COMPLETE STREETS DESIGN GUIDE

JULY 1, 2021

AN ELEMENT OF THE KEYPORT COMPLETE STREETS DESIGN AND IMPLEMENTATION PLAN

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

The Pearl of the Bayshore℠
Keyport
NEW JERSEY

Keyport
COMPLETE STREETS PLAN

This report has been prepared as part of the North Jersey Transportation Planning Authority (NJTPA) Planning for Emerging Centers Program with financing by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The NJTPA is solely responsible for its contents.

Report prepared for the North Jersey Transportation Planning Authority and the Borough of Keyport by:

FHI Studio, in collaboration with
Street Plans

Adam Tecza, AICP, PP
Hannah Brockhaus
Kristen Ahlfeld, PP, AICP

Mike Lydon
Dana Wall

TABLE OF CONTENTS

INTRODUCTION 1

Introduction 2

Community Driven Design 8

REFERENCE MAPS 13

STREET TYPOLOGIES 22

Regional Connector 23

Downtown Commercial 25

Borough Connector 27

Neighborhood Connector 29

Maple Place Parkway 31

Residential Yield Street 33

Wide Residential Street 35

Access Road 37

State Thoroughfare 39

INTERSECTION TYPOLOGIES 41

Street Intersection Typologies 42

Trail: Mid-Block Crossing 43

Trail: Mid-Trail Crossing 43

DESIGN TOOLS 45

Introduction 46

Roadway Zones 48

(see following page for a complete list of Design Tools and page numbers)

APPENDICIES 158

Appendix A: Third Street Connection Details 159

Appendix B: School Loading 160

LIST OF OF DESIGN TOOLS

Design tools are organized alphabetically by zone. For more information on Zones, see page 4.

FRONTAGE ZONE	
Active Ground Floor Uses	49
Auto-Oriented Commercial Uses	51
Civic Uses	53
Display Windows	55
Moderate & High Intensity Residential	57

PEDESTRIAN REALM	
Bike Parking	49
Bioswale	61
Bus Shelter	63
Curb Ramp	65
Enhanced Landscaping	67
Enhanced Sidewalk	69
Merchandise Display	71
Planters	73
Public Seating	75
Recycling & Trash Receptacles	77
Sidewalk Cafe / Outdoor Dining	79
Street Lights	81
Street Trees	83
Sidewalk Buffer	85
Wayfinding Signage	87

CURBSIDE ZONE	
Bike Corral	89
Bus Stop	91
Chicane	93
Curb Extension	95
Electric Vehicle Charging	97
Loading Zones	99
Mid-Block Neckdown	101
Mountable Curb	103
On-Street Parking	105
Parklet / Dining Deck	107
Two-Stage Turn Queue Box	109

THROUGHWAY	
Bike Box	111
Bike Pavement Markings	113
Mid-Block Crosswalk	115
Pervious Pavement	117
Playspace	119
Rain Garden	121
Raised Crosswalk	123
Raised Intersection	125
Speed Hump	127
Speed Table	129
Textured / Specialty Pavement	131

INTERSECTION MANAGEMENT	
Bike Signal	133
Countdown	135
Crossing Island	137
Crosswalk	139
Hybrid Beacon	141
Intersection / Crosswalk Art	143
In-Street Pedestrian Sign	145
Leading Pedestrian Interval	147
Neighborhood Traffic Circle	149
Pedestrian Actuation	151
Scramble	153
Signal Phasing	155

INTRODUCTION

INTRODUCTION

PURPOSE

The Keyport Complete Streets Design Guide helps the Borough implement its Complete Streets Policy. It provides policy and design guidance for governmental agencies, consultants, private developers, community groups, and all others involved in street design decisions.

BACKGROUND

This guide is the result of considerable data gathering, analysis, and public engagement. For more details, see the **Complete Streets Existing Conditions Report (2020)** and the **Complete Streets Public Involvement Report (2021)**.

This design guide serves as a bridge between policy and engineering. This guides offers concrete design direction on how to implement the Complete Streets Ordinance. Whereas the ordinance identifies the need for bike lanes, this document identifies where they should be built (among many other recommendations).

Through the use of street and intersection typologies, **this guide also provides a vision for what every street in Keyport should become.** As such, the guide supports design and engineering. However, it is not a substitute for it; implementation will still require studies, design, and engineering. The distinct advantage with this document is that it provides the Borough a clear understanding of exactly what is needed on each street to build a complete street network.

KEYPORT SPECIFIC DESIGNS

All recommendations made in this Design Guide are grounded in authoritative design guidelines published by the National Association of City Transportation Officials (NACTO), the American Association of State Highway and Transportation Officials (AASHTO), the Manual on Uniform Traffic Control Devices (MUTCD), and the NJ Complete Streets Design Guide, among others.

As the NJDOT's Complete Street notes, the preeminent design manuals (including AASHTO's A Policy on Geometric Design of Highways and Streets Sixth Edition, commonly referred to as the "Green Book") emphasize the need for flexibility, and many engineers and designers adopt this strategy. However, in the past street designs have often adhered to the maximum and most auto and highway-oriented designs and standards, which has led to the creation of incomplete streets.

An example of this is the use of a "standard" 12-foot lane. Many engineers and designers have referenced the AASHTO "Green Book" for this standard. However, the guide itself recognizes the need for flexibility and states that lane width can be tailored to fit the roadway environment. AASHTO states that lane widths may vary from 10 to 12 feet on most arterials rather than stating that 12 feet is the recommended width for all roads.

Another example is the design of separated bicycle lanes. The AASHTO Guide for the Development of Bicycle Facilities does not include design guidance for these facilities. In the past, this has been used as an argument that such facilities are not safe or free from liability. However, the NACTO Urban Bikeway Design Guide and the FHWA Separated Bike Lane Planning and Design Guide do provide guidance. As the NJDOT's Complete Street's guide states, "**the lack of guidance in one guide does not mean that a design is not safe or free from liability. Nor does it provide an excuse to not implement a particular design.**"

Because of this need for flexibility, FHWA developed a guide called Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts that is focused on the need and opportunities for design flexibility. This Design Guide implements that approach. **The Borough has leveraged extensive research, community engagement, the above-mentioned design standards, and the technical expertise of designers and engineers to determine the most appropriate designs for Keyport's streets, while still allowing flexibility to tailor designs to specific conditions**. In addition,

the guide provides additional Borough-specific guidance that cannot be found in regional and national resources. The Keyport Complete Streets Ordinance directs engineers and designers to take advantage of this guidance.

This Design Guide provides guidance for how to select the appropriate standard to best achieve the community driven vision for complete streets. Therefore, **the fact that one guide may provide an alternate set of standards to this guide is not justification for not implementing the recommendations herein.** In instances in which a designer or engineer determines that a different standard is more appropriate, the Keyport Complete Streets Ordinance provides a process by which exceptions can be obtained in instances where the standards established in this guide will not achieve those results.

WHAT ARE TYPOLOGIES?

Historically, the basis for classifying streets has focused on how they should serve motor vehicles (functional classification). This has led to the construction of imbalanced and incomplete streets.

Street typologies offer an alternative approach. They use character and context to apply designs that seek to balance the needs of all users.

Like functional classification systems, typologies group streets that share similar characteristics. The recommendations in this guide are organized by street and intersection typology.

Using typologies does not mean every street in the group must have exactly the same design. Instead, the guide includes flexible standards to allow for design and engineering that tailor to the unique characteristics of each street.

HOW DO I USE THIS GUIDE?

The guide is organized into three sections that work together: Reference Maps, Street and Intersection Typologies, Design Tools. The steps below provide a top level overview of how to use this guide. However, users may find other pathways that work for them.

1 Identify Applicable Typologies

Find the street or intersection using the following maps. Take note of the name of the typology. Those will be the applicable standards.

Street Typologies (page 14)

Intersection Typologies (page 15)

2 Identify Priority Corridors

Find the street or intersection on the following maps. If the street or intersection falls on a priority network or on the Truck Route network, there may be additional design requirements.

Priority Bicycle Network (page 16)

Priority Pedestrian Network (page 17)

Truck Routes (page 18)

3 Consult Typologies

With the above information, refer to the applicable typologies which contain the required design elements for the street or intersection.

Street Typologies (22)

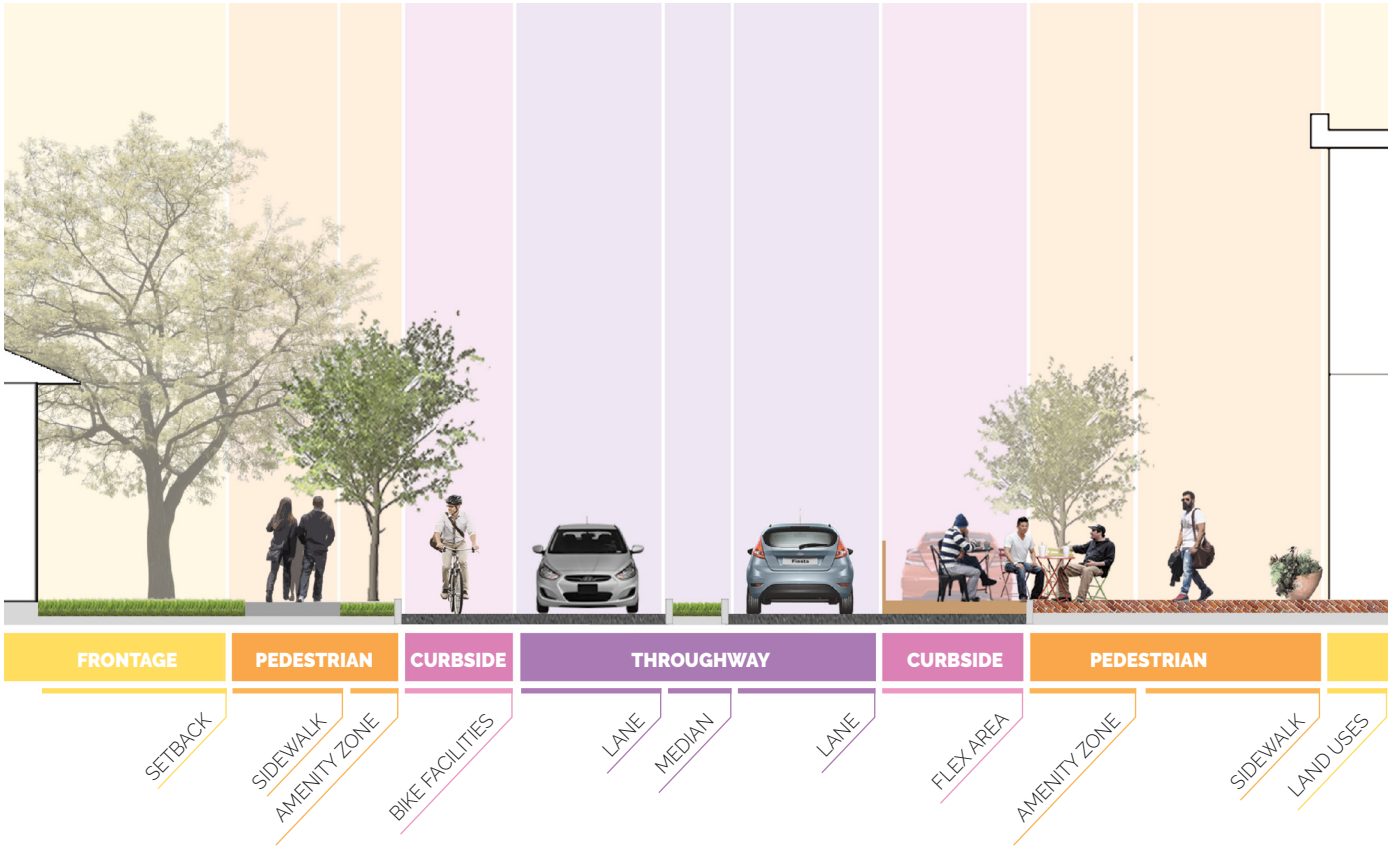
Intersection Typologies (41)

4 Consult Design Tools

There may be need for guidance on how to design the tools identified in this guide. Consult the Design Tools section for more information on how these tools should be tailored to Keyport.

WHAT ARE ZONES?

This guide divides streets into four zones. Each street typology identifies minimum, maximum, and preferred widths for these zones. Among other impacts, this helps ensure the allocation of adequate space for all intended street users. The design tools are also organized by zone.



FRONTAGE

Area that is a part of ground-floor building frontage, that impacts users' relationship with the street, without occupying space within the right-of-way.

PEDESTRIAN

Areas that are primarily dedicated to walking and/or which serve to support pedestrian activity.

CURBSIDE

Areas that are as close to the curb as possible while still being within the roadway. These are not for active motor vehicle travel. They may include space for bicycling, parklets, pedestrian activities, or the like as specified in the Design Tools.

THROUGHWAY

Area within the roadway that is dedicated to vehicular travel or which provides breaks in areas for vehicular travel.

WHAT ARE THE REFERENCE MAPS

Reference Maps

This section includes all the maps that users need to understand the desired design of any street in Keyport:

- The most important are the **Street Typologies (page 14)** and **Intersection Typologies (page 15)** maps, which help inform the appropriate tools to use.
- The **Priority Bicycle Network (page 16)**, **Priority Pedestrian Network (page 17)**, and **Truck Routes (page 18)** identify areas that may require enhanced or special treatments. The required treatments are identified in each typology. **The Priority Bicycle Network (page 16) shall be considered the Borough's official bike network map.**
- **Green Stormwater Management Areas (page 19)** is a guide to where green stormwater infrastructure might be most effective, based on the Complete Streets Existing Conditions Report (2020). This should assist the Borough in identifying where including green stormwater infrastructure will have the greatest impact.
- Priority Communities are those underserved by the transportation system and/or have traditionally suffered adverse impacts as a result of changes to transportation infrastructure. They include zero vehicle households, children, and seniors, low-income households, and people with disabilities, among others. Keyport's Complete Streets Ordinance has a goal to plan, fund, and construct projects equitably. The **Priority Communities Map (page 20)** shows a composite score indicating areas where more vulnerable populations reside. It will be used as part of the Implementation Guide to identify and prioritize projects.

KEY TERMS

To the extent possible, this guide uses terms readily understandable to most readers. The following terms are defined to ensure clarity.

Other Key Terms

Amenity Zone is the space within the pedestrian realm that supports a variety of modes of transportation. Parking meters, trash cans, benches, bike racks, newspaper stands, and the like are often located in this area. In residential areas, this area is often landscaped. The intent is for these areas to be flexible and used to meet the various needs of many different street users.

Curb to Curb is the width of the roadway, up to the edge of pavement, which may or may not differ from the total public right-of-way. This dimension includes throughway and curbside zones, but not frontage or pedestrian zones.

Flex Zone is the space in the curbside zone nearest the curb. It can be used to support any legitimate Borough goal, such as promoting green space or bicycle connectivity. The only limitation is that it will not adversely impact the health, safety, and welfare of the community and/or the use is not prohibited by law.

Target Speed is the intended speed at which people should drive the street and is therefore dependent on the context surrounding the street. This may differ from posted speed limits and design speed, which are traditionally determined using 85th percentile of observed speeds along the corridor. Speed plays a critical role in the cause and severity of crashes; design criteria at or below the target speed of a given street should be used in the design process in order to align the design speed with the target speed.

Traffic Calming is any measure that reduces the negative effects of motor vehicle use, alters driver behavior (by slowing speeds), and improves safety of conditions for non-motorized street users.

HOW ARE THE STREET AND INTERSECTION TYPOLOGIES ORGANIZED?

This section includes information that you will need to understand how each street in Keyport should be built. Each typology includes the following elements:

Street typology name

An **illustrated street typology** that demonstrates how various interventions could work in combination to achieve the desired vision for the street.

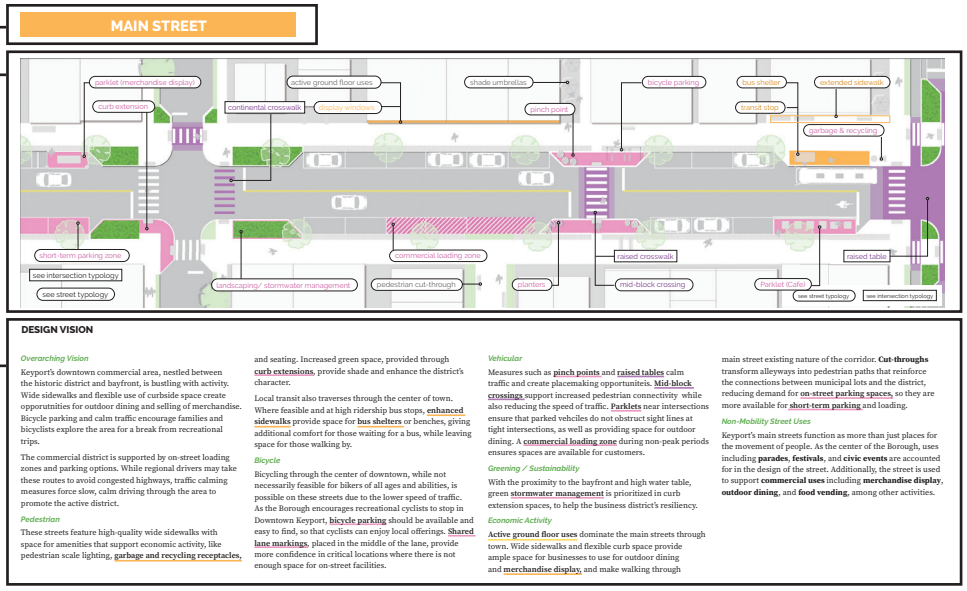
A **design vision** that explains how the street will contribute to a Complete Street network and which highlights many of the key interventions (bolded and underlined) that will ensure this function.

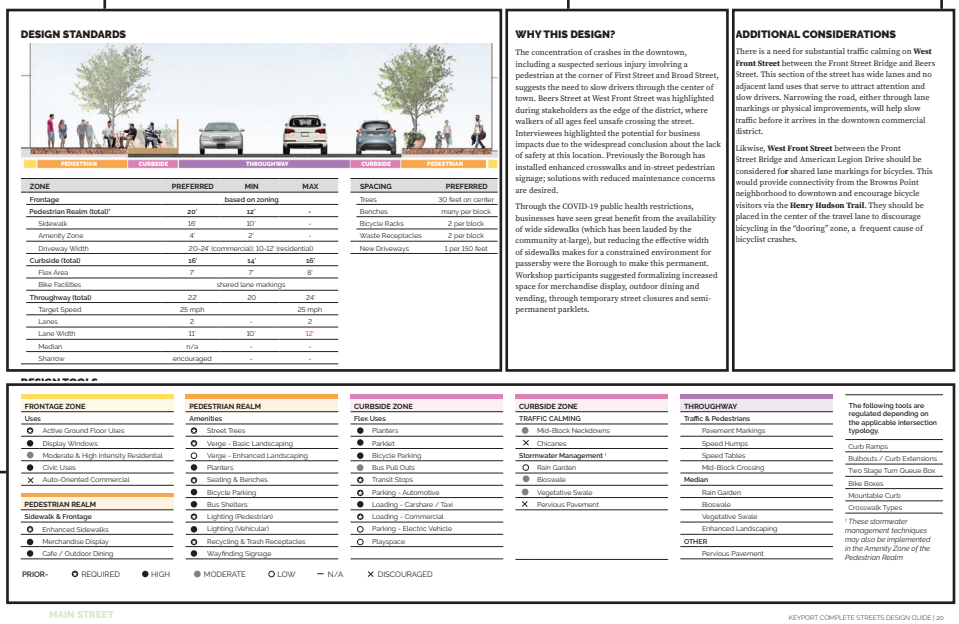
Roadway Dimensions which detail minimum, maximum, and preferred dimensions. These are based on the typical cross section of a roadway. There may be instances in which turning lanes, on and off ramps, and other miscellaneous infrastructure will be necessary for proper functioning of the road. These ancillary elements shall not contribute to design standard calculations as identified in typologies.

An explanation for **why the design** was chosen which focuses on some of the current conditions that can be improved.

Additional considerations that may impact implementation on specific streets.

A robust list of **Design Tools**. These are categorized based on priority. Details on the design tools are provided in the **Design Tools** section of the plan. See the call out on the following page for further discussion of prioritization.





WHAT ARE PRIORITY TABLES?

Each street typology has its own set of priority tables. These tables identify what is (and is not) a priority for that street typology. This prioritization framework acknowledges that there is limited space and that not every desired intervention may be possible. Recognizing that most streets will not be built all at once, it provides the Borough with a framework to prioritize its resources.

Some priority elements may not be needed for every block along the street. For example, a street may not need wayfinding signage on every block. The Borough, in consultation with its many partners, must use its judgment to determine the adequate distribution of the various tools.

EXAMPLE PRIORITIES IN THE PEDESTRIAN REALM	
AMENITIES	
✪	Street Trees
✪	Buffer - Basic Landscaping
●	Buffer - Enhanced Landscaping
✕	Planters
●	Seating & Benches
○	Bicycle Parking
—	Bus Shelters
●	Lighting (Pedestrian)
●	Lighting (Vehicular)
○	Recycling & Trash Receptacles
○	Wayfinding Signage

PRIORITY:

✪ REQUIRED ○ LOW

● HIGH — N/A

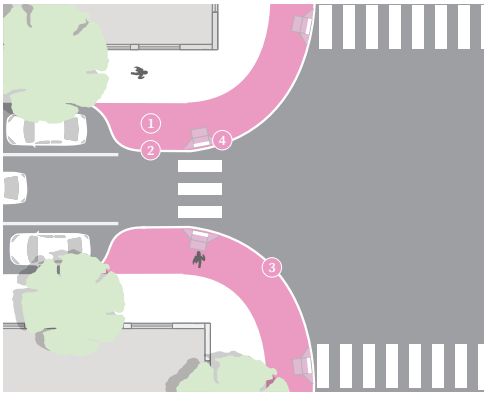
● MODERATE ✕ DISCOURAGED

WHAT IS THE DESIGN TOOLS SECTION?

This section focuses on how to design the different street elements, called Design Tools, that make up a street. **The section provides clear guidance, based on state and national standards, for how each of the Tools should be designed**. The Design Tools section is organized according to the zone of right-of-way within which the tools reside. Some tools, like bike parking, can be implemented across two different zones, and the design guidance reflects this.

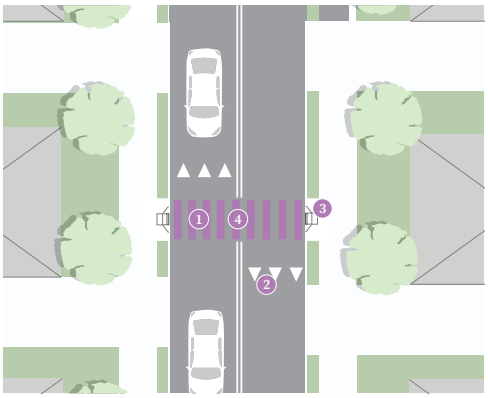
DEFINITION

A physical expansion of the sidewalk that narrows the travelway, slow turning vehicles and creates safer and shorter crossings for pedestrians.



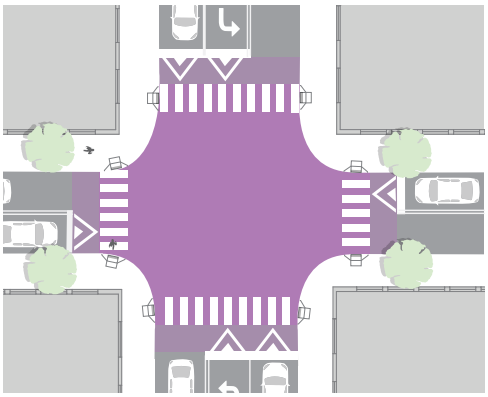
DEFINITION

The provision of marked crossings between two common mid-block destinations not served by the existing pedestrian network.



DEFINITION

A vertical traffic-calming device that raises an intersection's street surface to the sidewalk level.



COMMUNITY DRIVEN DESIGN

The street designs in this guide are the result of nearly a decade of work building the foundation for Complete Streets in Keyport. There was substantial community engagement as part of the 2017 Circulation Element of the Master Plan. In addition, the Project Team undertook the following community engagement efforts as part of the creation of this Design Guide:

- The Team conducted a series of **meetings with Keyport Stakeholders** who Borough staff identified as having relevant expertise.
- An **online survey** was published on the project website. **A total of 262 people participated in the survey**. A key goal of the survey was to develop a better understanding of residents' and stakeholders' habits.
- An **online workshop**, in both English and Spanish, allowed registrants to participate in seven activities that directly shaped the recommendations in this plan. **One-hundred and three (103) people participated in the workshop, submitting over 800 interactions across seven activities**. The online public workshop included seven activities that allowed participants to identify the quality of streets in Keyport, identify how they would like Borough streets to evolve in a post-COVID environment, and to respond to four proposals to changes to Keyport Streets.
- the Project Team presented preliminary concepts at a **Borough Council** meeting for review and comment.
- The Project Team met regularly with a **Stakeholder Advisory Committee (SAC)** made up of residents, business owners, stakeholders, and elected officials.

Finally, a community survey is being used to receive public feedback on the final design recommendations.

DESIGN APPROACH

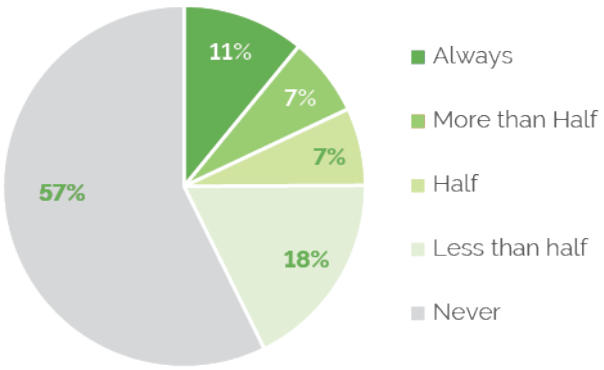
The robust community engagement, detailed in the **Complete Streets Public Involvement Report (2021),** directly impacted the recommendations in this Design Guide. The following principles summarized how community input shaped the street designs.

Design for more than the commute

The online survey allowed the Project Team to explore how Keyport's streets are being used today, and provide nuance on when people drive, bike, walk, or take transit. Over two-thirds of residents drive alone to work (according to US Census data). However, Figure 1 shows that a much larger percentage of residents walk or bike to access key services and amenities such as going to the grocery store, bank, or park. This reinforced the importance of building a balanced network.

Resident input also indicated a desire to design streets for more than driving: workshop participants wanted to see continued space for dining, walking and outdoor recreation. This Design Guide formalizes a bicycle and walking network that will improve connections between neighborhoods and key amenity, service, and recreation destinations.

Figure 1. Walking to Essential Services



Project Survey

Connect Keyport's neighborhoods

Keyport has quiet neighborhood pockets that are isolated by high-volume automotive streets and/or waterways. As a result, Keyport's neighborhoods are not interconnected and non-motorized users are isolated from key services and amenities. A key issue is that constricted right-of-way have historically not prioritized non-motorists. First Street, for example, could provides a direct connection for walkers downtown, but residents identified high speeds and inhospitable walking environment as barriers to use. This guide and its companion documents seek to correct these problems. It includes:

- Identify these neighborhood connecting streets as part of the Priority Pedestrian Network, which requires more pedestrian treatments and traffic calming techniques. The result will be safer sidewalks and crossing, even on high-volume streets.
- Includes a Priority Bicycle Network which will result in bicycle facility installation in and across every neighborhood.
- Designs for Regional Connectors and Neighborhood Connectors that establish the pedestrian as an equally important user of the street.
- A requirement for wider sidewalks on local streets and establishes a process for coordination with the County on their facilities.

Make safe and convenient bicycle and pedestrian paths to Keyport's schools

Residents overwhelmingly expressed a desire to see a network of streets that would provide safe and convenient bicycle and pedestrian connection to Keyport schools. To accomplish this, the design guide:

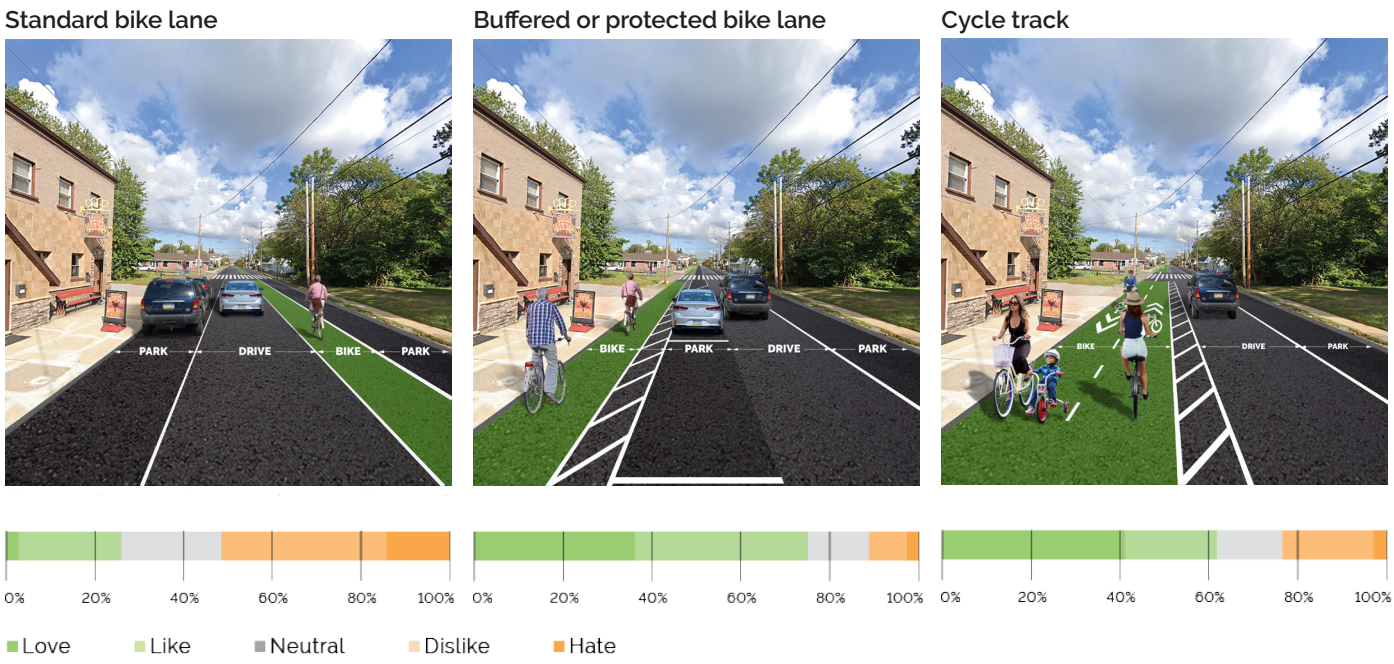
- Includes designs for buffered bicycle facilities on many streets. These ensure that most Keyport students will have near door-to-door bicycle access from home to school.
- Identifies all streets leading to the schools as part of the Priority Pedestrian Network, which will result in the installation of the highest-quality and safest pedestrian infrastructure.

Calm traffic on through streets

One of the most common requests by residents was for more traffic calming. As some residents noted, Front Street and Green Grove Avenue are historic streets which have grown in importance as they connect the Borough to neighboring communities and service the downtown and bayshore. These streets are still residential in nature, and many people noted that speeding traffic combined with narrow sidewalks and poor yielding at crosswalks makes them unsafe for pedestrians. This guide:

- Requires retrofitting key intersections using design tools such as curb extensions and raised crossings

Figure 2. Options for bike lanes on Broad and Main Streets



to ensure full visibility for pedestrians and slower turning speeds for drivers.

- Includes recommendations for traffic calming throughout the Borough, especially on high-volume streets.
- Identifies location for visual, geometric, and stop control cues to calm traffic on the Borough's long straightaways.

Address flooding

As a low-lying bayshore community, Keyport has a history of streets flooding. These problems will only be made worse by climate change. Residents repeatedly expressed a desire to see stormwater management integrated into the design of streets. This design guide:

- Introduces stormwater management techniques at intersections, making them safer and more convenient to cross while mitigating the impacts of flooding.
- Leverages excess space on residential streets for stormwater management that is attractive and reinforces the high-quality private landscaping throughout the Borough.
- Includes a bold proposal for Maple Street that would integrate a large green stormwater management system that would slow the flow of water into the Borough's existing system, creating space for the existing system to process water before backing up onto streets.

TRANSFORMATIVE PROJECTS

The designs in the guide mix small but impaction changes with larger projects that can move the Borough substantially closer to its Complete Street's goals. The following projects fall into that later category.

Broad and Main

The Borough has previously identified circulation changes to Broad and Main Streets as a potential way to address a series of challenges including:

- The mid-block crossing in front of Keyport Central School is a high crash and near miss location, and loading contributes to the conflicts.
- Many of the Borough's older streets have limited capacity to accommodate high comfort bicycle routes due to limited right-of-way.
- Broad Street is the primary route into and through the Borough, leading to downtown and recreational facilities like the Henry Hudson Trail.

A pair of one-way streets - Broad Street going north and Main Street going south - allows the Borough to address these concerns and create the basis for a high comfort bicycle network connecting Borough destinations. The Project Team determined three alternative configurations to add bicycle facilities to the street, which were presented for public feedback (see Figure 2). Workshop participants preferred designs which separated bicycles from traffic. Based on driveways and other uses along the street, a buffered bicycle lane was identified as the preferred alternative.

Figure 3. Preferred Alternative for Broad and Main Street

Maple Place

Early in the process, Maple Place was identified as a potential area for substantial change. The street carries low traffic volumes relative to the amount of space dedicated to vehicular traffic. There are also long stretches of space dedicated to parking which often go unused. For one workshop activity, participants were asked how the Borough should reallocate almost 22 feet of underutilized space (in cross section). Results showed that:

- Providing space for biking was the top priority,
- Stormwater management was very nearly as important as biking, and
- That parking was not a major concern.

Overall, it was clear that a balanced approach would achieve the most support. The recommended design, which can be used to retrofit the street in multiple phases, creates a dedicated bicycle facility, creates more defined travel lanes to slow speeds, and dedicates space for a "green spine" where water can be stored in bioswales before running downstream to over capacity drainage systems.

Figure 4. Maple Place redesign (most liked concepts)

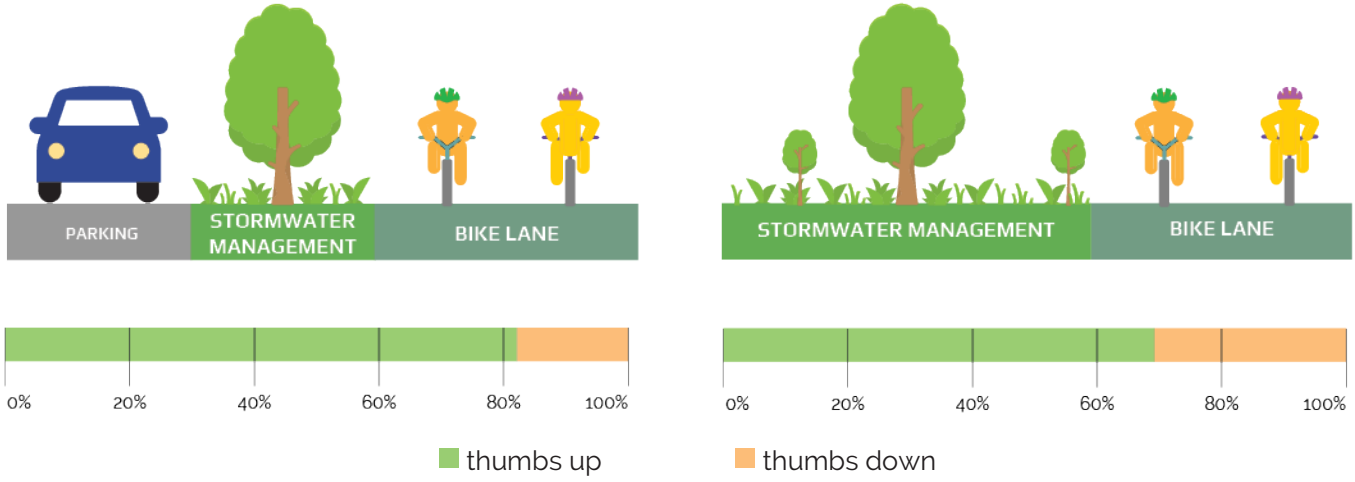
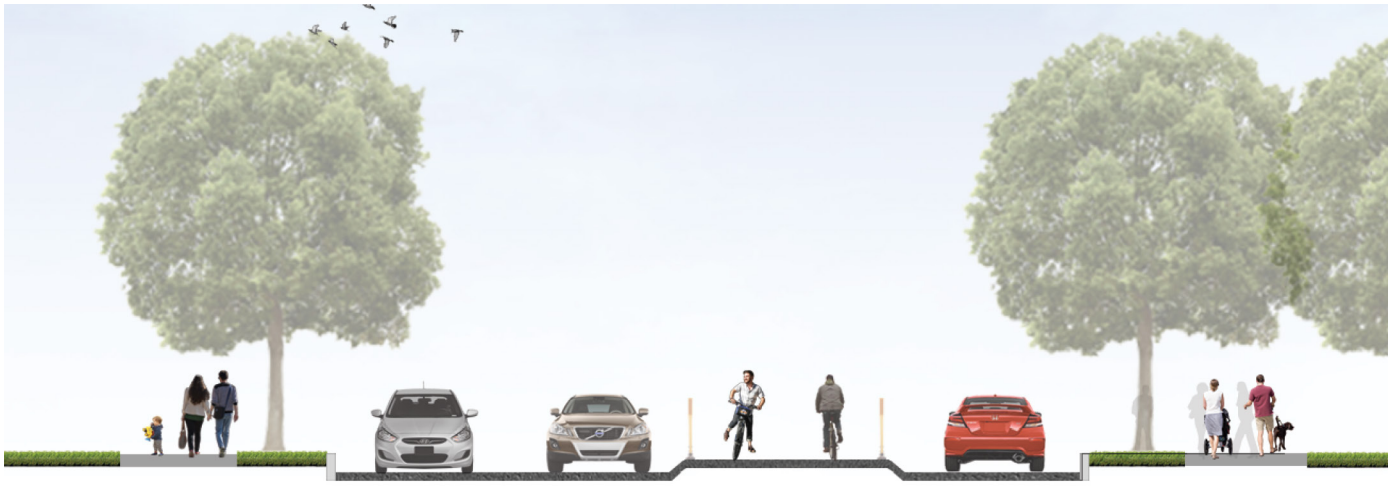


Figure 5. Maple Place presented to Borough Council



Third Street

The north-east side of the Borough (east of Church Street and north of Maple Place) currently has poor bicycle connectivity to the Downtown, the waterfront park, and Keyport schools, among other amenities and services. First Street is too narrow and has too high of traffic volumes to support bicycle activity. The Henry Hudson Trail takes riders south, away from many of the Borough's key services. Third Street is the only street that takes users from this section of town to Broad Street. However, in its current configuration, it is only accessible to the most adventurous of riders.

Workshop participants were presented with a concept, Figure 6, that showed Third Street as a one-way eastbound street. It replaced the westbound lane with a dedicated, two-way bicycle facility and left the one parking lane unchanged. As illustrated in Figure 7, the idea received overwhelming support from participants.

This vision has been incorporated into the Complete Streets network as an important east-west bicycle connection. Not only will it create better access for Keyport residents on the east side of town, but it will establish a second bicycle connection between the Henry Hudson Trail and the Downtown. Such regional connections are important for supporting economic growth in the Downtown that reduces parking demand.

As noted in the Implementation Plan, the proposal is an excellent candidate for a short-term demonstration project over a week or weekend as a proof-of-concept.

Wide Residential Streets

Keyport has several residential streets that are significantly wider than they need to be to support adjacent land uses. As a result, they present excellent opportunities for neighbors to come together and take back this space for neighborhood enhancement. This guide provides support for resident-driven approaches such as the creation of temporary play spaces, community gathering spaces, and community greening efforts, among many others.

