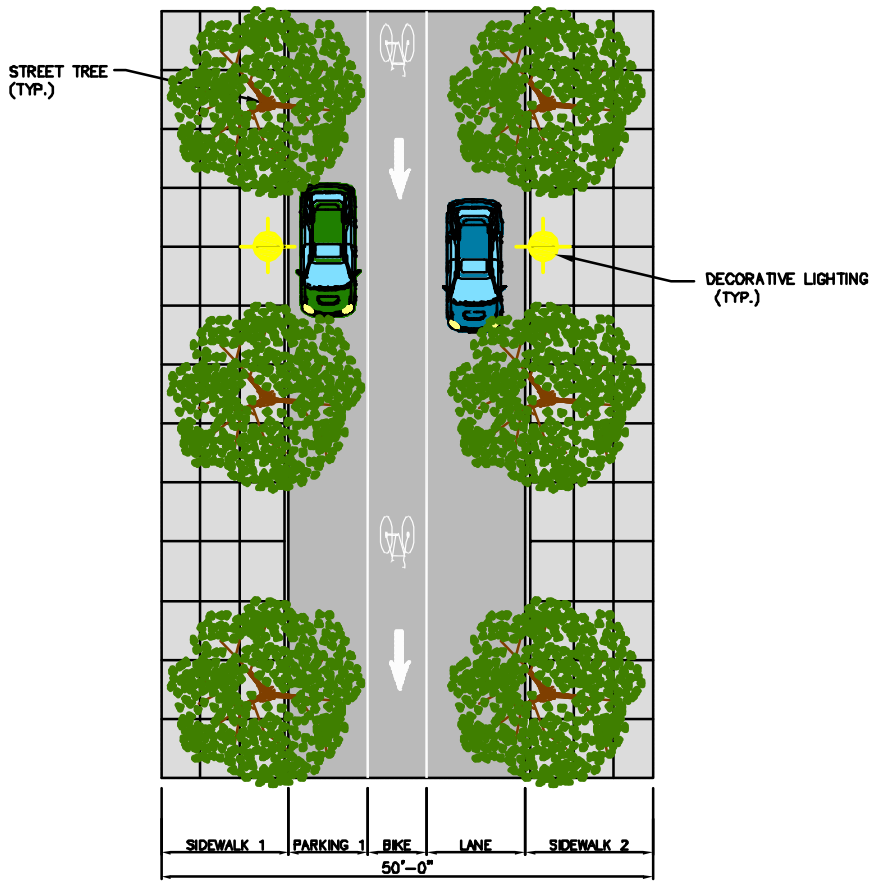


FIGURE 4.6-28
50' R.O.W.
ONE-WAY STREET
ONE SIDED PARKING



	SIDEWALK 1	PARKING 1	BIKE	LANE	SIDEWALK 2
MINOR COLLECTOR	13'-0"	8'-0"	6'-0"	10'-0"	13'-0"
LOCAL RESIDENTIAL	13'-0"	8'-0"	6'-0"	10'-0"	13'-0"

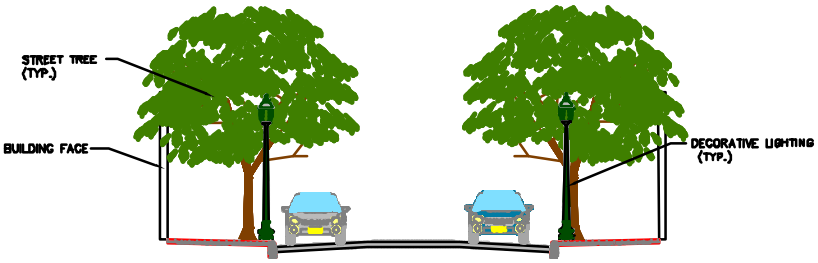


FIGURE 4.6-28a
50' R.O.W.
ONE-WAY STREET
ONE SIDED PARKING

4.6.1 Guiding Principles

The City identifies the importance of wide public sidewalks to create safe, efficient, and inviting public spaces. Therefore, multiple planning and engineering guides were reviewed relative to through lane width relative to speed and volume, and bike lane width. Additionally, the Technical Advisory Committee, and various City departments were consulted for feedback on desirable street layout and amenities. The following recommendations were considered:

- The American Planning Association's "Planning and Urban Design Standards" recommends 7 foot to 8 foot parking lanes, 4 foot to 6 foot bike lanes, and 10 foot to 14 foot travel lanes.

- NJDOT's 2001 "Pedestrian Compatible Planning and Design Guidelines; Bicycle Compatible Planning and Design Guidelines", recommends 11 feet to 14 feet for shared parking/bike lanes depending on the AADT, and recommends 4.5 feet for bike lanes.

- The 2nd Edition, Institute of Transportation Engineers (ITE), 2002 "Transportation and Land Development", recommends in Table 4-3, travel lane widths of 11 feet to 12 feet for Non-Residential Major Collectors with speed limits of 35 to 40 mph, travel lane widths of 12 feet for Residential Major Collectors with speed limits of 35 mph, and 10 feet widths for travel lanes on residential Minor Collectors with speed limits of less than or equal to 30 mph. As for bike lanes, ITE recommends that they are one-way, 6 feet to 8 feet in width, however 5 feet widths are acceptable for retrofit projects.

- Residential Site Improvement Standards, N.J.A.C. 5:21-4.5, Table 4.3, recommends a minimum parking lane width of 7 feet on residential access streets ands minor collectors.

Therefore, based on the above and after consultation with the TAC and various departments, the following guiding principals were agreed upon relative to typical section layouts:

Sidewalk/Buffer Area: A minimum width of 10 feet on each side of the right-of-way should be provided for the combination of sidewalk and buffer area. The clear width of sidewalk should meet ADA requirements and where possible have a minimum unobstructed width of 5 feet. It is desirable to have wider sidewalks where applicable.

Parking Lanes: Parking should be accommodated on all local residential streets, where feasible. All parking lanes should be 8 feet in width, with an exception for Local Residential streets with less than 1,500 ADT.

Travel Lanes: A travel lane width of 11 feet should be provided for Major Collectors where possible. For cases where this is not possible due to inadequate right-of-way width, then the speed limit of the roadway should be considered. Since the speed limit in Jersey City is 25 mph for all streets, with the exception of sections of Garfield Avenue and Caven Point Road, a lane width of 10 feet may be acceptable in some cases. A travel lane width of 10 feet should be provided for Minor Collectors and Local Residential streets.

Bike Lanes: A minimum one-way striped bike lane of 5 feet, should be provided on each side of the street where feasible. Where inadequate right-of-way exists to provide a separate bike lane, a shared bike lane with a minimum width of 14 feet should be provided that accommodates bikes and vehicles, where appropriate.

As stated, it was not practical to develop a typical section for every possible right-of-way width in Jersey City. Therefore, in deciding how to treat a right-of-way width not specifically listed, the closest right-of-way typical section should be used. Any additional width should be added to the sidewalk, if 5 foot bike lanes and adequate lane widths and parking widths are already provided as recommended above. If not, then the bike lanes, through lanes, and parking lanes should be brought up to recommended standards. For high volume roads, additional travel lanes should be provided in lieu of lanes wider than standards. Wider lanes tend to encourage higher speeds. Further discussions of traffic calming measures can be found in the Traffic Calming Plan of this report.