Figure 7. Third Street concept results

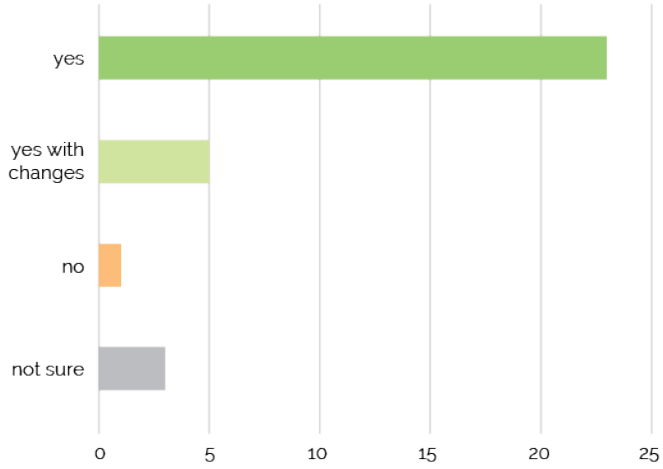
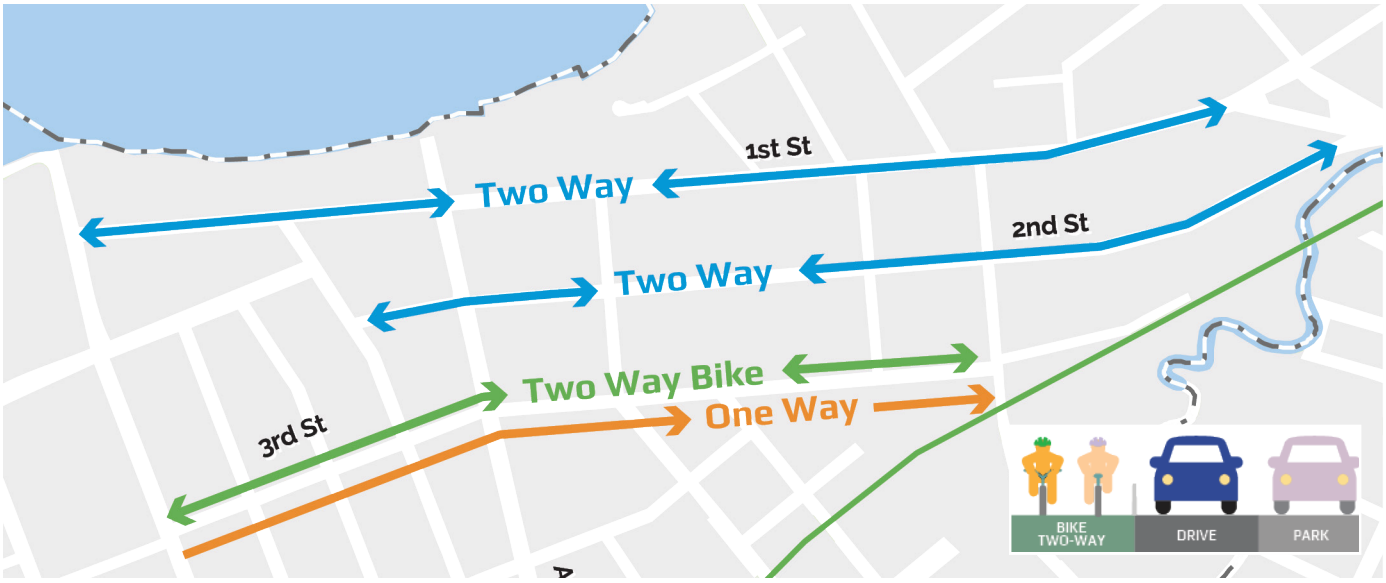


Figure 6. Third Street concept



REFERENCE MAPS

Figure 8. Street Typologies

Figure 9. Intersection Typologies

- basic
- enhanced
- trail: mid-block crossing
- trail: mid-trail crossing

all intersections shall be considered basic unless otherwise identified

Figure 10. Priority Bicycle Network

- two-way cycle track
- separated bicycle lane
- shared lane markings
- shared use path
- Henry Hudson Trail

For the purposes of this Design Guide, the Henry Hudson Trail shall be considered part of the priority biking network

Figure 11. Priority Pedestrian Network

priority walking streets

Henry Hudson Trail

For the purposes of this Design Guide, the Henry Hudson Trail shall be considered part of the priority pedestrian network

Figure 12. Truck Routes

NJDOT Access Network

NJDOT, 2019

Figure 13. Green Stormwater Management Areas

infiltration suitability

- likely suitable
- case-by-case
- likely unsuitable

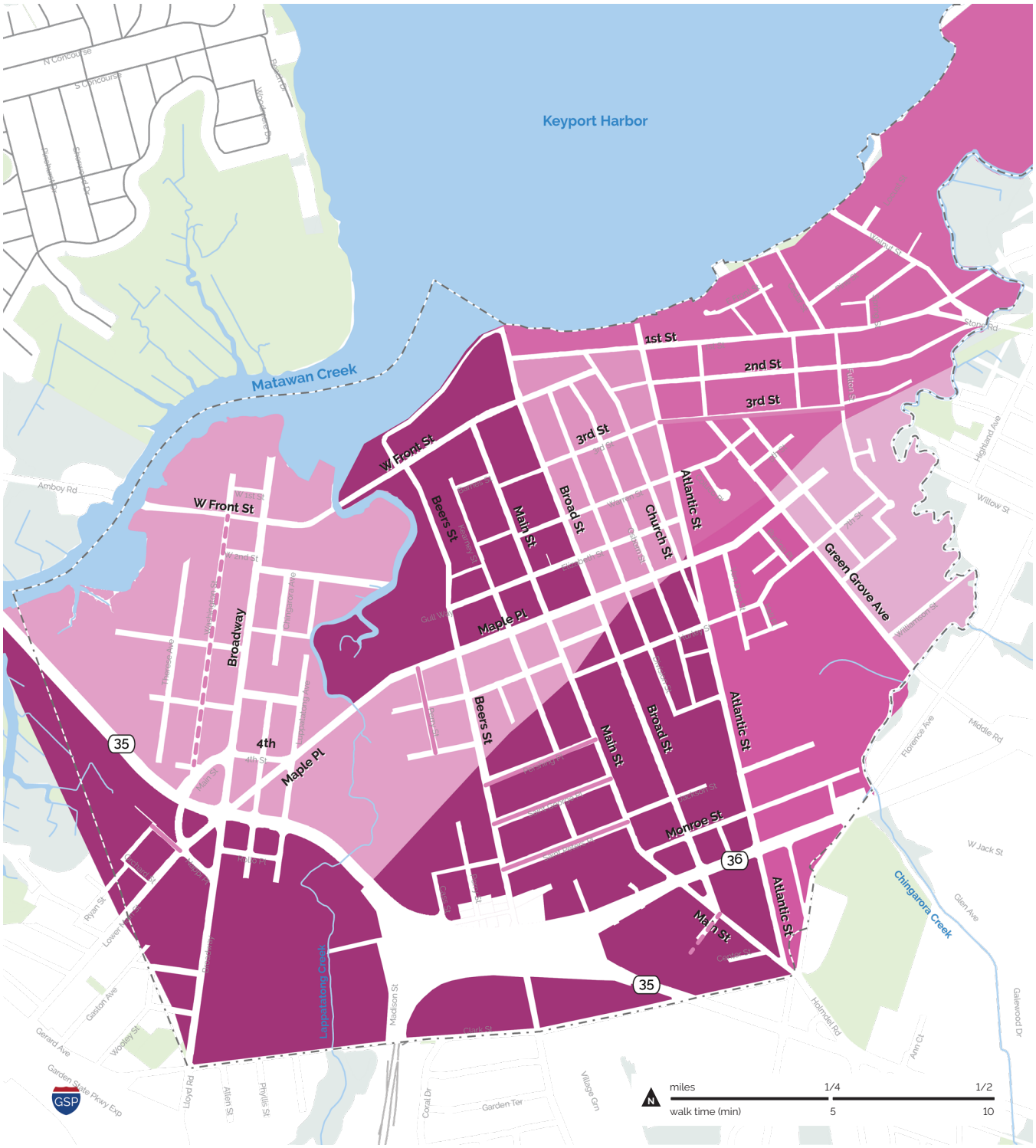
wellhead protection

- tier 1
- tier 2
- tier 3

Well Head Protection Areas in New Jersey; NJDEP (2019 and 2020)

Infiltration sustainability is based on a top-level analysis of soil texture and drainage; soils classified as poorly drained are not suitable. In wellhead protection areas, stormwater must be intercepted to ensure that contaminants do not enter the groundwater, and are generally not suitable for green infrastructure.

Figure 14. Priority Communities Map



vulnerable populations

fewer more

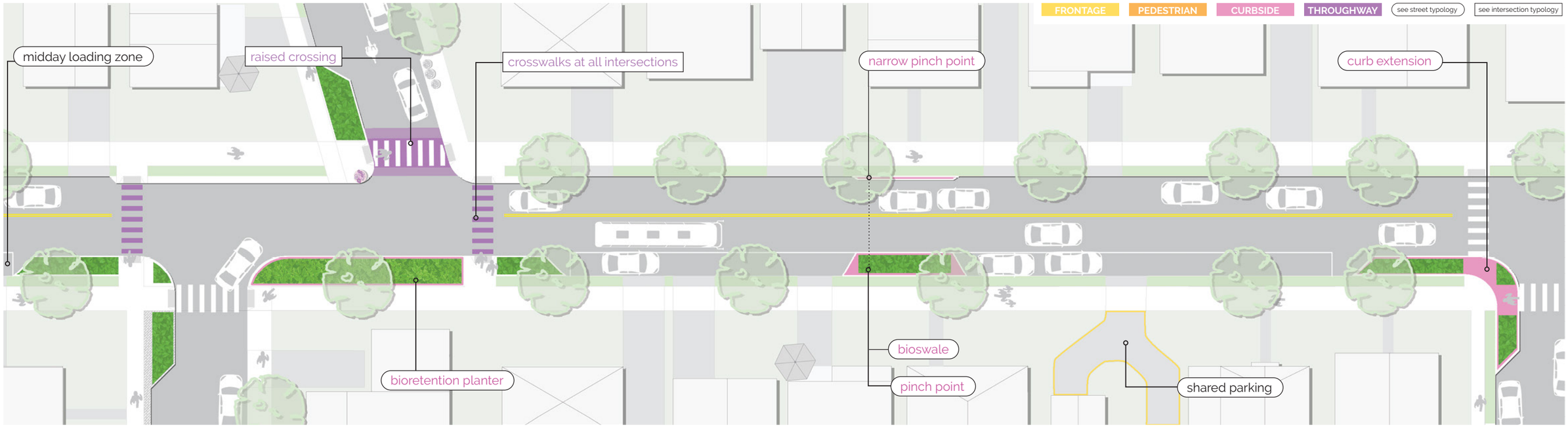
U.S. Census Bureau; 2018 5-Year ACS Estimates

The vulnerable population composite score was based on block groups exceeding County level of the following metrics: low-income, no car, public assistance, disability, poverty, minority, over 64, under 18, limited English, linguistically isolated, foreign born. More detail can be found in the Existing Conditions Report.

intentionally blank

STREET TYPOLOGIES

REGIONAL CONNECTOR



DESIGN VISION

Overarching Vision

Regional connectors provide regional connectivity while serving local land uses. They cut through Keyport's historic district and provide connections to Keyport's bayfront. They also cut through residential neighborhoods and residential uses front onto these streets.

Traffic calming and pedestrian amenities allow these streets to balance high volumes of regional traffic, including commercial vehicles, with provisions for safe pedestrian access to essential services and amenities in the Borough.

Pedestrian

People walk these streets to access many Keyport amenities, and therefore sidewalks are ideally wide enough to allow unobstructed passing of two wheelchairs or strollers. Where possible, a green or paved buffer provides space to ensure higher comfort, and helps trees grow tall enough to provide shade. **Curb extensions** and **raised crossings** ensure pedestrians have increased visibility when they cross in areas without stop control. Along transit routes, sidewalk widths should be maximized to allow for benches or **bus shelters**.

Bicycle

The narrow width and high speed of traffic on these streets means that they will not be preferred routes for bicyclists. However, traffic calming measures such as reducing the cartway width and installing **curb extensions**, help more confident bicyclists travel the street without separated facilities. The introduction of more and safer **crosswalks** along the bicycle network allow passing residents safer opportunities to cross the streets to access bayfront amenities. **Shared lane markings** along important routes signal to drivers to slow down and watch for cyclists.

Vehicular

Curb extensions can replace No Parking zones to improve safety at dangerous or irregular intersections. Curb extensions protect designated parking areas from passing traffic and ensure that cars cannot illegally park there, which obstructs lines of sight. **Shared driveways** limit curb cuts that interrupt sidewalks. However, access to parking should be provided from adjacent side streets where possible to minimize conflict points on regional connectors.

Lowering speeds, improving visibility for pedestrians, and incorporating benches and **pedestrian-scale lighting** can be accomplished in areas where extending the sidewalk is infeasible. Along long blocks, **pinch points** are also incorporated to keep traffic moving slowly where stopping is uncommon.

Greening / Sustainability

Near the bayfront and in areas prone to flooding, reclaimed curb space is prioritized for green stormwater management tools including **bioswales** and **bioretention planters**. These improvements help store water during a storm, and are prioritized on evacuation routes to reduce risk of ponding.

Economic Activity

Commercial uses have sidewalks, which are widened and have a **landscaped buffer** where possible. Vehicular access and egress on the regional connector are provided without compromising pedestrian paths to the storefront. Curb extensions near local establishments offer spaces for outdoor dining, vending, and signage.

Non-Mobility Street Uses

Since these streets connect the Borough – and region – to the downtown, occasional uses like **parades and festivals** should be considered. These uses, though temporary, should inform options for flexible use of parking areas (for commercial loading and vending) and intersections (for detours during events, and increased pedestrian and bicycle activity).

ROADWAY DIMENSIONS

ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**28'**	**50'**
Pedestrian Realm (total)*	**20'**	**10'**	**-**
Sidewalk	7'	6'	-
Amenity Zone	3'	-	-
Driveway Width	20-24' (commercial); 10-12' (residential)		
Curbside (total)	**8'**	**7'**	**-**
Flex Area	8'	7''	-
Bike Facilities	-	-	-
Throughway (total)	**22'**	**21'**	**48'**
Target Speed	25 mph	25 mph	30 mph
Lanes	-	2	4
Lane Width	11'	10.5'	11'
Median	n/a	-	-
Sharrow		permitted	

SPACING	PREFERRED
Trees	25 - 50 feet on center
Benches	1 per block
Bicycle Racks	1 per 2 blocks
Waste Receptacles	1 per 200' downtown
New Driveways	1 per 200 feet

NOTES AND CONSIDERATIONS

** preferred pedestrian realm standards shall be the minimum standards on priority pedestrian streets*

WHY THIS DESIGN?

Community engagement and analysis of crash data demonstrated that these streets currently suffer from high number of crashes. Previous efforts, such as crossing guards and in-street pedestrian signs along First Street, have proved insufficient to address the problem and community feedback indicates more aggressive design solutions should be pursued. High visibility crosswalks at all intersections will improve walkability and have the potential to fuel greater demand. Safe crosswalks at each block would encourage multimodal travel including for school aged children and parents, who have expressed safety concerns as a barrier for walking today.

First Street is the subject of a neighborhood plan, currently underway, that seeks to improve the pedestrian environment and reduce frequency of flooding in this area.

Green Grove Bridge and **West Front Street Bridge** are critical for evacuation, transit, and pedestrian access to essential services, and residents have pointed out that areas near these bridges frequently flood.

Driveways and loading zones can be major barriers to pedestrian connectivity, attractiveness, and comfort. Curb cuts should be minimized, and clearly delineated for pedestrian safety.

ADDITIONAL CONSIDERATIONS

Where these streets are too narrow for parking, a striped shoulder should be provided and No Parking areas should be marked. Parking on sidewalks is dangerous for pedestrians and drivers. It also creates major obstacles for the most vulnerable users, including people with strollers, in wheelchairs, or with mobility limitations. Parking on the sidewalk also creates cracks and breakdowns in curbs and sidewalks, increasing the long term cost to maintain the pedestrian network. This activity should be strictly regulated and offenders should have their vehicles ticketed and towed.

Commercial areas along Routes 35 and 36 are accessible via these roads, which have wider lanes and minimal sidewalks as they approach the highway. Curb extensions should be considered to help alert drivers that they are leaving the high speed area and entering a residential neighborhood. These curb extensions can also serve as space for Borough wayfinding and greening.

The Borough should work with County and State to determine whether there is continuing need for **Green Grove Avenue** (and Maple Place) to be identifed on **New Jersey Access Network** travel route for double-trailer trucks (also known as the Large Truck Map). The area currently does not have any land uses that need such access and viable alternative options exist.

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
●	Active Ground Floor Uses
○	Auto-Oriented Commercial
○	Civic Uses
●	Display Windows
●	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
○	Enhanced Sidewalks
●	Merchandise Display
●	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
●	Bicycle Parking
●	Bus Shelters
✪	Lighting (Pedestrian)
●	Lighting (Vehicular)
●	Planters
●	Recycling & Trash Receptacles
●	Seating & Benches
✪	Sidewalk Buffer (Basic Landscaping)
○	Sidewalk Buffer (Enhanced Landscaping)
●	Street Trees
●	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
●	Bike Corrals
○	Loading (Carshare / Taxi)
●	Loading (Commercial)
✪	NJ TRANSIT Bus Stops
●	Parking (On-Street)
○	Parklet / Dining Deck
○	Parking (Electric Vehicle)
●	Planters
✕	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
●	Chicanes
●	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
●	Bioswale
✪	Rain Garden
✕	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
●	Mid-Block Crossing
●	Pavement Markings
●	Speed Humps
●	Speed Tables
✕	Textured / Specialty Paving
MEDIAN	
–	Bioswale
–	Enhanced Landscaping
–	Rain Garden
OTHER	
✕	Pervious Pavement

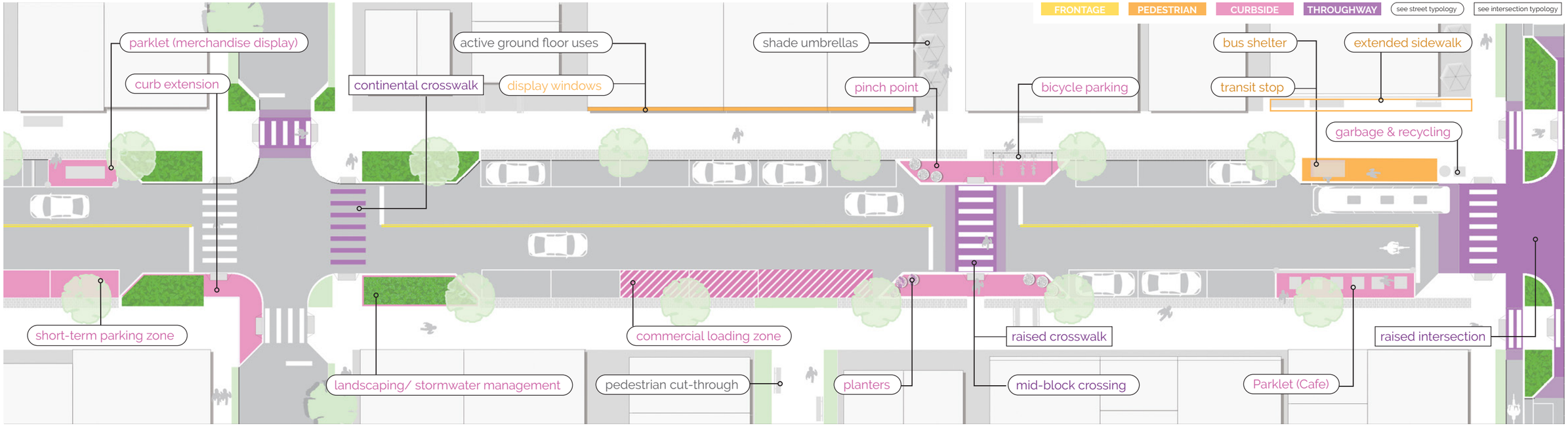
The following tools are regulated depending on the applicable intersection typology.

- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

DOWNTOWN COMMERCIAL



DESIGN VISION

Overarching Vision

Keyport's downtown commercial area, nestled between the historic district and bayfront, is bustling with activity. Wide sidewalks and flexible use of curbside space create opportunities for outdoor dining and selling of merchandise. Bicycle parking and calm traffic encourage bicyclists including families to explore the area for a break from recreational trips.

The commercial district is supported by on-street loading zones and parking options. While regional drivers may take these routes to avoid congested highways, traffic calming measures force slow, calm driving through the area to promote the active district.

Pedestrian

These streets feature high-quality wide sidewalks with space for amenities that support economic activity, like pedestrian scale lighting, **garbage and recycling receptacles,** and seating. Increased green space, provided through **curb extensions**, provides shade and enhances the district's character.

Local transit also traverses through the center of town. Where feasible and at high ridership bus stops, **enhanced sidewalks** provide space for **bus shelters** or benches, giving additional comfort for those waiting for a bus, while leaving space for those walking by.

Bicycle

Bicycling through the center of downtown, while not necessarily feasible for bikers of all ages and abilities, is possible on these streets due to the lower speed of traffic. **Bicycle parking** is easy to find and located throughout downtown to attract cyclists and allow them to can enjoy local offerings. **Shared lane markings**, placed in the middle of the lane, provide more visibility in critical locations where there is not enough space for on-street facilities.

Vehicular

Measures such as **pinch points** and **raised tables** calm traffic and create placemaking opportunities. **Mid-block crossings** support increased pedestrian connectivity while also reducing the speed of traffic. **Parklets** near intersections ensure that parked vehicles do not obstruct sight lines, and also provide space for outdoor dining. A **commercial loading zone** during non-peak periods ensures spaces are available for customers.

Greening / Sustainability

With the proximity to the bayfront and high water table, green **stormwater management** is prioritized in curb extension spaces, to help the business district's resiliency.

Economic Activity

Active ground floor uses dominate the main streets through the Borough. Wide sidewalks and flexible curb space provide businesses with ample space for outdoor dining and **merchandise display,** and make walking through main street interesting and enjoyable. **Cut-throughs** transform alleyways into pedestrian paths that reinforce the connections between municipal lots and the district, reducing demand for **on-street parking spaces,** so they are more available for **short-term parking** and loading.

Non-Mobility Street Uses

Keyport's downtown commercial streets function as more than just places for the movement of people. The design accounts for **parades**, **festivals**, and other **civic events**. Additionally, the street is used to support **commercial uses** including **merchandise display**, **outdoor dining**, and **food vending**, among other activities.

ROADWAY DIMENSIONS

ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**34'**	**40'**
Pedestrian Realm (total)*	**20'**	**12'**	**-**
Sidewalk	16'	10'	-
Amenity Zone	4'	2'	-
Driveway Width	20-24' (commercial); 10-12' (residential)		
Curbside (total)	**16'**	**14'**	**16'**
Flex Area	7'	7'	8'
Bike Facilities	-	-	-
Throughway (total)	**22'**	**20'**	**24'**
Target Speed	25 mph		25 mph
Lanes	2	-	2
Lane Width	11'	10'	11'
Median	n/a	-	-
Sharrow		encouraged	

SPACING	PREFERRED
Trees	15 - 30 feet on center
Benches	many per block
Bicycle Racks	2 per block
Waste Receptacles	1 per 200 feet
New Driveways	not encouraged

WHY THIS DESIGN?

The concentration of crashes in the downtown, including a suspected serious injury involving a pedestrian at the corner of First Street and Broad Street, suggests the need to slow drivers. Stakeholders identified Beers Street at West Front Street as the edge of the downtown and a place where walkers of all ages feel unsafe crossing the street. They also cited the lack of safety as something that could negatively impact local businesses. The Borough has installed enhanced crosswalks and in-street pedestrian signage but stakeholders have identified that these are insufficient and additional traffic calming interventions are desired.

Through the COVID-19 public health restrictions, businesses have seen great benefit from the availability of wide sidewalks (which has been lauded by the community at-large), which have allowed them to set up outdoor dining and merchandise displays. However, these uses have reduced the effective width of sidewalks, creating a constrained environment for passersby. Workshop participants suggested formalizing increased space for merchandise display, outdoor dining and vending, through temporary street closures and semi-permanent parklets, which would create more space for businesses while preserving sidewalk space for pedestrians.

ADDITIONAL CONSIDERATIONS

There is a need for substantial traffic calming on **West Front Street** between the Front Street Bridge and Beers Street. This section of the street has wide lanes and no adjacent land uses that serve to attract attention and slow drivers. Narrowing the road, either through lane markings or physical improvements, will help slow traffic before it arrives in the downtown commercial district.

Likewise, **West Front Street** between the Front Street Bridge and American Legion Drive should be considered for shared lane markings for bicycles. This would provide connectivity from the Browns Point neighborhood to downtown and encourage bicycle visitors via the **Henry Hudson Trail**. They should be placed in the center of the travel lane (and accompanied by signage) to discourage bicycling in the "dooring" zone, a frequent cause of bicyclist crashes.

Stakeholders have noted that a major obsticle to transformation of the West Front Street is the lack of a coherent parking plan for the area. A **parking study** should be conducted to identify if and how parking can be better managed to create opportunities for all downtown users.

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
✪	Active Ground Floor Uses
✕	Auto-Oriented Commercial
●	Civic Uses
●	Display Windows
●	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
✪	Enhanced Sidewalks
●	Merchandise Display
●	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
✪	Bicycle Parking
✪	Bus Shelters
✪	Lighting (Pedestrian)
●	Lighting (Vehicular)
●	Planters
✪	Recycling & Trash Receptacles
✪	Seating & Benches
✪	Sidewalk Buffer (Basic Landscaping)
○	Sidewalk Buffer (Enhanced Landscaping)
●	Street Trees
✪	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
●	Bike Corrals
●	Loading (Carshare / Taxi)
✪	Loading (Commercial)
✪	NJ TRANSIT Bus Stops
✪	Parking (On-Street)
●	Parklet / Dining Deck
○	Parking (Electric Vehicle)
●	Planters
○	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
✕	Chicanes
●	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
●	Bioswale
○	Rain Garden
✕	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
●	Mid-Block Crossing
●	Pavement Markings
✕	Speed Humps
○	Speed Tables
–	Textured / Specialty Paving
MEDIAN	
–	Bioswale
–	Enhanced Landscaping
–	Rain Garden
OTHER	
✕	Pervious Pavement

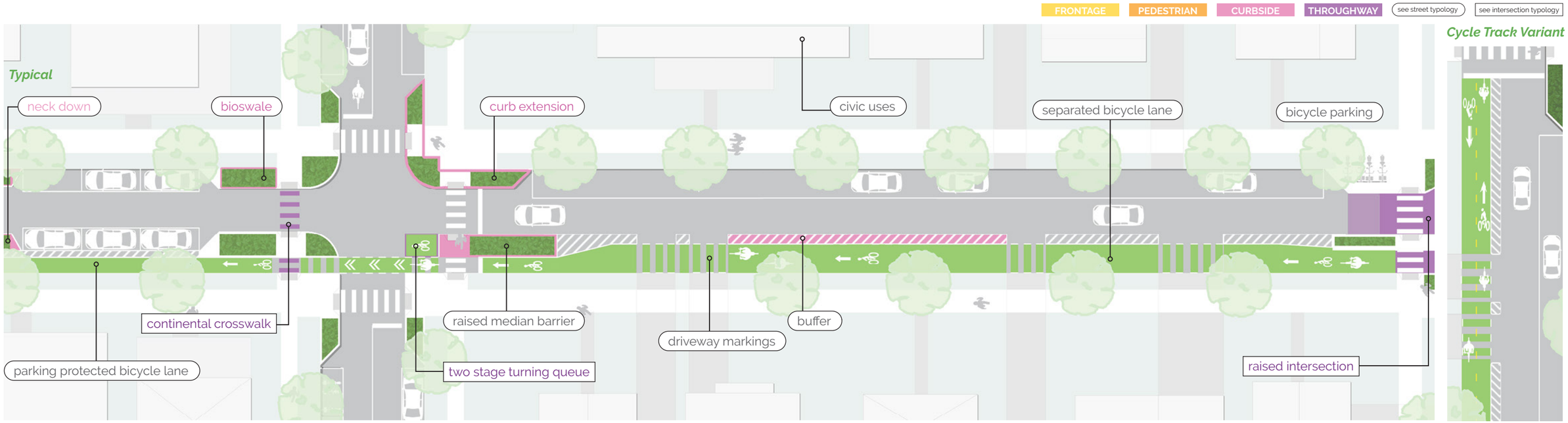
The following tools are regulated depending on the applicable intersection typology.

- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† *These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm*

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

BOROUGH CONNECTOR



DESIGN VISION

Overarching Vision

Borough connectors link major Keyport institutions – schools, library, and the Henry Hudson Trail – to downtown and the bayfront. They also provide key connections to these institutions from residential neighborhoods.

A one-way pair on Broad Street (northbound) and Main Street (southbound) provides high-quality bicycle access across the Borough and connects regional trips on the Trail with downtown.

Similarly, a two-way bicycle facility on Third Street creates a safe, attractive route for cycling across neighborhoods. This connection establishes a strong link between the Trail and the downtown which supports the Borough's downtown economic development goals.

The conversion of Third Street to a one-way street for vehicles does not reduce residents' access to their homes and does not eliminate street parking.

Bicycle

Borough connectors are critical arterials of the Borough's bicycle network. Bicyclists use the facilities on these streets to access essential services – such as schools, medical facilities, and the library – as well as local recreational, dining, and shopping destinations.

Because of their importance, these streets have the highest-quality bicycle facilities: **buffered bicycle lanes** and **two-way cycle tracks**. These facilities provide safe, comfortable, and attractive conditions for all types of riders while simultaneously reducing conflicts with vehicles.

Pedestrian

A simple one-way system for vehicles reduces potential conflicts with pedestrians and makes the corridor safer to walk. This, along with high-quality sidewalks, encourage school children to walk to school, reinforcing the fact that Keyport is a walking school district. Along Third Street, **enhanced sidewalks** provide an attractive environment for people coming off the Trail. Where properties are redeveloped, wider sidewalks should be prioritized to prevent obstructions that impede the way for those using mobility enhancement devices and strollers.

Vehicular

Drivers maintain access to the businesses, schools, and civic life on these streets, and guidance such as school zone **pavement markings** and **bike boxes** help reduce conflicts with cyclists. Parking areas are protected through (temporary or concrete) **curb extensions** which also separate bicycle traffic near intersections. In areas closer to the downtown, **parking** can be provided on both sides of the street to ensure adequate access to commercial establishments.

Greening / Sustainability

Activation of these streets connects the Borough's recreational facilities, and these corridors provide a green spine. Reclaimed roadway is used for **green stormwater management** near the Henry Hudson Trail and areas that experience flooding.

Economic Activity

Borough connectors serve to guide people from the Trail to the downtown. As such, connections with the Trail are important places for **wayfinding signage** that advertises local amenities. This necessitates the need for ample bicycle parking in the downtown to help ensure that when people do arrive, they can quickly and easily access local businesses. Because of this high-quality bicycle connection, businesses in the downtown have a wider range of customers and have less of a dependency on vehicle parking to sustain the customer base.

Non-Mobility Street Uses

The high-quality facilities attract people who will use the street for sport or exercise, including runners, cyclists, rollerbladers, and skateboarders. The street is also a great place to simply stroll and people watch. The street design supports and encourages these activities, allowing it to serve as an important space for community members to connect and socialize.

ROADWAY DIMENSIONS

ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**24.5'**	**34'**
Pedestrian Realm (total)*	**12'**	**8'**	**-**
Sidewalk	7'	6'	-
Amenity Zone	7'	3'	-
Driveway Width	20-24' (commercial); 10-12' (residential)		
Curbside (total)	**22'**	**14'**	**22'**
Flex Area	8'	7'	15'
Bike Facilities	13'	7'	15'
Throughway (total)	**11'**	**10.5'**	**12'**
Target Speed	25 mph	25 mph	30 mph
Lanes	1	-	1
Lane Width	11'	10.5	12'
Median	n/a	-	-
Sharrow	-	-	-

SPACING	PREFERRED
Trees	15 - 50 feet on center
Benches	1 per block
Bicycle Racks	1 per 2 blocks
Waste Receptacles	1 per 200' downtown
New Driveways	1 per 200 feet

NOTES AND CONSIDERATIONS

** preferred standards shall be the minimum standards on priority pedestrian or priority bicycle streets*

WHY THIS DESIGN?

This design addresses several issues. The Borough has long struggled with the pick-up and drop-off location on Broad Street near **Keyport Central School**. The current design is dangerous, with several parents citing near misses and crashes due to poor visibility of pedestrians. The two-way vehicular movement on the street is a major cause of the conflict. Conversion of Broad Street to a one-way street will help eliminate these conflicts.

There is a history of crashes along the length of **Broad Street**, with higher injury crashes occurring near the Henry Hudson Trail and the middle of the Borough. There is also a concentration of crashes (including a number of struck vehicles) near the downtown.

Keyport's 2017 Master Plan Circulation Element identified the need for improved connectivity to the Henry Hudson Trail. The one-way pair was identified as a possible solution and the technical analysis conducted as part of this plan supported the approach. The public response during the community engagement workshop overwhelmingly supported the buffered bike lane approach.

Third Street is the only viable location for a east-west bicycle route that would connect eastern neighborhoods to the downtown. There is insufficient space on First Street and it carries too much traffic. Second Street does not carry through to Broad or Main Street.

Conversion of Third Street to a one-way road creates a priority east-west bike connection, accomplishing Borough goals of improving non-motorized access to downtown and providing better bicycle connections for neighborhood residents. A two-way cycle track should replace the westbound travel lane.

ADDITIONAL CONSIDERATIONS

This one-way pair provides a high comfort bicycle and walking route for school children and their parents. Loading on **Broad Street** near the schools should be prohibited. A raised crossing with curb extensions should be prioritized at the mid-block crossing.

The one-way on Broad and Main Streets should begin at **Monroe Street** and the configuration at Route 35/36 should not change. Signage and in-street markings should accompany the change in traffic pattern, and placemaking elements should be installed at this important gateway to the Borough.

As the preferred bicycle routes through town, bicycle lanes outside of the business district should be a minimum of 7 feet wide. Signage should clearly indicate where parking can and cannot occur. Flexible delineators, which can be removed for maintenance, can add additional separation and prevent parking in the bike lane. During the first several months after completion, education and enforcement should be prioritized along the one-ways to stop parking in the bike lane.

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
●	Active Ground Floor Uses
✕	Auto-Oriented Commercial
●	Civic Uses
✪	Display Windows
○	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
●	Enhanced Sidewalks
●	Merchandise Display
●	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
✪	Bicycle Parking
✪	Bus Shelters
●	Lighting (Pedestrian)
●	Lighting (Vehicular)
●	Planters
●	Recycling & Trash Receptacles
–	Seating & Benches
✪	Sidewalk Buffer (Basic Landscaping)
●	Sidewalk Buffer (Enhanced Landscaping)
✪	Street Trees
✪	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
✪	Bike Corrals
●	Loading (Carshare / Taxi)
●	Loading (Commercial)
–	NJ TRANSIT Bus Stops
✪	Parking (On-Street)
○	Parklet / Dining Deck
●	Parking (Electric Vehicle)
●	Planters
○	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
○	Chicanes
●	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
●	Bioswale
●	Rain Garden
○	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
✪	Mid-Block Crossing
●	Pavement Markings
●	Speed Humps
●	Speed Tables
●	Textured / Specialty Paving
MEDIAN	
–	Bioswale
–	Enhanced Landscaping
–	Rain Garden
OTHER	
✕	Pervious Pavement

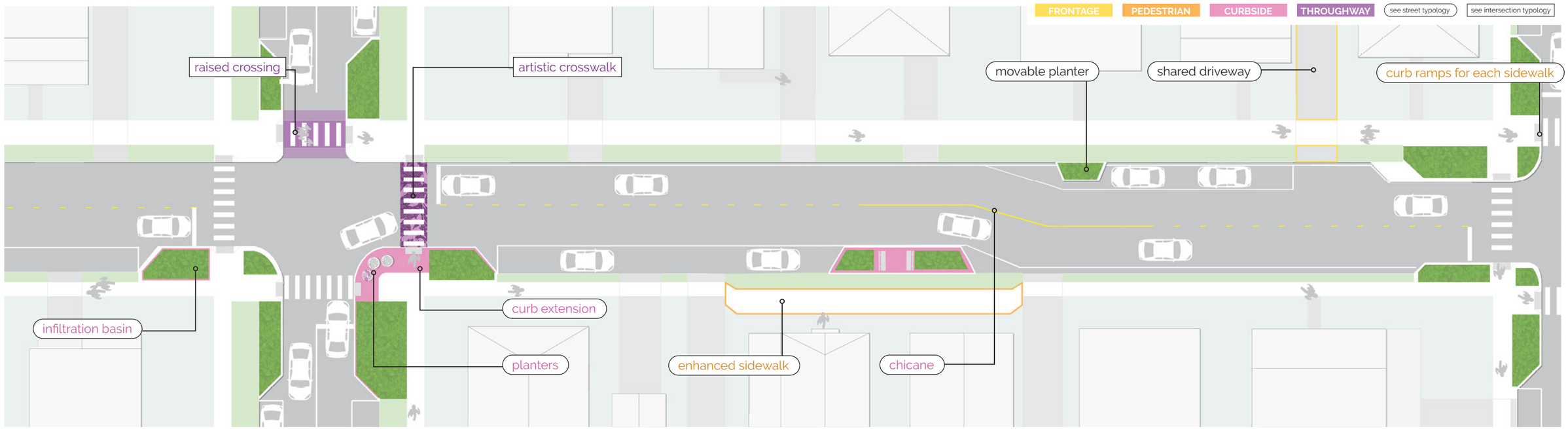
The following tools are regulated depending on the applicable intersection typology.

- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† *These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm*

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

NEIGHBORHOOD CONNECTOR



DESIGN VISION

Overarching Vision

Neighborhood connectors are the two-way streets that traverse Keyport's residential areas. They provide continuous routes for biking, walking, and driving in and out of the Borough.

Balance is critical on these streets: they accommodate through traffic but they are also primary residential streets. This balance is an outcome of design interventions that focus on placemaking and pedestrian safety, especially at intersections. Green curb extensions and enhanced crosswalks protect vulnerable users while making the streets more attractive and environmentally sustainable.

Pedestrian

These streets connect important destinations like senior housing and schools to the rest of the Borough. As such, comfort and safety for pedestrian trips is a high priority. On priority pedestrian corridors, **raised and artistic crosswalks** are used to prioritize walkers over through traffic, and ensure that people of all ages and abilities are visible to motorists before entering the right-of-way. Where properties are redeveloped, **enhanced sidewalks** are widened to provide adequate space for unobstructed travel using a wheelchair or stroller. Installation of curb ramps also make the street easier and safer for those in wheelchairs, with strollers, and those with disabilities.

Bicycle

These streets do not provide adequate width for safe painted bicycle accommodations. However, confident cyclists may find these streets acceptable because traffic is relatively calm.

Vehicular

Where street width is constrained, parking is restricted to one side of the street. Constraining drivers to a defined lane, and clarifying parking regulations, can result in slower traffic. Restricting parking also enables more intensive design interventions, such as the **chicane**, that reduce speeding and improve sight distance for vehicles turning out of driveways and side streets.

Parking occurs in areas protected by **curb extensions**, so residents no longer feel the need to park on the sidewalk to avoid being struck by passing vehicles. These extensions also create opportunities for clearly-defined safe loading zones for commercial, higher-density residential, and civic uses. **Shared driveways** reduce curb cuts, which enhances pedestrian safety. They also increase the amount of space available for on-street parking.

Greening & Sustainability

Green stormwater management solutions and landscaping can prevent localized ponding. Longer **curb extensions** that delineate travel lanes, parking, and loading areas are ideal locations for stormwater features such as **infiltration basins** (also known as rain gardens). Providing enhanced landscaping also contributes to placemaking at Keyport's gateways and along viewsheds into the Borough. **Movable planters** can be effective, semi-permanent, solutions that add to the attractiveness of the street.

Non-Mobility street uses

These through streets should be designed to accommodate non-mobility street uses such as exercise and socializing. The inclusion of benches, trash cans, and high-quality landscaping will encourage more of these uses. In areas closer to commercial centers, curbside areas may be transformed into parklets or re-purposed to support economic activity.