The Typical Roadway Sections can be found in Figures 4.6-1 through 4.6-28. It should be noted that, although not depicted on the sections, some streets will require special considerations for buses as indicated on the Functional Class mapping. These roads are Congress Street, Franklin Street, and Ravine Avenue.

4.6.2 Street Amenities

Street amenities create inviting, attractive, usable public spaces. Therefore, the plan includes typical sidewalk layouts that accommodate bike racks, benches, planters, street trees, trash receptacles, and lighting. Sample layouts for street amenities can be found on the typical sections.

4.7 Traffic Calming Plan

4.7.1 Introduction

According to the Institute of Transportation Engineers (ITE) “traffic calming is the combination of mainly physical measures to reduce the negative effects of motor vehicle use, alter driver behavior and improve condition for non-motorized street users.” (*I.M. Lockwood, “ITE Traffic Calming Definition,” ITE Journal, Vol. 67, July 1997, page 22-24.)* Traffic calming measures are used to reduce the speed and volume of vehicles to acceptable levels for the functional street classification, thereby making roadways safer, more pedestrian-friendly, and improving aesthetics.

Traffic calming has been used in Europe for many years and has been successfully used throughout the United States in more recent years. Traffic calming measures cannot solve all traffic problems and careful consideration should be taken to overall regional impact.

Traffic calming measures are not regulatory measures that require enforcement, but are intended to be self-enforcing measures. It should be noted that NJDOT would not consider traffic calming features along segments of roads with posted speed limits of 40 MPH or above. However, all roads in local streets in Jersey City have posted speed limits of 25 mph, with the exception of portions of Garfield Avenue and Caven Point Road.

4.7.2 Traffic Calming Measures

The following are some examples of traffic calming measures:

4.7.2.1 Speed Humps and Speed Tables

Speed humps and speed tables are a raised surface within the traveled way designed to effectively reduce speeds. Typically, they are used within a residential setting to create a gentle rocking motion that discourages drivers from driving quickly. Speed humps are designed for speeds of approximately 15 MPH at the hump and between 20 MPH to 25 MPH between properly spaced speed humps.

As shown in Figure 4.7-1, speed humps and tables are typically 3 to 4 inches in height and vary between 12 and 22 feet in length and can be constructed of either hot mix asphalt or concrete. Additionally stamped concrete or decorative pavement is sometimes used with speed humps to improve the aesthetics. Additionally, rubber speed humps are widely available and can be used on a temporary or trial basis.

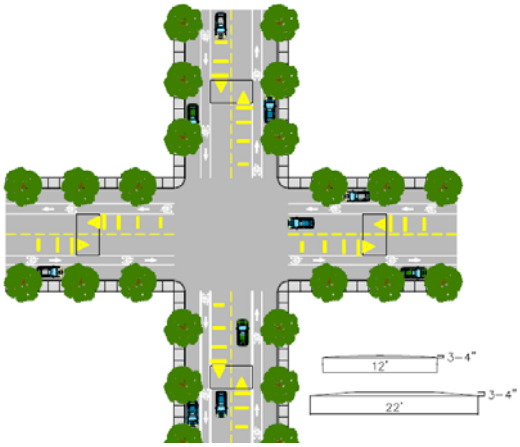


Figure 4.7-1 Speed Humps

There are two typical designs for speed humps and speed tables. The first is the Watts speed hump that was designed by the Transport and Road Research Laboratory in Great Britain and endorsed by the ITE in its publication “Guidelines for the Design and Application of Speed Humps”, dated June 1997. The cross section of these speed humps are a parabolic shape and are 12 feet in width and are only permitted on local streets with volumes of less than 3,000 ADT (average daily traffic) and with a posted speed limit of 30 MPH or less (New Jersey Title 39, C.39:4-8.10). Speed humps may be constructed on a totally self-contained two-lane-residential street and on totally self-contained one-way residential streets under municipal jurisdiction that have no direct connection with any street in any other municipality and on one-way streets connecting to County Roads. This design is primarily used at mid-block locations. The use of the parabolic speed humps should be limited to streets that are classified as “local”, with no more than two travel lanes or 40-feet of pavement width. The horizontal curvature of the road should be a 300-foot radius or greater, with adequate stopping sight distance. Speed humps should not be used on streets with grades greater than 8%. There should be no more than 5% long-wheelbase vehicles and the street should not be a primary emergency response route or bus route. It is also important that a majority of the residents support the use of speed humps on their local street.

The second design was developed in Seminole County Florida and is more commonly referred to as a speed table. The speed table is 22 feet in length and has a 10-foot flat top with a 6-foot ramp on each end. This design is less abrupt than the parabolic speed hump and, therefore, has less impact on emergency service routes. This design can be used at mid-block locations or can be used

at intersections as raised pedestrian crosswalks. They can also be used in the main access aisles of large shopping centers.

Speed humps and speed tables are typically spaced between 400 and 550 feet apart. Speed humps should be located at least 200 feet away from intersection or sharp horizontal or vertical curves that limit sight distance. Speed humps/tables must also be located so that there is sufficient room on either side of the hump so that bicycles do not conflict with parked cars. Finally, provisions must be made in the design of speed humps so that it does not block gutter flow or other drainage patterns. The design and location of speed humps or speed tables should consider bicycle access, as well as drainage impacts.

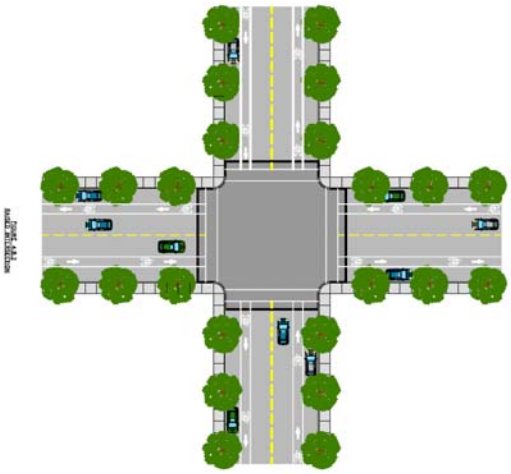
Proper signing and striping of speed humps is important to provide advance warning to motorists as well as bicyclists and pedestrians. The Manual on Uniform Traffic Control Devices has proposed the adoption of standard Speed Hump Warning Signs and pavement markings. It is recommended that these markings be used with speed hump designs. Delineator posts should be provided during the winter months to alert snowplow operators.

Since speed humps and speed tables are primarily designed to reduce speeds, limited use of speed humps and speed tables can be anticipated within Jersey City.

4.7.2.2 Raised Intersections

Raised intersections are similar to speed tables; however, unlike speed tables the entire intersection, including the crosswalks, is raised 6 inches above the street level to be flush with the sidewalk and curb (see Figure 4.7-2). Long ramps are provided on all approaches. Raised intersections are commonly used in redevelopment areas, commercial areas, business districts, and other high pedestrian activity areas with an ADT of 10,000 or less. Although they are appropriate on both local streets and collector roadways, they are generally not recommended for use on arterial roadways.

Figure 4.7-2 – Raised Intersection



Raised intersections reduce vehicle speeds on all approaches and reduce conflict between vehicles and pedestrians by elevating pedestrians above street level and demarcating the intersection and crossing areas. Decorative textured pavement is commonly used in raised intersections. Advanced warning signage and striping must be provided.

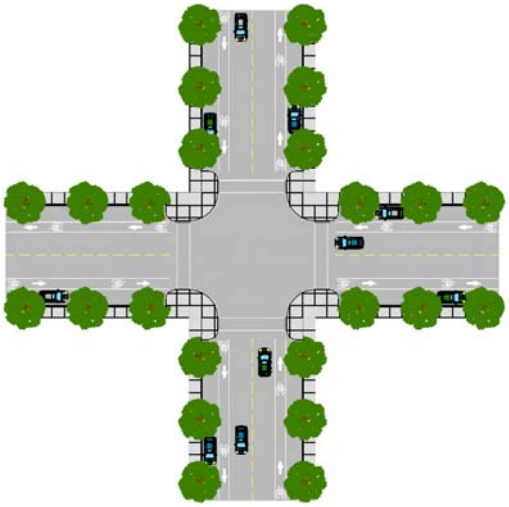
Similar considerations should be given to the location and placement of raised intersections as speed humps/tables. The implementation of raised intersections should also consider bicycle access in the design and location. Special

considerations must be taken into account during the design of raised intersection to provide adequate warning to visually-impaired pedestrians. The use of decorative pavement should be considered, but should be done in conjunction with the implementation of a road opening permit ordinance (as noted in Section 4.7.2.8) that requires a contractor restore the road surface using a matching decorative pavement.

4.7.2.3 Bump Outs (also known as Neckdowns)

This traffic calming measure involves the extension of the curb line to narrow the street width and shorten the length of the crosswalk, as noted in Figure 4.7-3. Neckdowns reduce the curb to curb roadway width, making the intersection more pedestrian-friendly, by shortening the crossing distance and improving visibility of the crosswalk and the intersection via raised peninsulas. Neckdowns can also tighten curb radii, which reduces the speed of turning vehicles.

Figure 4.7-3 – Bump Outs and Neckdowns



This traffic calming measure is appropriate for all types of street classification including local, collector and arterials. It can be used on streets with traffic volumes of up to 15,000 ADT and with posted speed limits of 40 MPH or less. Generally, the curb is extended 8 feet from the existing curb line, thereby creating a protected area for parked vehicles. This measure also provides greater visibility at the intersection, since vehicles travel away from the curb line, closer to the centerline of the traveled way. Bump outs or neckdowns reduce the length of the crosswalk for pedestrians, while creating a narrowing effect to the motorist traveling through the neckdown.

Neckdowns and bump outs can also be used at mid-block locations to provide areas for benches and plantings, which improve the aesthetics of the neighborhood. Vertical elements, such as light poles, trashcans, benches and trees, can also be used to draw attention to the constriction of the road and provide a visual cue to the motorist.

The main disadvantage of this traffic calming measure is the potential impact to roadway drainage. Consideration must be given to roadway drainage and snow/ice removal when designing bump outs. Bump outs at the intersections should not have an effect on parking, since the bump out should be located within the no parking area at intersections. Curb bump outs at intersections benefit pedestrians more than they help to reduce vehicular travel speeds. Turning templates must be used when designing bump outs. Consideration must be given to bicycle access when locating and designing curb bump outs at intersections.

4.7.2.4 Chicanes

Chicanes (Figure 4.7-4) are a series of mid-block curb extensions approximately 50 to 100 feet apart staggered on alternating sides of the street that force vehicles to negotiate a serpentine alignment. This measure is appropriate on local streets that have traffic volumes of less than 3,500 ADT and can be used on both one-way and two-way streets. Chicanes are not appropriate on roadways with high truck volumes, bus routes, primary emergency response routes or in areas where the roadway grade exceeds 8%.

Chicanes can be constructed from a variety of devices including curb extensions, planters, trees, barrels, fences or barricades; however, care must be taken so that these devices do not create a safety hazard.

A chicane-like effect can be created by alternating on-street parking from one side to the next when parking is normally provided only on one side of the street. On streets where parking is permitted on both sides of the street, actual chicanes would result in the loss of on-street parking. Chicanes should be designed to accommodate bicyclists in a designated bike lane.

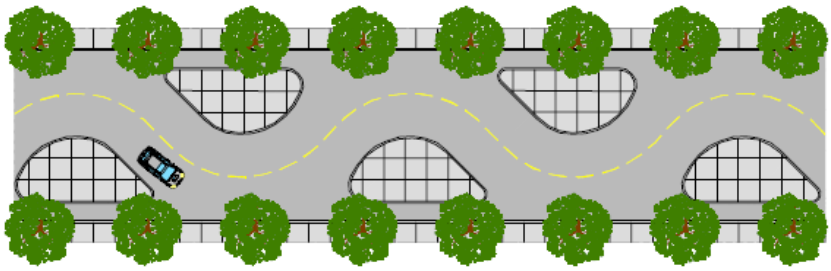
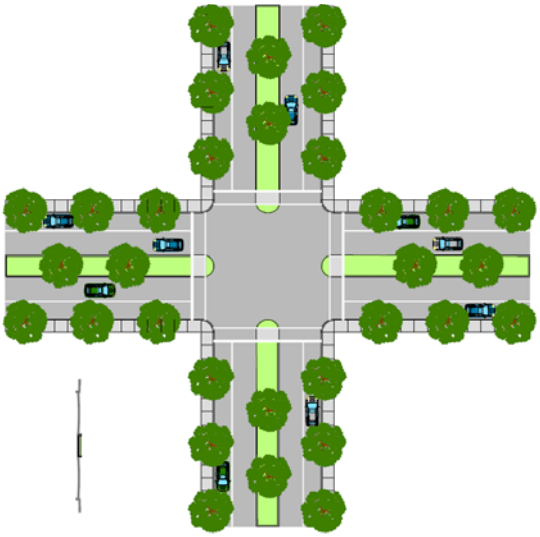


Figure 4.7-4 – Chicanes

4.7.2.5 Raised Medians and Pedestrian Refuges

A raised median includes the installation of a curbed island within the center of a street. This island narrows the travel lanes at that location and provides a pedestrian refuge area in the center of the street. This reduces the crossing distance for pedestrians by allowing them to cross half of the street at one time, as shown in Figure 4.7-5. They can be provided at approaches to intersections or along an entire block.

Figure 4.7-5 – Raised Median



Care should also be taken to provide adequate pedestrian safety. Wide sections of depressed curbs, for barrier-free access at street corners, can serve as unimpeded ramps for vehicles onto sidewalks. In addition, large depressed curbs at corners provide short-cuts for corner cutting vehicles.