ROADWAY DIMENSIONS

ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**24'**	**48'**
Pedestrian Realm (total)*	**12'**	**8'**	**-**
Sidewalk	7'	6'	-
Amenity Zone	5'	3'	-
Driveway Width	20-24' (commercial); 10-12' (residential)		
Curbside (total)	**7'**	**-**	-
Flex Area	7'	-	-
Bike Facilities	not encouraged		
Throughway (total)	**20'**	**18'**	**22'**
Target Speed	20 mph	-	25 mph
Lanes	-	-	2
Lane Width	10'	9'	11'
Median	n/a	-	-
Sharrow	n/a	-	-

SPACING	PREFERRED
Trees	25 - 50 feet on center
Benches	1 per block
Bicycle Racks	n/a
Waste Receptacles	commercial: 1 per 200'
New Driveways	1 per 150 feet

NOTES AND CONSIDERATIONS

** preferred standards shall be the minimum standards on priority pedestrian or priority bicycle streets*

WHY THIS DESIGN?

Many of these roads have undefined travel lanes which give drivers the perception of a wide open road. There are also long blocks without speed controls which can encourage speeding. The inconsistency of acceptable speeds also contributes to this problem. These conditions are particularly problematic because these streets serve as alternatives to Broad Street for north-south travel.

Participants in the Online Workshop rated **Atlantic** and **Beers Streets** as some of the worst in the Borough for walkers, cyclists, and those with disabilities or accessibility needs.

Atlantic Street serves as a shortcut into town for people looking to avoid slower traffic on Broad Street. Atlantic's role as the back loading access road for Keyport's schools also creates additional vehicular traffic. Meanwhile, the current infrastructure does not support bicycle or pedestrian needs. **Broadway**, though a wider corridor, similarly carries higher volumes, and traffic calming measures including curb extensions would enhance the environment for ADA-compliant access, which was highlighted in the Workshop results.

Relatively narrow lanes, limited parking availability, and speedy cut-through traffic can potentially lead to increased crashes or near misses; due to these concerns, traffic calming tools are a high priority for these streets.

Furthermore, these roads serve as gateways into the Borough from Routes 35 and 36, and traffic calming tools that make room for beautification and placemaking will provide a visual cue for the change to a primarily residential environment.

ADDITIONAL CONSIDERATIONS

The Borough should evaluate the **bus stops** along **Broadway** and consider whether in-lane stops would increase safety. Concrete curb extensions can provide space for bus shelters or benches as well as lighting and wayfinding, which could be beneficial for making transit a more attractive choice for riders.

Broadway, a truck route with higher volumes, is not recommended for bicycle infrastructure; a bicycle boulevard along Washington Street provides a safer alternative.

Near the school on **Atlantic Street** design efforts should focus on creating safe pedestrian connections and significantly slowing traffic, especially during school hours. If feasible, school loading should be prohibited on Atlantic Street.

Moderate- and higher-density residential developments have recently been approved along some of these streets. In order to mitigate increased traffic, these developments should enhance the bicycle and pedestrian experience and incorporate driveway sharing where possible.

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
○	Active Ground Floor Uses
✕	Auto-Oriented Commercial
○	Civic Uses
●	Display Windows
●	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
○	Enhanced Sidewalks
○	Merchandise Display
●	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
○	Bicycle Parking
●	Bus Shelters
✪	Lighting (Pedestrian)
●	Lighting (Vehicular)
●	Planters
●	Recycling & Trash Receptacles
●	Seating & Benches
✪	Sidewalk Buffer (Basic Landscaping)
●	Sidewalk Buffer (Enhanced Landscaping)
✪	Street Trees
●	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
●	Bike Corrals
✕	Loading (Carshare / Taxi)
✕	Loading (Commercial)
✪	NJ TRANSIT Bus Stops
✕	Parking (On-Street)
●	Parklet / Dining Deck
○	Parking (Electric Vehicle)
●	Planters
✕	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
●	Chicanes
●	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
●	Bioswale
●	Rain Garden
✕	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
○	Mid-Block Crossing
●	Pavement Markings
●	Speed Humps
●	Speed Tables
✕	Textured / Specialty Paving
MEDIAN	
–	Bioswale
–	Enhanced Landscaping
–	Rain Garden
OTHER	
✕	Pervious Pavement

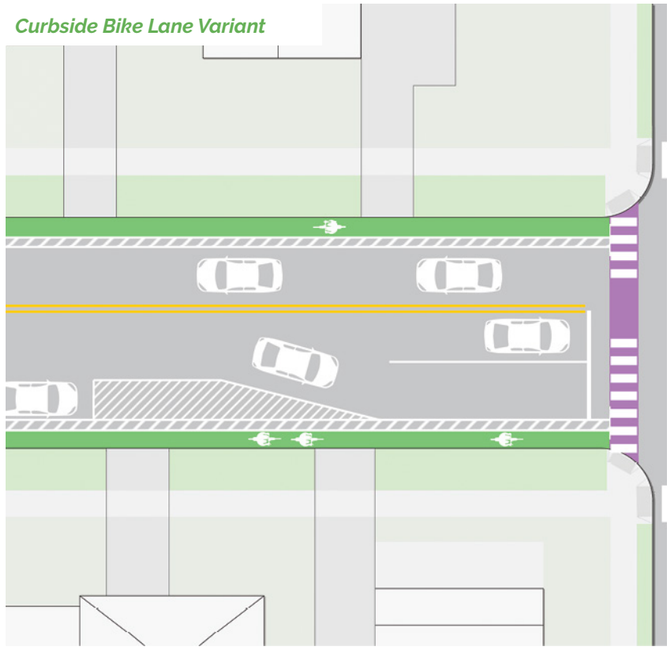
The following tools are regulated depending on the applicable intersection typology.

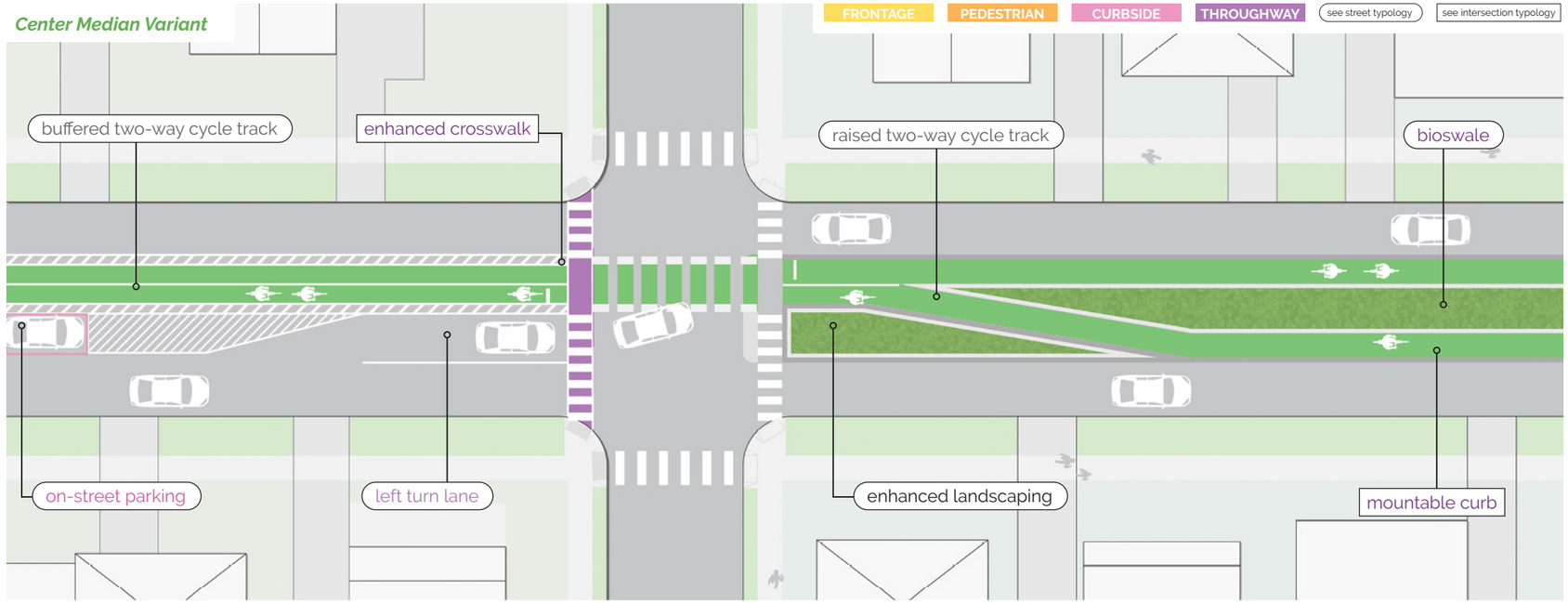
- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† *These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm*

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

MAPLE PLACE PARKWAY





DESIGN VISION

Overarching Vision

Keyport's parkway provides essential connectivity and stormwater management for the Borough. Spanning many neighborhoods and with commercial and residential environments, the multi-modal corridor balances the Borough's needs for bicycle connectivity, environmental resiliency, beautification, calm freight movement, and quality automotive access.

The parkway design is responsive to on-the-ground conditions. Painted **Curbside bike lanes** or **center-median bike lanes** provide a critical east-west cross-Borough bicycle connection. Where appropriate, permanent raised median bike lanes create the safest bicycling space with the least amount of conflicts. Intensive stormwater management solutions, either in the median or on the curb edge, address both localized flooding and alleviate larger problems in the system.

Pedestrian

Maple Place is a green parkway that is enjoyable for people to walk along. With **enhanced landscaped buffers,** large shade trees, and less frequent driveways, the street is enjoyable for walkers of all ages and abilities. Pedestrians are prioritized at intersections with a traffic signal phase that stops vehicle traffic in all directions to give pedestrians and bicyclists a head start before turning vehicles. **Enhanced crosswalks** are installed in other locations. Where possible, sidewalks are widened for two passing wheelchairs or strollers.

Bicycle

The parkway provides an attractive, safe east-west corridor across the Borough which connects riders to the trail, school, recreation, and transit. **Painted or concrete buffers** separate cyclists from vehicular traffic. Additional distinctive green color, delineators, or a **raised cycle track** provide additional protection for cyclists. **Two-stage turn queues** and **pavement markings** assist bicyclists turning off the corridor. The location of bicycle infrastructure in the median results in a safer condition for cyclists since there are fewer conflicts with drivers turning in and out of driveways. This also helps to reserve areas for larger stormwater management systems that will take time to plan, fund, and construct.

Vehicular

Vehicular capacity on this roads is maintained but traffic is calmer and moves more predictably. The design allows flexibility so that **on-street parking** can be provided where demand warrants it. Similarly, **left turn lanes** are available at important intersections to maintain flow. In emergencies, drivers can use **mountable curbs** along the bicycle facility to bypass stalled vehicles. Residents pulling out of driveways feel safer due to improved visibility and slower traffic.

Greening / Sustainability

A green stormwater management system holds and filters stormwater. It allows water to filter into the ground and/or move slowly into the larger stormwater system. This helps ensure that large rain events do not overwhelm the gray stormwater system. **Vegetative infiltration basins and bioswales** can absorb significant amounts of water before the system is overwhelmed, therefore reducing the frequency of in-street ponding and flooding. The greening of the corridor also provides a significant amenity for the Borough, contributing to beautification and traffic calming.

Vulnerable Users

The parkway connects residential streets that are otherwise isolated from civic centers and essential services.

Non-Mobility Street Uses

Community boulevards should be designed to accommodate non-mobility street uses such as exercise and play. The inclusion of benches, trash cans, and high-quality landscaping will encourage more of these uses. In areas closer to the high school and center of town, curbside areas may be temporarily transformed for festival s and food vending to support economic activity and civic life.

ROADWAY DIMENSIONS

ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**40'**	**50'**
Pedestrian Realm (total)*	**14'**	**12'**	**-**
Sidewalk	6'	6'	-
Amenity Zone	8'	6'	-
Driveway Width	20-24' (commercial); 10-12' (residential)		
Curbside (total)	**0'**	**-**	**8'**
Flex Area	0'	-	8'
Throughway (total)	-	-	-
Target Speed	30 mph	30 mph	35 mph
Lanes	2	2	2
Lane Width	11'	11'	12'
Median	22'	6'	30'
Bike Facilities	12'	8'	12'
Sharrow		not encouraged	

SPACING	PREFERRED
Trees	25 - 50 feet on center
Benches	1 per 2 blocks
Bicycle Racks	1 per 2 blocks
Waste Receptacles	commercial: 1 per 200'
New Driveways	1 per 200 feet

NOTES AND CONSIDERATIONS

** preferred standards shall be the minimum standards on priority pedestrian or priority bicycle streets*

WHY THIS DESIGN?

Maple Place is a critical connector and has 24 feet of underutilized roadway width. It is the only street in Keyport where there is sufficient space to add bicycle facilities and stormwater management. On-street parking is infrequently used which will reduce the impacts of any changes.

The road is on the NJDOT Truck access network route and neighborhood residents complain the impact of tractor trailers. The Borough should work with County and State to determine whether there is continuing need for Maple Place to be on the **New Jersey Access Network** travel route for double-trailer trucks (also known as the Large Truck Map). The area currently does not have any land uses that need such access and viable alternative options exist.

Residents note that drivers do not yield at intersections leading to crashes and near misses. Data shows that the intersections at **Main Street and Broad Street** are hotspots for crashes involving pedestrians and bicyclists. Stop and go traffic and failing to yield to crossing pedestrians could be factors in this.

Over **Luppatatong Creek**, the street is a barrier to walking and biking networks. The non-grade separated asphalt sidewalk on one side of the bridge feels unsafe in the walking school district.

The proposed narrower lanes will slow traffic. The bicycle facilities and median will calm traffic and help all users anticipate conflicts. This will also mitigate intersection and driveway conflict points between bicyclists and large vehicular traffic, a significant driver of crashes involving cyclists. At intersections, cyclists should be fully protected to prevent conflicts with left-turning vehicles.

The green stormwater median can help address flooding Borough-wide. The street is upland from where most flooding occurs. Thus, it has the potential to serve as a "green wall" and capture stormwater before it reaches more flood prone areas. This will reduce the strain on the system, creating capacity in areas where it is needed most. The most stormwater benefit will come from continuous systems along the street which may result in some cross-streets not having through traffic.

ADDITIONAL CONSIDERATIONS

Roundabouts should be considered at gateways such as the five-way intersection at 4th Street/ Luppatatong, and also at Broadway/ May St/ Nappi Place. A shared use path should be considered at the **Broadway** Overpass connecting north and south Maple Place.

IMPLEMENTATION

The recommendations are scalable. Early efforts should focus on paint-only options. Improvements should be packaged into fundable projects based on early needs. For example, paring the a raised bridge over Luppatatong Creek with striping of the cycle track along the entire length of the street, while only raising the grade of the cycle track near Broad Street (based on crash history) and installing swales near Beers Street (based on history of flooding).

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
●	Active Ground Floor Uses
○	Auto-Oriented Commercial
●	Civic Uses
●	Display Windows
○	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
●	Enhanced Sidewalks
●	Merchandise Display
●	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
○	Bicycle Parking
–	Bus Shelters
✪	Lighting (Pedestrian)
○	Lighting (Vehicular)
●	Planters
●	Recycling & Trash Receptacles
●	Seating & Benches
✪	Sidewalk Buffer (Basic Landscaping)
✪	Sidewalk Buffer (Enhanced Landscaping)
✪	Street Trees
●	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
○	Bike Corrals
○	Loading (Carshare / Taxi)
○	Loading (Commercial)
–	NJ TRANSIT Bus Stops
○	Parking (On-Street)
○	Parklet / Dining Deck
○	Parking (Electric Vehicle)
○	Planters
✕	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
✕	Chicanes
–	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
●	Bioswale
●	Rain Garden
○	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
○	Mid-Block Crossing
●	Pavement Markings
✕	Speed Humps
○	Speed Tables
○	Textured / Specialty Paving
MEDIAN	
●	Bioswale
○	Enhanced Landscaping
●	Rain Garden
OTHER	
✕	Pervious Pavement

The following tools are regulated depending on the applicable intersection typology.

- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

RESIDENTIAL YIELD STREET

DESIGN VISION

Overarching Vision

Residential yield streets are narrow neighborhood roads with minimal through traffic. There is less demand for on-street parking and these streets have substantial amounts of green space in the curbside zone. This serves two important purposes. First, it beautifies the neighborhood and reinforces the green neighborhood character of the Borough. Second, it contributes to improved environmental quality, including less flooding, better water quality, and more comfortable micro-climates.

The design is flexible and supports slow traffic speeds. Two cars passing in opposite directions must slow down and one must let the other pass. Parking areas are marked and protected so drivers do not feel the need to park on sidewalks.

Pedestrian

These streets, close to Keyport's parks, commercial district, and essential services are designed as attractive and comfortable facilities for walkers. Where possible, **enhanced sidewalks** allow for two wheelchairs or strollers to pass one another and a landscaped buffer protects pedestrians. At dead end streets, neighbors can decide to formalize **community gathering and play space** for pick-up sports games, birthday parties, or barbecues, or they can do so on a whim. Enhanced and **raised crossings** encourage crossing priority at intersections.

Bicycle

Small neighborhood streets should have low travel speeds and alert drivers to the presence of cyclists. Where part of the Borough-wide bicycle network, **shared lane markings** and accompanying signage designate priority for this mode, and slow vehicle speeds make cyclists feel safe when riding.

Vehicular

These streets are not suitable for cut-through traffic and heavy vehicles use is discouraged. Design tools, including **pinch points**, can help to slow speeds and discourage this activity. Vehicles moving slowly can see traffic ahead and can pull towards the curb to allow traffic to pass. **Curb extensions** and **reduced curb radii** ensure slow speeds at intersections, improving sight distance and ensuring visibility of pedestrians in the crosswalk.

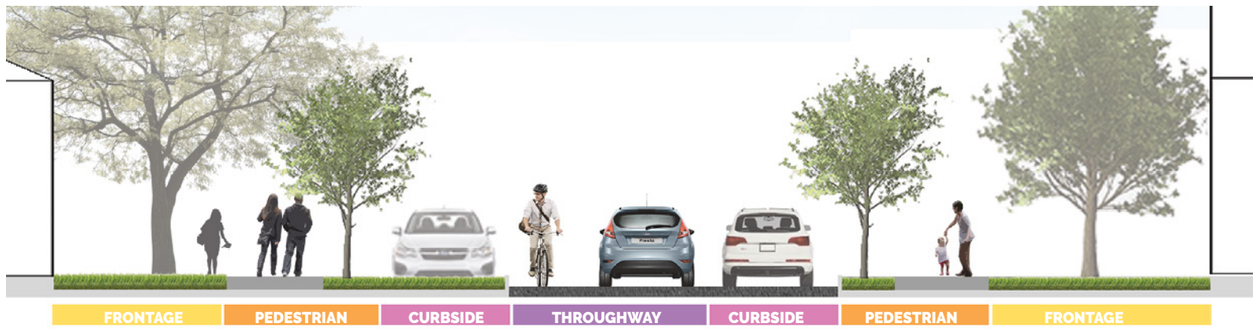
Greening / Sustainability

Streets in Keyport's historic district and other older neighborhoods are closer to the bayfront and near creeks, where flooding during storm surge can cause challenges for homeowners. Installing **bioretention planters** helps collect water and prevent ponding. At dead end streets with further reduced traffic, **pervious pavement** installations outside of travel lanes effectively treat, detain, and infiltrate stormwater runoff.

Non-Mobility Street Uses

Residential street design accommodates high levels of non-mobility uses. These streets are locations for exercise and play, they are where people socialize with their neighbors, and may even accommodate a birthday party or anniversary. Curb extensions, pinch points, and similar tools used to slow traffic have the added benefit of creating additional space for these uses. Residents should be actively engaged to identify how this space should be used.

ROADWAY DIMENSIONS



ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**24'**	**30'**
Pedestrian Realm (total)*	**8'**	**6'**	**-**
Sidewalk	6'	5'	-
Amenity Zone	3'	1	-
Driveway Width	10'	10'	12'
Curbside (total)	**-**	**8'**	**16'**
Flex Area	8'	7' / 0'	8'
Bike Facilities	-	-	-
Throughway (total)	16'	14'	19'
Target Speed	20 mph	-	25 mph
Lanes	-	-	2
Lane Width	9'	-	-
Median	n/a	-	-
Sharrow		encouraged	

SPACING	PREFERRED
Trees	25 - 50 feet on center
Benches	n/a
Bicycle Racks	1 per 3 blocks
Waste Receptacles	n/a
New Driveways	1 per 150 feet

NOTES AND CONSIDERATIONS

** preferred standards shall be the minimum standards on priority pedestrian or priority bicycle streets*

WHY THIS DESIGN?

These streets are residential with a curb to curb width ranging from 24 to 30 feet. Many of these are in the older sections of the Borough between Maple Place and First Street. Streets like **Church Street** and **Second Street** were identified as less desirable for walking due to safety concerns at intersections and narrow sidewalks.

Stakeholder interviews highlighted that in narrow residential environments, streets do not feel wide enough for two travel lanes and two parking lanes, so some drivers park vehicles on the sidewalk. Converting these roads to yield streets allows motorists to use the street intuitively without risk of a head on collision because traffic moves very slowly. Signage, paint, and striping reinforce zones on narrow streets.

Workshop participants and stakeholders also noted that neighborhoods close to waterways are more prone to flooding. Where curb to curb width is narrower, ponding may restrict travel. Protecting crosswalks and parking areas with curb extensions should be considered to make space for bioretention systems and rain gardens that can assist with filtration of the water during rainstorms.

ADDITIONAL CONSIDERATIONS

Depending on the street width and parking capacity, the degree of yielding required for two-way traffic may vary. Around turns and near intersections, curb extensions or striping for two-way traffic should be provided. While most yield streets should have a minimum of signage and striping, signage should be used to indicate bidirectional traffic at transition points. With narrow curb to curb width, it is important that sidewalks are wide enough for walkers, and are maintained to avoid cracks or other obstructions that prevent strollers and wheelchair users from using them.

Parking should be eliminated on one side of the street where roads are especially narrow and where there is a prevalence of parking on sidewalks. In areas with lower parking demand, the cartway width can be narrowed so that bidirectional traffic flows without lane markings, yielding to oncoming traffic by pulling toward the curb as needed. Near commercial zones, curb extensions can help to reduce cut-through traffic on streets.

Shared lane markings, where provided, should be in the center of the travel lane, to discourage riding in the door zone. The effective width (between parked cars) should be at least 12 feet wide, enough to accommodate a (slow moving) vehicle and bicyclist. 'Bicyclist may use full lane' signage should be installed to supplement the sharrows.

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
○	Active Ground Floor Uses
✕	Auto-Oriented Commercial
○	Civic Uses
●	Display Windows
○	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
○	Enhanced Sidewalks
○	Merchandise Display
○	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
○	Bicycle Parking
–	Bus Shelters
●	Lighting (Pedestrian)
○	Lighting (Vehicular)
●	Planters
✕	Recycling & Trash Receptacles
○	Seating & Benches
✪	Sidewalk Buffer (Basic Landscaping)
●	Sidewalk Buffer (Enhanced Landscaping)
✪	Street Trees
●	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
●	Bike Corrals
✕	Loading (Carshare / Taxi)
✕	Loading (Commercial)
–	NJ TRANSIT Bus Stops
✪	Parking (On-Street)
✕	Parklet / Dining Deck
○	Parking (Electric Vehicle)
●	Planters
●	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
●	Chicanes
○	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
●	Bioswale
●	Rain Garden
●	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
✕	Mid-Block Crossing
○	Pavement Markings
○	Speed Humps
○	Speed Tables
○	Textured / Specialty Paving
MEDIAN	
✕	Bioswale
✕	Enhanced Landscaping
✕	Rain Garden
OTHER	
●	Pervious Pavement

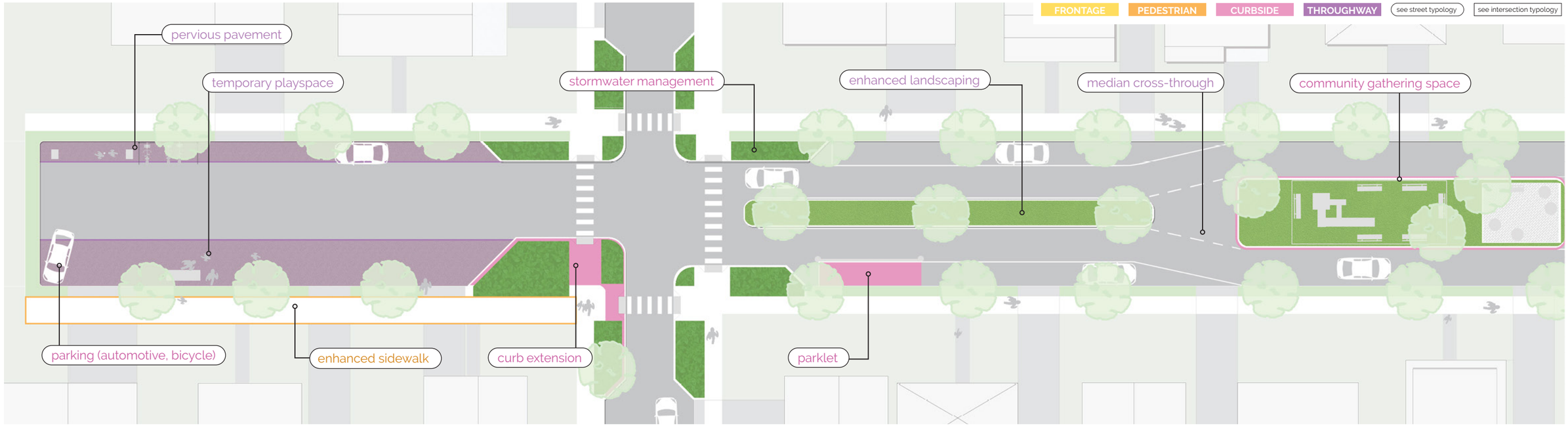
The following tools are regulated depending on the applicable intersection typology.

- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† *These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm*

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

WIDE RESIDENTIAL STREET



DESIGN VISION

Overarching Vision

Many Borough streets are wider than they need to be to safely accommodate vehicles and cyclists. The extra width thus afford the possibility to be creative with the use of the right of way accommodate resident's needs.

In these hyper-localized environments, neighbors determine what makes the most sense on their block, based on-street parking demand, proximity to playgrounds and recreational facilities, and desire to contribute to greening efforts such as gardens and stormwater management. Residents and the Borough work collaboratively to come up with creative uses of extra roadway.

Resident-driven efforts to re-purpose the street also help to divide up the expansive roadway, which reinforces a culture of slow driving in areas where children frequently play.

Dead-end streets offer cul-de-sac style gathering spaces ripe for temporary activation for neighbor barbecues, birthday parties, or a pickup game of street hockey, to name a few.

Pedestrian

These streets prioritize pedestrians. **Enhanced sidewalks** provide enough for two passing strollers or wheelchairs or for parents to walk side-by-side with their children. Adequate width exists to provide sidewalks on both sides of the street and curb ramps at each intersection.

A significant **landscaped buffer** enhances neighborhood character, providing a more pleasant environment for recreational, or purpose-driven trips on foot.

Bicycle

Wide residential streets have low speed limits, low traffic volumes, and frequent stop control. With the addition of traffic calming measures like **curb extensions**, these streets are safe for bicyclists to travel from home to the Borough and regional bicycle network, including the Henry Hudson Trail, with or without the presence of painted shared lane markings (sharrows).

Vehicular

With an expansive street width, options for parking can vary by local priorities. Travel and parking lanes are formalized using temporary or permanent materials in the form of striping, **medians**, or **curb extensions.**

Greening / Sustainability

Oversized residential streets provide options to add green stormwater management like **vegetative swales** that make substantial contributions to local beautification efforts as well as improve water quality and storage.

At dead end streets, more significant improvements can be made using **pervious pavement**, since these areas will not see the same volume of vehicular traffic as through streets.

Non-Mobility Street Uses

Residential street design should consider more than mobility. These streets are also locations for exercise, children's play, and even on occasion block parties, as the COVID-19 pandemic experience demonstrated in many communities. Center **medians** and **parklets** provide excellent opportunities to repurpose roadway to better serve adjacent residents. Other design tools which slow traffic and create space for informal gathering and community have the added benefit of creating additional space for these uses within a neighborhood context.

ROADWAY DIMENSIONS

ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**24'**	**-**
Pedestrian Realm (total)*	**8'**	**6'**	**-**
Sidewalk	5'	5'	-
Amenity Zone	3'	1'	-
Driveway Width	12'	10'	-
Curbside (total)	**-**	**16'**	**-**
Flex Area	-	8' / 2'	-
Bike Facilities	5'	0'	8'
Throughway (total)	**22'**	**20'**	**24'**
Target Speed	20 mph	-	25 mph
Lanes	2	1	2
Lane Width	-	10'	11'
Median	-	4'	-
Sharrow		encouraged	

SPACING	PREFERRED*
Trees	25 - 50 feet on center
Benches	at least 1 per 2 blocks
Bicycle Racks	1 per 2 blocks
Waste Receptacles	n/a
New Driveways	1 per 150 feet

NOTES AND CONSIDERATIONS

** preferred standards shall be the minimum standards on priority pedestrian or priority bicycle streets*

WHY THIS DESIGN?

These residential streets are at least 30 feet wide. Many of these streets – **St. Peters** and **St. George's Place,** and **West Third Street** for example – have wider pavement than is needed to accommodate two way traffic and parking. These streets have room for significant greening and neighborhood space. Where streets are more standard width, landscaped medians or curb extensions can add greening that will deter cut-through traffic and enhance neighborhood character, especially where sufficient off-street parking exists to reduce the need for on-street spaces.

Sidewalks are frequently lacking on both sides of the road along wider streets, so people often walk in the road. Adding sidewalks by widening the curb, while costly, can provide significant accessibility benefits for families, including parents walking with strollers or children, wheelchairs, and others.

Workshop participants said greening should be prioritized over play. Among interventions for in-street play, privately-owned, temporary play structures, such as basketball hoops or soccer nets, bicycle parking, and folding tables. Neighborhood residents can coordinate around these options without Borough maintenance.

ADDITIONAL CONSIDERATIONS

The Borough should develop a process where residents can petition and quickly receive approval for non-mobility uses in curbside zone as well as permits to close down streets for a day. The Borough may encourage this activity through community PARK(ing) days and/or small community grants to pay for materials.

Maintenance agreements for a variety of stormwater techniques, landscaping, and flexible curbside uses should be developed with input from neighbors, community organizations, and the Borough.

Medians can be an effective way to transform the environment. Median cut-throughs to preserve two-way access for residents should be considered. Neighborhoods farther from area parks might consider installing wider medians that include playgrounds or community gardens.

On-street parking occupancy and turnover on these streets is relatively low. Parking levels should be monitored to ensure spaces are available that don't encroach upon flexible use space which is used for play areas.

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
○	Active Ground Floor Uses
✕	Auto-Oriented Commercial
●	Civic Uses
●	Display Windows
○	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
○	Enhanced Sidewalks
✕	Merchandise Display
○	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
○	Bicycle Parking
–	Bus Shelters
●	Lighting (Pedestrian)
✕	Lighting (Vehicular)
●	Planters
○	Recycling & Trash Receptacles
●	Seating & Benches
✪	Sidewalk Buffer (Basic Landscaping)
●	Sidewalk Buffer (Enhanced Landscaping)
✪	Street Trees
○	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
●	Bike Corrals
✕	Loading (Carshare / Taxi)
✕	Loading (Commercial)
–	NJ TRANSIT Bus Stops
✪	Parking (On-Street)
○	Parklet / Dining Deck
○	Parking (Electric Vehicle)
●	Planters
○	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
○	Chicanes
●	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
●	Bioswale
●	Rain Garden
●	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
●	Mid-Block Crossing
○	Pavement Markings
●	Speed Humps
●	Speed Tables
●	Textured / Specialty Paving
MEDIAN	
●	Bioswale
●	Enhanced Landscaping
●	Rain Garden
OTHER	
●	Pervious Pavement

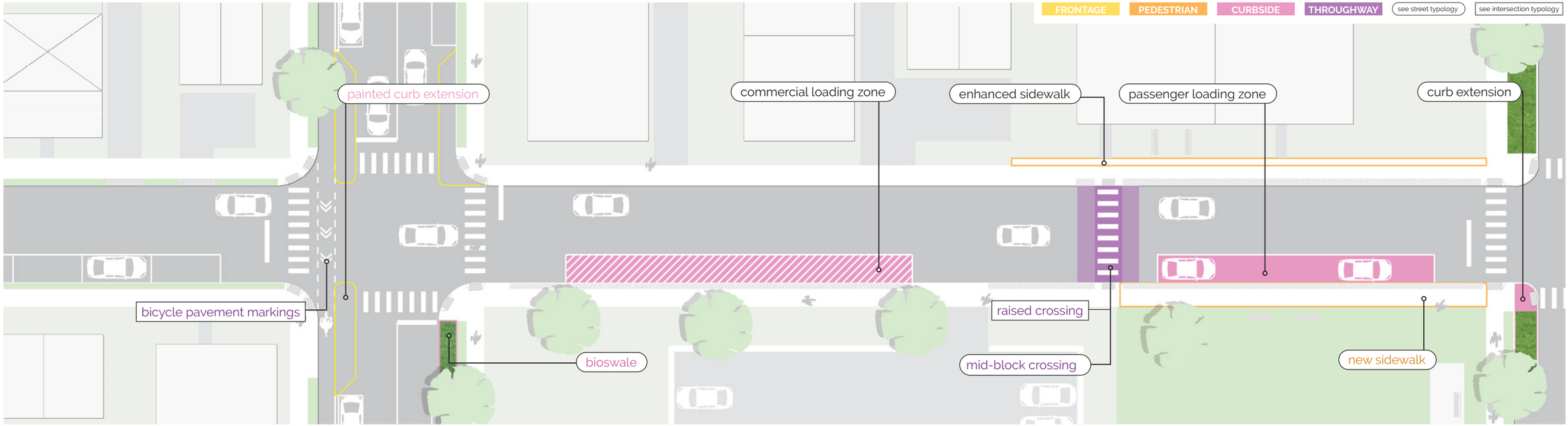
The following tools are regulated depending on the applicable intersection typology.

- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† *These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm*

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

ACCESS ROAD



DESIGN VISION

Overarching Vision

Access roads are smaller streets, often one block in length, that provide support to a variety of land uses and/or provide short connections between two roadways. In the case of American Legion Drive, the street provides access to a critical regional amenity. These streets are designed based on the needs of the adjacent land uses.

Vehicular

Many of these streets carry higher volumes of heavy vehicles. Painted **curb extensions** encourage slower driving at intersections, and prevent loading close to the intersection. The **commercial and passenger loading zones** are distinguished through striping as well.

Where appropriate, **mountable curbs** allow for concrete curb extensions in notable areas where sight lines are obstructed and parking restrictions suggest a desire for a more permanent solution. Where necessary, traffic calming interventions such as speed humps or tables are employed to prevent high speeds, particularly near high pedestrian activity destinations.

Pedestrian

Near areas with commercial loading needs, pavement or stones are used instead of greenery along the curb. This allows for better loading space for commercial uses while creating flexible pedestrian space during non-loading periods. Pedestrian scale lighting, seating, and other amenities in high pedestrian activity zones allow businesses to use the area in ways that best meet their needs.

At recreational facilities and where properties are redeveloped, **enhanced sidewalks** are installed which provide adequate space for unobstructed travel using a wheelchair or stroller. Installation of **curb ramps** also make the street easier and safer for those in wheelchairs, with stroller, and those with disabilities.

Raised crosswalks serve as important traffic calming interventions, especially at mid-block crossings along streets that continue for long distances without an intersection.

Bicycle

Bicycle facilities are generally not provided on these streets because of commercial vehicles and alternative routes to common destinations. High visibility **shared lane markings** should only be provided on streets outside the truck network, to connect to recreational facilities. These markings should be placed in the center of travel lanes.

Greening / Sustainability

Bioswales are leveraged to capture and treat stormwater runoff in areas where curbside space is underutilized.

Economic Activity

Access routes for businesses, including parking access or loading areas, are critical to the success of the road network. These streets should support the movement of freight and passenger vehicles. Designated zones on these streets prevent double parking on main roads, and prioritize customer parking in front of businesses.

Non-Mobility Street Uses

Access streets are lower volume streets that nonetheless front commercial and civic areas and should be designed to accommodate non-mobility street uses such as festivals, food vending, block parties, and socializing. Street closures to accommodate these temporary uses should be considered on a case by case basis, and plans should ensure loading for nearby establishments can be accommodated.

ROADWAY DIMENSIONS

ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**20'**	**34'**
Pedestrian Realm (total)	**7'**	**5'**	**-**
Sidewalk	5'	5'	-
Amenity Zone	2'	0'	-
Driveway Width	20-24' (commercial); 10-12' (residential)		
Curbside (total)	**16'**	**8'/0'**	**22'**
Flex Area	8'	8'/0'	11'
Bike Facilities	-	-	-
Throughway (total)	**22'**	**20'**	**22'**
Target Speed	-	-	25 mph
Lanes	-	-	2
Lane Width	11'	10'	11'
Median	n/a	-	-
Sharrow		permitted	

SPACING	PREFERRED
Trees	25 - 50 feet on center
Benches	1 per block
Bicycle Racks	n/a
Waste Receptacles	1 per 200 feet
New Driveways	1 per 200 feet

WHY THIS DESIGN?

American Legion Drive provides important access to the Keyport Waterfront Park as well as parking for downtown businesses. However, the street is commonly used as an alternative to Front Street for those trying to avoid traffic in the commercial core. American Legion Drive continues for more than a third of a mile without a significant intersection, which allows drivers to build up speed in an area that has high pedestrian activity. The conversion of existing crosswalks to raised crosswalks would force traffic to slow down. Sidewalk improvements, such as adding a basic buffer and more street furniture, would reinforce comfort and address needs for all users.

Monroe and Butler Streets have incomplete sidewalks which reduce non-vehicular access to businesses, parks, and civic spaces. Where properties front on an access street, enhanced sidewalks should be installed as properties redevelop or as part of a targeted improvement plan.

Access roads like **North Division Street** often have frequent curb cuts for commercial and residential driveways and municipal parking areas. Driveway spacing requirements aim to maintain a safe, comfortable, and attractive sidewalk in these areas.

ADDITIONAL CONSIDERATIONS

On **American Legion Drive,** the Borough should consider constructing a wide raised crosswalk with stop signs at the location identified as a priority intersection. This would emphasize the link between Keyport Waterfront Park and the downtown while also slowing traffic.

Pick-up and drop-off for Keyport Central School occurs along **Union Avenue**. The Borough and School District should coordinate to accommodate the increase in pick-up and drop-off activity that will occur when Broad Street is converted into a one-way street.

Many access roads such as **Monroe Street and Northern Division Street** are on the edges of the downtown and Route 35/36 commercial district, which are in high impervious surface areas, where storm surges and storm events may cause significant ponding and pavement deterioration. Consideration should be given to curb extensions at mid-block locations, especially where transitions from primarily commercial to residential land use occur.

There are several underdeveloped parcels along access roads especially near the Henry Hudson Trail. Increased walking as well as use of bikes, skateboards, and scooters should be anticipated near these facilities. As redevelopment occurs, creative design of these streets may provide opportunities for amenities for non-mobility users.

DESIGN TOOLS

FRONTAGE ZONE
USES (WHERE PERMITTED)
● Active Ground Floor Uses
● Auto-Oriented Commercial
● Civic Uses
✪ Display Windows
● Moderate & High Intensity Residential

PEDESTRIAN REALM
SIDEWALK & FRONTAGE
● Enhanced Sidewalks
● Merchandise Display
● Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM
AMENITIES
● Bicycle Parking
– Bus Shelters
● Lighting (Pedestrian)
● Lighting (Vehicular)
● Planters
● Recycling & Trash Receptacles
● Seating & Benches
● Sidewalk Buffer (Basic Landscaping)
○ Sidewalk Buffer (Enhanced Landscaping)
● Street Trees
● Wayfinding Signage

CURBSIDE ZONE
FLEX USES
● Bike Corrals
● Loading (Carshare / Taxi)
● Loading (Commercial)
– NJ TRANSIT Bus Stops
● Parking (On-Street)
● Parklet / Dining Deck
● Parking (Electric Vehicle)
● Planters
✕ Playspace

CURBSIDE ZONE
TRAFFIC CALMING
● Chicanes
● Mid-Block Neckdowns
STORMWATER MANAGEMENT †
○ Bioswale
✕ Rain Garden
✕ Pervious Pavement

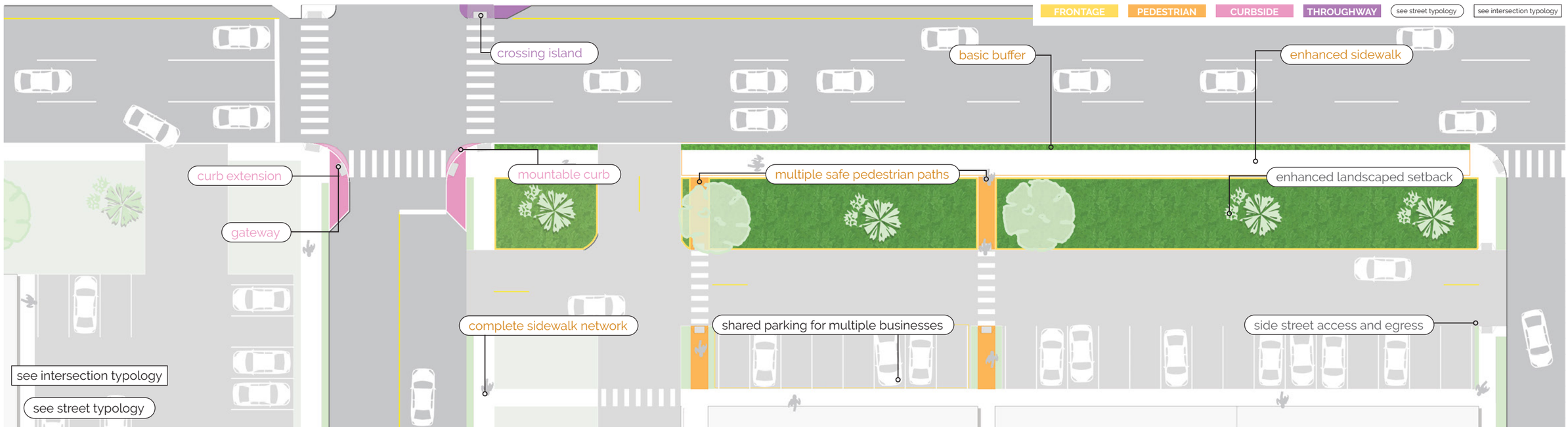
THROUGHWAY
TRAFFIC & PEDESTRIANS
● Mid-Block Crossing
● Pavement Markings
● Speed Humps
● Speed Tables
✕ Textured / Specialty Paving
MEDIAN
– Bioswale
– Enhanced Landscaping
– Rain Garden
OTHER
✕ Pervious Pavement

The following tools are regulated depending on the applicable intersection typology.
Curb Ramps
Bulbouts / Curb Extensions
Two Stage Turn Queue Box
Bike Boxes
Mountable Curb
Crosswalk Types

† *These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm*

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

STATE THOROUGHFARE



DESIGN VISION

Overarching Vision

High-volume, state highways that generate regional access can pose a safety risk to people traveling outside of a vehicle. Pedestrian enhancements at intersections bridge barriers caused by the multi-lane roadways, and help Keyport residents more safely and comfortably access essential services such as grocery stores and medical services.

Along these roadways, landscaping plays an important role in protecting pedestrians and making these corridors more attractive.

Pedestrian

High visibility crosswalk designs enable safe crossings. Signal timing ensures that walkers have adequate time to cross. **Pedestrian refuge islands** provide added comfort for wheelchair or stroller users that may move at a slower pace. These roads are critical regional transit connections with faster moving traffic, so **enhanced sidewalks** and a **basic sidewalk buffer** are provided where possible to buffer pedestrians from motorists.

On streets that intersect with these thoroughfares, **curb extensions** narrow crosswalk distances, slow drivers as they enter the Borough, and serve as gateways.

Where commercial sites are redeveloped, **sidewalks** are required as are **pedestrian paths** that connect business entrances to the sidewalk.

Maintaining safe access to essential destinations for those without access to a vehicle is essential. Sidewalks and crosswalks should be wide enough for two passing wheelchairs.

Bicycle

The most confident New Jersey bicyclists may travel on most state roads, occupying the shoulder or a full travel lane (although this is not reasonable for most cyclists). Due to the need to cross state thoroughfares to access NJ TRANSIT rail, Academy bus routes, and the Henry Hudson Trail from the Borough's bicycle network, intersections are designed for slow turns and to maximize visibility for vulnerable users.

Vehicular

Businesses **share parking** to help reduce the overall space required for parking and to minimize the number of curb cuts along the highway. Where possible, property owners provide parking access from side streets.

Mountable curbs provide flexibility to slow passenger traffic without compromising mobility for truck and bus traffic.

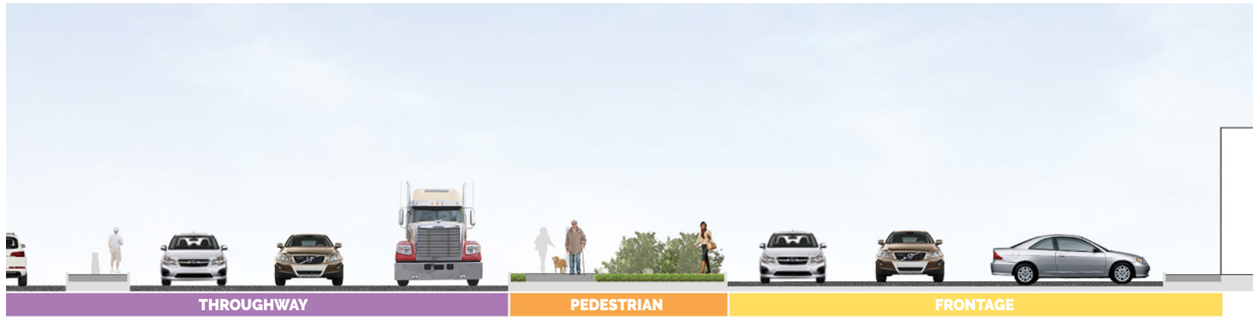
Greening / Sustainability

Beyond the safety benefits of a **basic sidewalk buffer**, a some pervious surface helps drainage and aesthetic improvement for the commercial district. Space between the sidewalk and parking creates opportunity for an **enhanced landscape setback** which may include ornamental plantings and/or stormwater management.

Economic Activity

Attractive, non-motorized access allows business on this corridor to serve customers who do not own or have access to a car. The reduced dependence on motorized access allows property owners to place more of their property into productive use.

ROADWAY DIMENSIONS



ZONE	PREFERRED	MIN	MAX
Curb-to-Curb	**-**	**49'**	**90'**
Pedestrian Realm (total)*	**10'**	**6'**	**-**
Sidewalk	4'	5'	-
Amenity Zone	2'	1'	-
Driveway Width	-	20'	24'
Curbside (total)	**8'**	**1'**	**-**
Flex Area	8'	1'	10'
Bike Facilities	-	-	-
Throughway (total)	**50'**	**-**	**-**
Target Speed	-	-	50 mph
Lanes	-	4	6
Lane Width	11'	11'	12'
Median	yes	2'	4'
Sharrow	-	-	-

SPACING	PREFERRED
Trees	25 - 50 feet on center
Benches	n/a
Bicycle Racks	n/a
Waste Receptacles	1 per 200 feet
New Driveways	1 per 200 feet

NOTES AND CONSIDERATIONS

** preferred standards shall be the minimum standards on the respective priority street*

WHY THIS DESIGN?

Routes 35 and 36 are significant barriers preventing connectivity in the Borough. Access to **Aberdeen-Matawan** and **Hazlet Stations**, and the **Academy bus** terminal all require crossing these state roads. Essential destinations such as the grocery store and pharmacy are otherwise cut off from the Borough. Equally important, most Borough residents need to cross Routes 35 and 36 to access the **Hackensack Meridian Health Bayshore Medical Center**, the closest regional hospital. As such, providing safe and convenient crossings for non-motorized users will help residents access key essential services.

Likewise, areas of Keyport south of these routes are cut off from the rest of the Borough. These areas – especially southern Maple Place and Broadway – include 30 to 45 percent of households without access to a vehicle as well as a large senior resident development.

Walking along the highway feels unsafe today; this means that the sidewalk is only used by people without a vehicular option. Adding a basic buffer and wider sidewalks creates an environment that buffers walkers from the fast moving traffic, making it a more attractive option.

Crash history from 2006 to 2017 shows high rates of minor injury crashes on Route 35 and 36 in the vicinity of Keyport. The close proximity of the Route 35 and **Garden State Parkway** ramps, to the intersections of **Main and Broad Streets** with Route 36 all contribute to the high rates of rear end crashes. The proximity to highway ramps also dictate that pedestrian safety should be paramount at this location.

ADDITIONAL CONSIDERATIONS

Several properties along these roads do not have sidewalks or utilize the sidewalk space for commercial activity. The latter should be strongly discouraged.

The Borough should work the New Jersey Department of Transportation to identify a strategy for completion of the sidewalk network along this corridor. The Route 35 and 36 interchange is particularly problematic because there are no sidewalks and there is no clear alternative route for pedestrians and bicyclist. This may cause non-motorized users to risk walking along the shoulder.

The Borough should also work with the County and State to determine the feasibility of a shared use path on the **Broadway** bridge. This will help establish a link between the proposed network to the north of Route 35, without other options, and the area to the south, which includes the **Aberdeen-Matawan Station**.

DESIGN TOOLS

FRONTAGE ZONE	
USES (WHERE PERMITTED)	
○	Active Ground Floor Uses
●	Auto-Oriented Commercial
○	Civic Uses
●	Display Windows
✕	Moderate & High Intensity Residential

PEDESTRIAN REALM	
SIDEWALK & FRONTAGE	
●	Enhanced Sidewalks
○	Merchandise Display
○	Sidewalk Cafe / Outdoor Dining

PEDESTRIAN REALM	
AMENITIES	
○	Bicycle Parking
●	Bus Shelters
✪	Lighting (Pedestrian)
✪	Lighting (Vehicular)
○	Planters
○	Recycling & Trash Receptacles
●	Seating & Benches
●	Sidewalk Buffer (Basic Landscaping)
○	Sidewalk Buffer (Enhanced Landscaping)
●	Street Trees
●	Wayfinding Signage

CURBSIDE ZONE	
FLEX USES	
✕	Bike Corrals
✕	Loading (Carshare / Taxi)
✕	Loading (Commercial)
●	NJ TRANSIT Bus Stops
✕	Parking (On-Street)
✕	Parklet / Dining Deck
✕	Parking (Electric Vehicle)
✕	Planters
✕	Playspace

CURBSIDE ZONE	
TRAFFIC CALMING	
✕	Chicanes
✕	Mid-Block Neckdowns
STORMWATER MANAGEMENT †	
✕	Bioswale
✕	Rain Garden
✕	Pervious Pavement

THROUGHWAY	
TRAFFIC & PEDESTRIANS	
✕	Mid-Block Crossing
✕	Pavement Markings
✕	Speed Humps
✕	Speed Tables
✕	Textured / Specialty Paving
MEDIAN	
✕	Bioswale
●	Enhanced Landscaping
✕	Rain Garden
OTHER	
✕	Pervious Pavement

The following tools are regulated depending on the applicable intersection typology.

- Curb Ramps
- Bulbouts / Curb Extensions
- Two Stage Turn Queue Box
- Bike Boxes
- Mountable Curb
- Crosswalk Types

† *These stormwater management techniques may also be implemented in the Amenity Zone of the Pedestrian Realm*

PRIORITY: ✪ REQUIRED ● HIGH ● MODERATE ○ LOW – N/A ✕ DISCOURAGED

INTERSECTION TYPOLOGIES

STREET INTERSECTION TYPOLOGIES

DESIGN VISION

There are two types of street intersections: basic and enhanced. All intersections that are not enhanced should be considered basic.

Enhanced Intersections

Enhanced intersections are the Borough's most important and visible intersections. They:

- Support high volumes of pedestrian, bicycle, transit, and automotive activity.
- Are locations where many modes interact.
- Are often located in crucial commercial districts or the intersection of important cross Borough roadways.

They are designed to protect the most vulnerable road users and to help everyone safely and comfortably navigate the area. Placemaking at these locations ensures the intersections support the Borough's economic and community development goals. They are also important locations for wayfinding to help visitors navigate to important destinations in the Borough.

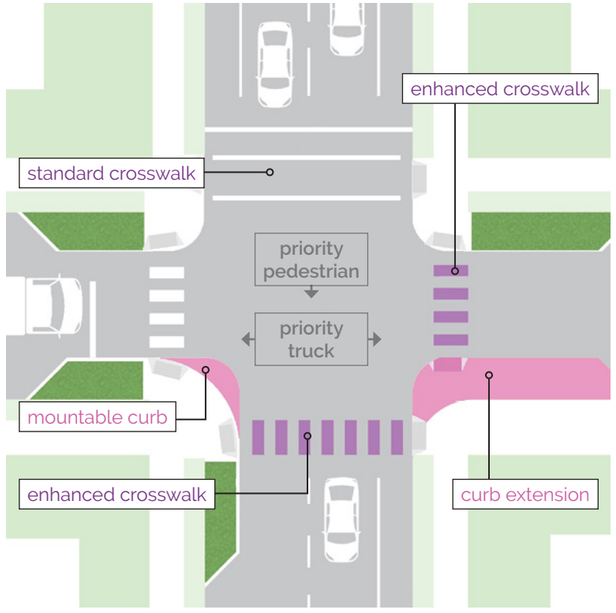
Priority Crossings

Intersections on a priority pedestrian, bike, or truck route have enhanced treatments to ensure safety for those users. The illustrations below demonstrate how both basic and enhanced intersections should be designed based on their context.

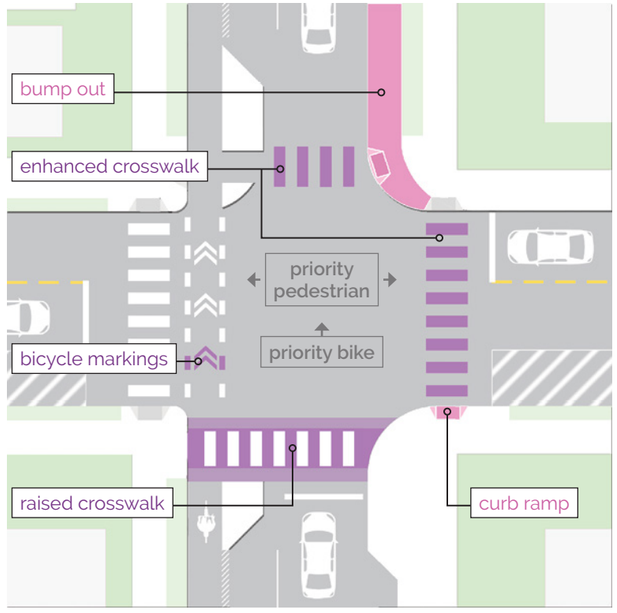
Context Dependent and Encouraged Tools

Some design tools are required on priority network streets, but only in certain locations. These have been designated as "context dependent" and will require a technical determination to identify appropriate locations for their use. Other elements are not required but should be strongly considered and implemented where feasible. These have been identified as "encouraged" tools.

Basic (Priority Truck and Pedestrian Streets)



Enhanced (Priority Pedestrian and Bicycle Streets)



DESIGN TOOLS

	BASIC				ENHANCED			
	TYPICAL	PRIORITY			TYPICAL	PRIORITY		
		WALK	*BIKE*	*TRUCK*		*WALK*	*BIKE*	*TRUCK*
INTERSECTION CONTROL								
Two-Way Stop*	✪	✕	✕	✕	✕	✕	✕	✕
Four-Way Stop*	○	✪	✪	✪	○	●	●	●
Signalized*	○	○	○	○	◉	✪	✪	✪
In-Street Pedestrian Signs	○	◉	○	○	○	◉	○	○
Hybrid Beacons	○	○	○	○	○	○	◉	○
Bike Signalization	○	○	○	○	○	○	◉	○
Traffic Circle/ Roundabout	○	○	○	○	○	○	○	○
Signal Timing								
Countdown	○	✪	○	○	◉	✪	◉	◉
Leading Pedestrian Intervals	○	✪	◉	◉	◉	✪	◉	◉
Scramble	○	◉	○	○	◉	◉	○	◉
Exclusive Signal Phasing	○	○	○	○	○	○	○	○
Pedestrian Actuation	○	○	○	○	○	○	○	○
CURBSIDE ZONE								
Curb Ramps	✪	✪	✪	✪	✪	✪	✪	✪
Bulbouts / Curb Extensions	◉	◉	◉	◉	✪	✪	✪	✪
Two Stage Turn Queue Box	○	○	◉	○	○	○	●	○
Bike Boxes	○	○	◉	○	○	○	●	○
Mountable Curb	○	○	○	◉	○	○	○	◉
THROUGHWAY								
Crosswalks								
Standard	✪	✕	✪	✕	✕	✕	✕	✕
Enhanced	◉	✪	✪	✪	✪	✪	✪	✪
Textured / Specialty Paving	○	◉	○	○	◉	◉	◉	◉
Intersection / Crosswalk Art	○	◉	○	○	◉	◉	◉	◉
Raised Crosswalks	○	◉	○	○	◉	◉	◉	◉
Raised Intersection	○	○	○	○	○	◉	○	◉
Crossing Island	○	●	●	○	●	●	●	●

✪ REQUIRED (ALWAYS)*** ◉ ENCOURAGED ✕ PROHIBITED

● REQUIRED (CONTEXT DEPENDENT)*** ○ PERMITTED

* Intersections that are more highly controlled (e.g., signalized and four-way) shall satisfy the requirement for lower controlled ones (e.g., four-way and two-way).

** More intensive crosswalk treatments satisfy the requirements for lower treatments.

***Required treatments should be considered recommended on County-owned facilities.

TRAIL: MID-BLOCK CROSSING

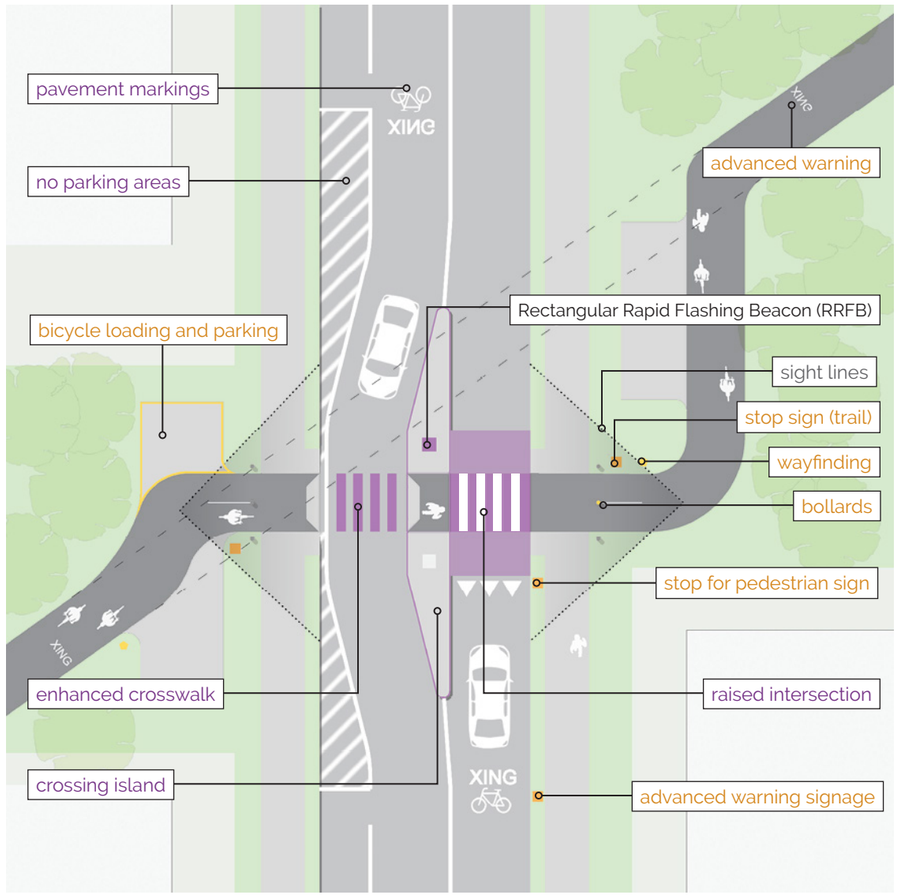
DESIGN VISION

High-quality trail crossings maximize the benefit of the Henry Hudson Trail. The Trail intersects the road at between 60 and 90 degrees. **Chicanes** with a **crossing island** or a **raised intersection** slows traffic coming into the intersection, ensuring safe crossing for vulnerable users.

Motorists are required to stop for pedestrians in the crosswalk and signage indicates this. Signage indicates that they should also yield to bicyclists. **In-Street Pedestrian Signs** and pavement markings are important reminders to all users that they are entering an intersection.

The inclusion of **wayfinding signage** reduces confusion and helps direct visitors to key destinations in the Borough, like downtown and the bayfront. **Loading and parking areas** reduce the occurrence of these activities at the trailhead, making for a safer crossing.

Design Tools



The above drawing show two different crosswalk treatments in the throughway for illustrative purposes only. Only one crosswalk treatment should be used at each crossing.

	MID-BLOCK	MID-TRAIL
INTERSECTION CONTROL		
Stop for Pedestrians	✪	–
Stop controlled	●	–
Hybrid Beacons	●	–
In-Street Pedestrian Signs	●	–
Stop Sign on Trail	●	–
CURBSIDE ZONE		
Curb Ramps	✪	✪
THROUGHWAY		
Crosswalks	✕	–
Standard	✪	–
Enhanced	○	–
Textured / Painted	●	–
Raised Crosswalks	●	–
Raised Intersection	●	–
Crossing Island		

✪ REQUIRED ✕ PROHIBITED

● ENCOURAGED – N/A

○ PERMITTED

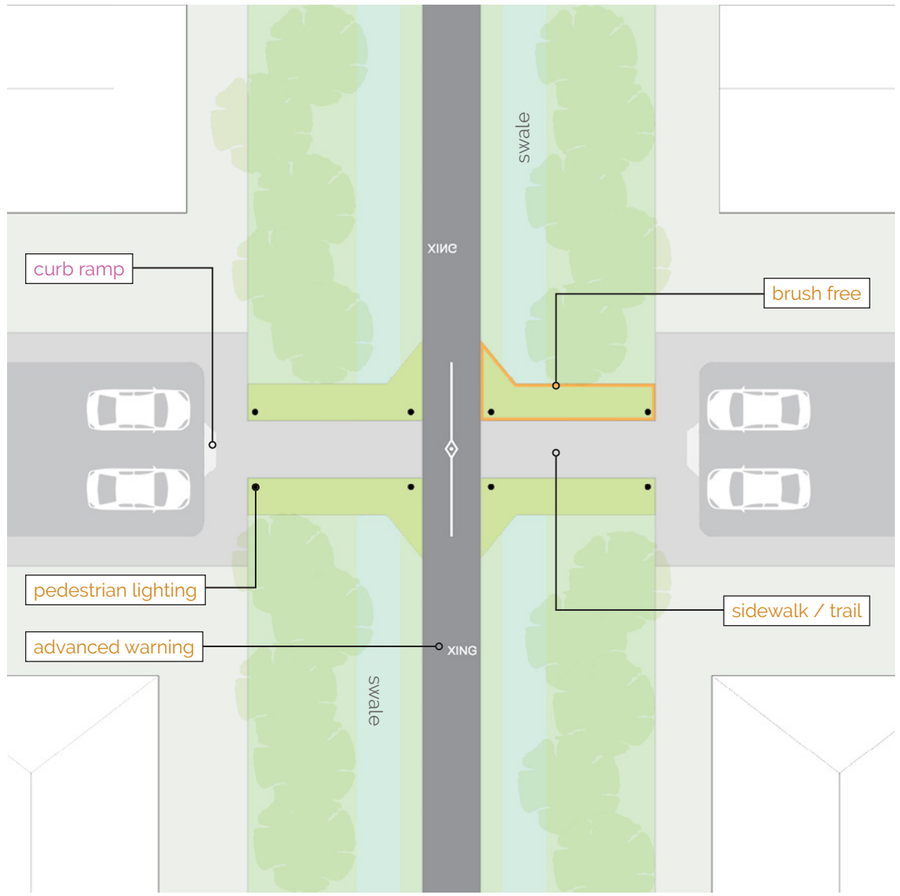
TRAIL: MID-TRAIL CROSSING

DESIGN VISION

There are opportunities to create pedestrian and bicycle access points where streets dead-end into the trail. These access points double as cut-throughs, allowing people to use streets with less automotive traffic to move across the Borough.

Hardscape materials, matching either the **sidewalk or trail**, permit users to cross the swale and access the trail without issue, even when raining. **Curb ramps** allow bicyclists who are riding on residential streets to access the trail from the street.

An area adjacent to the access point is maintained **free of brush** to ensure there are adequate views into the areas. This, along with **pedestrian lighting**, helps ensure that everyone feels safe using these entrances.



DESIGN TOOLS

INTRODUCTION

CHAPTER ORGANIZATION

This chapter presents a total of 54 Design Tools, organized by the five primary zones (General Standards, Frontage Zone, Pedestrian Realm, Curbside Zone, and Throughway) that can be used to create more Complete Streets and Intersections. Within each zone, the tools are organized alphabetically (for a refresher on each zone, turn to page 6.)

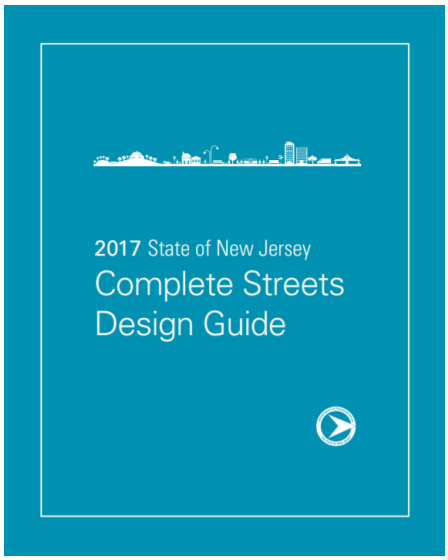
Each Design Tool includes the following information:

- Implementation considerations
- Context-based application guidance
- Design guidance
- Maintenance tips

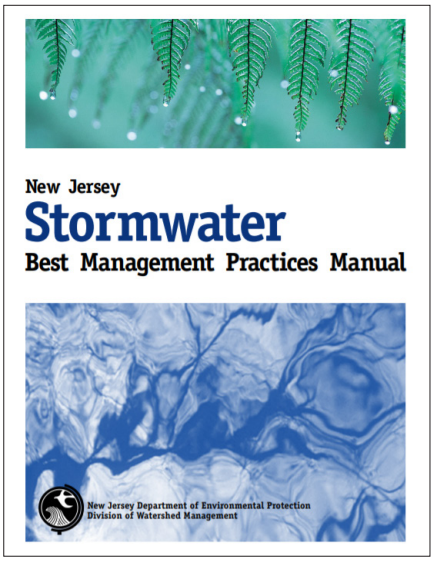
REFERENCE STANDARDS

The design standards put forth in this chapter have been adapted from regional and national resources on Complete Streets, including standards for stormwater management and the retail and commercial ground floor. While specific guidance is cited for each tool, the primary resources from which standards were derived for this guide are presented at right.

Urban Street Design Guide | NACTO



2017 State of New Jersey Complete Streets Design Guide



New Jersey Stormwater Best Management Practices Manual | New Jersey State Dept. of Environmental Protection

GUIDANCE CONFLICTS & UPDATES

Where there are local standards, codes, and/or ordinances that dictate the design and implementation of the tools in this chapter, any additional national best practice standards shall be applied within those guidelines. This chapter is meant to provide the most current, forward-thinking guidance for Complete Streets, while acknowledging that there may be local limitations.

As Complete Streets guidance continues to evolve, and municipalities push the boundaries of providing safe streets for all users, it should be understood that this guide is not a static document, but rather provides a springboard for Keyport, NJ to start upgrading its street network to be low-stress for all ages and abilities.

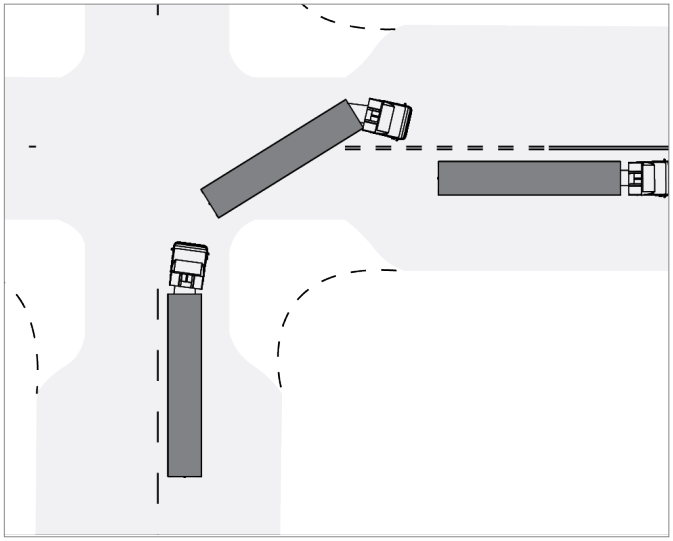
Where any standards in this guide conflict with newer versions of the guides identified, the newer standards should be used.

CONTROL VEHICLE VS. DESIGN VEHICLE

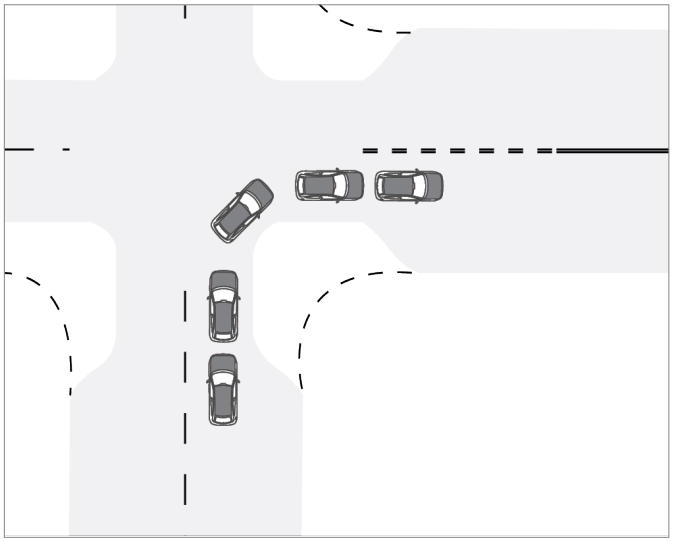
The goal of this document is create safer streets for Keyport. Current and future street designers should analyze impacts and select the smallest appropriate design vehicle to support safer pedestrian crossings, while still accommodating motor vehicle turns. When designing city streets, it is crucial to design for the accommodation of emergency vehicles. However, certain challenges that these and larger vehicles face should not be prioritized over designing safe streets overall, especially for the most vulnerable and frequent users.

A design vehicle is a frequent user of a given street that dictates the street's physical design characteristics— like minimum required turning radius and curb width— safety, and operations. On the other hand, a control vehicle is an infrequent, large user of a street that primarily dictates the design of intersections that could be fully used by them when making turns.

Before choosing a design vehicle, it is important to consider the full context of an individual street's design and its role in the Borough and region so as to not inhibit the overall connectivity of the network. As shown at right, large, infrequent vehicles (control vehicles) can be permitted to use the entire intersection when making a turn. In these cases, regular vehicles still have to make tighter turns, and slow to desired turning speeds of 10-15 mph.



Control vehicle.



Design vehicle.

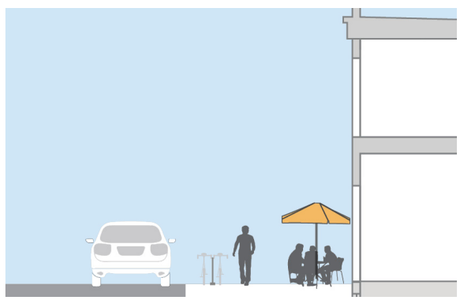
REVIEW: ROADWAY ZONES

The Design Tools presented in this chapter are organized according to the right-of-way zone within which they apply. Note, some tools may be implemented across multiple zones (like Bike Parking).

FRONTAGE

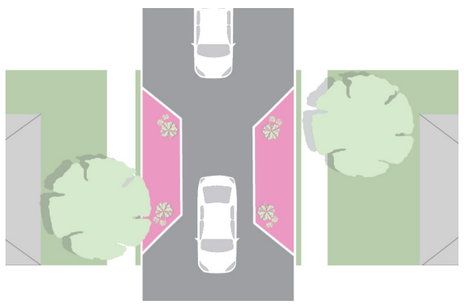
Design Tools that are a part of ground-floor building frontage, that impact passersby relationship with the street, without occupying space within the right-of-way.

PEDESTRIAN



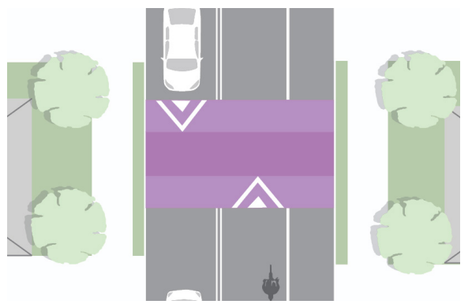
Design Tools that are within, or constitute, sidewalks, or primarily impact primary pedestrian space.

CURBSIDE



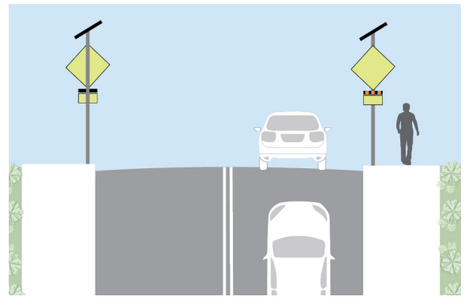
Design Tools that are flush with the street curb. These Design Tools are either within (or constitute) an on-street parking lane, and are as close to the curb as possible while still being within the roadway. These tools are not within active vehicular travel space, and represent idle vehicle space or placemaking interventions.

THROUGHWAY



Design Tools within the roadway, that occupy (or constitute) vehicular, transit, and/or bicycle throughput space.

INTERSECTION MANAGEMENT



Design Tools that enhance, make safer, or better accommodate all roadway users at intersections. These tools include both operational and infrastructural interventions.

FRONTAGE ZONE	
Active Ground Floor Uses	49
Auto-Oriented Commercial Uses	51
Civic Uses	53
Display Windows	55
Moderate & High Intensity Residential	57

PEDESTRIAN REALM	
Bike Parking	49
Bioswale	61
Bus Shelter	63
Curb Ramp	65
Enhanced Landscaping	67
Enhanced Sidewalk	69
Merchandise Display	71
Planters	73
Public Seating	75
Recycling & Trash Receptacles	77
Sidewalk Cafe / Outdoor Dining	79
Street Lights	81
Street Trees	83
Sidewalk Buffer	85
Wayfinding Signage	87

CURBSIDE ZONE	
Bike Corral	89
Bus Stop	91
Chicane	93
Curb Extension	95
Electric Vehicle Charging	97
Loading Zones	99
Mid-Block Neckdown	101
Mountable Curb	103
On-Street Parking	105
Parklet / Dining Deck	107
Two-Stage Turn Queue Box	109

THROUGHWAY	
Bike Box	111
Bike Pavement Markings	113
Mid-Block Crosswalk	115
Pervious Pavement	117
Playspace	119
Rain Garden	121
Raised Crosswalk	123
Raised Intersection	125
Speed Hump	127
Speed Table	129
Textured / Specialty Pavement	131

INTERSECTION MANAGEMENT	
Bike Signal	133
Countdown	135
Crossing Island	137
Crosswalk	139
Hybrid Beacon	141
Intersection / Crosswalk Art	143
In-Street Pedestrian Sign	145
Leading Pedestrian Interval	147
Neighborhood Traffic Circle	149
Pedestrian Actuation	151
Scramble	153
Signal Phasing	155

ACTIVE GROUND FLOOR USES

DEFINITION

Community, institutional, retail, or other commercial establishments located at the ground level of a building that encourage and facilitate social and physical interaction between public and private uses and users. Active Ground Floor Uses include cafes / restaurants with outdoor dining, boutiques, general stores, bars, and other types of community-facing land uses.

APPLICATIONS

Active Ground Floor Uses are applicable where high-levels of pedestrian activity exist or are desired. This includes:

- Central Business Districts, including Keyport's downtown commercial area.
- Neighborhood commercial nodes and corridors.
- Buildings or parcels adjacent to waterfronts and / or other well-used open spaces like parks and plazas.

CONSIDERATIONS

Active Ground Floor Uses help stimulate sidewalk activity and draw people to an area to not just pass through, but also to stay and spend time. Sidewalk and other pedestrian-scale amenities (Public Seating, Street Trees, Bike Parking, landscaping, etc.) should be co-located and maintained accordingly. The efficacy of Active Ground Floor Uses is amplified when the height of a building's ground floor is at a pedestrian scale, features human-scale signage, includes a high frequency of building entrances, and offers a variety of diverse storefronts that create an interesting and engaging experience for pedestrians. Other considerations include:

- Ensure local zoning codes allow for the creation of highly-transparent glazing.
- Tenant and shopfront design duration may be difficult in locations where walking is unpleasant and / or where frequent pedestrian activity does not currently exist.

Port Townsend, WA. Image Source: Dan Zack.

Port Townsend, WA. Image Source: Dan Zack.

DESIGN GUIDANCE

1. The recommended height for a ground-floor retail space is 15-18 feet.
2. If mixed with upper-level residential or office uses, building entrances should be separate and / or elevated.
3. There should be a retail entrance approximately every 25-30 feet.
4. Ground floor windows should not be made opaque by window treatments (except for when operable sunscreen devices are used), and should allow a minimum 60 percent of surface view into the building (to at least a 20-foot depth).

ADDITIONAL GUIDANCE

Design

- The highest concentration of retail businesses are most ideal on the busiest streets of a district that also have the highest number of intersecting streets.
- For more information on Active Ground Floor Uses, review resources from Smart Growth America and local zoning ordinances.

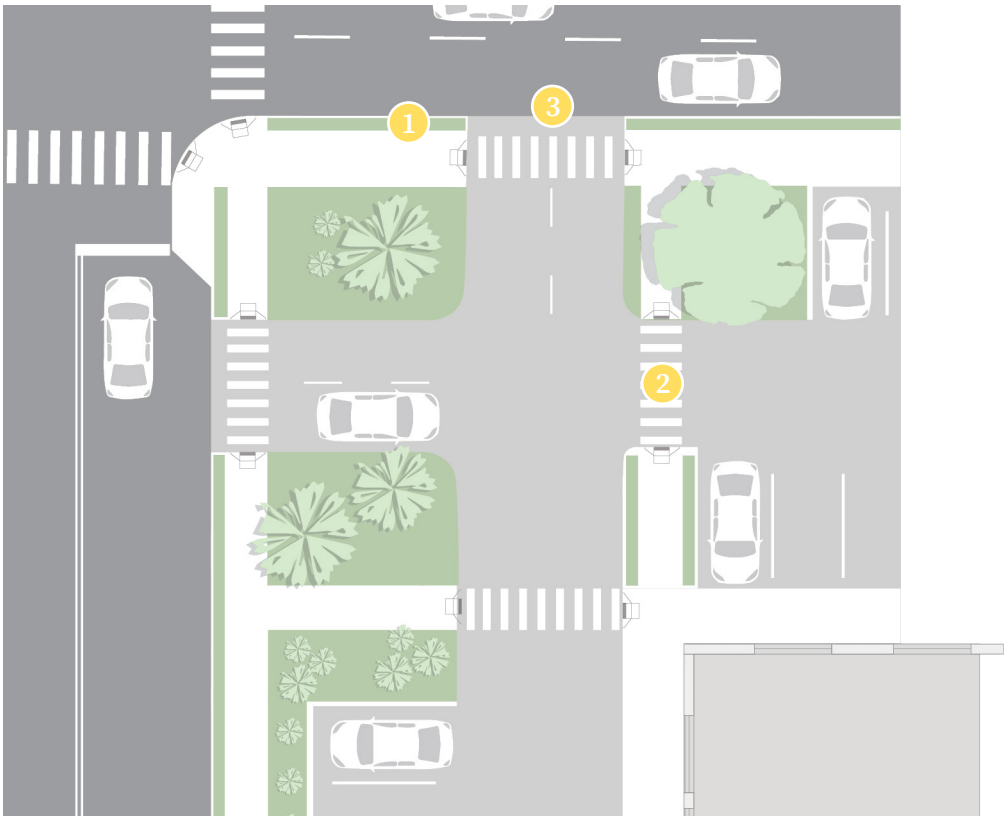
Maintenance

- Maintenance of the ground floor building facade and entrances is the responsibility of the property owner.