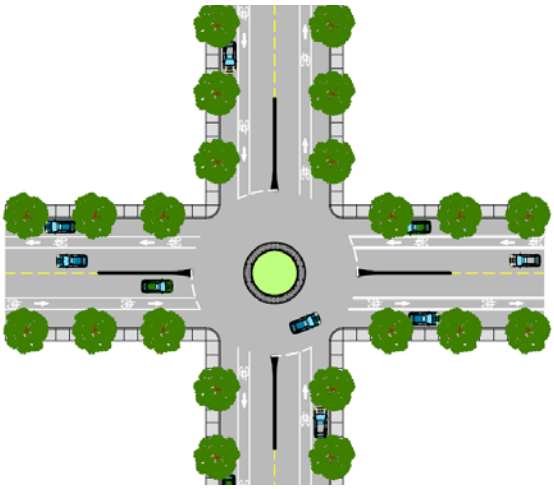
In conjunction with the implementation of traffic calming measures, City ordinances should be amended to require barrier-free depressed curb ramps to be setback from the street corner so as to provide two distinct sets of ramps with a full face curb between them.

Median islands are appropriate for local, collector and arterial streets and may be used on high-volume roads with posted speed limits up to 40 MPH. Median islands should be 6 to 8 feet wide and should be at least 12 to 20 feet in length. Access across the raised median should be provided in the design to accommodate pedestrians and bicyclists. Raised medians will restrict access to driveways to/from one direction of travel.

4.7.2.6 Traffic Circles

Traffic circles are raised circular islands located in the center of an un-signalized intersection. Traffic circles are generally landscaped and are typically controlled by yield signs on all approaches. The traffic circle restricts drivers from speeding through intersections by impeding the straight through movement, which forces motorists to slow down, approximately 4 to 6 MPH in the vicinity of the traffic circle.

Figure 4.7-6 – Traffic Circle

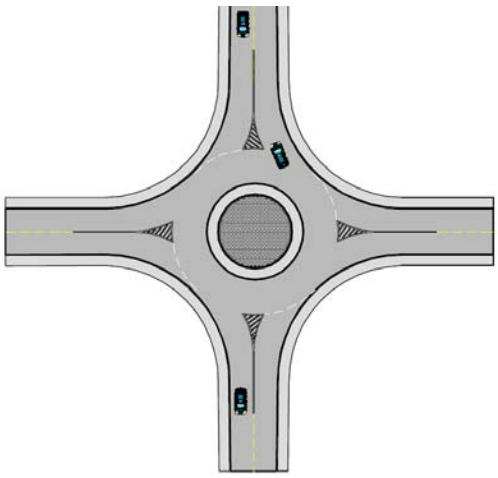


Traffic circles can be used at intersection of local streets, with average daily traffic volumes of less than 3,500. Primarily, traffic circles should be used at intersections that have low pedestrian and left turning volumes.

As shown in Figure 4.7-6, the major disadvantage of traffic circles is the inability of large vehicles such as trucks and busses to maneuver around tight radii. If there is a truck volume issue, mountable curb and truck aprons may be required within the traffic circle.

The horizontal deflection of traffic circles forces cars, trucks and buses into the pedestrian crosswalks or into the bicycle lanes, thereby impacting bicycle access.

Figure 4.7-7 - Roundabout



4.7.2.7 Roundabouts

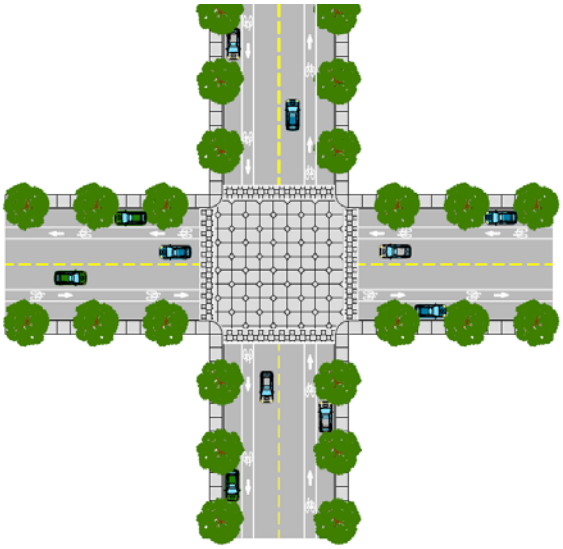
Roundabouts are similar to the traffic circle in that they require vehicles to circulate around a center island in a counter clockwise direction (see

Figure 4.7-7). However, they are generally much larger than traffic circles and are used mainly on arterial and collector streets, where traffic circles are used on local roadways. A single lane roundabout has a capacity of 2,500 vehicles per hour.

Roundabouts require the rights-of-way, similar to a traditional intersection. Parking is prohibited on the approaches and around a roundabout. Pedestrian and bicycle crossings are generally not permitted within the roundabout. Therefore, this traffic calming measure should not be used on streets with high pedestrian and bicycle volumes.

4.7.2.8 Textured Pavement and Crosswalks

Figure 4.7-8 – Textured Pavement



Concrete pavers, stamped concrete and decorative pavement is placed at intersections to warn motorists they are approaching a pedestrian crossing (see Figure 4.7-8). Because there is no change in the roadway geometry, textured pavement and crosswalks are suitable for all classification of roadways and may be used on streets with speed limits up to 45 MPH.

This traffic calming measure by itself has minimal effect on reducing traffic speeds or volume. However, it is particularly effective when used in combination with other traffic calming measures. Textured pavement and crosswalks may present traction problems for bicyclists and wheelchairs if a heavily textured surface is utilized. Care should be taken to design an appropriate pavement texture that meets the Americans with Disabilities Act. Consideration should be given to bicyclists when developing a textured pavement treatment.

Another major issue with this traffic calming strategy is associated with maintenance, particularly as it relates to utility work and road opening permits. When a road opening is required in areas having textured or decorative pavement, the utility contractor will typically only patch the roadway with hot mix asphalt. Therefore, the implementation of this traffic calming strategy must be done in conjunction with a Road Opening Permit Ordinance that requires a contractor to restore the road surface using a matching decorative pavement.

4.7.2.9 Road Closures, Traffic Diverters

Another category of traffic calming measures is full or partial road closures, including directional diverters, semi-diverters, median barriers, forced turn islands, pork chops, right turn islands, etc. These traffic-calming measures are designed to control traffic volumes on residential roadways and should only be used on local streets with traffic volumes of less than 3,500 vehicles per day.

Full street closures are barriers placed across a street to completely close off a street to through traffic; leaving only the sidewalk and bicycle paths open, as shown in Figure 4.7-9. Half street closures are similar to the full street closure, except that they only block travel in one direction.

Directional diverters are barriers placed diagonally across intersection to block through movements, forcing traffic to turn to the right only. Median barriers are raised islands located along the centerline of a street and through an intersection to block traffic at a through street. Forced turn islands, pork chops and right turn islands are raised islands that only block certain turning movements at intersections.

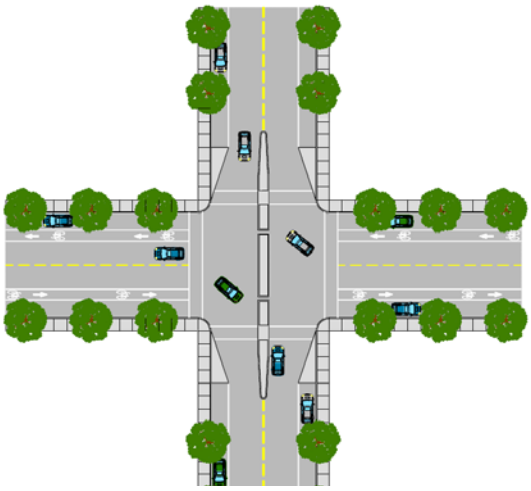


Figure 4.7-9 – Diversion

With road closures, barriers such as landscaped islands, walls, gates, bollards, or other obstructions can be used to leave an opening smaller than the width of a passenger car but large enough for pedestrians and bicyclists to maintain access. These methods are most often used to alleviate cut through traffic by making travel less direct through neighborhoods with a street grid layout. The use of these measures does not address speed control. In addition, since they prohibit traffic in certain directions, road closures or diversions tend to move a traffic problem to an adjacent street. Because of road closures, the circuitous route may impact emergency response times. The use of road closures and diversions should be coordinated with fire, police and other emergency services, as well as snow removal, garbage collection and school bus routes.

Although this strategy is more difficult to implement in existing established neighborhoods, it should be considered in the design of street networks in new redevelopment areas. This measure is also recommended in areas with high pedestrian traffic, where portions of roadways can be closed off for pedestrian traffic only.

4.7.2.10 Multi-Way Stop Controlled Intersections

A multi-way stop controlled intersection is where all (three or four) roadway approaches are stop controlled. Multi-way stop control is used where the volume of intersecting traffic is approximately equal. The primary purpose of multi-way stop controlled intersections is not traffic calming. Some studies indicate that installation of multi-way stop control does not significantly affect travel speeds at a significant distance away from the intersection. Some studies showed that a slight increase in speeds after the installation of multi-way stop control. Multi-way stop control is used on neighborhood roadways where the traffic volumes on intersecting streets are approximately equal. Multi-way stops must be installed in accordance with the Manual on Uniform Traffic Control

Devices (MUTCD). The decision to install multi-way stop control should be based on an engineering study and must be approved by either the Municipal or County Engineer. Criteria that should be considered when assessing an intersection for a multi-way stop include the following:

- Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop
- The total traffic volume entering the intersection from the major street approaches should be at least 300 vehicles per hour for any 8-hour period of an average day, and minor street vehicular
- Pedestrian and bicycle volumes entering from the minor street averages at least 200 units per hour for the same 8 hour period

4.7.2.11 Reduced Speed Limits

Studies report that reduced posted speed limits on local streets show little or no effect. The primary reason drivers travel at a speed is roadway geometry, other traffic and the immediate environment, rather than reacting to a specific speed limit sign. Reduced speed limits are a function of enforcement. Posting of unreasonably low speed limits can reduce the credibility of other traffic control devices.

Streets in Jersey City generally have posted speed limits of 25 mph, except portions of Garfield Avenue and Caven Point Road. As such, limited use of reduced speed limits can be anticipated in Jersey City.

4.7.2.12 Traffic Signs, Striping and Pavement Markings

Some of the measures involving signs include posted speed limits, turn prohibitions, commercial vehicle/weight prohibitions, pedestrian crossing ahead, and “yield to pedestrian in crosswalk” in road, flexible signposts. Examples of striping are upgrades to thermoplastic retro-reflective crosswalks and shoulder lines. Pavement markings include school crossing, pedestrian crossing, speed limits, warning signs installed with thermoplastic retro-reflective tape. Several studies have found that adding shoulder lines or bike lanes to give the perception that the lanes are narrower have resulted in reduced travel speeds of 3 to 4 MPH. Striping is a low cost traffic calming technique. Additionally, the implementation of Jersey City’s typical roadway cross sections will reduce travel lane widths and add bike lanes on Jersey City streets.

Signage and pavement markings can be a low-cost, high-impact, start to traffic calming. Signing, striping and pavement markings have a minimal impact on emergency response routes. However, they have limited effectiveness on volume and speed reduction. As with all signing, striping and pavement markings, they must also be installed in accordance with the MUTCD. The establishment of an enforcement program in conjunction with traffic signage and pavement parking is important to improve the effectiveness of the program. This method has no impact on bicycle access.

4.7.2.13 Speed Detector Signs

Speed detector and display signs can also be used as a form of traffic calming measure. These signs display the speed of approaching vehicles to alert

motorists when they are driving at unsafe speeds. They have been proven to slow down traffic and are ideal for use on local roads or in school zones.

Speed detector signs can be a lower cost traffic calming measure that can either permanently be installed or used in temporary locations by the Police Department. The establishment of an enforcement program in conjunction with this measure is important to improve the effectiveness of this program.

4.7.2.14 Red Light Running

On January 13, 2008 Governor Corzine signed into law Assembly Bill 4314, which requires the establishment of a five-year pilot program to determine the effectiveness of a traffic control signal monitoring system in New Jersey. This program involves using a camera system and vehicle sensors, which produce images of vehicles crossing the intersection during the red phase of the traffic signal. Three municipalities have already been selected to participate in this program and the NJDOT has made provisions for up to 12 municipalities to be approved in the first year.

In order to be selected to participate in this program, a municipality must demonstrate that an intersection has a history of red light running and that no efforts including engineering, enforcement and education, have been effective in decreasing the number of violations.

4.7.3 Traffic Calming Measure Consideration Matrix

The Traffic Calming Selection Matrix provides guidance on selecting a traffic calming measure for a particular street. The traffic calming measure is listed along the left side of the matrix. The criteria to consider when choosing a traffic calming measure are shown across the top of the matrix. In general, addressing traffic calming issues involves neighborhood participation, developing a toolbox of applicable measures, and establishing a process for study and implementation. This matrix should be used to establish the appropriate traffic calming measures in response to neighborhood inquiries.

Table 4.7.1 Traffic Calming Selection Matrix

Traffic Calming Measure	Functional Classification	Cartway Width	Traffic Volume	Maximum Posted Speed Limit	Percent Heavy Vehicles	Roadway Grade	Comments and Recommendations
Speed Humps	Local residential and local park	40-feet or less	Less than 3,000 ADT	25 MPH	Less than 5%	Less than 8%	Emergency services and transit should be consulted
Speed Tables/ Raised Crosswalks	Local residential and local park	40-feet or less	Less than 3,000 ADT	25 MPH	Less than 5%	Less than 8%	Emergency services and transit should be consulted
Raised Intersections	Minor collector, local residential and local park	40 feet or less	Less than 10,000 ADT	35 MPH	Less than 5%	Less than 8%	Emergency services and transit should be consulted
Bumpouts/ Neckdowns	All	48 feet or less	Up to 15,000 ADT	40 MPH	Less than 5%	Less than 8%	Emergency services and transit should be consulted
Chicanes	Local residential and local park	40 feet or less	Less than 3,500 ADT	35 MPH	Less than 5%	Less than 8%	Emergency services and transit should be consulted
Raised Medians/ Pedestrian Refuges	All	Up to 6 lanes	Up to 15,000 ADT	40 MPH	Less than 5%	Less than 8%	Emergency services and transit should be consulted
Traffic Circles	Minor collector, local residential and local park	One and two lane approaches	Less than 3,500 VPH	45 MPH	No limit	No limit	Aprons should be included to accommodate large, heavy vehicles
Roundabout s	Minor collector, local residential and local park	One and two lane approaches	Up to 2,500 VPH for a single lane	45 MPH	No limit	No limit	Aprons should be included to accommodate large, heavy vehicles
Textured Pavement/ Crosswalks	Minor collector, local residential and local park	Up to 4 lane cross sections	Up to 10,000 ADT	45 MPH	No limit	No limit	Road Opening Permit Ordinance must be revised to include restoration
Road Closures	Local residential and local park	Two lane roads	Less than 3,500 ADT	35 MPH	No limit	No limit	This strategy should be considered in redevelopment areas or in new subdivisions
Traffic Signage & Markings	All	No limit	No limit	No limit	No limit	No limit	Low cost measures
Multi-way Stops	Minor collector, local residential and local park	Single lane approaches	500 VPH for an 8 hour period	40 MPH	No limit	No limit	Traffic calming is not the primary purpose
Speed Detector Signs	All	No limit	No limit	No limit	No limit	No limit	Must be implemented in conjunction with an enforcement program