AUTO-ORIENTED COMMERCIAL USES

DEFINITION

Commercial businesses set back from a busy thoroughfare and designed to be easily accessible by people operating motor vehicles.



APPLICATIONS

Auto-Oriented Commercial Uses are typically located along highly-trafficked thoroughfares and include larger format, destination commercial businesses. Auto-Oriented Commercial Uses are most appropriate outside of traditional town centers, adjacent to principle, region-serving thoroughfares. Improvements to ensure safe and comfortable non-motorized access are particularly applicable where commercial areas are adjacent to more dense residential areas, public spaces, or Bus Stops, where people are more likely to be on foot.

CONSIDERATIONS

- Although Auto-Oriented Commercial Uses do not facilitate leisurely pedestrian strolling, a number of design tools and strategies can make these areas more accessible to those on foot, including improved pedestrian signals, Americans with Disability Act (ADA)-accessibility improvements, high-visibility Crosswalks, Bus Shelters, bike lanes, and Bicycle Parking.
- Auto-Oriented Commercial Uses offer convenient retail and commercial access to residents and visitors living outside of walkable neighborhoods.
- Changing zoning code and development regulations can achieve better complete streets outcomes over time as commercial properties are built or rehabilitated.
- As grocery stores and other essential services are located in auto-oriented commercial areas along Routes 35 and 36, pedestrian access through intersections, curb cuts and parking lots should be attractive, safe, and well-maintained.

Cary, NC. Image Source: Stanton Homes.

Image Location: Unknown

DESIGN GUIDANCE

1. Install a planting strip or verge with a minimum 2-foot-width between the curb and sidewalk to provide a buffer for pedestrians.
2. Mark crosswalks, maintain sidewalks and ensure curb ramps are ADA-compliant in parking lots.
3. Where possible, providing shared driveways where traffic can enter and exit a surface parking lot is best to reduce the frequency of curb cuts.
4. Raised crossings calm traffic and prioritize pedestrian movement at known conflict points.

ADDITIONAL GUIDANCE

Design

- Sidewalks along store frontage should be a minimum of 5 feet, with an arcade, gallery, or awnings for shade provision.
- Sidewalks along store frontage should be free of obstructions from features such as building columns, lighting, trash cans, etc.
- Provide regular breaks in the parking lot for high-visibility pedestrian crossings.

Maintenance

- Regularly maintain crosswalk markings, sidewalks, bus stops, and other features to ensure they remain in a state of good repair.
- The Borough can develop and enforce pedestrian accessibility maintenance standards.

CIVIC USES

DEFINITION

Public amenities provided within a civic building or lot frontage (public library, school, museum, hospital, community center, park, etc.).

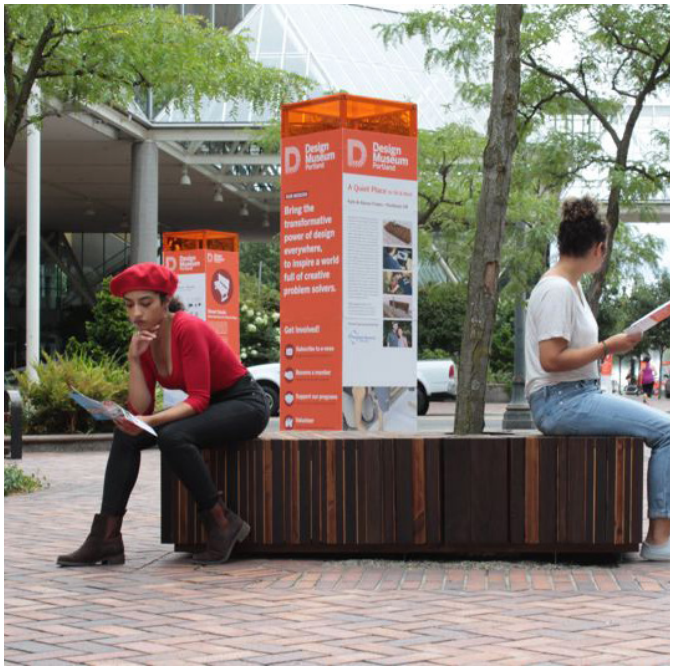
APPLICATIONS

Civic Use enhancements should be provided along all primary street frontages and / or at main points of ingress / egress.

CONSIDERATIONS

- Civic Uses provide critical everyday resources for residents and visitors, and can build community by way of providing gathering space outdoors, including within a building's frontage and grounds.
- Each Civic Use building or parcel frontage should contribute to the public realm, especially for those buildings and uses located within a walkable neighborhood or town center environment where amenities such as seating, landscaping, and public art are most appropriate.
- Civic Uses with large lot sizes and setbacks within walkable settings provide ample space for public realm enhancements.
- Civic Use frontage enhancements should have equitable distribution throughout the Borough.
- Civic Uses should encourage non-motorized access by incorporating Bike and/or scooter Parking, Public Seating, Enhanced Sidewalks, and Bus Shelters.

Ashland, MA. Image Source: Minuteman Library Network.



Portland, OR. Image Source: Jason Vondersmith.

DESIGN GUIDANCE

1. Entrances to buildings containing Civic Uses should be distinct, clear, and ADA accessible from the primary street on which they are located.
2. Civic Uses foster community best when the frontage includes public space that supports rest and social interaction.
3. Civic Uses should enhance the public realm with landscaping, high-quality lighting, public art, and ADA accessibility.
4. Civic Use frontages and surrounding grounds should be well-maintained.

ADDITIONAL GUIDANCE

Design

- Local building and / or zoning codes should elevate / reinforce the importance of Civic Use frontages.
- Consider how underutilized frontage space or surface parking may be redesigned to enhance / support the public realm.

Maintenance

- Regularly maintain enhanced landscaping and green space outside Civic Uses to keep it free of trash and debris.
- Keep lighting, benches, signage, and other amenities in a state of good repair.

DISPLAY WINDOWS

DEFINITION

Windows that face the sidewalk, and feature items or goods being sold in the store to which they belong. With strategic use and proper maintenance, Display Windows can draw passersby into stores, and also encourage people to stroll along a street, as they provide for interesting interaction between the public and private realm.

APPLICATIONS

Display Windows should be well-utilized and contain interesting items or displays to look at, particularly along commercial corridors (like Front Street), and / or along streets with heavy vehicle and pedestrian through-put. Display Windows should cater to the pedestrian, but also be interesting and inviting for motorists to spend time.

CONSIDERATIONS

- Effective window display design can be the reason some stores get more patrons.
- Window displays should rotate at least once monthly to continue to engage regular passersby.
- Many buildings along Broad and Front Streets already include Display Windows which should be encouraged and maintained. New commercial buildings within the commercial area should be incentivized to incorporate displays.

Franklin, TN. Image Source: Heritage Foundation of Williamson County.

Image Location: Unknown

DESIGN GUIDANCE

1. Retail stores should choose a theme, or cohesive design aesthetic, when activating Display Windows.
2. Keeping the window display at eye level for passersby, while also viewing it at multiple angles from a car, ensures maximum visibility.
3. A window display can be a mix of items being sold, and props, to add variety to the display, and to help show the goods at multiple heights.
4. Display Windows that are too cluttered with items and goods, rather than strategically crafted, may turn off passersby.

ADDITIONAL GUIDANCE

Design

- Displays should not completely block the view into the store.
- Adding lighting to Display Windows makes them stand out, and allows people to window shop after hours.

Maintenance

- Keep Display Windows clean, just like the rest of the store.
- Keeping a Display Window free of dust and debris is the sole responsibility of the store owner.

MODERATE & HIGH INTENSITY RESIDENTIA

DEFINITION

Multi-family and mixed-use building types with a minimum of three stories.

APPLICATIONS

Moderate and High-Intensity Residential buildings are typically found in the more urban transects within municipalities, although the siting of these buildings does depend on local zoning regulations. These are appropriate where lot sizes are smaller, where vertical building is preferable to sprawling development, or where a municipality wishes to create a more mixed-use urban environment.

CONSIDERATIONS

- Moderate and High-Intensity Residential buildings can add housing in areas where additional land may not be available to acquire.
- Adding height, and therefore housing units, to buildings can generate more activity on a commercial street, with both residents and visitors occupying the street level.

Hudson, NY. Image Location: Unknown

Portland, OR. Image Location: Unknown

DESIGN GUIDANCE

1. Regulations like setbacks, lot size, maximum building height, and parking allowance will be specified in a municipality's zoning code.

2. Moderate and High-Intensity Residential can be sited between lower-intensity buildings (where permitted) to maintain a sense of pedestrian-scale, and create visually diverse streets.

3. Residential entrances should be kept separate from commercial entrances in mixed-use buildings.

4. Moderate and High-Intensity Residential buildings should be designed with the existing building and land use context in mind, so they do not detract from the street's historic or special character.

BIKE PARKING

DEFINITION

A standalone structure to which a bicycle may be locked and supported with at least two points of frame contact.

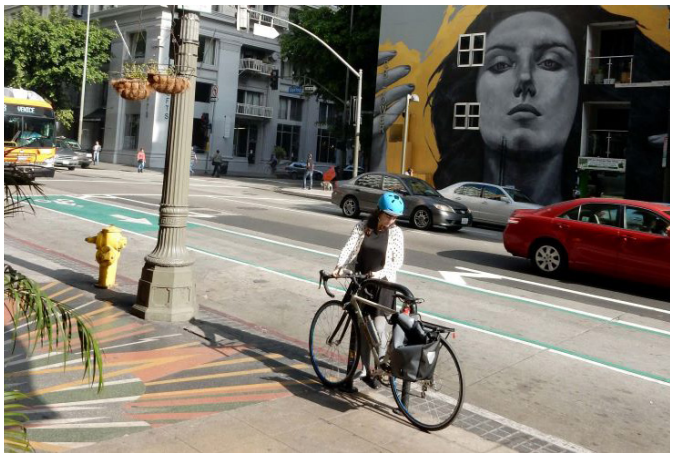
APPLICATIONS

Bike Parking should be ample within the pedestrian realm, especially on commercial streets, at Civic Uses and open space destinations, and along streets where on-street bicycle facilities exist. Bike Parking within the pedestrian realm should provide for short-term use, meaning the expectation is that bicyclists are only spending a couple hours or less running errands or patronizing businesses, and don't need long-term parking like shelters or lockers.

CONSIDERATIONS

- Bike Parking is a low-cost solution that supports sustainable transportation.
- Without careful selection, the type, orientation, and placement of Bike Parking may negatively impact usability and compromise the function of the public realm.
- Use of artistic bike racks can support and reflect the culture, history, and values of a specific community, site, or local business.

Kansas City, MO. Image Source: Karen Campbell.


Los Angeles, CA. Image Source: LADOT.

DESIGN GUIDANCE

1. Orient racks so that bicycles are parallel to the curb when parked, and so that the pedestrian through zone is maintained.
2. Install bike racks between On-Street Parking stalls with a minimum of 2 feet between the edge of the curb and edge of the bike rack.
3. Racks should support bicycle frames in two places. Avoid wave racks and other styles that only support the front bike wheel.
4. Bike Parking should be no further than 50 feet from the destination it serves, or at least no further than the nearest vehicular parking space.

ADDITIONAL GUIDANCE

Design

- The most often recommended type of short-term bike racks are U-Racks (also called Inverted-U racks) and Post and Ring racks.
- Transit stops, schools, and job-rich locations may be appropriate for long-term facilities, such as bike lockers or shelters.
- For further guidance on bike parking siting, quantities, selection, and installation, visit the Association of Pedestrian and Bicycle Professionals' (APBP) *Essentials of Bike Parking* or *Bicycle Parking Guidelines*.

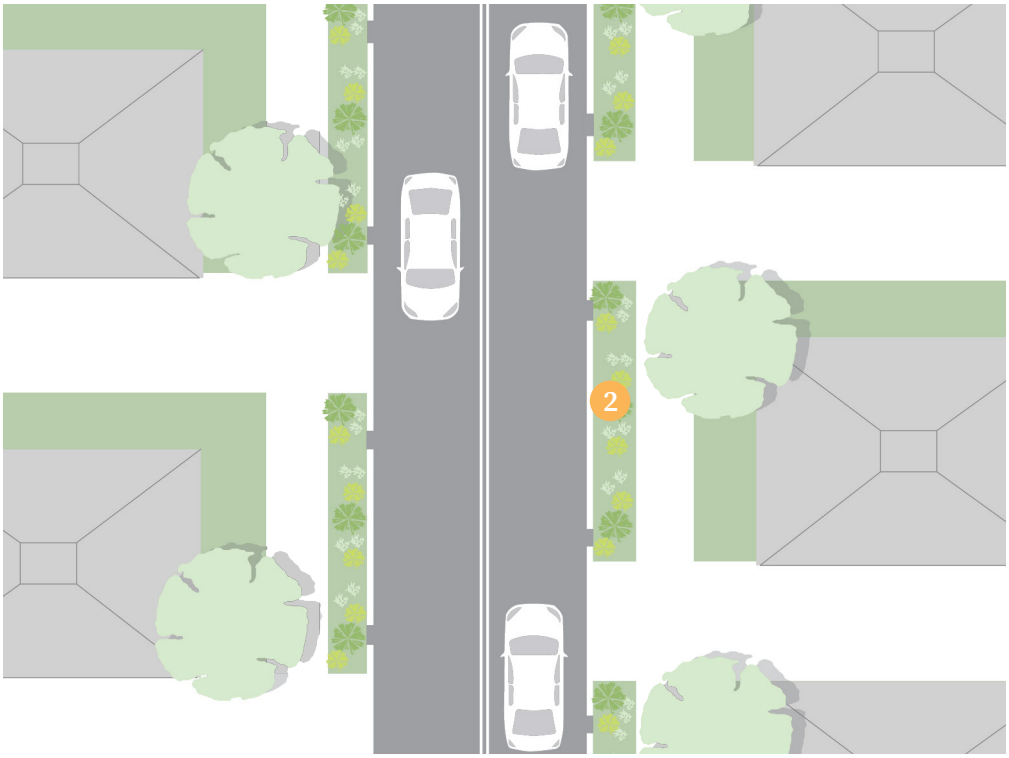
Maintenance

- Short-term Bike Parking should not require much maintenance, unless tampering occurs. Regularly check bike racks for loose or insecure mounting, abandoned bicycles, or after inclement weather.
- Long-term Bike Parking may require routine maintenance, such as removal of garbage and abandoned bicycles, and performance checks to ensure bicycles remain secure.

BIOSWALE

DEFINITION

A vegetated / landscaped channel designed to capture and filter stormwater runoff before it enters the stormwater system.



APPLICATIONS

Bioswales are applicable to medians, Curb Extensions, existing swales, and between the sidewalk and curbside parking / travel lane. They are particularly appropriate on streets with frequent flooding, and also help beautify commercial and residential streets.

CONSIDERATIONS

- Ensure underlying native soils are not contaminated prior to Bioswale implementation. Infiltration facilities should only be located in class A or B soils.
- While more expensive, Bioswales that use engineered soil to pass a certain number of inches of rainwater per hour are more effective than pervious strips, which are installed only with permeable pavement or gravel.
- Bioswales are the most effective type of green infrastructure facility in slowing runoff velocity and cleansing water while recharging the underlying groundwater table.
- Bioswales are not effective in locations with low infiltration rates because standing water, localized flooding, and other issues may cause issues within adjacent street and sidewalk infrastructure.


Portland, OR. Image Source: Kevin Robert Perry.


Image Location: Unknown

DESIGN GUIDANCE

1. Bioswales are most efficient when the design allows water to move along the surface at a certain velocity.

2. Bioswale inlets should be at least 18 inches wide and placed 3-15 feet apart, depending on the location of roadway gutters.

3. Bioswales should have a longitudinal slope that does not exceed a ratio of 3:1.

4. Adjacent subsurface infrastructure should be protected by maintaining minimum clearances. Use waterproof liners as separation barriers, or construct a deep curb to separate the roadbed subgrade or parallel utility line from the Bioswale.

ADDITIONAL GUIDANCE

Design

- Bioswales should be composed of diverse, native vegetation that meet minimum irrigation requirements and offer the potential for wildlife habitat.

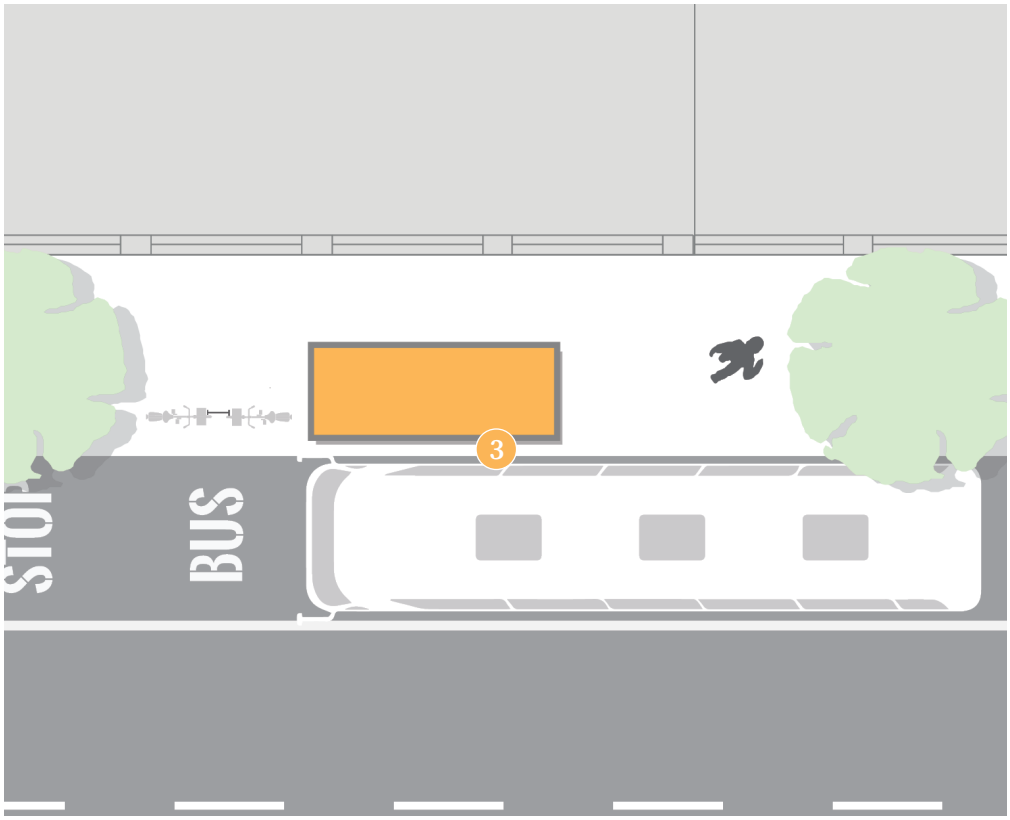
Maintenance

- Regularly water and prune vegetation. Check curb cuts to ensure they are clear of debris that would block water flowing into the Bioswale.

BUS SHELTER

DEFINITION

A structure offering bus riders protection from rain, sun, and wind. High-quality Bus Shelters typically include comfortable seating, a bus route map and / or advertising kiosk, bus schedules, and real-time bus arrival information.



APPLICATIONS

Bus Shelters are suitable for a wide variety of situations, including but limited to:

- Neighborhoods where buses run infrequently
- Commercial areas with frequent service and high ridership
- Areas with security concerns
- Neighborhoods with high numbers of elderly residents

Bus Shelters are also appropriate near retail stores with products related to commuters' needs, like food and news, and in conjunction with other amenities like bike racks, food vendors, etc. In Keyport, they should be provided by NJ TRANSIT.

CONSIDERATIONS

- Bus Shelters can drastically improve riders' experience of using transit, maintaining ridership and possibly encouraging new riders.
- The addition of bicycle racks recognizes that many people take multi-modal trips and most bus bike racks have limited capacity.
- Adequate Bus Shelters can be difficult to provide within a constrained right-of-way.

Seattle, WA. Image Source: Flickr, SounderBruce.

Everett, MA. Image Source: Krissy Price.

DESIGN GUIDANCE

1. Orient Bus Shelters to protect waiting riders from the elements, but ensure they are open enough to allow riders to see an oncoming bus.
2. The specific design and scale of Bus Shelters should reflect the context of the Borough and / or neighborhood where they are located.
3. There should be 3 feet of space between the Bus Shelter and curb to make it easy for people to board and exit buses.
4. Bus Shelters near intersections should be set back from the crosswalk at least 10 feet to avoid conflicts with crossing pedestrians.

ADDITIONAL GUIDANCE

Design

- Four-sided Bus Shelters must be at least 5 feet deep, with a minimum 32-inch opening.
- Include trash bins at moderate to high-volume stops, or wherever maintenance capacity exists.
- Include the stop name and route information on Bus Shelters.
- On narrower sidewalks, placing the Bus Shelter ahead of the front door loading zone allows the shelter to be closer to the curb, as the path from the shelter to the front door is not blocked by a shelter wall. Shelters should be placed in a well-lit area.
- Bus Shelters can include artistic and / or placemaking elements for an added contribution to the streetscape and to help reinforce the identity of a location, neighborhood, city, and / or region.

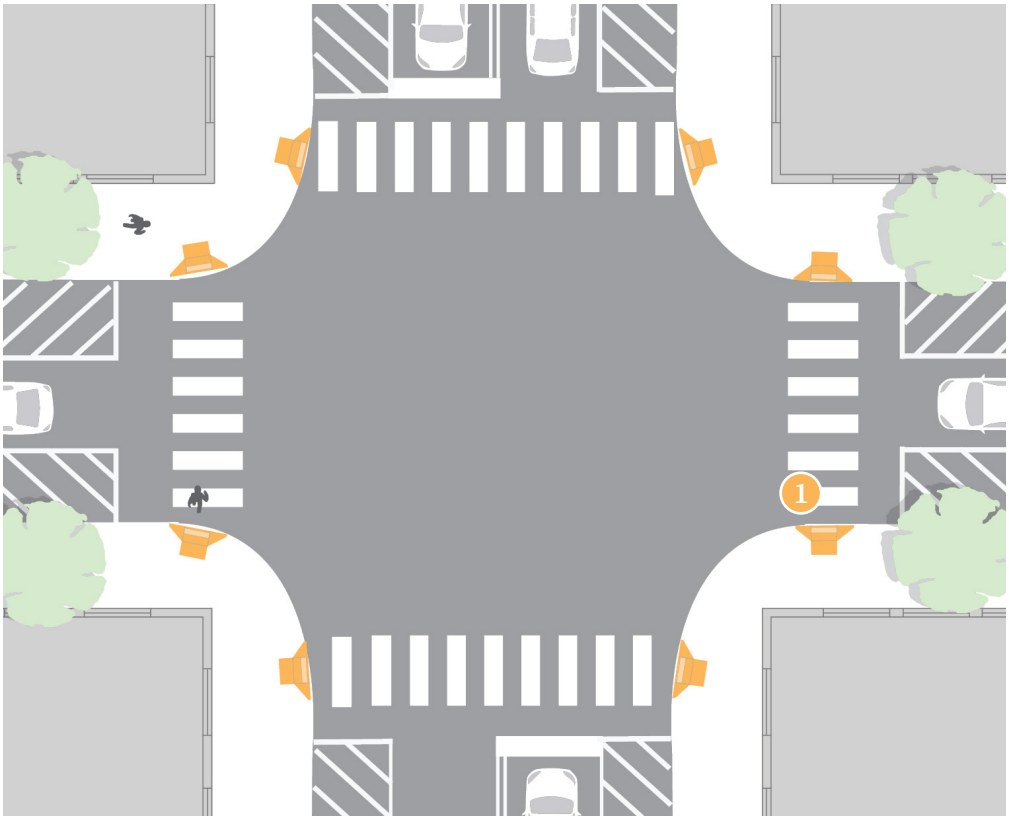
Maintenance

- Conduct routine maintenance to clean out trash, replace system / route maps, replace broken glass or other shelter elements, remove graffiti, and generally ensure each Bus Shelter is comfortable for users.

CURB RAMP

DEFINITION

A concrete ramp that is graded down from the top surface of a sidewalk to the surface of an adjoining street.



APPLICATIONS

ADA-compliant Curb Ramps should be installed wherever there are marked crossings, or where pedestrians need to exit the sidewalk to access the roadway or a parking lot.

CONSIDERATIONS

- Curb Ramps must be located to ensure a person with a mobility disability, as well as people with strollers and small children on bikes, can travel from a sidewalk on one side of the street, over or through any curbs or traffic islands, to the sidewalk on the other side of the street.
- Curb Ramps are only required where there are sidewalks and curbs. If there are curbs, but still no sidewalks, Curb Ramps are not required.
- Curb Ramps are not required in the absence of a curb, elevation, or other barrier between the street and the walkway.
- Existing Curb Ramps may need to be retrofitted to comply with federal law.
- Curb Ramps not only serve the physically disabled, but also people pushing strollers, pushcarts, the elderly, and those using other assistive mobility devices.


New York, NY. Image Source: nycpedramps.info.


Portland, OR. Image Source: Emerio Design.

DESIGN GUIDANCE

1. Curb Ramps should be located entirely within the marked Crosswalk width.
2. Curb Ramps should be a minimum of 4 feet wide, excluding the flares.
3. To comply with the ADA, Curb Ramp slopes should not be greater than 8.33 percent (or a rise to run ration of 1:12).
4. Install detectable warning surfaces in the direction of travel of the Curb Ramp. Historic districts may warrant specific material upgrades.

ADDITIONAL GUIDANCE

Design

- Curb Ramps should be provided at each corner of an intersection with proposed or existing sidewalks.
- Consult the U.S. Department of Justice's *2010 ADA Standards for Accessible Design* to ensure compliance with ADA standards.

Maintenance

- The surface of Curb Ramps must remain free of deep cracks, weeds, or uneven pavement.
- Detectable warning surfaces, or tactile pads, must remain flush and attached to the concrete to avoid tripping or other hazards.

ENHANCED LANDSCAPING

DEFINITION

The use of natural or man-made landscaping elements to improve the public realm's aesthetic and environmental performance.

BASIC

APPLICATIONS

Enhanced Landscaping is particularly appropriate on Front Street and / or within commercial centers, where pedestrians leisurely stroll and spend time walking. Enhanced Landscaping, like the addition of Street Trees, should be prioritized where shade is needed, or in warm climates where the sunshine and heat could deter pedestrians. Enhanced Landscaping is often applied along the sidewalk within tree grates, Sidewalk Buffers, Bioswales, or raised Planters.

ENHANCED


Ennis, TX. Image Source: Citygreen.


Caloundra, AUS. Image Source: Citygreen.

CONSIDERATIONS

- Enhanced Landscaping can entice more pedestrians to a certain street or public space.
- Landscaping may require additional maintenance.
- Public funds, private investments, or a combination of the two can be used to install Enhanced Landscaping.

DESIGN GUIDANCE

1. Colorful plants and flowers are ideal for additions to basic landscaping. Native plants should be prioritized.
2. Enhanced and additional greenery can include surface-mounted Planters, or street furniture that incorporates plants.
3. Existing tree pits can be enhanced by adding decorative grating or tree pit guards, and planting additional plants around the tree trunk.
4. Planting taller plants in existing Sidewalk Buffers can offer aesthetic enhancements, and also discourage pedestrians from trampling the buffer.

ADDITIONAL GUIDANCE

Design

- Enhanced Landscaping should incorporate art where additional furnishings have been provided to accommodate plants (e.g.. Public Seating, Planters, etc.).

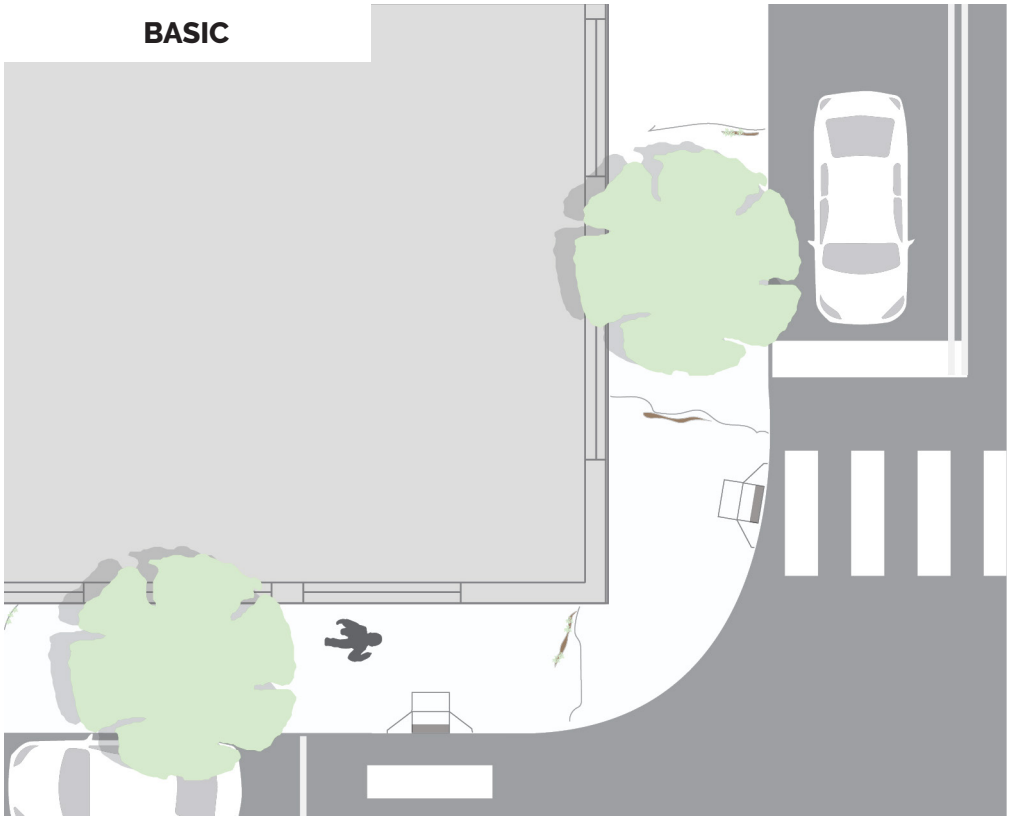
Maintenance

- Regularly maintain landscaping to ensure plants stay alive and fresh, and that verges and tree pits/grates are free of trash and debris.
- The Borough, Keyport Bayfront Business Cooperative, and the Keyport Garden Club could share responsibility for the maintenance of Enhanced Landscaping, depending on the ownership of the infrastructure.

ENHANCED SIDEWALK

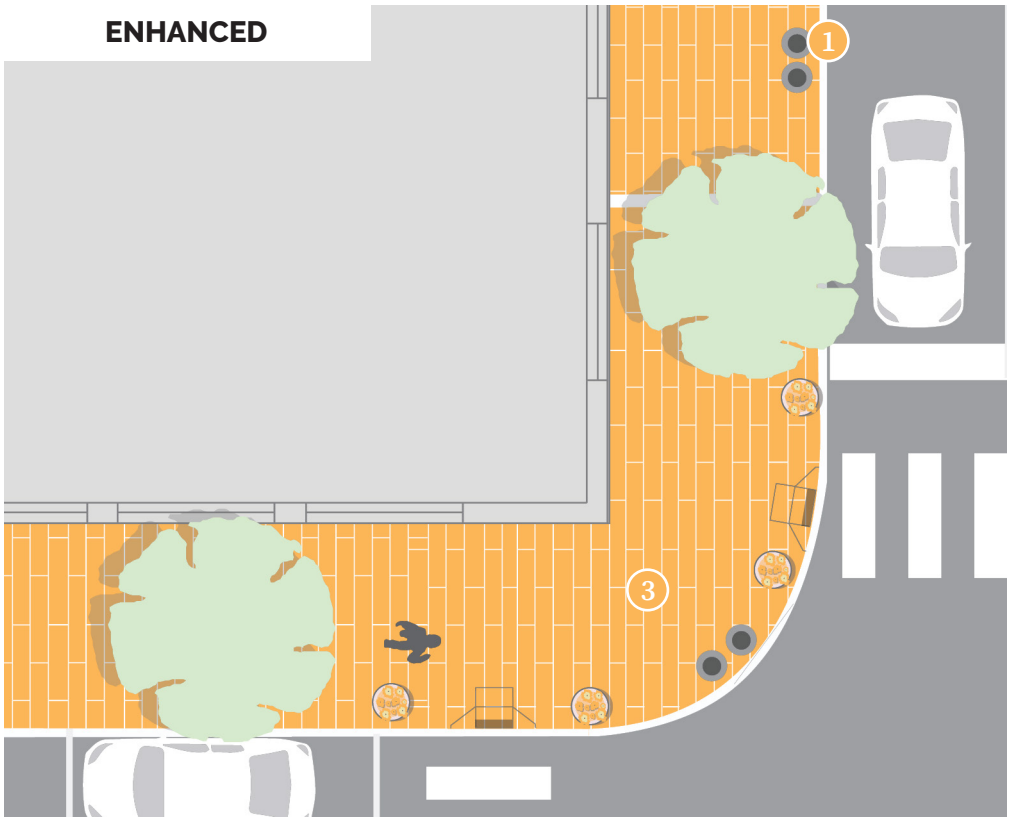
DEFINITION

The addition of spatial, aesthetic, and / or functional improvements to standard sidewalks, which may include increased width, material improvement, landscaping, and public art.



APPLICATIONS

Enhanced Sidewalks are particularly appropriate where there are already high volumes of pedestrian traffic, or where more pedestrian traffic is desired to service businesses along a commercial corridor. Main streets, schools, parks, and other community institutions / Civic Uses are candidates for Enhanced Sidewalks.




Washington, DC. Image Source: Dan Reed.


Fort Worth, TX. Image Location: Unknown

CONSIDERATIONS

- Consider installing Enhanced Sidewalks in all repaving projects, or as a requirement for new development within priority zones.
- Enhanced Sidewalks must meet or surpass all access and operational needs.
- Selected materials and design features should respect historical context.

DESIGN GUIDANCE

1. Sidewalk enhancements are achievable without large capital funds, with additional features such as Trash Receptacles and decorative Planters.
2. Sidewalks should be a minimum of 5 feet, but are recommended to be a minimum of 8 feet on busy commercial corridors or in urban districts.
3. Re-surfacing a sidewalk with pavers, or with an inlaid pattern, can make walking in an urban district more desirable.
4. The Street Tree canopy should shade the sidewalk without obstructing the pedestrian right-of-way.

ADDITIONAL GUIDANCE

Maintenance

- Regularly maintain sidewalks to ensure that there are not large cracks, overgrown roots, or frequent debris that would create a safety hazard.
- Enhanced Sidewalks with pavers or a surface other than smooth concrete may require more maintenance.

MERCHANDISE DISPLAY

DEFINITION

The placement of commercial goods outdoors, most commonly on sidewalks or in other public spaces like squares and plazas.

APPLICATIONS

Displaying merchandise outside a store, often on a sidewalk, is most appropriate on commercial streets with heavy foot traffic, like on Front Street. Outdoor Merchandise Displays should be used where there is a focus and desire to encourage people to linger and stay on a street, rather than where the goal is to move people through or along a street.

CONSIDERATIONS

- An extra set of eyes from the retail establishment may be required to engage passersby and ensure respect for the merchandise.
- Maintain adequate space for pedestrians to pass by when setting up outdoor racks.
- Sidewalks in commercial areas, as well as streets in the priority pedestrian network, should be wide enough to accommodate Merchandise Displays and pedestrian travel.
- Outdoor Merchandise Displays create an exciting pedestrian environment, and can increase retail sales for local businesses.

New York, NY. Image Source: Project for Public Spaces.

Image Source: Ana Gotter.

DESIGN GUIDANCE

1. Placing sale items, or featuring new items, outside is an easy way to get the attention of potential shoppers passing by.
2. Smaller items, like books, records, jewelry, and other trinkets, are easy to move outside in larger numbers, and can maintain the attention of passersby for longer.
3. Sidewalk signage portraying deals, sales, and other product information can help draw passersby into a retail establishment.
4. Sidewalk displays may be regulated by a municipality's zoning code or Business Improvement District (BID) regulations.

ADDITIONAL GUIDANCE

Design

- An outdoor Merchandise Display can feature more than goods being sold. Welcoming displays can also include Public Seating and Planters, which can be moved inside at the end of the day, to draw people in and encourage them to linger.
- Maintain a clear pedestrian passing zone of at least 5 feet.

Maintenance

- Remove all outdoor Merchandise Displays from the public right-of-way overnight.

PLANTERS

DEFINITION

Receptacles for soil and plants / flowers that can be used decoratively along a street, or to delineate Sidewalk Cafe or lounge space.

APPLICATIONS

Planters are appropriate in pedestrian spaces that require additional protection, further delineation of space, or beautification. Typically, Planters should be used in areas with high pedestrian volumes, and lower vehicle speeds.

CONSIDERATIONS

- Planters are not an approved traffic control device, and therefore must have the road owner's permission for use within the road and / or where pedestrians do not have protection from concrete curbs (e.g.. temporary Curb Extensions). Depending on the municipality, adherence to the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD) may also be required.
- Planters may be procured by the Borough or other government partners but maintained by local property owners, organizations, residents, and / or businesses.
- Planters can help absorb rainwater, thereby mitigating stormwater impacts.
- Planters can be movable or affixed to the ground. Most often, Planters are not affixed to the ground to allow for creative use and easy maintenance.
- Planters can also provide extra protection for pedestrians on sidewalks or in Curb Extensions.

Image Source: FHI.

Cincinnati, OH. Image Source: Cincinnati Parks.

DESIGN GUIDANCE

1. Planters delineate Sidewalk Cafe space, and add more privacy to an Outdoor Dining experience.
2. Planters should be placed so that they comply with ADA regulations and do not obstruct pedestrian movements.
3. Depending on the municipal code or BID regulations, Planters can be put in front of a retail store for added beautification or within pedestrian passages and alleyways on the sides or backs of buildings.
4. Planters can provide more habitat for native plant species and create biodiversity by attracting butterflies, birds, and other insects.

ADDITIONAL GUIDANCE

Design

- Planters can be incorporated into sidewalk seating, rain barrels, building facades, or other sidewalk furniture or art.

Maintenance

- Businesses are responsible for Planters they place in the pedestrian realm.
- Often, BIDs or municipalities will provide Planters with the same plants, and maintain them as part of downtown beautification goals.
- Self-watering Planters help reduce maintenance burdens.

PUBLIC SEATING

DEFINITION

Public Seating within the pedestrian realm can be provided with benches, blocks, and other flat, multi-purpose seating surfaces.

APPLICATIONS

Public Seating is appropriate where there is adequate public right-of-way to support a moderate to high volume of pedestrian activity. Seating is typically placed on sidewalks, in public plazas, pocket parks, and other shared spaces. Along east-west and north-south streets through the Borough, as well as near the Henry Hudson Trail, Public Seating should be accommodated to provide places for residents and visitors to rest along the route.

CONSIDERATIONS

- Public Seating in the public right-of-way can encourage passersby to spend more time on the street.
- Public Seating provides opportunities for socializing, eating, and respite within the public right-of-way.
- Prioritize the needs of elderly residents, children, and those with physical disabilities when considering the design and placement of Public Seating within the pedestrian realm.
- It may be appropriate to convert curbside parking into Public Seating where sidewalk width and public space is limited.
- Seating that is a part of a private Sidewalk Cafe should be differentiated from seating provided in other public space.