4.7.4 Implementation Strategies

Prior to the installation of any traffic calming measure, the City must first establish the need for the traffic calming. Priority areas for traffic calming would include areas in the vicinity of schools, parks, local residential neighborhoods, train stations, bus station and bus stops. In addition, a pilot program should be considered at the requests a specific neighborhood(s).

The Police Department in cooperation with the City's Division of Engineering and the City's Division of City Planning should evaluate the existing traffic conditions in order to properly document the existing traffic patterns, volumes and speeds. This should include documentation of traffic counts, speed studies, signing, striping and roadway geometry. After the need for traffic calming has been established, a public meeting should be held with the residents in the affected neighborhood to explain the program and to solicit public input. After the meeting, the neighborhood should be polled for further input. Additionally, meetings should be held with emergency service providers to solicit their input.

When the need for the traffic calming has been defined, the City should implement a pilot program using low cost treatment, such as temporary speed humps, barrels/cones, barricades, etc. After the temporary traffic calming measures have been installed for a period of time (generally 6 months to one year), the Police Department in cooperation with the City's Division of Engineering and the City's Division of City Planning should reevaluate the effectiveness of the traffic calming device. A second meeting should be held with the resident to solicit post construction public input. A post-construction survey could be an effective way to solicit input and should be considered. If the City staff, the residents and the governing body determine that the traffic calming measures are effective, then the temporary treatments can be replaced with permanent measures.

Several important factors should be taken into consideration during the evaluation of a pilot program. The City should consider the adjacent neighborhoods. In some cases, it is recommended that the adjacent areas should be studied both pre and post installation of traffic calming measures, since often the installation of traffic calming measures only shift the problem to an adjacent street. Traffic calming measures often impact emergency response time; therefore, prior to considering any traffic calming measures, the City should meet with emergency service personnel to review the neighborhood concerns, the various traffic calming measures and the associated impacts of each measure. Finally, the installation of any traffic calming measure must be accompanied with a corresponding education and enforcement element, in order for these measures to be affective.

4.7.5 Funding Sources

The cost of traffic calming varies greatly depending on the traffic calming measure and the specific road characteristics. Traffic calming measures can be implemented as part of the City's annual capital improvement programs. Alternatively, traffic calming measures can be privately funded by developers when required in conjunction with site plan or subdivision approval. Finally, grants are available from the NJDOT under programs such as the Safe Routes to Schools and Local Aid to implement traffic calming measures.

4.8 Sidewalk Maintenance Plan

Sidewalks are an integral aspect of the circulation system. Sidewalks must be maintained and adequate provisions must be made in construction zones to accommodate pedestrians. Jersey City aims to preserve all sidewalks, in order to keep them safe and inviting. An adequate, well-maintained pedestrian network will provide access and enhance the transportation network for residents and visitors alike, thereby reducing vehicular congestion, increasing public transit ridership, and improving the quality of life. In addition, a well-maintained network of pedestrian sidewalks will increase connectivity throughout the City by offering users a number of different routes by which to reach their destination. These spaces should not be impeded nor closed for construction. Instead, they should be modified to fit the needs of all users.

Jersey City's Sidewalk Maintenance Plan was designed to follow current Americans with Disabilities Act (ADA) , ADA Guidelines for Buildings and Facilities (ADAAG), the U.S. Access Board issued Draft Public Rights-of-Way Accessibility Guidelines (PROWAG) dated November 23, 2005, and recommendations cited in Chapter 41 of New Jersey Department of Transportation (NJDOT) Pedestrian Design Guidelines. These sidewalk maintenance guidelines are superseded by any future revisions to ADA, ADAAG, and PROWAG guidelines that are more restrictive.

4.8.1 Pedestrian Facility Maintenance

For the safety of pedestrians and to preserve the quality of life, it is important to keep pedestrian facilities around the City well-maintained. The maintenance of pedestrian facilities, including sidewalk repairs, the removal of snow, ice, and water, and inspection, should be undertaken with regularity so that pedestrian paths can be accessed by all types of pedestrians, free of potential hazards, and adequately handle typical pedestrian volumes.

4.8.2 Sidewalk Repairs

Sidewalks should be kept in a state of good repair for the safety and accessibility of all of its users. Additionally, the City aims to maintain sidewalks in a structurally sound, aesthetically pleasing form. Therefore, the following guidelines should be applied to the City's sidewalks:

a) Sidewalks with breaks in vertical elevation of less than ¼ inch should be reviewed on a case by case basis. However, these sidewalks typically would not require replacement if this differential was the only sidewalk deficiency and the sidewalk was not recently installed. These areas should be monitored.

b) Tripping hazards with changes in vertical elevation of more than ¼ inch, should be repaired. All slabs should be replaced from joint to joint where feasible. Saw-cutting may be acceptable in some locations subject to the approval of the City Engineer's office.

c) Sidewalks with cross slopes greater than 2% should be replaced or reset.

d) Sidewalks with running slopes greater than 5% where the pedestrian access route exceeds the general grade of the roadway, should be replaced with the installation of a curb ramp that meets the required federal guidelines, or

be reset to less than 5% running slope or to follow the general grade of the roadway.

e) Spalling sidewalk should be reviewed on a case-by-case basis, but typically would not require replacement. However, spalling sidewalk should be monitored for ponding water, which could be the cause of the spalling.

f) If ponding runoff is noted on the sidewalk, then the sidewalk should be repaired or reset to eliminate ponding. Ponding water can result in unsafe icing conditions and is an obstruction to pedestrians, which reduces sidewalk capacity and causes an unnecessary nuisance to its users.

g) Sidewalks with hairline cracks typically would not require replacement if this deficiency is the only sidewalk deficiency and the sidewalk was not recently installed. These areas should be monitored.

h) Sidewalks with cracks greater than ¼ inch should be repaired. All slabs should be replaced from joint to joint where feasible. Saw-cutting may be acceptable in some locations subject to the approval of the City Engineer's office.

i) Broken and chipped sidewalk should be reviewed on a case-by-case basis. If these deficiencies cause an unlevel traveling surface, tripping hazard or potential for ponding, then the sidewalk should be replaced from joint to joint where feasible. Saw-cutting may be acceptable in some locations subject to the approval of the City Engineer's office.

j) All sidewalk replacement should be in accordance with Ordinance requirements and should be in accordance with the City's Typical Concrete Sidewalk details.

4.8.3 Winter Season Maintenance Requirements

It is important that snow and ice are removed from pedestrian paths in a timely manner and stored in areas that will not impede pedestrian movement throughout the City. The following guidelines shall be followed when removing snow and ice from roadways and sidewalks:

a) Snow and ice that has been removed from streets, driveways, parking lots and sidewalks shall not block sidewalks or other pedestrian routes.

b) All intersections and access to pedestrian crosswalks shall be kept clear of snow and ice, which tend to accumulate in snow banks at the corners of intersections.

c) Ponding and icing should be prevented on sidewalks and intersections. Inlet grates and gutters should be kept clear of snow and ice to allow for adequate drainage of melting snow and ice. Pursuant to §296-1.1, Jersey City Code of Ordinances, all property owners, occupants or other person having charge of a residential building or vacant lot are required to clear snow and ice from the sidewalks and gutters to one foot outside the curb within eight hours after snow has fallen.

d) Where sidewalks pass through publicly-owned properties, the agency that owns the property is responsible for snow and ice removal.

4.8.4 Inspection

The inspection of pedestrian paths should be undertaken by the City periodically to check that all sidewalks are in a state of good repair. The frequency of these inspections shall be at the City's discretion. The City should develop a schedule to perform routine safety and ADA inspections of sidewalks. Additionally, for projects undertaken by private developers, sidewalks should be inspected prior to Certificates of Occupancy (CO) being issued and prior to performance bond release. Additionally, Temporary Certificates of Occupancy (TCO) should not be issued prior to a sidewalk deficiency being rectified. Lastly, for maintenance bond inspections, sidewalks should be inspected by the City or City's representative, and all sidewalk deficiencies corrected prior to maintenance bond release. The City should abide by a system of tracking all maintenance bond inspections, so that maintenance bonds do not expire prior to inspections being performed.

4.8.5 Pedestrian Facilities in Work Zones

The safety of sidewalks abutting and within work zones is an important aspect of sidewalk maintenance in Jersey City. When a modification in pedestrian facilities is necessary as a result of construction activities, the following guidelines should be followed to provide safe and adequate pedestrian access around the project site.

4.8.5.1 Informational Needs

When a modified pedestrian route is necessary as a result of construction, it is important to provide pedestrians with adequate information to ensure that they are able to follow modified pedestrian routes safely and with little difficulty. Specifically, the following information should be provided in the event that a pedestrian path will be modified:

a) Advance information for detours, bypasses, and sidewalk/path blockages.

b) If blockages are necessary due to construction activities, information regarding the provision of alternate routes should be provided.

c) Signage should be as specific as possible with regard to directing pedestrians along alternate routes.

d) Mechanisms should be provided to alert and adequately notify groups with special limitations (e.g., blind, deaf, disabled) of a change in pedestrian paths.

4.8.5.2 Channelization

In the event that a pedestrian path will require modification due to ongoing construction a proper transition to the modified path should be provided that is channeled using proper barriers such as cones, marking tape, barricades, ropes or chains, or wood railings, and meets the ADA, ADAAG, and PROWAG widths and maximum grade requirements. The duration of the project and potential use by groups with special limitations should be considered to determine that

the proper barriers are being used. Lastly, in the case of a bypass or detour, adequate signage should be provided to direct pedestrians back to the original path, and adequate barriers should be provided.

4.8.5.3 Modified Path Design Considerations

Modified pedestrian paths should provide adequate safety, accessibility, and capacity for all users. Therefore, the following shall be followed:

a) Changes in pedestrian facilities should take into account the origins, destinations, and routes of its users. Where feasible, pedestrian paths should be modified to have a minimal impact on the most heavily used pedestrian paths.

b) Pedestrians will take the shortest route wherever possible. For pedestrian safety, the modification of pedestrian facilities should make it difficult or impossible to walk outside of the designated alternative pedestrian paths by utilizing physical barriers such as barricades, providing a safe, direct and convenient alternative access route to minimize the possibility of a pedestrian deviating from the route, and providing adequate signage to inform pedestrians of alternate access routes.

c) Night time use of the modified facilities should be considered with respect to pedestrian safety and security. Adequate lighting should be provided.

d) Storage of construction materials, construction equipment, and waste should be pre-designated outside of the pedestrian route.

e) If it appears no modified pedestrian route can be provided during construction, undertaking construction in stages should be considered in order to provide a pedestrian route. For an example, a detour can be provided to divert pedestrian traffic to the other side of the street where an alternate sidewalk or pedestrian path is available. Alternatively, pedestrian traffic can be diverted to a planting strip, where available, or onto the curb lane, as long as an adequate barrier is provided to protect pedestrians from vehicular traffic.

f) An adequate barrier should be provided which blocks access to the original pedestrian path, to make sure that pedestrians use the modified pedestrian path.

g) The pedestrian route should have clearly defined boundaries and be able to adequately handle current pedestrian volumes and meet ADA, ADAAG, and PROWAG requirements;

h) The walkway surface should be constructed of a rigid, stabilized material that is even, free of wide cracks, holes, and other potential obstructions. The material should be a non-slip surface.

i) There should be periodic inspection of the construction site to determine that changes in construction have not blocked the modified path;

j) Slopes, widths, and vertical clearances should meet all applicable regulations.

k) Adequate drainage should be provided so that ponding does not occur on the modified pedestrian path, and adequate space for snow and ice removal and storage should be provided if construction is to take place during the winter months.

l) Proper channeling from modified pedestrian paths to the crosswalk should be provided. If it is necessary to alter the crosswalk as part of construction, the new crosswalk shall be clearly delineated, and old crosswalk markings should be completely invisible. In some instances, Pedestrian crossing signs, may be necessary, to alert motorists to unexpected pedestrian crossing and altered traffic signal timing, if necessary, to provide pedestrians an adequate amount of time to safely cross an intersection.

4.8.6 Funding and Responsible Entities

Funding to implement necessary changes in pedestrian paths as a result of ongoing construction shall be provided by the contractor, developer, or property owner of the construction project requiring the alteration of the pedestrian path in question. When an excavation undertaken by a property owner or utility company causes the necessity for sidewalk repairs, the cost of the sidewalk repairs and shall be the responsibility of the property owner or utility company. The costs for routine sidewalk repairs are the responsibility of the abutting property owner, except in the case of a capital project where the project design results in the sidewalk being removed and replaced, in which case the funding for the project would be the responsibility of Jersey City.

In many cases, escrow accounts for specific private projects will be available for inspection of sidewalks. In the case of a capital project, the sidewalk inspection would be included in the capital budget for the project. The routine sidewalk inspections that are not relative to a construction project, should be planned for by the City of Jersey City in their annual budget.