Broken Arrow, OK. Image Source: Tom Coleman.


San Francisco, CA. Image Source: SF Better Streets.

DESIGN GUIDANCE

1. Maintain a 5-foot clear path either in front of a bench if placed at the back of a sidewalk facing the curb, or behind a bench if placed at the front of the sidewalk facing the buildings.
2. Place seating and benches at least 5 feet away from fire hydrants and 1 foot from other sidewalk amenities.

ADDITIONAL GUIDANCE

Design

- Public Seating can be both beautiful and functional, offering canvasses for art, or space for Enhanced Landscaping.
- Movable / foldable Public Seating allows users the ability to adjust seating at will while providing stewards the opportunity to respond to time-of-day and day-of-week demands.
- Incorporating Public Seating with tree pit guards can be a spatially efficient way to meet demand.

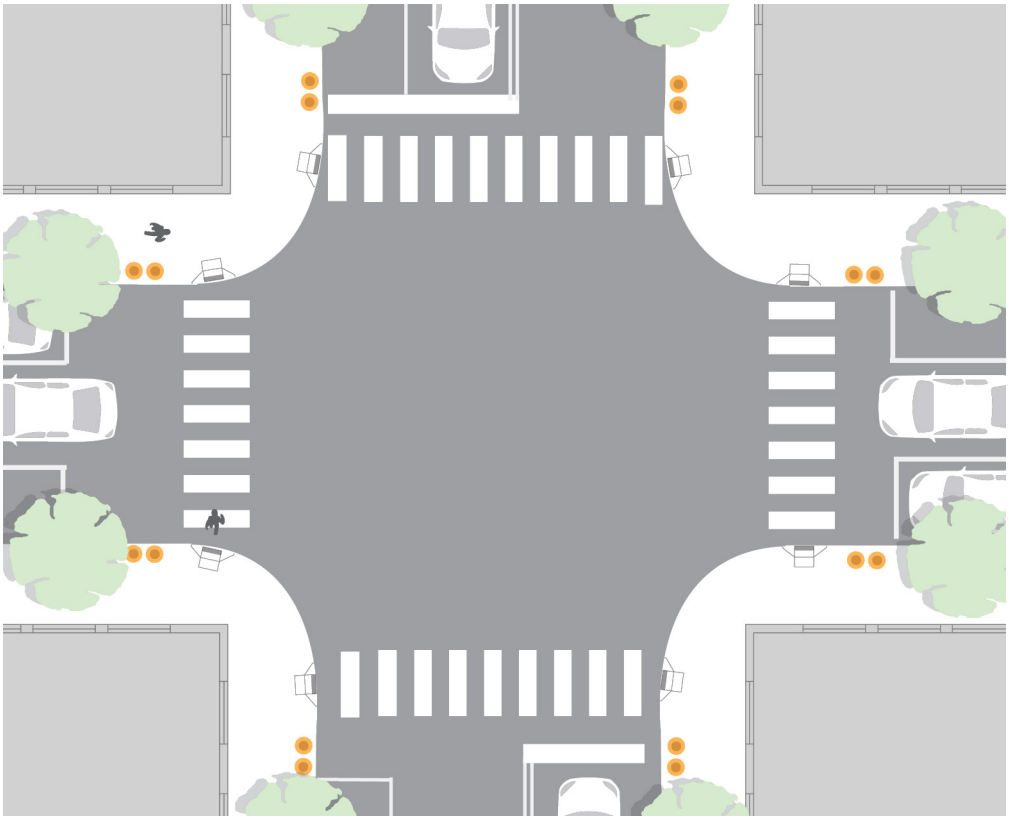
Maintenance

- Regularly maintain Public Seating to ensure they are structurally sound, and that they are not obstructing other sidewalk amenities or a clear pedestrian path.
- Monitor Public Seating with painted surfaces annually and paint as needed.
- The municipality, businesses, or BIDs can provide Public Seating and would be responsible for maintaining it.

RECYCLING & TRASH RECEPTACLES

DEFINITION

Bins, cans, or other containers placed within the public realm that are designed to receive and store waste items and recyclable materials.



APPLICATIONS

Recycling and Trash Receptacles in the public right-of-way are particularly appropriate along commercial streets, and / or where high volumes of pedestrian traffic are anticipated. These may also be appropriate where food vendors congregate. Recycling and Trash Receptacles should be provided at regular intervals along priority pedestrian routes, near recreational facilities, and the Bayshore.

CONSIDERATIONS

- Frequent and regularly spaced Recycling and Trash Receptacles can facilitate cleaner streets, as there are more opportunities for passersby to dispose of their waste once they're done using its contents.
- Receptacles should be sized and placed to meet demand.
- Periodic observation / enforcement should be arranged to prevent household or commercial waste / recycling from overwhelming street-based receptacles.

Bristol, RI. Image Source: The Steel Yard.

Fort Collins, CO. Image Source: Colorado College.

DESIGN GUIDANCE

1. There should be a Recycling and Trash Receptacle at each corner of an intersection where foot traffic occurs.
2. Place receptacles as close to the corner as possible, without obstructing the crosswalk or other pedestrian throughway.
3. Recycling and Trash Receptacles should be located in the amenity zone of the sidewalk, similar to Street Trees, Public Seating, Planters, etc., or at along the entrance and edges of popular parks and pedestrian pathways.
4. Typical spacing of Recycling and Trash Receptacles is every 200 feet along commercial streets.

ADDITIONAL GUIDANCE

Design

- Municipalities can customize receptacles, including using them as pieces of public art. This can contribute to a street's sense of place.
- Always place a recycling bin next to a waste receptacle to boost separation compliance.

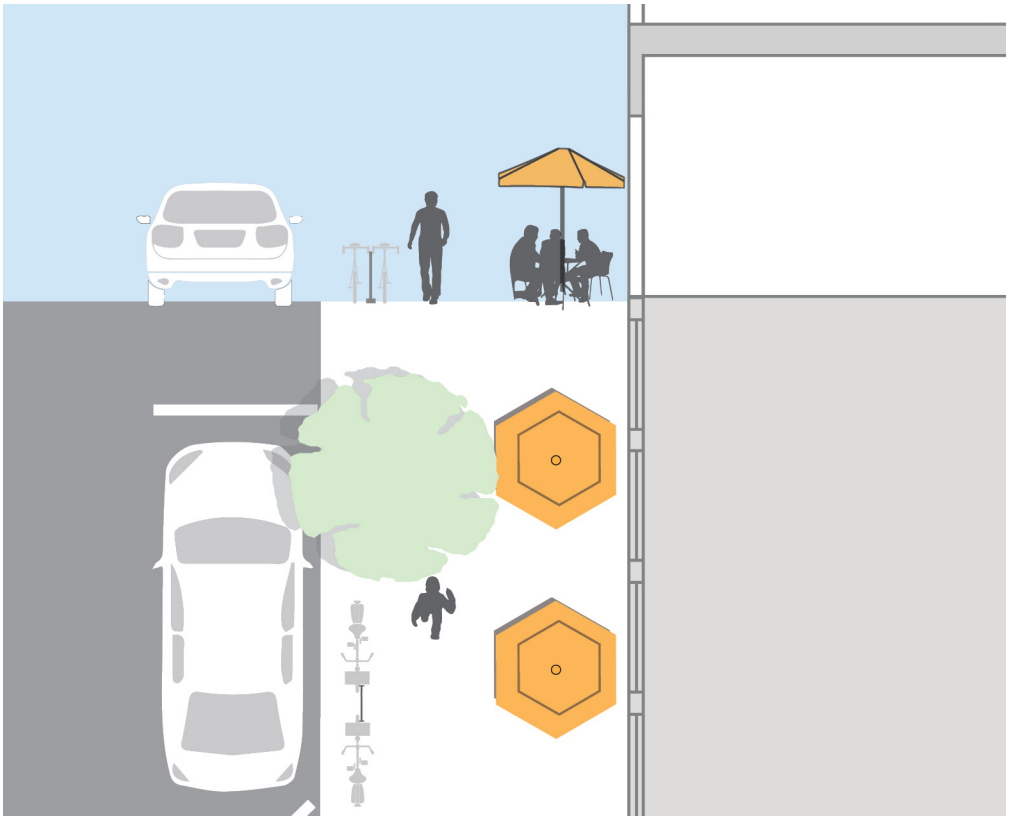
Maintenance

- The Public Works Department typically maintains receptacles on sidewalks and in public spaces, and empties them on a set schedule.
- Often, BIDs or similar business organizations provide and maintain Recycling and Trash Receptacles.

SIDEWALK CAFE / OUTDOOR DINING

DEFINITION

The use of sidewalk space outside a dining establishment for dining service. Sidewalk Cafes should be considered an extension of indoor dining service, and bring the ambiance of a restaurant into the public realm.



APPLICATIONS

Sidewalk Cafes are appropriate wherever there are multiple restaurants within close proximity of each other, outside well-patronized restaurants, and / or in commercial districts with an adequate sidewalk width. Sidewalk Cafes are suitable for streets featuring a speed limit of 25 mph or less, or along streets where the volume / speed of vehicular traffic won't deter patrons from wanting to sit outside. Surface parking lots adjacent to restaurants can also be used for Sidewalk Cafe seating.

CONSIDERATIONS

- Sidewalk Cafes can enhance the public realm and motivate passersby to patronize businesses.
- The allowance of Sidewalk Cafe seating should be considered carefully where sidewalk space is limited so as to not deter safe and accessible pedestrian movement. Where allowed, periodic inspections should be conducted to ensure adequate space is provided.
- Where space is overly constrained, the use of one or more adjacent curbside parking spaces may be considered.
- Allowable hours of operation should include close consideration of abutting residential uses.
- A business may be required to clear all tables and chairs from the sidewalk overnight, and place them outside each morning.

Brooklyn, NY. Image Source: Street Plans.

Concord, NH. Image Source: Jon Odell.

DESIGN GUIDANCE

1. Elements of a typical Sidewalk Cafe include barriers, Planters, tables, chairs, umbrellas, menu display, heat lamps.

2. Trash receptacles should be required in Outdoor Dining areas where wait service is not provided.

3. Sidewalk Cafe barriers and surrounding plants should be no taller than 3 feet so they do not obstruct the view of the street.

4. Umbrellas should not extend beyond a Sidewalk Cafe barrier, or into the remaining pedestrian right-of-way. Maintain a minimum 5-foot pedestrian right-of-way.

ADDITIONAL GUIDANCE

Design

- Typically, municipal code and/or ordinances will provide minimum standards or requirements for Sidewalk Cafes.
- Barriers may not be required if the outdoor street furniture does not extend a certain distance beyond the building frontage into the right-of-way.
- Sidewalk Cafes should be accessible to people with disabilities.

Maintenance

- Sidewalk Cafes / Outdoor Dining are the complete responsibility of the business establishment, including the removal of trash and food waste. Municipalities may require street furniture to be brought inside and secured nightly.

STREET LIGHTS

DEFINITION

Vertical lights installed in the amenity zone of a sidewalk, often at two scales: vehicular- and pedestrian-scale. Street Lights are a requirement for safe usage of streets at night. Pedestrian-scale lighting can also contribute to the ambiance of a street, welcoming pedestrians and providing passersby with a warm and comfortable environment.

APPLICATIONS

Frequent Street Lights are appropriate in nearly all areas of the Borough. Both vehicular and pedestrian-scale lighting are common in more dense and urban areas, whereas vehicular Street Lights are often the sole lighting source in lower-density residential and suburban areas. Where light pollution is more of a concern, or on residential dead-end streets, Street Lights may not be appropriate. Pedestrian-scale lighting is especially important along priority pedestrian routes, which connect residents to transit and essential services, as well as schools and recreational facilities.

CONSIDERATIONS

- Street Lights make streets safer not just because they assist in vehicular maneuvering in low light conditions, but also because they can make pedestrians feel safer being on the street at night.
- Improved Street Lights can also encourage commuting via recreational trails such as the Henry Hudson Trail, which provides a more direct connection from the Borough to Aberdeen-Matawan Station

Altamont, NY. Image Source: Smart Growth Online.

Image Location: Unknown

DESIGN GUIDANCE

1. Street Lights should be energy efficient (LED lighting is preferred), evenly spaced, and faced downward to reduce light pollution and minimize distraction.
2. Street Light fixtures should be context-sensitive, reflecting the character of a place or urban design of a street type.
3. Pedestrian-scale lighting should be prioritized at Bus Stops, Crosswalks, and where nighttime pedestrian activity is anticipated.
4. Install Street Lights in the amenity zone, where Recycling and Trash Receptacles, Public Seating, Street Trees, and utility boxes are. Fixtures should not obstruct the sidewalk.

ADDITIONAL GUIDANCE

Design

- Pedestrian-scale lighting can also be incorporated into building frontage, transit stops, and wayfinding, or hung across narrower streets for added ambiance.
- The height of a typical pedestrian-scale light fixture is 10-15 feet.
- Pedestrian-scale light fixtures are spaced a minimum of 50 feet apart, on both sides of the street.
- A typical state Department of Transportation (DOT) vehicular lighting scheme includes 25-40-foot cobra head light fixtures, spaced 125-150 feet apart, staggered on opposite sides of the street.

Maintenance

- Change light bulbs regularly and promptly, to ensure adequate lighting is provided, and large gaps in Street Lights are remedied expediently.

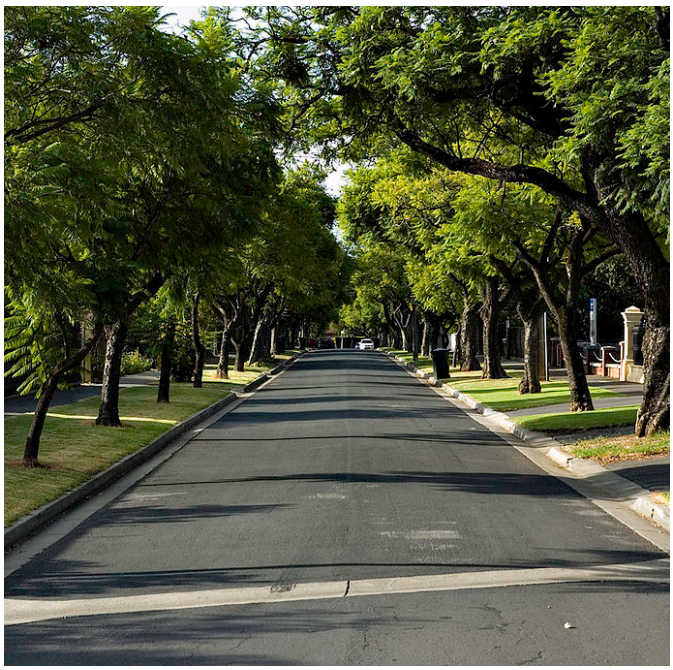
STREET TREES

DEFINITION

Trees that line both commercial and residential streets to provide shade, add beauty, sequester carbon, manage stormwater, and reduce the urban heat island effect, among other benefits. They are often found in the amenity / buffer zone of a sidewalk, between the parking / travel lane and the main pedestrian throughway.

APPLICATIONS

Street Trees are appropriate on streets where shade or additional protection for pedestrians is needed, in areas where flooding or the urban heat island effect needs to be reduced, or along streets that are in need of beautification. Street Trees help define the character of a street, and provide a myriad of other natural benefits. Certain species with roots that grow downward should be used, rather than trees with roots that grow outward, as these roots can cause large cracks and unevenness in sidewalks.



Tulsa, OK. Image Source: Daniel Jeffries.

Image Source: Jared Kofsky.

CONSIDERATIONS

- Street Trees that drop high amounts of leaves and seeds may require more maintenance, and could stain sidewalks.

DESIGN GUIDANCE

1. Maintain mature Street Trees so the lowest branches are at least 8 feet from the ground.
2. At minimum, Street Trees need a 4-foot-by-4-foot clear space around the trunk, to allow the roots to grow without disturbing the sidewalk.
3. Street Trees on residential streets can have a wider canopy, and can be spaced more closely.
4. Street Trees on commercial streets should have a slightly higher and leaner canopy, so as to not obstruct the views of storefronts from the street.

ADDITIONAL GUIDANCE

Design

- A registered landscape architect or botanist should select the type of trees and planting locations.
- Trees shall be planted in either swales (residential streets) or in tree wells (commercial street).

Maintenance

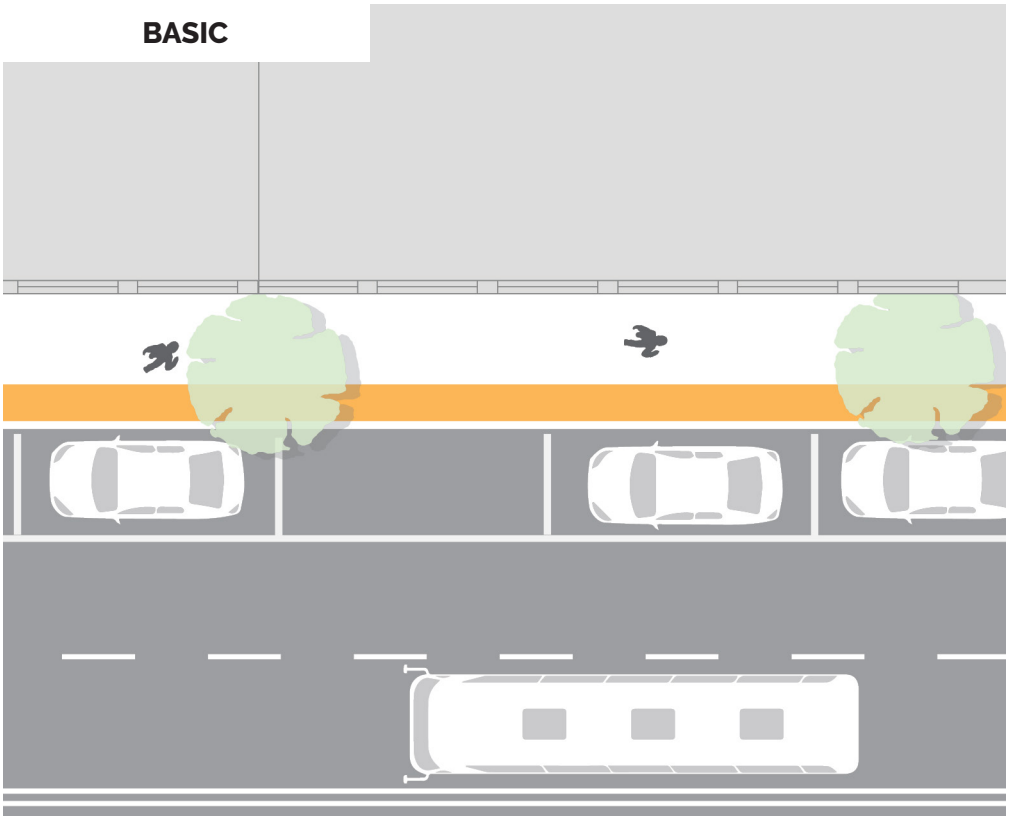
- Specific tree species may require unique maintenance. A registered landscape architect or botanist is best equipped to maintain Street Trees.

SIDEWALK BUFFER

DEFINITION

A designated strip of the sidewalk designed to buffer pedestrians from vehicles, and accommodate a wide range of underground and above ground utilities and amenities.

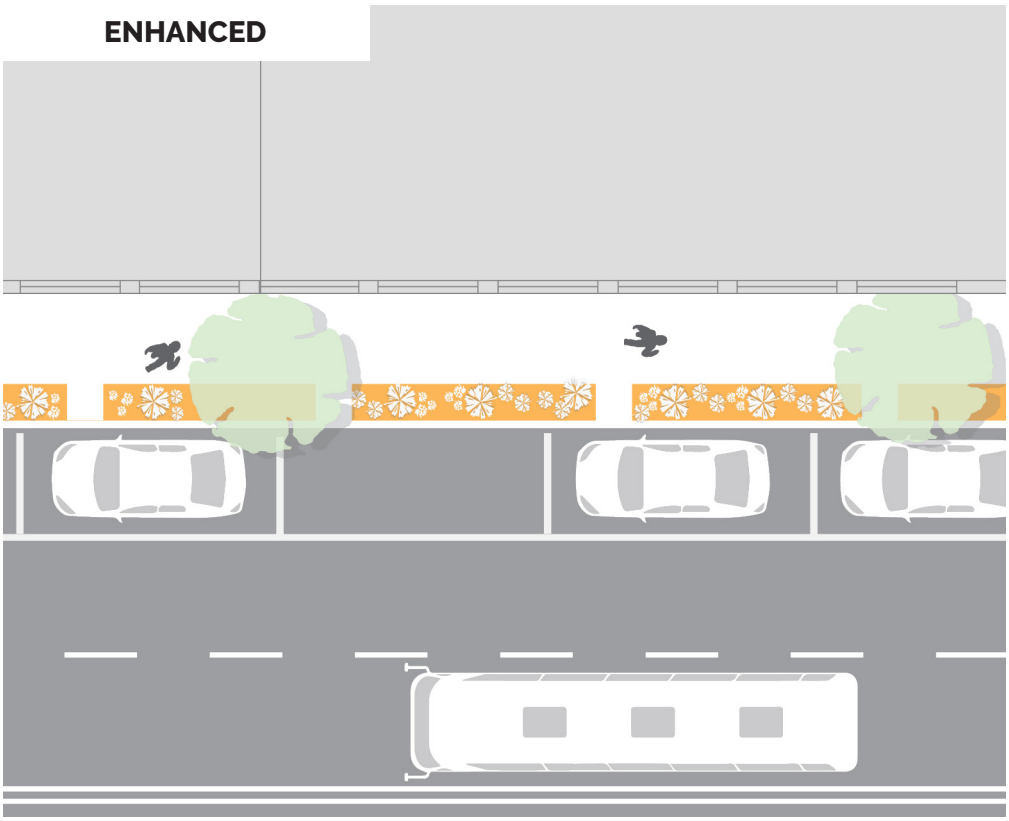
BASIC



APPLICATIONS

Sidewalk Buffers, also called verges, should be used on higher speed roads to separate the pedestrian right-of-way from vehicular traffic. They are typically at the edge of the sidewalk alongside parking or travel lanes. A Sidewalk Buffer is also appropriate where flooding and stormwater management is desired, particularly when it may be flush with the asphalt on rural or connector roads.

ENHANCED



Downtown Northampton, MA. Image Source: Street Plans.


Image Location: Unknown

CONSIDERATIONS

In some municipalities, Sidewalk Buffer installation and maintenance is the responsibility of the property owner. A permit is required to replace concrete with landscaping.

DESIGN GUIDANCE

1. An enhanced Sidewalk Buffer features more frequent breaks where there is On-Street Parking, for ease of access between the parked cars and sidewalk.
2. An enhanced Sidewalk Buffer features flowers and native plants, and is well-maintained to add beautification to a street.
3. Where there is room, a wider buffer can have a much larger capacity for capturing rainwater and reducing pooling of water on the sidewalks.
4. On rural roads, where a buffer is at grade with the asphalt, it offers a great opportunity to support local wildlife and capture stormwater runoff.

ADDITIONAL GUIDANCE

Design

- On residential roads, Street Trees are often planted in Sidewalk Buffers, rather than in tree pits.
- A Sidewalk Buffer can be transformed into a pervious strip, a linear landscaped area of permeable pavement or gravel, where stormwater runoff filtration is desired. These strips are more expensive to install and maintain, but treat and filter pollutants before stormwater enters the storm drain system.

Maintenance

- A buffer shall be regularly maintained, by mowing, pruning, weeding, and watering. The municipality is often responsible for maintenance.

WAYFINDING SIGNAGE

DEFINITION

Signs within the public right-of-way that help people understand their physical location, and communicate how to access specific destinations.

APPLICATIONS

Wayfinding Signage should be used in downtown, civic districts, areas dense with common destinations, and places with high pedestrian volumes, like at the Henry Hudson Trail. Wayfinding Signage is applicable in districts where there is a distinct brand, geared toward increasing visitors or encouraging commercial activity. Signage can be adapted to the scale of the pedestrian, bicyclist, or driver, and communicate transit, destination, and bicycle facility information.

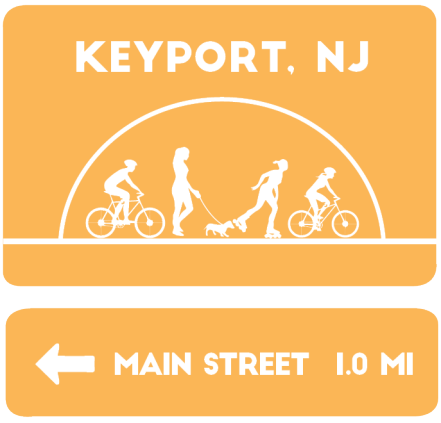
CONSIDERATIONS

- Confirmational signs communicate that one has arrived at the intended location.
- Informational signs provide both directional and distance to destination information on a single sign, or information about a pedestrian's current location.
- Directional signs provide both the direction of travel and distance to a place of interest / final destination.
- Wayfinding Signage can help direct people to municipal parking lots—alleviating demand for On-Street Parking— and key destinations like the Henry Hudson Trail or Keyport Waterfront Promenade.

CONFIRMATIONAL

INFORMATIONAL

DIRECTIONAL



Sarnia, ON, CAN. Image Source: City of Sarnia.

Pedestrian scale wayfinding. Image Source: Downtown Long Beach Alliance

DESIGN GUIDANCE

1. Consider how Wayfinding Signage can be designed to bring cohesion to a specific neighborhood, district, or corridor.
2. Avoid placing signage in locations already dense with it (e.g.. parking and travel lanes, Loading Zones, etc.), which can add distraction and clutter to a streetscape.
3. Wayfinding Signage is critical to orienting pedestrians in the Borough, and offers an opportunity to provide a consistent brand or aesthetic.
4. Use consistent branding, color and design elements (like logos) across all types of Wayfinding Signage.

ADDITIONAL GUIDANCE

Design

- Bicycle route Wayfinding Signage should be primarily green and white and use dimensions that comply with MUTCD standards.
- Wayfinding can be a part of a creative activation or installation, and include elements like sidewalk art, ground or wall murals, and / or column wraps.
- Signage should be on both sides of a street, trail, or other actively used pedestrian or bicycle thoroughfare.
- Signage containing maps should include the direction the user is facing at the top and a "You are Here" location to help orient users.
- Distances can be marked by how long it takes a pedestrian to reach the destination.

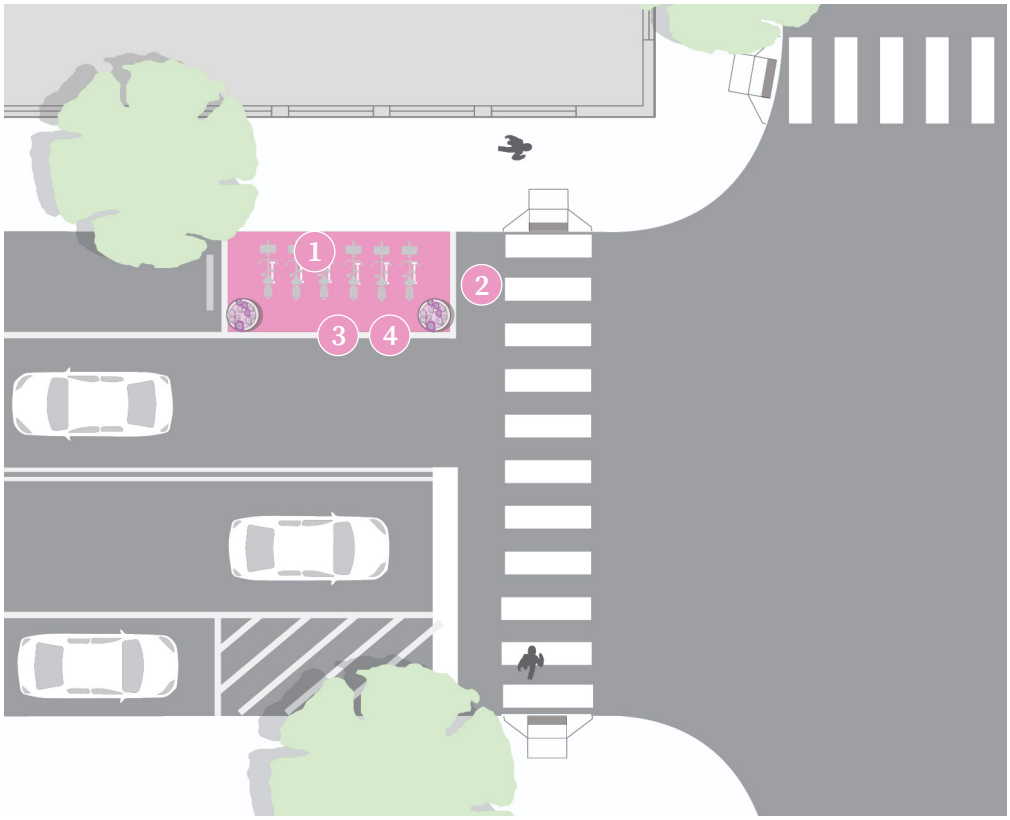
Maintenance

- The Borough, NJ TRANSIT / Academy Bus Company, or Keyport Bayfront Business Cooperative (KBBC) can implement and maintain Wayfinding Signage.

BIKE CORRAL

DEFINITION

Multiple bicycle parking spaces provided in curbside or On-Street Parking space.



CURBSIDE

APPLICATIONS

Bike Corrals typically repupose one curbside On-Street Parking space to accommodate 8-12 bicycle parking spaces with a variety of different kinds of bike racks. Corrals may be installed mid-block or near street corners, within site visibility triangle zones where vehicular parking or loading is not permitted. Bike Corrals are appropriate at key destinations, such as schools, civic buildings, main streets, or parks. The Borough has striped No Parking areas at intersections with problematic sight lines. Bike Corrals could be installed in these areas to prevent vehicles from parking in them.

CONSIDERATIONS

- Increased bike parking can have positive impacts on adjacent retail businesses, which benefit from increased activity and customer convenience.
- The inability to repupose On-Street Parking spaces, or lack of adequate visibility triangles or other buffer zones, can limit the feasibility of curbside bike parking.
- Corrals help reduce haphazard or oversubscribed sidewalk bike parking that often interferes with pedestrian access.
- Coordination with downtown business owners and the KBBC will help underscore the benefits of increasing bicycle parking, rather than vehicular parking.

New York, NY. Image Source: NYC DOT.


Bloomington, IN. Image Source: Indiana Public Media.

DESIGN GUIDANCE

1. Select bicycle racks that meet all basic performance standards and apply vertical barrier elements, such as circular or rectangular Planters, parking stops, or vertical delineator posts.
2. Provide a minimum of 4 feet between the first bicycle rack and adjacent parking and between the rack and the Crosswalk.
3. Use white, retroflective striping to delineate a Bike Corral. For temporary bicycle parking, use 4-inch white traffic tape around the perimeter.
4. All bicycle parking should be placed so parked bikes do not encroach on the adjacent bicycle or vehicular travel lanes.

ADDITIONAL GUIDANCE

Design

- Standard Inverted-U racks (anchored in asphalt or on rails) or custom art racks may be used so long as they are capable of supporting the bicycle frame with two points of contact.
- Site conditions, parking layout, demand, and various applications may dictate different Bike Corral size requirements.
- Street murals may be used to add character, increase visibility, and support neighborhood aesthetics.
- Optional elements include fix-it stations and mini bike pavement markings. If adjacent to a bike lane, consider green Bike Corral ingress markings.
- If occupying an On-Street Parking space, typical Bike Corral dimensions are 20 feet by 8 feet.
- See APBP's *Essentials of Bike Parking: Selecting and Installing Bike Parking that Works* (2015) for more details.

Maintenance

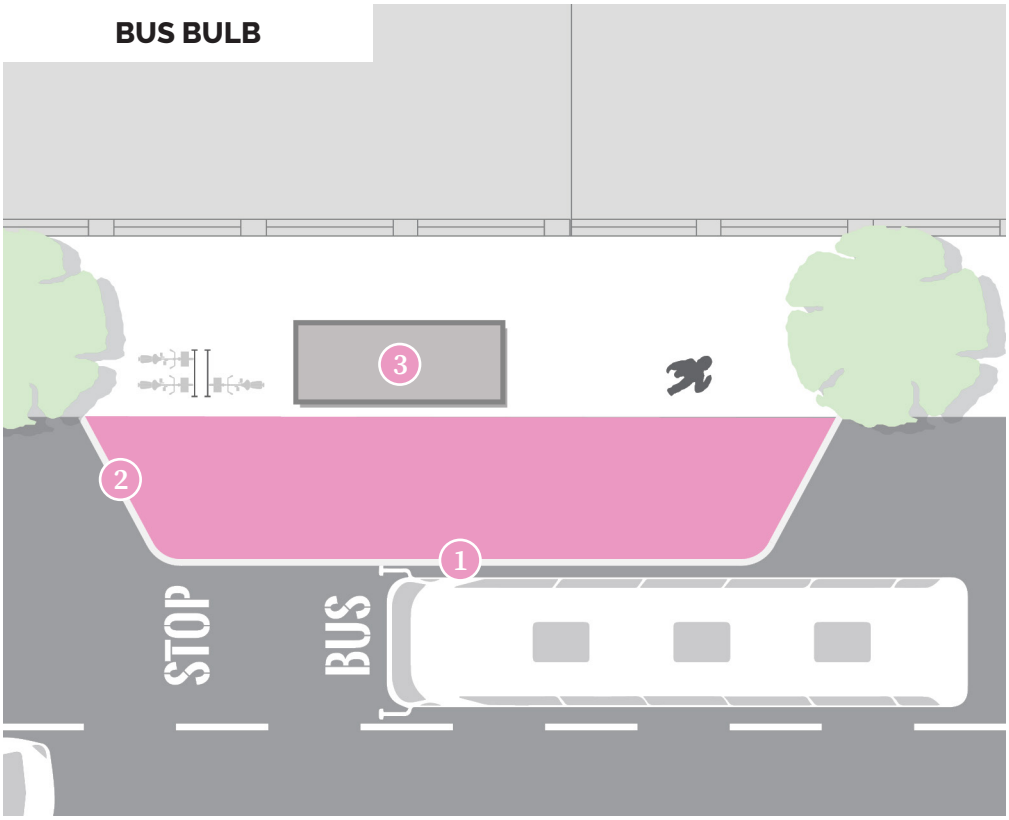
- Ensure barrier and rack elements are inspected often for damage, and be prepared to hastily replace broken elements.
- Creative / beautification elements like surface coatings and plants / flowers may need additional and more frequent maintenance.

BUS STOP

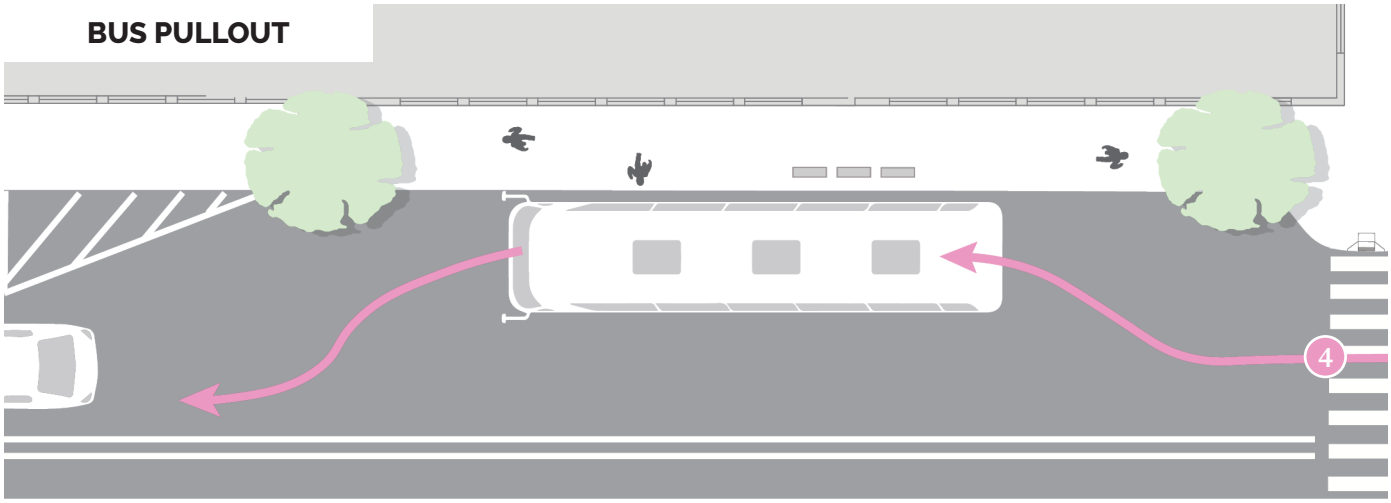
DEFINITION

A designated place where people get on and off the bus to reach their destination. A bus can pull out of the travel lane all the way to the curb for boarding, and re-enter the travel lane (bus pullout), or a curb extension can help facilitate in-lane stopping for faster service (bus bulb).

BUS BULB



BUS PULLOUT



APPLICATIONS

Bus Stop locations depend on the transit route and network. However, certain streets like neighborhood connectors, primary arterials, and streets that connect urban / commercial centers typically have Bus Stops. Bus bulbs are particularly appropriate where there is a curbside parking lane, on routes where transit service needs to be expedited and / or made more reliable. A bus pullout is a more standard configuration, especially on streets with lower frequency bus service, and is best placed at the far side of intersections. Bus Stops and related amenities are appropriate along Broadway, Front Street, Broad Street, and 1st Street.

San Francisco, CA. Image Source: NACTO.

Image Source: NACTO.

DESIGN GUIDANCE

1. Bus bulbs should be a minimum of 40 feet long on routes with frequent service, and shall be flush with the sidewalk.

2. A bus bulb should be approximately equal to the width of the parking lane, with a return angle of 45 degrees.

3. Bus Stops should be equipped with shelters and / or seating wherever possible, to improve rider experience. Bike Parking is also recommended.

4. Bus Stops must have safe access via sidewalks and appropriate street crossing locations. Where possible, pedestrian crossings should be accommodated behind the departing transit vehicle.

ADDITIONAL GUIDANCE

Design

- Far-side Bus Stops (those after an intersection) are preferred, as they allow for pedestrians to cross behind the bus, which is safer and makes them more visible to oncoming vehicles.
- Pullout Bus Stops are typically 80 feet long when located near-side, and 100 feet when located far-side.
- An accessible boarding area, typically 5 feet long (parallel to the curb) by 8 feet wide, must be provided to permit boarding maneuvers by a person using a wheelchair.
- Bus Stops should be located at least 10 feet from the Crosswalk to ensure pedestrians and drivers have adequate sightlines.

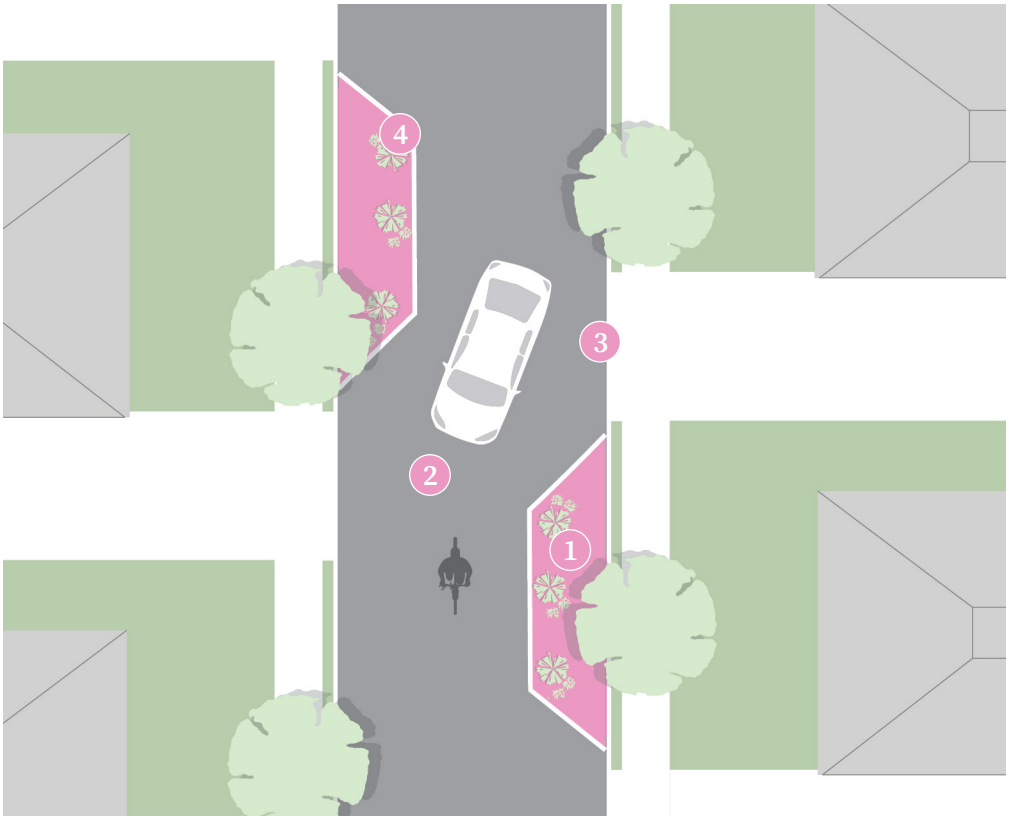
Maintenance

- Bus Stop amenities, like route signage, Public Seating, trash receptacles, lighting, and Bike Parking, should be regularly maintained to ensure rider access and comfortability.
- NJ TRANSIT is responsible for the maintenance of Bus Stops.