Sidewalk maintenance is paramount for the safety of Jersey City's sidewalk users, and Jersey City is committed to maintaining and preserving this critical aspect of their circulation system.

5. Conclusions

The Circulation Plan Element helps Jersey City address current needs and prepares Jersey City for growth through 2050. The Plan gathered feedback from all of its stakeholders through the 2050 Mobility Survey, Focus Group, Visioning Session, and Public Meetings, and the City incorporated that feedback into all aspects of its Plan. The City created a Technical Advisory Committee (TAC) consisting of various State, County, and local agencies which play a role in Jersey City's transportation infrastructure, and the TAC vetted all aspects of the Plan. The result is an action-oriented Circulation Plan Element for the short, medium, and long terms that addresses the needs of the multi-modal system and facilitates the movement of people and goods safely and efficiently. The Plan develops a Vision for a transformed world-class center served by a multi-modal transportation system that is attractive, clean, safe, efficient, reliable, inclusive, affordable, accessible, and user-friendly. This Vision focuses on travel to, from, and within Jersey City, for bikes, pedestrians, vehicles, buses, ferries, rails, and all mass transit carriers. The Plan addresses the needs of all of its users, and emphasizes alternatives to the automobile.

Goals, Objectives, Strategies, and Actions were established based on feedback from the public and the TAC, and from recommendations cited in various studies performed in Jersey City and throughout the region. The Action plan identifies timeframes for the Actions, as well as potential lead implementation agencies, ranges of costs, and possible funding sources. Indicators and Targets are provided for the City to measure its success in attaining the Goals, Objectives, and Strategies, as well as Baselines to use for comparison purposes. The Plan recognizes how the City will grow, and addresses how the Circulation system will address this growth. The Plan identifies potential right-of-way needs to accommodate anticipated redevelopment. A Jersey City Functional Classification System is established which enables the City to apply Typical Roadway sections which maximize the use of existing and future streets for all of its users. The Plan also provides guidelines for Traffic Calming measures, and provisions for sidewalk maintenance.

The Circulation Plan Element relates directly to the land use plan and corresponding development and redevelopment objectives and strategies of the City. It is the purpose of this Plan to address current mobility needs and to prepare the City's transportation system for growth through 2050, and to enable Jersey City to achieve its vision.

5.1 How Circulation Element Will Address Growth and Circulation Issues

The Circulation Element will address growth by identifying rights-of-way that need to be secured and recommending improvements to the transportation infrastructure for all aspects of the multi-modal system. Circulation will also be addressed by revising the existing and future roadway layouts to accommodate all users in order to provide connectivity for all modes of travel. Ultimately, this Circulation Element will address the sustainability of mass transit, roads and highways, and bicycle and pedestrian modes of transportation.

5.1.1 Mass Transit

In Jersey City, mass transit is made up of buses, passenger rail, HBLR, ferries, and other private carriers such as taxis and jitneys. The plan recommends multiple actions to improve mass transit circulation both within Jersey City to improve neighborhood connectivity, and throughout the region, for all of its users. There are multiple Actions that include new studies, actions from previous studies of the

Jersey City and the Region, upgrades to existing stations, accessibility issues, easier transfers, efficiency of service, hours of operation, number of stations, neighborhood and regional connectivity, provisions for bikes at stations and on mass transit vehicles, and expansion of mass transit service. The plan identifies rights-of-way to be preserved to facilitate many of these actions.

5.1.2 Roadways

The Circulation Element identifies rights-of-way needed for new street grids, roadway extensions, and transportation infrastructure improvements. These new streets and projects will serve development and redevelopment projects, provide relief to congestion on local streets, and provide better connectivity within Jersey City and to and from the region. The Circulation Element recommends multiple actions to enable the existing and future roadway and highway system to accommodate all of its users, relieve congestion, and facilitate the movement of goods and services. The Circulation Element also addresses maintenance of transportation infrastructure, changes to the roadway system including major interchange improvements, sophisticated traffic signal systems, bus preemption and bus priority on roadways. The Circulation Element establishes a Jersey City Functional Classification System, that can be used in conjunction with Typical Roadway Sections to maximize the use of the existing and future roadways to accommodate all users, including pedestrians, bicycles, and vehicles. The Circulation Element has provisions for traffic calming, and addresses sidewalk maintenance.

5.1.3 Freight

Much of the freight improvements in the plan are Actions to implement regional projects, and recommendations from other studies of Jersey City and the region. These recommendations include but are not limited to, the diversion of through trucks from a multi-use urban boulevard along the Route 440 and Route 1&9 T corridor between the Bayonne border and Route 7, the completion of the Portway projects, and the support of efforts by PANYNJ, NJDOT, NJTPA and other entities to advance capacity expansion within existing port lands, as well as port improvement efforts. These port improvement efforts include but are not limited to increasing the vertical clearances of the two rail tunnels that connect New Jersey to the North American rail system, and channel dredging.

5.1.4 Bicycle and Pedestrian Circulation

The plan identifies multiple improvements for bicycle and pedestrian circulation. The plan creates Typical Roadway Sections which include bike lanes and wide sidewalks with street amenities. The Traffic Calming Plan provides a framework for the installation of traffic calming devices, where applicable, citywide. The Plan recommends multiple Goals, Objectives, Strategies, and Actions, that advance bike and pedestrian circulation. These Actions include but are not limited to: accommodations for bikes at mass transit stations and on mass transit vehicles, bike incentive programs, accessibility upgrades throughout the circulation system, pedestrian walkways for access to mass transit, completion of the waterfront walkways, construction of the 6th Street embankment linear path and Jersey Avenue extension with bike and pedestrian accommodations, and completion of the East Coast Greenway Route. The plan also addresses sidewalk maintenance and traffic calming that make the City streets a safer place for bikes and pedestrians.

5.2 Plan Implementation

The Circulation Plan Element should provide guidance for all new projects in Jersey City. The Typical Roadway Sections should be incorporated into capital improvement projects. The Land Development Ordinance should be updated to adopt the applicable recommendations of the Circulation Plan Element so that future development and redevelopment design roadway layouts in accordance with the Typical Sections. Site plan and subdivision applications should be reviewed for consistency with this plan.

A committee comprised of representatives from appropriate Jersey City departments, divisions, and agencies should be formed to advance the actions described in the Circulation Element. This committee should prioritize the actions in the Circulation Element, identify and secure funding for transportation projects, develop transportation-related policy, and monitor the attainment of the goals of Circulation Element using the Indicators described in the Circulation Element.

Funding should be secured to advance projects, policies, and studies for which Jersey City is identified as the Lead Implementation Agency. Jersey City should work with all agencies identified in the Action Plan to advance other projects, policies, and studies. Jersey City should monitor its progress in the attainment of its Goals, by tracking the Indicators and Targets.

By implementing the Circulation Plan Element, the multi-modal system will be prepared for growth as Jersey City becomes a bustling, world-class center, and Jersey City will be served by a multi-modal transportation system that is attractive, clean, safe, efficient, reliable, inclusive, affordable, accessible, and user-friendly.

Photo Source: Jersey City Division of City Planning

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Zoning Map, dated January 28, 2009, and all Redevelopment Plans identified in the legend of the Zoning Map were reviewed.