CHICANE

DEFINITION

A staggered curb extension that requires motorists to shift their vehicle laterally within the travel lane.



APPLICATIONS

Chicanes are appropriate along thoroughfares of low-speed (25 mph or lower) and low-volume (3,000 ADT or lower) streets. They are typically applied as a traffic calming tool within a residential neighborhood setting. Chicanes can be used to reduce speeds on streets that otherwise have long blocks or infrequent stopping points.

CONSIDERATIONS

- Chicanes are a relatively inexpensive traffic calming tool, and can be accomplished with On-Street Parking lanes where new construction is not feasible.
- The addition of Chicanes may result in a loss of parking spaces. Placement can be challenging depending on the spacing and frequency of driveways / curb cuts.
- Chicanes can provide an opportunity to introduce public art or other street enhancements, like Planters and bike racks.
- Low-cost Chicanes may be created along narrow streets by alternating the location of On-Street Parking or using interim Quick Build materials like paint, planters, and delineators.


Seattle, WA. Image Source: Twitter, Dongho Chang.


Bloomington, IN. Image Source: Indiana Public Media.

DESIGN GUIDANCE

1. Chicanes should be 1 foot narrower than the parking lane or no more than 7 feet wide if there is no parking.
2. Chicanes should have a minimum ingress of 15 feet and egress of 5 feet.
3. Placement of Chicanes should not impede access to / from existing driveways, unless part of an access management plan.
4. Chicanes can include landscaping for Stormwater Management and / or neighborhood greening, or include circular or rectangular Planters for beautification.

ADDITIONAL GUIDANCE

Design

- Parking Chicanes should be placed on alternate sides of the street approximately every 100 feet as driveways and intersections allow.
- Roads must be at least 25 feet wide to accommodate Chicanes and two-way travel, with 18 feet dedicated to the travelway.
- Remove the centerline from streets with Chicanes, except at intersection approaches.
- Chicanes may be temporarily constructed using surface materials like traffic paint, textured surface treatments (e.g.. Ruby Lake Glass), or colored resin (e.g.. methyl methacrylate, or MMA).
- Chicanes must maintain stormwater flow / drainage.
- Parking stops and other vertical barrier elements may be placed between the parking lane and a Quick Build Chicane.

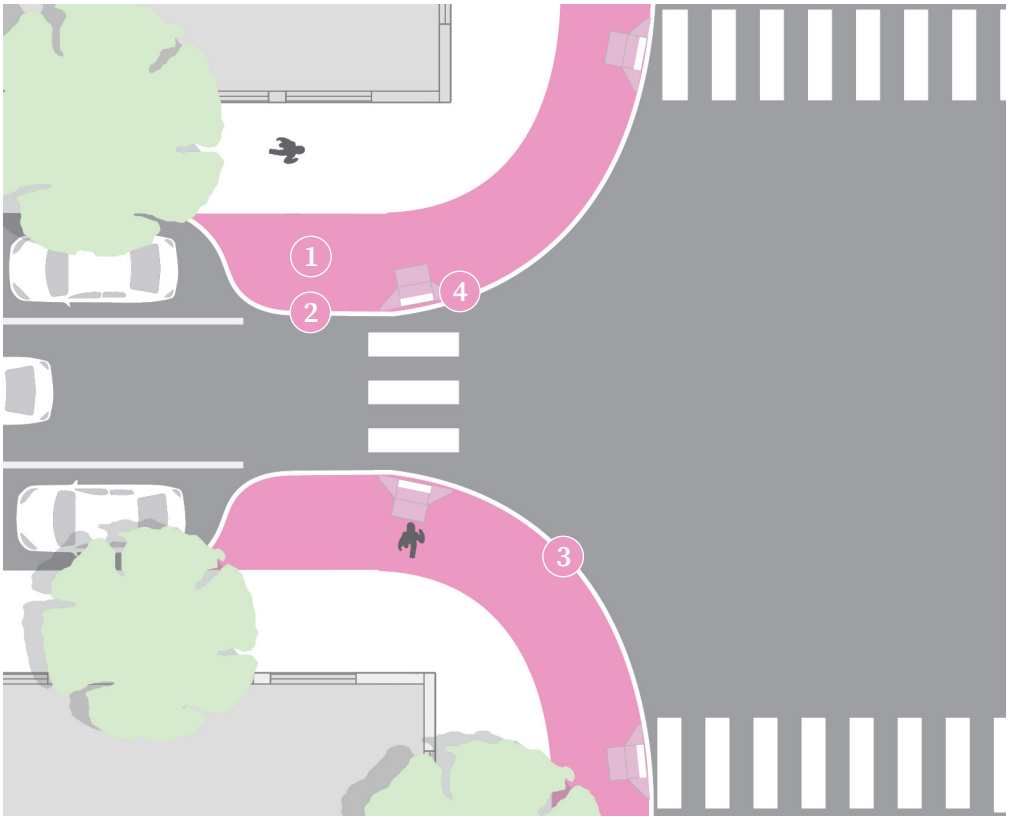
Maintenance

- If constructed temporarily, a Chicane surface material may need to be reapplied once or twice a year.

CURB EXTENSION

DEFINITION

A physical expansion of the sidewalk that narrows the travelway, slows turning vehicles, and creates safer and shorter crossings for pedestrians.



APPLICATIONS

Curb Extensions are appropriate on thoroughfares with On-Street Parking (parallel or diagonal), especially in areas with high pedestrian volumes, vulnerable populations of people, along the perimeter of schools and parks, and at high-crash locations. Curb Extensions may also serve as important traffic calming gateways to downtown streets, neighborhoods, and districts. Where space allows, Curb Extensions can provide increased protection for On-Street Parking and bicycle facilities near intersections. This strategy could help Keyport address its high rate of struck vehicle crashes on through streets.

CONSIDERATIONS

- Curb Extensions improve intersection safety not just for pedestrians, but for all travel modes, by slowing turning speeds.
- They increase available space for other Complete Streets tools, like Planters, Bioswales, Bicycle Parking, Recycling and Trash Receptacles, etc.
- Curb Extension design should carefully consider winter maintenance operations, existing stormwater infrastructure, utilities, and bikeways.

Sacramento, CA. Image Source: Dan Allison.

Austin, TX. Image Source: City of Austin.

DESIGN GUIDANCE

1. Curb Extensions should be at least 1 foot shorter than adjacent parking stalls (typically 8 feet wide) and a minimum of 2 feet wide when there is no curbside parking.
2. Curb Extensions should have a minimum ingress length of 20 feet and minimum egress length of 5 feet.
3. Curb radius should be determined by primary design vehicle, but should not exceed 15 feet wherever possible.
4. Permanent Curb Extensions must include ADA-compliant Curb Ramps.

ADDITIONAL GUIDANCE

Design

- When applied to streets with bikeways, Curb Extensions must not infringe upon any designated bicycling space.
- Where certain bikeway types are present, Curb Extensions may be used to form a protected intersection configuration.
- Curb Extensions may be used to reduce illegal parking at Crosswalks and Bus Stops.
- Bicycle Parking corrals, Rain Gardens, and other plantings may be added where need exists.
- Mountable vertical elements, like delineator posts, may be added to the Curb Extension area, but must remain clear of the crosswalk / pedestrian path.
- Interim Curb Extensions can be installed using a 4 inch double white stripe, vertical barrier elements, and a contrasting surface coating (optional).

Maintenance

- The Public Works Department is responsible for maintenance of Curb Extensions.
- If plantings are placed within a Curb Extension, they may require additional maintenance.

ELECTRIC VEHICLE CHARGING

DEFINITION

Exclusive parking spaces adjacent to charging stations reserved for electric vehicle use.

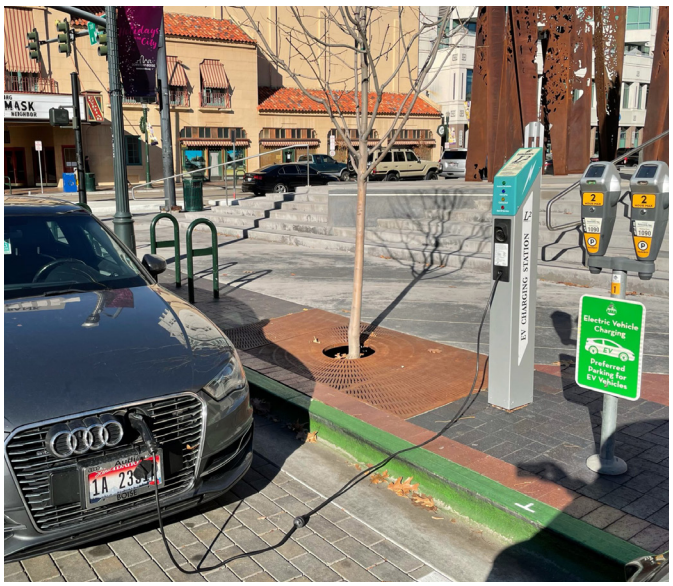
APPLICATIONS

Electric Vehicle Charging stations (otherwise referred to as Electric Vehicle Supply Equipment, or EVSE) are appropriate on streets with already-demarcated On-Street Parking, and with access to existing utilities (both power and communications). Locations of charging stations are dependent on access to utilities, and the magnitude and type (existing vs. dedicated circuit) of power required for the specific station.

CONSIDERATIONS

- Electric Vehicle Charging stations help the transition from fuel-operated vehicles to a more sustainable option.
- Placing Electric Vehicle Charging in prime locations, like on Front Street, can present more costs than benefits if these parking spaces are not proximate to an existing power supply.
- Electric Vehicle Charging may require additional signage to differentiate the parking spaces for fuel-powered vehicles from those for electric vehicles.

Berkeley, CA. Image Source: Natalie Orenstein.



Boise, ID. Image Source: Don Day.

DESIGN GUIDANCE

1. Average dimensions of a station are 36 inches long, 30 inches wide, and 72 inches tall. There should be a minimum of 36 inches between charging stations and buildings or other sidewalk amenities.
2. Charging stations shall not impede passenger loading and unloading, or encroach on pedestrian space.
3. Signage and ground markings should be used to denote spaces are reserved for electric vehicles.
4. Electric vehicle parking spaces should be at least 9 feet wide.

ADDITIONAL GUIDANCE

Design

- Proper lighting should be considered so that pedestrians do not trip on charging cables. Protect stations with bollards, Planters, landscaping, or other amenities to prevent vehicle strikes.
- The number of vehicles accommodated by a charging station is determined by the capacity of the existing electrical system.
- Installing EVSE proximate to an existing power source reduces the need for cutting, trenching, and drilling to add new conduits.
- Signage should clarify whether or not the electric vehicle parking space is ADA accessible.
- Review *Siting and Design Guidelines for Electric Vehicle Supply Equipment (EVSE)*, commissioned by the Transportation & Climate Initiative of the Northeast and Mid-Atlantic States.

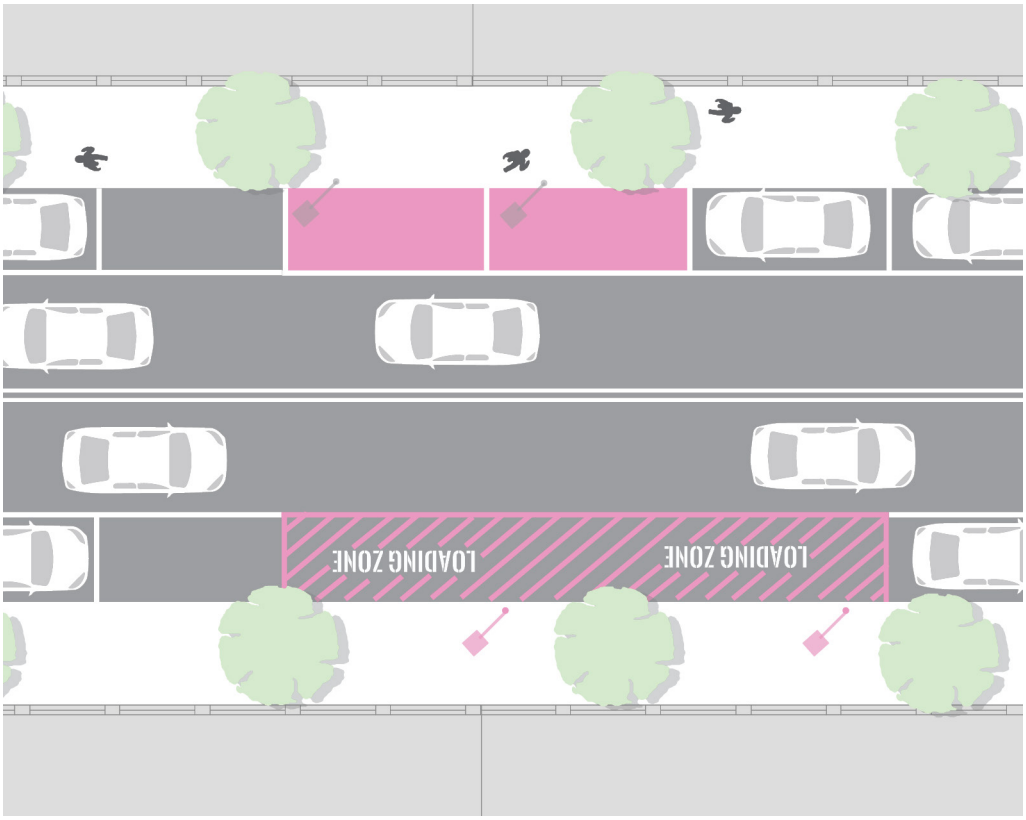
Maintenance

- Regular maintenance will depend on the host-operator agreement. EVSE hosts or owners (e.g., garage managers, retail chain stores, transportation authorities) are responsible for managing the use and maintenance of the EVSE and parking space.

LOADING ZONES

DEFINITION

Designated, on-street areas for the pick-up and delivery of passengers or goods by taxis / ride-share or commercial vehicles, such as larger trucks or vans.



CURBSIDE

APPLICATIONS

Loading Zones for taxis / ride-sharing and commercial vehicles serve separate users, but are both applicable on streets with a high number of cultural, civic, or commercial destinations, such as retail stores, restaurants, offices, and hotels.

CONSIDERATIONS

- Designated curbside Loading Zones for taxis / ride-share and commercial deliveries ensure efficient pick-ups and drop-offs, while minimizing double parking or in-lane stops, which impact traffic flow.
- Loading Zones often take the place of several curbside parking spaces and should be placed strategically to maximize convenience, safety, and access benefits for all streets users, including drivers. Thus, short-term passenger loading should be located where conflicts with other parking vehicles, buses, and bicycles will be limited.
- Curbside loading space can also be used flexibly by other private vehicles in off-hours if managed with clear signage that designates what activity is permitted at certain times of the day, or day of the week.

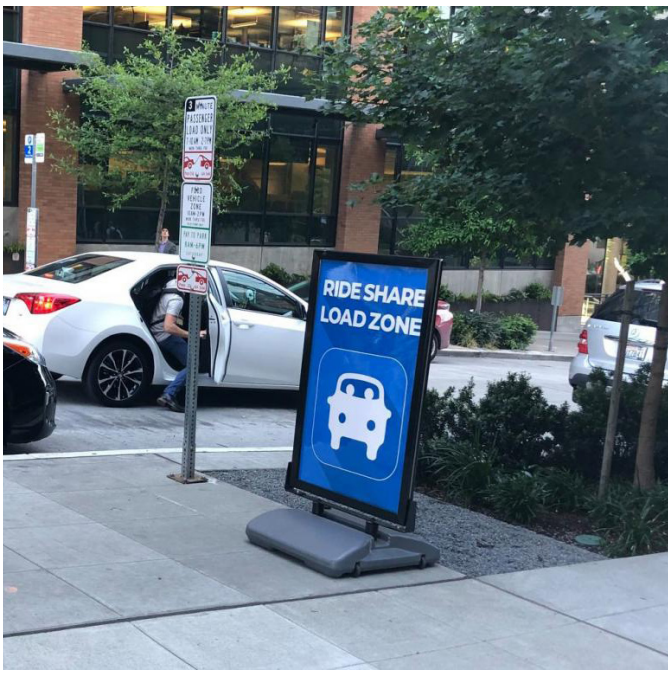
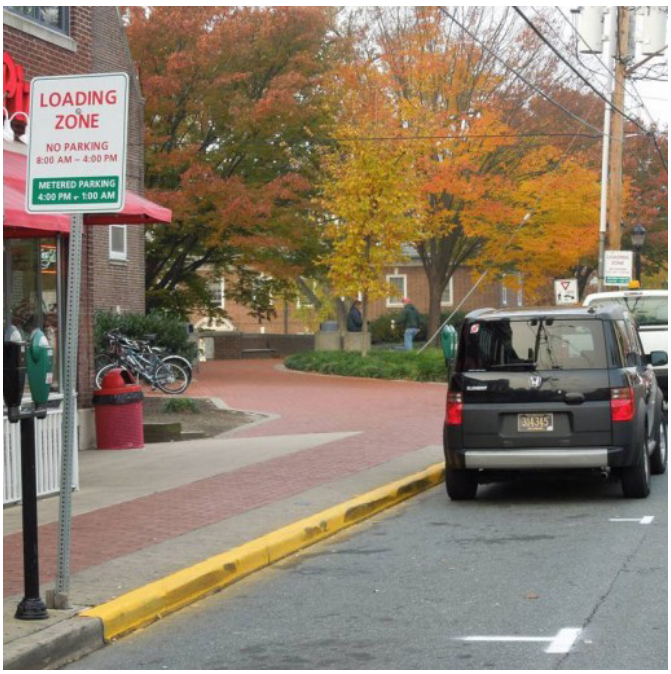


Image Location: Unknown



Newark, NJ. Image Source: Newark Post.

DESIGN GUIDANCE

1. Loading Zones should be indicated with proper and clear signage that details regulatory information, visible to both pedestrians and vehicles.
2. Commercial Loading Zones may be delineated by yellow hatched striping at a 45 degree angle, or a painted curb with signage.
3. Commercial Loading Zones typically require two parking spaces, or 40 feet, while passenger Loading Zones are often 20-22 feet.
4. For commercial loading, two zones per block (on both sides of the street) is ideal for the busiest corridors.

ADDITIONAL GUIDANCE

Design

- Restricting commercial loading to certain times of the day is a good strategy to reduce the convergence of rush hour or peak pedestrian times and the performance of deliveries and pick-ups.
- Both commercial and taxi / ride-share Loading Zones should have time limits to ensure the movement of vehicles. For commercial Loading Zones, standard times are 10-30 minutes.
- Parked vehicles should not idle, eliminating noise and air pollution.

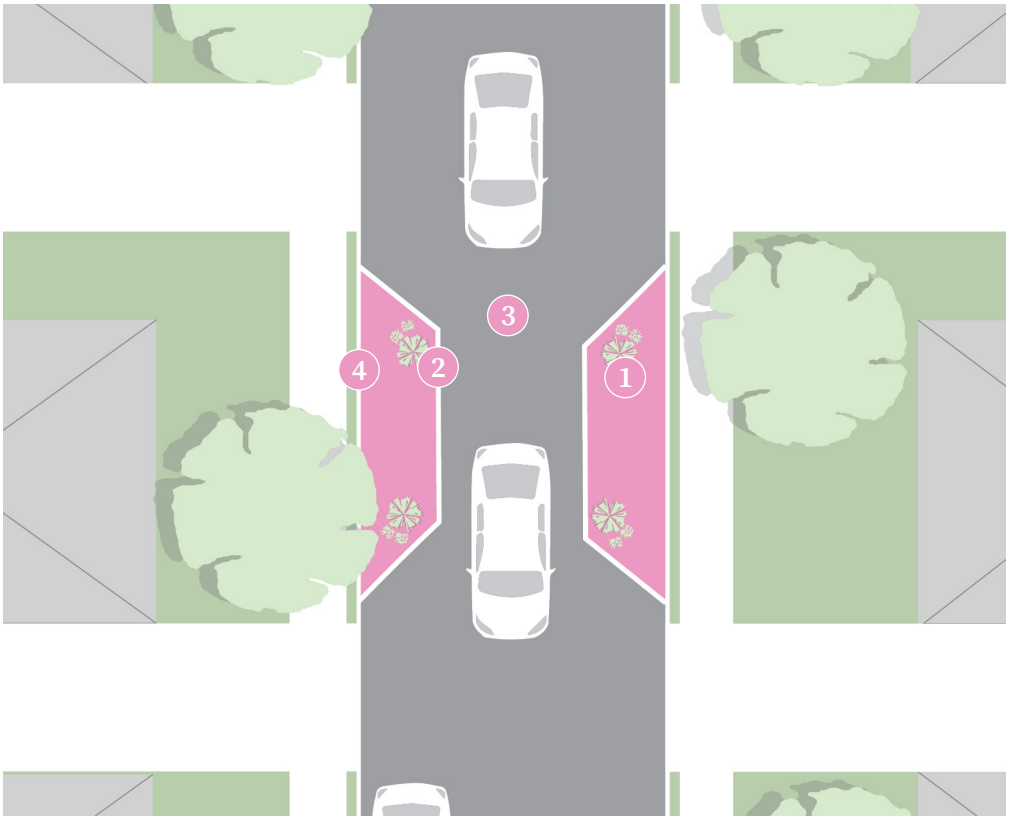
Maintenance

- Enforcing time limits on Loading Zones may require extra manpower and staff time.
- Signage and pavement markings shall be kept fresh and in good condition for maximum legibility.

MID-BLOCK NECKDOWN

DEFINITION

Mirrored mid-block curb extensions applied to both sides of one- or two-way streets to slow vehicular traffic.



APPLICATIONS

Mid-Block Neckdowns are appropriate along lower-speed (35 mph or slower) and lower-volume (10,000 ADT or less) volume thoroughfares. They are typically applied as a traffic calming tool along block lengths that exceed 400 feet, and / or where Mid-Block Crosswalks are frequent due to the location of common destinations (school, park, library etc.)

CONSIDERATIONS

- Mid-Block Neckdowns are a relatively inexpensive traffic calming design tool.
- The addition of a Mid-Block Neckdown may result in a loss of On-Street Parking.
- Placement can be challenging depending on the spacing and frequency of driveways / curb cuts.
- Mid-Block Neckdowns slow traffic speeds by forcing a yield condition between opposing directions of vehicular travel, or by narrowing the travelway along a one-way street.
- Public art, Public Seating, and stormwater management may be added as placemaking enhancements.

Image Source: Low Impact Development Center.

New York, NY. Image Source: NYC DOT.

DESIGN GUIDANCE

1. Mid-Block Neckdown width varies based on street design, but should be at least 6 feet wide when adjacent to on-street parking.
2. Mid-Block Neckdowns should be at least 20 feet long.
3. The travel lane within the pinch point should be at least 9 feet wide.
4. Mid-Block Neckdown placement should not impede access to / from existing bicycle lanes, bus stops, or driveways unless part of an access management plan.

ADDITIONAL GUIDANCE

Design

- In select locations, the area defined by a pinch point may be used for other streetscape amenities, such as Bike Parking / fix-it stations, trash receptacles, benches, Bus Stops, etc. but must not impede pedestrian flow, obstruct clear path emergency vehicle operations, or limit sight lines.
- Yield markings may be used to reinforce desired vehicular movement.
- Pinch point curb extensions must maintain stormwater flow / drainage.
- Vertical barrier elements should be used to alert drivers and snow plow operators to presence of the pinch point area.

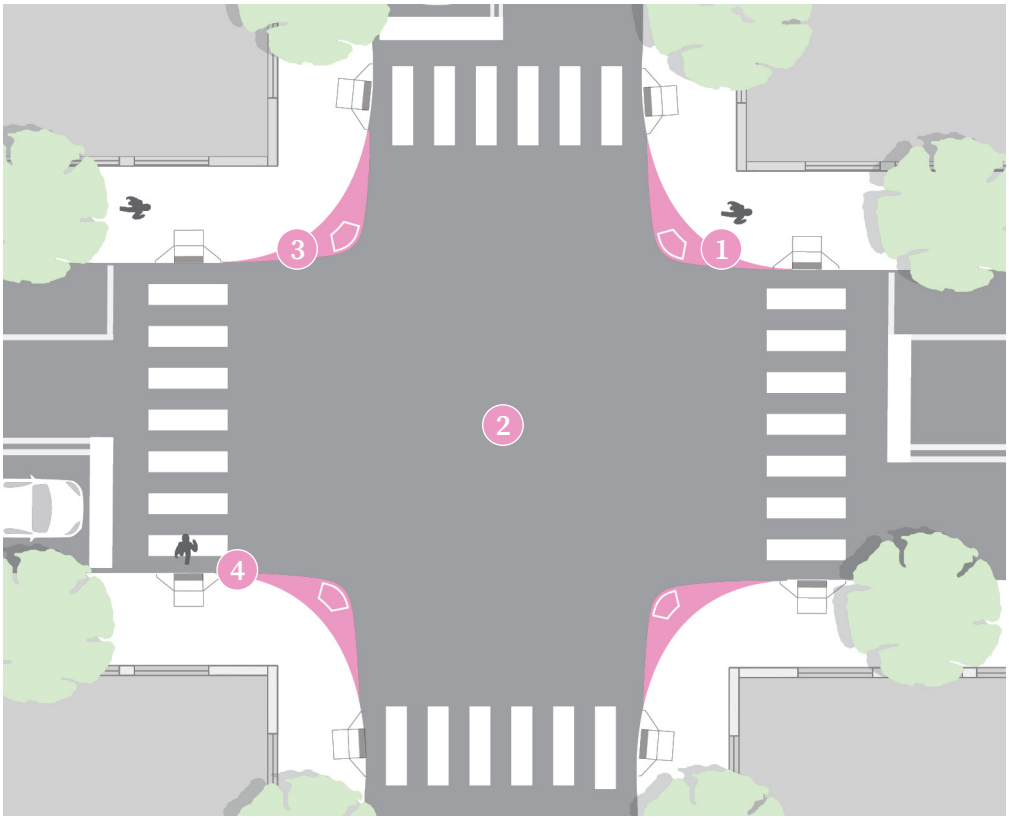
Maintenance

- The Public Works Department, or another designee, should regularly maintain Mid-Block Neckdowns.
- Plants or other elements are placed within Mid-Block Neckdowns may require additional maintenance.

MOUNTABLE CURB

DEFINITION

A corner design that provides a tighter radius for passenger vehicles, and a more generous angle for larger trucks. Mountable Curbs are also called turn aprons.



CURBSIDE

APPLICATIONS

Mountable Curbs are typically used to decrease the turning speeds for most vehicles while still accommodating the turning movements of larger vehicles. These designs are useful on truck routes or where large emergency response vehicles would otherwise be unacceptably impeded.

CONSIDERATIONS

- Mountable Curbs provides a traffic calming solution without inhibiting emergency vehicle and commercial truck access.
- Mountable Curbs should not be confused as queuing space for pedestrian crossings.

Seattle, WA. Image Source: Seattle Bike Blog.


Portland, OR. Image Source: Flickr, Steven Vance.

DESIGN GUIDANCE

1. Mountable Curbs should start at even grade with the asphalt, but gradually slope to meet the top of the curb.
2. All Mountable Curbs should be built to withstand large trucks with full loads.
3. Mountable Curbs are typically delineated with bright paint or other high-visibility surface treatment to provide visibility for drivers.
4. Mountable Curbs shall not impede pedestrian crossings, or be designed to appear as pedestrian queue space.

ADDITIONAL GUIDANCE

Design

- Mountable Curb radii should be determined by primary design vehicle, but wherever possible should not exceed 15 feet.
- Forward stop bars can indicate bicycle positioning and queuing at intersections for added visibility.

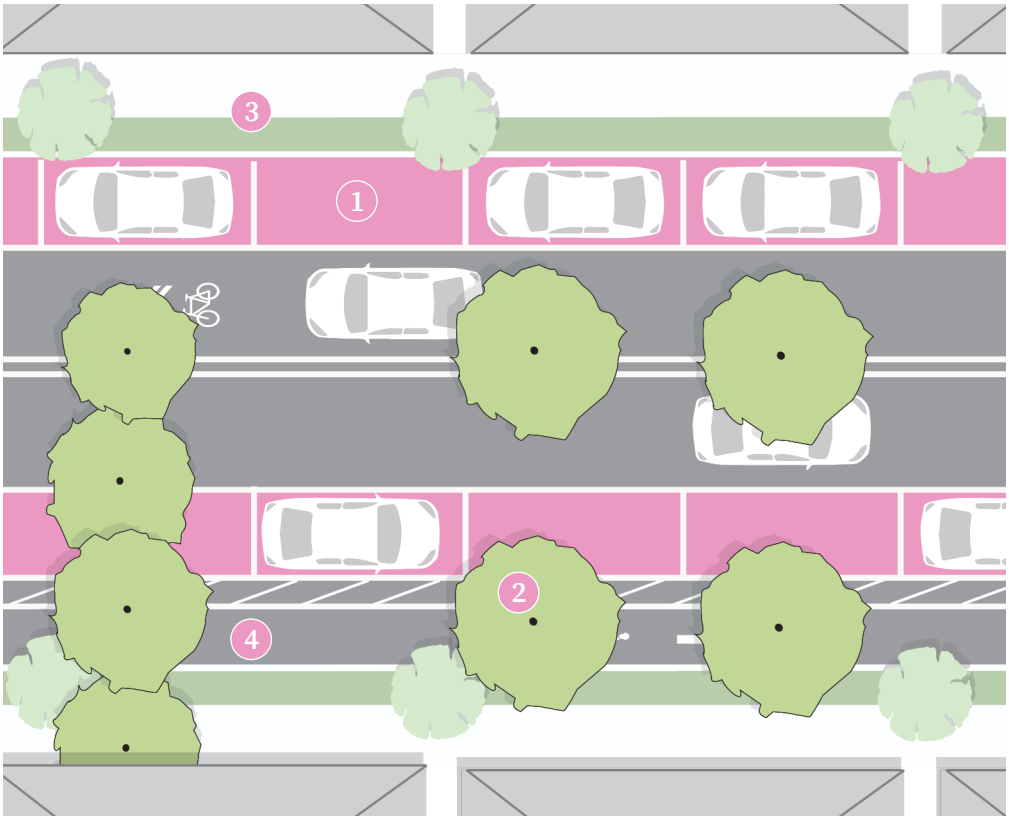
Maintenance

- It's important to keep Mountable Curbs free of debris and the Curb Ramps in good condition.
- In colder months, clear snow and ice from Mountable Curbs as soon as possible to avoid impeding the turn movements of trucks.

ON-STREET PARKING

DEFINITION

The storage of motor vehicles within the street right-of-way.



CURBSIDE

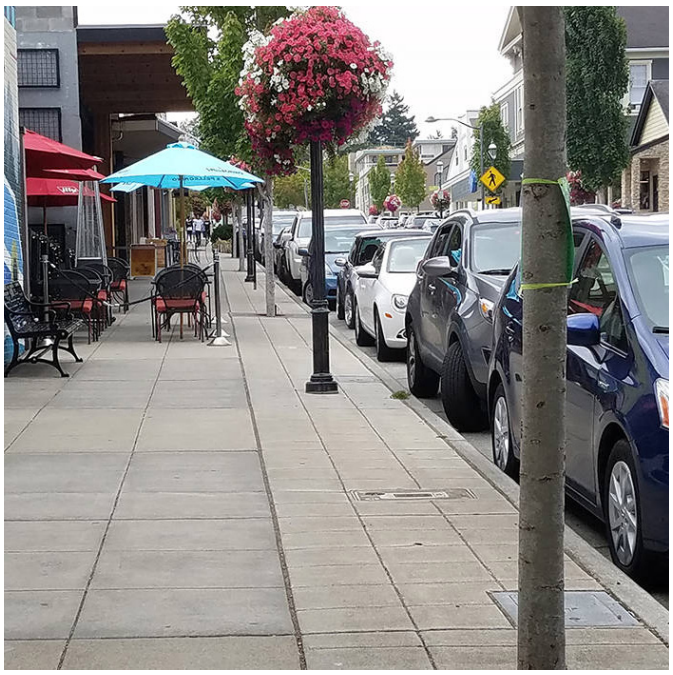
APPLICATIONS

On-Street Parking is appropriate on most commercial streets, as it facilitates access for customers, goods, and services. Additionally, On-Street Parking within residential streets or adjacent to parks or other public spaces is useful where driveway, garage space, or off-street parking is limited.

CONSIDERATIONS

- Where there is enough street right-of-way, On-Street Parking is an effective traffic calming tool that may come in a number of configurations: parallel curbside, parallel floating (see above), head-in angled or reverse-angled.
- Removing some On-Street Parking spaces may be desired as communities seek to expand either pedestrian space or to add / improve bicycle facilities.
- The introduction of On-Street Parking can mark a transition from arterial streets to more urban thoroughfares, which is a platform for generating more value per taxable acre than conventional car-oriented roadway configurations.

Richmond, VA. Image Source: City of Richmond.



Everett, WA. Image Source: Sharon Salyer.

DESIGN GUIDANCE

1. Parallel On-Street Parking spaces are typically 7-9 feet wide, and 18-20 feet long.
2. Placing a 2-foot buffer between parking and the bicycle lane can help protect cyclists from being hit by car doors.
3. Sidewalk amenities should be placed so as to not obstruct access to the On-Street Parking, offering frequent gaps.
4. Where a parking lane is floating, provide signage to pedestrians to cross the bicycle facility cautiously.

ADDITIONAL GUIDANCE

Design

- In high-demand locations, like downtowns, On-Street Parking should be priced variably to encourage turnover so that approximately 15 percent of spaces remain available for new users. This cuts down on those circling the block looking, which in turn reduces congestion and pollution.
- Consider installing vertical barriers as a buffer between bicycle lanes and floating parking lanes to better protect cyclists.

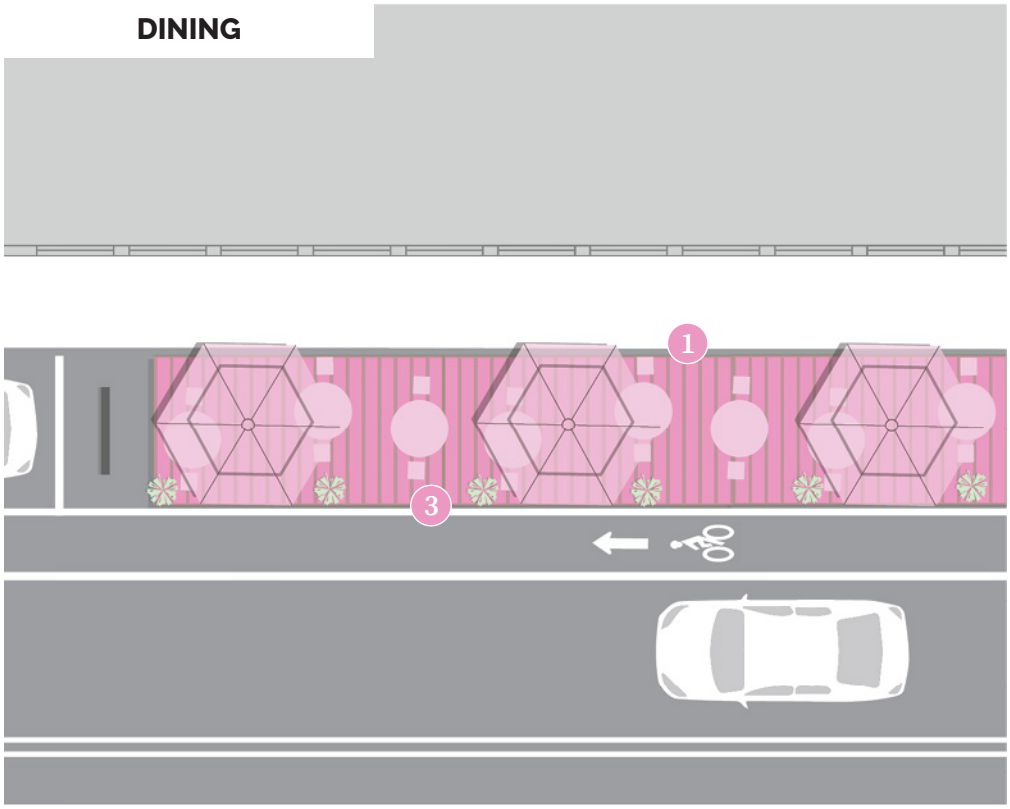
Maintenance

- On-Street Parking spaces will need to be re-striped periodically and generally kept free of debris. Meters will need to be kept in working order.

PARKLET / DINING DECK

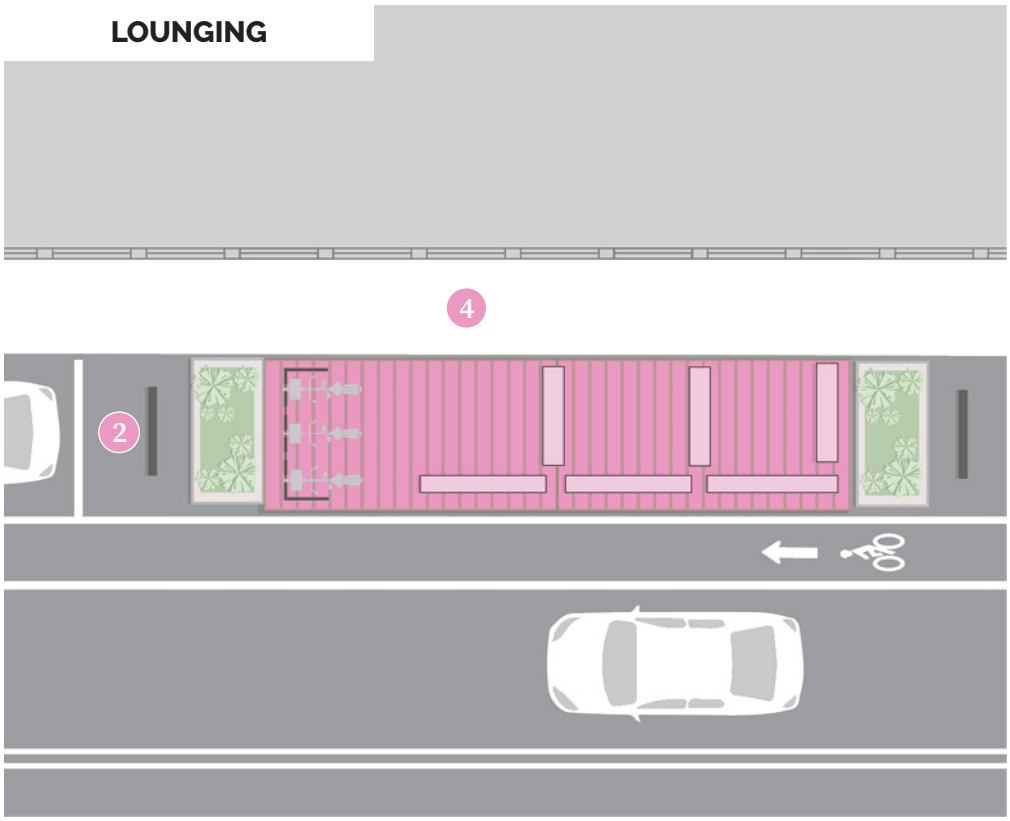
DEFINITION

The conversion of curbside parking into usable public space or commercial dining, either using the street surface or a raised platform level with the sidewalk.



APPLICATIONS

Parklets and Dining Decks are applicable where sidewalks are too narrow for traditional Sidewalk Cafes, or where property owners or residents see a need to expand the seating capacity or public space on a given street. Parklets and Dining Decks are most successful along streets with commercial and retail activity, especially where local businesses have limited indoor seating. Unlike Dining Decks, Parklets are public spaces, often sponsored and maintained by local businesses, that do not require commercial purchases to use the space.



Burlington, VT. Image Source: City of Burlington.

San Francisco, CA. Image Source: Liz Hafalia.

DESIGN GUIDANCE

1. Buffers, such as Planters or other vertical elements, should be installed to separate Parklets from vehicles. Seating should be provided.
2. There should be a 4-foot buffer between a Parklet or Dining Deck edge and any adjacent parking stalls.
3. A Parklet or Dining Deck should be at least 6 feet wide and have a buffer between the travel lane that is at least 1 foot wide.
4. Without additional heating sources, Parklets and Dining Decks may need to be removed between November 1st and April 1st.

ADDITIONAL GUIDANCE

Design

- Parklets / Dining Decks should have a platform flush with the curb or an ADA-compliant ramp.
- Surface material treatments and other amenities, like Planters, Bike Parking, shade elements, and interactive art pieces are recommended.
- Materials should be of a high-quality for enduring use attractiveness.
- When installed at the street level, a 4-inch retroreflective double white line is recommended to delineate the space

Maintenance

- Parklets / Dining Decks are often constructed as partnerships between municipalities and local businesses or community organizations / non-profits. Typically, maintenance and programming is performed by the community partner rather than the municipal government. Where there is no partnership, the municipal government is responsible for installation and maintenance.
- Municipalities will also often create a separate Parklet permit application with design and installation standards for businesses and / or BIDs to receive permission from the municipality install one in an On-Street Parking space.

TWO-STAGE TURN QUEUE BOX

DEFINITION

A pavement marking that provides a clear and safe way to make left turns at multi-lane signalized intersections from a right side bike lane, or right turns from a left side bike lane.

CURBSIDE

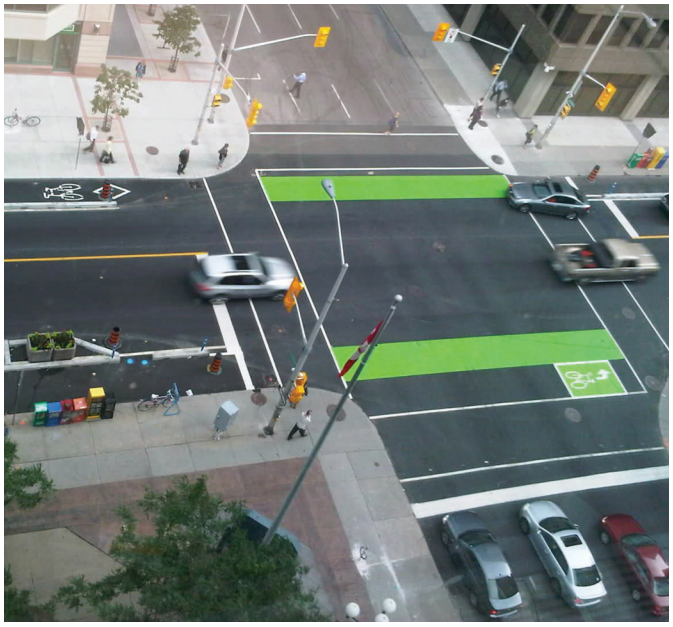
APPLICATIONS

Two-Stage Turn Queue Boxes are appropriate where bikeways exist and where one or more of the following conditions are present:

- Signalized intersections
- Multi-lane roadways
- Along roadways with high traffic speeds and/or traffic volumes
- Where a significant number of bicyclists turn left from a right side facility
- Along streets with protected bike lanes

CONSIDERATIONS

- Two-Stage Turn Queue Boxes are pavement markings that allow for the otherwise underutilized, inactive roadway space to facilitate an often-unsafe bicyclist movement.
- They be implemented safely where there is not existing On-Street Parking, a bikeway facility, or enough roadway in the intersection for protection from moving vehicles.
- Two-Stage Turn Queue Boxes reduce the need for a demanding 'look over the left shoulder and turn' maneuver.
- When used for left turns, they can improve bicyclist's visibility, and create a queuing space for bicyclists, reducing conflicts between travel lanes, thru-bike lanes and Crosswalks.


Ottawa, Ontario, CAN. Image Source: NACTO.


Portland, OR. Image Source: NACTO.

DESIGN GUIDANCE

1. Bike boxes should be 7 feet to 11 feet wide. The bike marking is an MUTCD-compliant, 72-inch tall stencil with a small left arrow (bike lane scale).
2. Crossbike markings (bicycle intersection markings) should be required as a link to the box from any on-street facility, and to offer guidance for bicyclists and drivers.
3. Recommended materials for durability include green retroreflective traffic paint, Ruby Lake Glass, or methyl methacrylate (MMA).
4. The box shall be placed in a protected area, typically in line with an On-Street Parking lane and / or between crossbike markings and the Crosswalk.

ADDITIONAL GUIDANCE

Design

- Stop bars and Crosswalks may be adjusted or realigned to allow space for a queue box where existing roadway geometry is constrained.
- A "No Turn on Red" sign must be installed overhead to prevent vehicles from entering the queue box during a red signal phase.
- A Bike Signal, with leading bicycle interval phase, may be installed in conjunction with the Two-Stage Turn Queue Box.
- The specific crossbike marking used will depend upon the sending bikeway type and the volume of motor vehicles traveling through the intersection. Multiple positions are possible for queuing boxes, depending on intersection configuration and signalization.
- The bicycle stencil and turn arrow should clearly indicate proper bicycle direction and positioning.

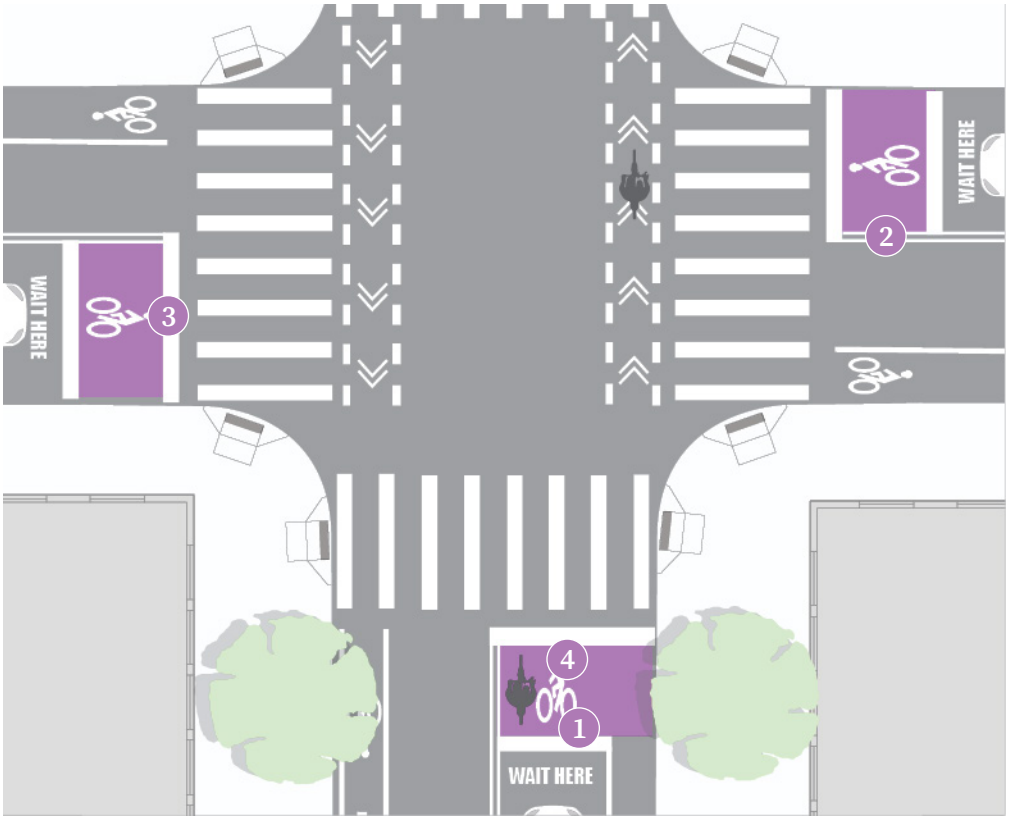
Maintenance

- Pavement coating may need annual touching up, depending on weather. Ensure bike marking and arrow are always visible.

BIKE BOX

DEFINITION

A designated area for bicyclists to queue ahead of one or more travel lanes.



APPLICATIONS

Bike Boxes may be applied at signalized intersections with designated bikeways and are most appropriate where bicyclists frequently turn left or vehicles frequently turn right. Bike Boxes are especially useful where a left turn is required to follow a designated bike route, access a shared-use path, or when the bicycle lane moves to the left side of the street (as in a one-way street condition) where the left-side placement reduces the likelihood of conflicts with parked vehicles.

Bike Boxes may also be used in conjunction with shared use lane markings (sharrows) and / or where pedestrian traffic is high, as the advanced vehicular stop bar discourages motorists from encroaching on the Crosswalk.

CONSIDERATIONS

- Bike Boxes improve bicyclist placement at intersections in locations near downtown where shared use lane markings (sharrows) are recommended to complete the Borough network.
- They provide a safe and visible way for bicyclists to position themselves ahead of traffic during the red signal phase to either proceed straight through the intersection, or to make a left turn to an intersecting bikeway facility.
- Bike Boxes help bicyclists clear an intersection quickly, minimizing impediments to transit or other vehicular traffic.


Austin, TX. Image Source: NACTO.


Chicago, IL. Image Source: NACTO.

DESIGN GUIDANCE

1. Bike Boxes should extend across the entire travel lane, bike lane, and parking (if present).
2. Bike Boxes should be 10-16 feet long.
3. The bike box shall be enclosed by two transverse, retroreflective white lines.
4. Center an MUTCD-compliant bicycle pavement marking between the stop bar and Crosswalk to reinforce the bicyclist's priority.

ADDITIONAL GUIDANCE

Design

- To enhance its visibility, the bike lane approach and Bike Box itself may be colored with green paint.
- A "Wait Here" legend marking for motorists may be added for increase compliance.
- Bike Boxes may also be paired with Bike Signals or Leading Pedestrian Intervals (LPIs) to further reduce turn conflicts with motor vehicles.
- There should be a minimum of 5 feet between the stop bar and the bottom Bike Box stripe.
- "No Right Turn on Red" signs should be installed at intersections with Bike Boxes.

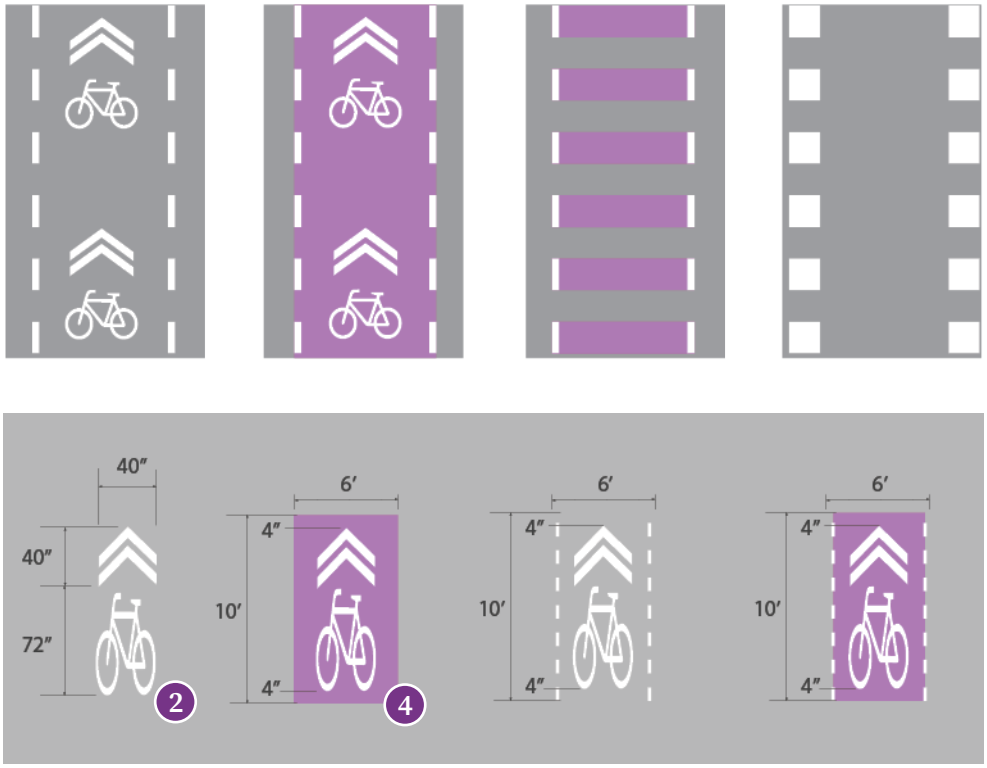
Maintenance

- Painted markings should be placed between the dominant path of vehicle tires to reduce wear as much as possible.
- Green pavement coating and white striping shall be maintained frequently to ensure clear delineation.

BIKE PAVEMENT MARKINGS

DEFINITION

Traffic control markings typically applied with thermoplastic or traffic paint to signify proper bicycle right-of-way and positioning, and to prevent potential conflicts between bicycles and vehicles.



APPLICATIONS

Bike Pavement Markings are applicable wherever there is dedicated bicycle infrastructure, or bicyclists need to be guided towards safe lateral positioning, crossing, and / or priority. Bike Pavement Markings are appropriate where vehicles need to be informed of the presence and / or positioning of a bicycle, and where bicycles may have priority (e.g.. at intersections). They are particularly appropriate on networks of traffic calmed streets or on low volume residential and commercial streets within the bicycle network.

CONSIDERATIONS

- Bike Pavement Markings are regulated by MUTCD, and additional best practices can be found in NACTO's *Urban Bikeway Design Guide*.


Fort Lauderdale, FL. Image Source: Brittany Wallman.


Chicago, IL. Image Source: CDOT.

DESIGN GUIDANCE

1. Bike lanes are recommended on streets with posted speeds of 25 to 35 mph. A bike lane stripe next to a travel lane should be 6-8 inches wide.
2. A shared lane marking guides bicyclists' positioning in a travel lane, and signals to vehicles that bicycles are permitted to share the road.
3. Depending on the lane width, shared lane markings may indicate that bicyclists can use the entire travel lane.
4. Shared lane markings can be enhanced, or made more visible, with a solid green backing. Dashed lines can help reinforce bicyclists' positioning.

ADDITIONAL GUIDANCE

Design

- Where there are dedicated bicycle facilities, intersection markings should be used to carry bicycles through an intersection to re-connect with the facility.
- Bike intersection markings can be applied in multiple ways. Enhanced intersection markings also feature green paint, and / or additional markings like arrows and bikes.
- A shared lane marking is not a facility type and should not be considered a substitute for bike lanes where they're needed or where space permits.

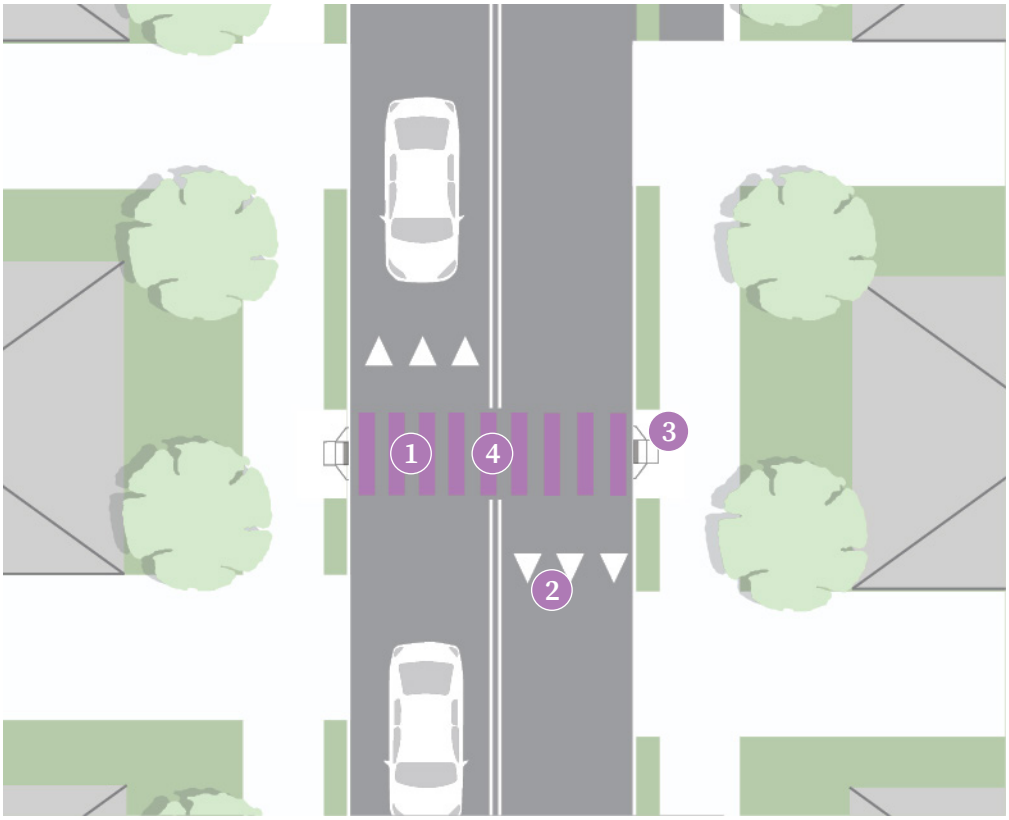
Maintenance

- Regularly maintain and / or reapply Bike Pavement Markings to ensure that they are clearly communicating the desired bicycle and vehicle behavior.

MID-BLOCK CROSSWALK

DEFINITION

A marked crossing between two common destinations not served by the existing pedestrian network.



APPLICATIONS

Mid-Block Crosswalks are appropriate on corridors where pedestrians often cross, but the existing street network does not provide a marked, safe crossing. They are particularly appropriate within long blocks without stop control, along corridors with two or more lanes in each direction, or high vehicular travel speeds. Mid-Block Crosswalks can be placed in front of destinations like schools, Bus Stops, parks, and mid-block pedestrian passageways. They are also appropriate at acute angled intersections and T intersections. The alignment of the Henry Hudson Trail through Keyport has created several Mid-Block Crosswalks which should be evaluated to encourage visibility and compliance.

CONSIDERATIONS

- Mid-Block Crosswalks may also reduce speeds of vehicular traffic and offer opportunities for street beautification.
- Where pedestrian volumes are particularly high or vulnerable pedestrians are identified, such as on Broad Street near Keyport Central School, consider additional design tools such as Curb Extensions, signage, Raised Crosswalks, and pavement markings.
- Loading Zones near potential Mid-Block Crosswalks should be evaluated as parking is not permitted near Crosswalks.

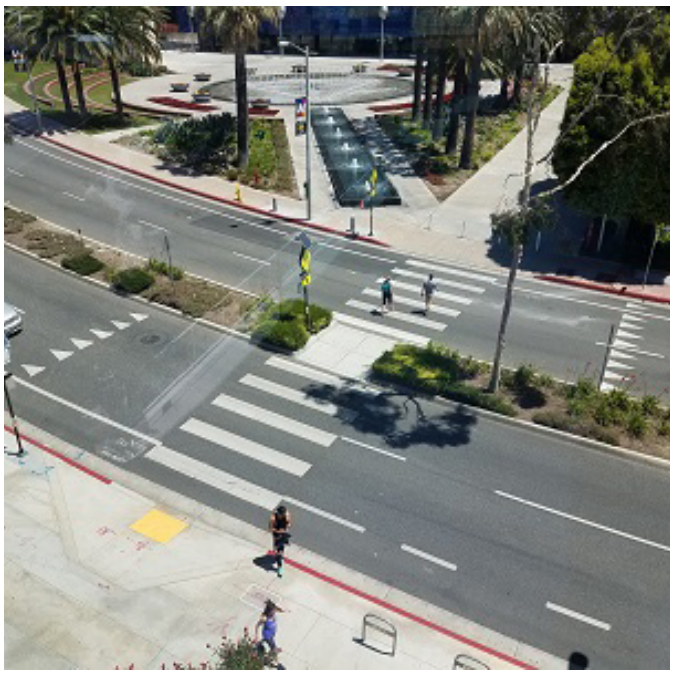


Image Source: Maricopa Association of Governments.


Image Source: Carmanah Technologies.

DESIGN GUIDANCE

1. A continental Crosswalk should be the minimum standard for a Mid-Block Crosswalk.
2. When used, yield line markings should be placed at a minimum of 20 feet from the ingress side(s) of the Mid-Block Crosswalk.
3. Curb Ramps shall be used where the Crosswalk meets the sidewalk.
4. Actuated pedestrian signals, like a Hybrid Beacon (see page 141), are optional, yet appropriate at locations like trail crossings, or where infrequent crossings make a stop sign or traffic signal unnecessary.

ADDITIONAL GUIDANCE

Design

- Designers should study both existing and projected pedestrian volumes in assessing demand for Mid-Block Crosswalks.
- Crossing Islands are appropriate where pedestrians must cross two wide lanes (or more), and may be implemented within a center turn lane to provide a protected two-stage crossing for pedestrians.
- In-Street Pedestrian Signs (see pg. 145) are recommended at Mid-Block Crosswalks.
- On wide roads with On-Street Parking, Curb Extensions can shorten the crossing distance.

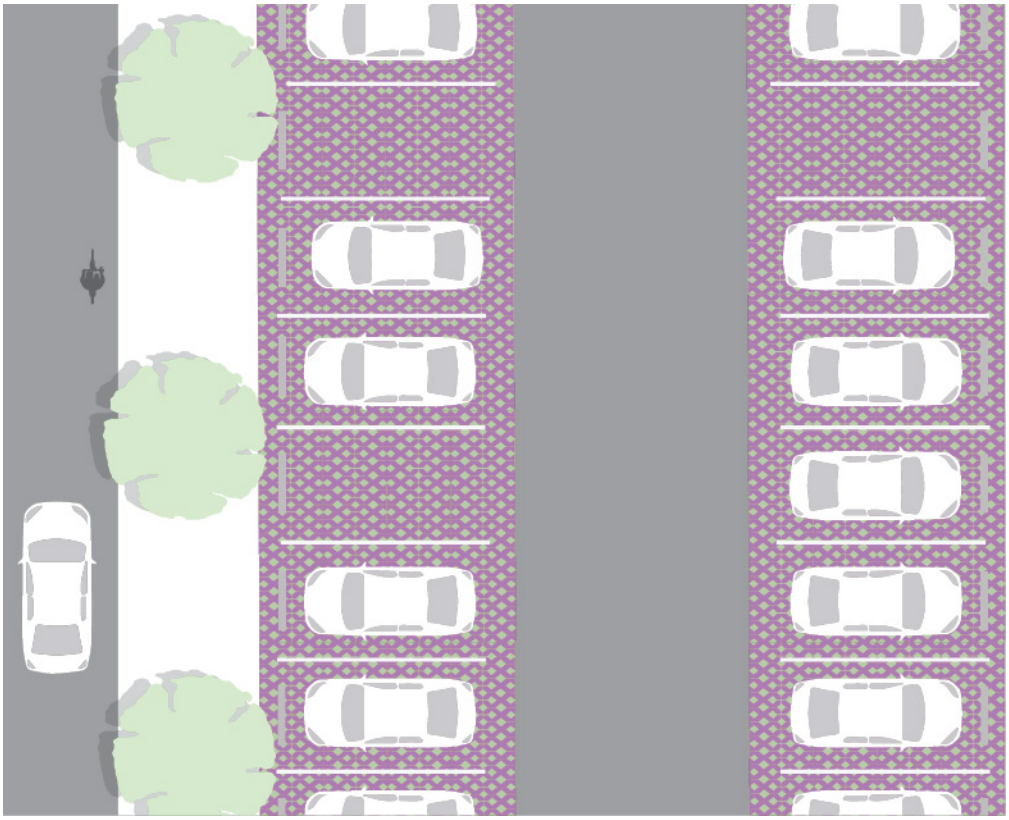
Maintenance

- Maintain pavement markings and tactile warning pads as other Crosswalks are. Maintain pedestrian actuated signals where used just as other traffic signals are.

PERVIOUS PAVEMENT

DEFINITION

A street, sidewalk, or pathway surface that allows stormwater runoff to infiltrate into the subsoil through void spaces in the surface, or the joints in the paving units.



APPLICATIONS

Pervious Pavement is commonly used on lightly-trafficked roads, paths, parking lots, service or emergency access lanes, road and airport shoulders, and residential sidewalks and driveways. Dead-end streets near creeks and the Henry Hudson Trail provide notable opportunity for Pervious Pavement within Keyport, due to low vehicular use and increased need for interventions to reduce localized flooding.

CONSIDERATIONS

- Pervious Pavement is a green infrastructure solution for areas challenged by flooding or excess stormwater runoff due to excessive pavement.
- The use of a Pervious Pavement system designed to infiltrate into the subsoil is often prohibited in areas where high pollutant concentration is anticipated.
- Permeable Pavement surfaces have additional benefits, including improved aesthetics, traction and reduced noise.
- The moist environment in the sub-layers of Pervious Pavement systems results in a higher temperature that makes it more resistant to frost, and can reduce the need for de-icing.

Warrenville, IL. Image Source: City of Warrenville.

Image Source: NACTO.

DESIGN GUIDANCE

1. A Pervious Pavement system consists of three primary layers: the surface coarse, choker coarse, and storage bed.
2. The maximum permitted surface coarse slope is 5 percent.
3. Areas with slow-draining soils and/or high water tables, or steep slopes may make Pervious Pavement installation challenging or impossible.
4. Edge restraints shall be installed on all sides of a Pervious Pavement system to prevent the individual pavers from shifting positions.

ADDITIONAL GUIDANCE

Design

- Pervious Pavement Systems should be designed in accordance with the New Jersey Department of Environmental Protection (NJDEP) *Stormwater Best Management Practices Manual* and the New Jersey Administrative Code (NJAC) 7:8.
- Different manufacturers offer a variety of paver shapes, colors, and styles to fit a variety of urban conditions.
- Systems should be designed to address overflow during large rain events.
- For Pervious Pavement to function properly, water must be able to infiltrate into the soil under the surface. Test the soil infiltration rate at the desired construction site prior to beginning construction.

Maintenance

- Establish a maintenance plan for a Pervious Pavement system prior to construction.

PLAYSPACE

DEFINITION

A street segment temporarily or permanently closed to through traffic so that programmable open space may be used by children and their families / caregivers.

APPLICATIONS

Temporary Playspaces are appropriate along low-speed, low-volume streets. Playspaces can be created using a neighborhood block party mechanism on slow and/or overwide residential streets, or where there is an existing traffic-calming program. Temporary Playspaces may be applied as an extension to an existing park or school, or in neighborhoods where playgrounds and parks are not easily accessible. At overly wide residential streets in Keyport, underutilized roadway can be cordoned off to create local Playspace, according to neighborhood desires. While these may begin as temporary, funding can be pursued, in coordination with neighborhood organizations, to create permanent pocket parks and / or street infrastructure that supports gathering and play in the long-term.

CONSIDERATIONS

- Coordination of Playspace should include neighbors, community organizations, and others to consider programming as well as set up and breakdown.
- A Playspace typically includes elements like asphalt art, life-size games like chess and checkers, a bike rodeo, and/or interactive art materials.
- Partial closures to traffic can preserve local access but prevent most through vehicular movements.
- Use temporary "Road Closed" signs, which can be attached to A-frames if necessary; the addition of pedestrian, playing children, or bicycle warning signs are optional but can further convey the need to take caution.
- Temporary, easily removed surface treatments, such as sidewalk chalk, tempera paint, traffic tape, or even duct tape, can be used to further enliven and define the Playspace.

Schenectady, NY. Image Source: Albany.com

Seattle, WA. Image Source: Cascade Bicycle Club.

DESIGN GUIDANCE

1. Any street closure should be properly implemented with approved traffic control equipment, like Type II and Type III barricades, and "Road Closed" signage.
2. A maintenance of traffic plan should re-route car traffic away from, and around, the Playspace while it is being used. NJDOT approval is required for any closure lasting longer than 24 hours.
3. Temporary Playspaces may require more advanced communication to the public to alert drivers of a change in traffic pattern.
4. Partnering with a BID or neighborhood association, for example, can help both fund and implement a temporary Playspace that the community will respond well to.

ADDITIONAL GUIDANCE

Design

- Due to the hard surface, there shall not be any play equipment that encourages children to climb, in case of falls.
- If bicycling is permitted, enforce laws that require children to wear helmets.
- Amenities within a temporary Playspace shall be completely removable, but can be stored nearby for ease of deployment if it is to be an intermittent closure

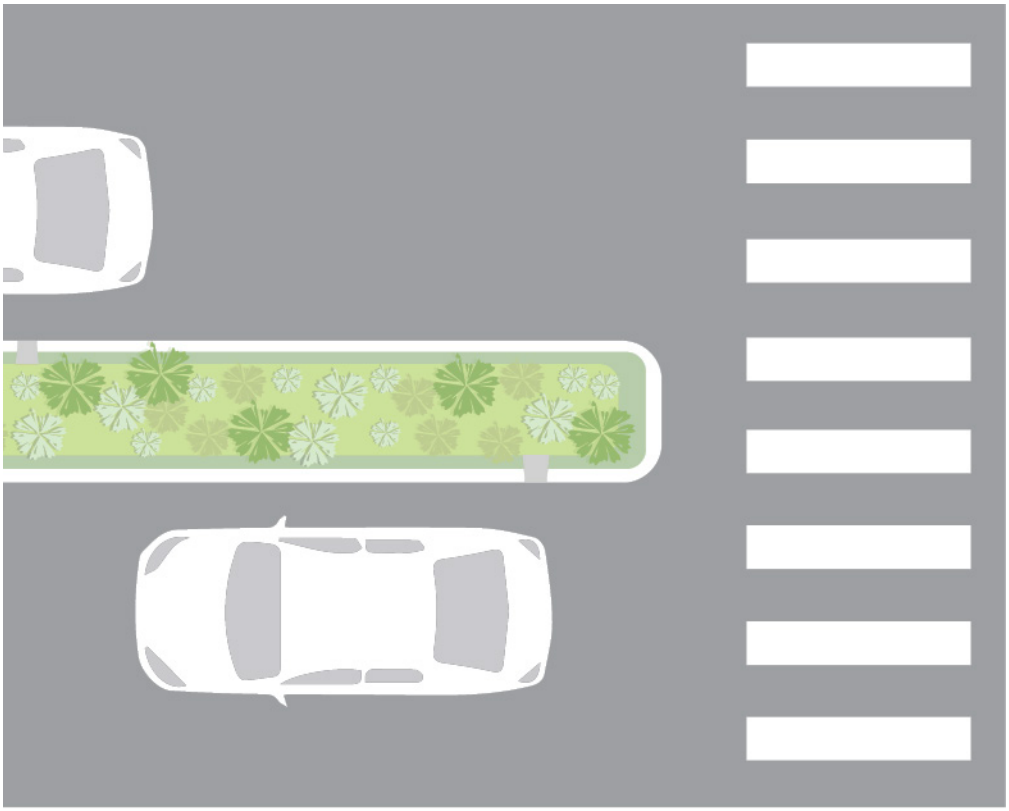
Maintenance

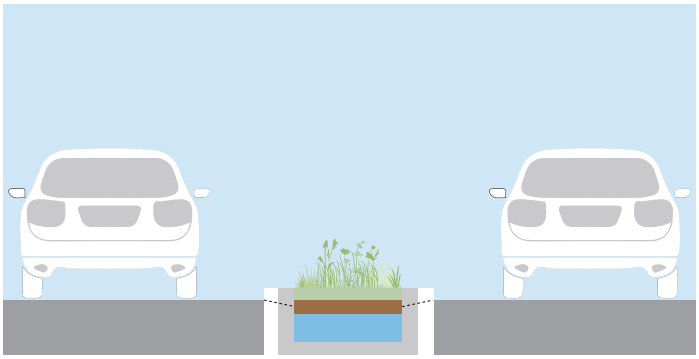
- As the Playspace is temporary, regular maintenance is not required, although temporary traffic-control signs and barriers may need to be stored and routinely put into place / removed.

RAIN GARDEN

DEFINITION

Planted depressions or swales that absorb rainwater runoff from impervious surfaces.





Median rain garden cross section.

APPLICATIONS

Rain Gardens can be located within medians, in vacant lots, parking lots, curb extensions, and in other spaces within the public realm where there is enough room to absorb rainwater. They're particularly applicable in locations where the dual goal of community beautification and runoff retention / filtration is desired.

CONSIDERATIONS

- Rain Gardens should not be used where infiltration would have adverse hydrologic impacts, like in areas where the water table is really high.
- Rain Gardens can filter pollutants, which can include suspended solids, nutrients, metals, hydrocarbons, and bacteria.

Arlington County

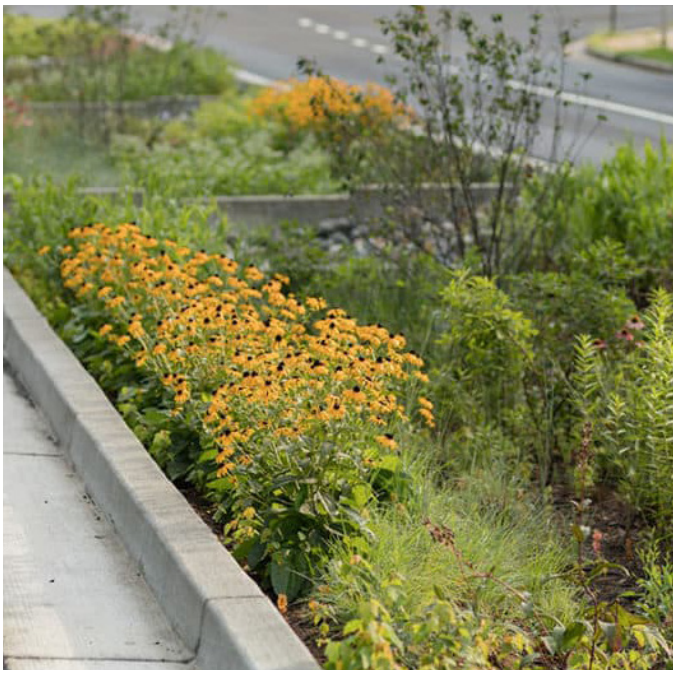


Image Source: MorningChores.

DESIGN GUIDANCE

1. A Rain Garden should be located so that stormwater runs off to it.
2. Rain Gardens are comprised of dense vegetation, filter fabric around the edges of the bed, and a soil bed with a depth of 18-24 inches.
3. The soil bed should have a pH of 5.5-6.5.

ADDITIONAL GUIDANCE

Design

- The Rain Garden's size depends on the depth, and the percolation rates at the site. Rain Gardens should have a minimum percolation rate of a half-inch an hour.
- Rain Gardens should have a designated outlet to convey runoff when fully saturated.

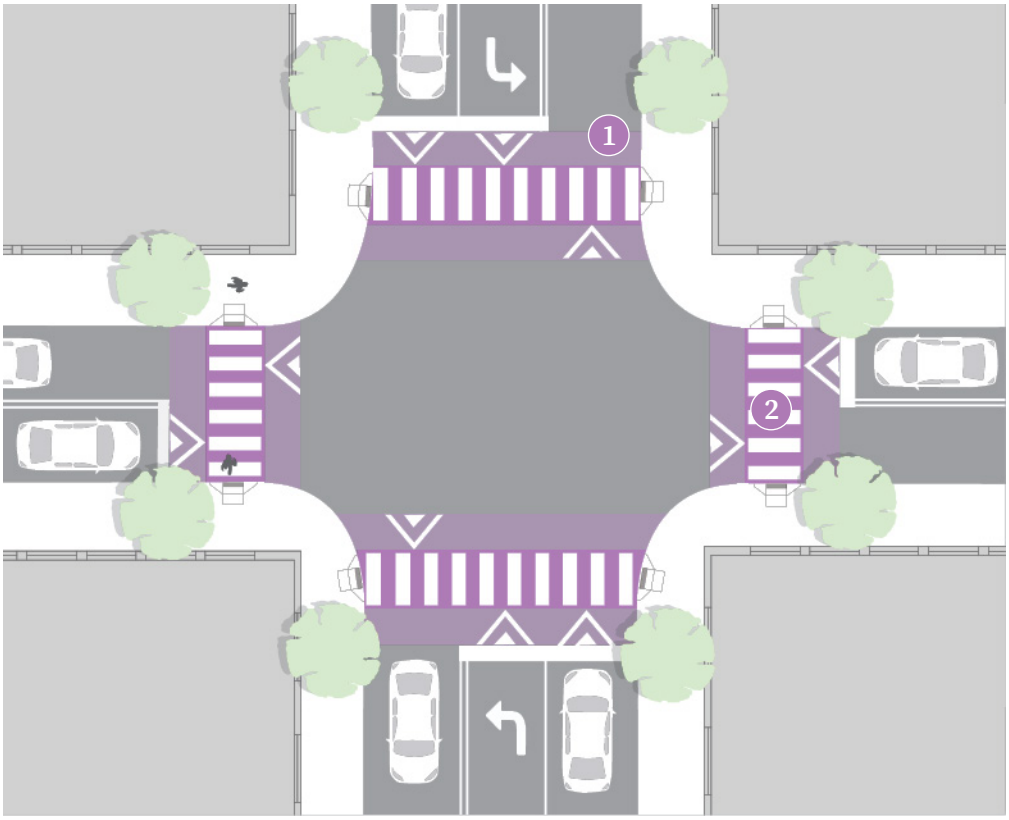
Maintenance

- Periodic trash removal and material maintenance will be required, especially in the early spring and late fall seasons.
- The Keyport Green Team and Garden Club can help develop a sustainable maintenance plan.

RAISED CROSSWALK

DEFINITION

Crosswalk marking applied to a vertical speed table, that raises the wheelbase of a vehicle to slow its speed.



APPLICATIONS

Raised Crosswalks are most suitable for lower-speed, low- to moderate-volume local and collector streets. They are often applied where low-volume streets intersect high-volume streets (alley entrances, neighborhood residential streets, etc.). They are also appropriate where a street changes its function or type, at shared use path crossings, and at key civic, education, and employment hubs. Raised Crosswalks are appropriate on Keyport's residential streets off of county roads, to discourage cut-through traffic. They can also lower vehicular speeds, improving pedestrian crossings and therefore could be appropriate near bayfront recreational amenities off of 1st Street.

CONSIDERATIONS

- Speed tables may be used on collector streets and / or transit and emergency response routes.
- Vehicle operating speeds for streets with speed tables range from 25–45 mph, depending on the spacing.
- Speed Tables should not be applied on streets wider than 50 feet. On two-way streets, Speed Tables may be applied in both directions.
- Raised Crosswalks help prevent ponding at street corners, which is particularly useful during winter months.
- The gentle slope of properly designed Raised Crosswalks allow snowplows to smoothly transverse them without adverse impact.

New York, NY. Image Source: NYCDOT.


Image Source: FHWA.

DESIGN GUIDANCE

1. Raised Crosswalks should lift vehicles 3-4 inches above the pavement grade (about a 6-foot parabolic approach transition).
2. The flat, raised section should be 10-12 feet wide.
3. Raised Crosswalks must be accompanied by pedestrian crossing signs and a sign alerting motorists of the pavement undulation, and should be ADA compliant.
4. Raised Crosswalks need to be highly visible, so yield markings or stop bars should be added to both inform drivers of where to yield or stop for pedestrians, and to bring attention to the sudden change in pavement grade.

ADDITIONAL GUIDANCE

Design

- Unit pavers, concrete, or color asphalt can also be used to increase the visibility of the crossing, and to contrast with the pavement.

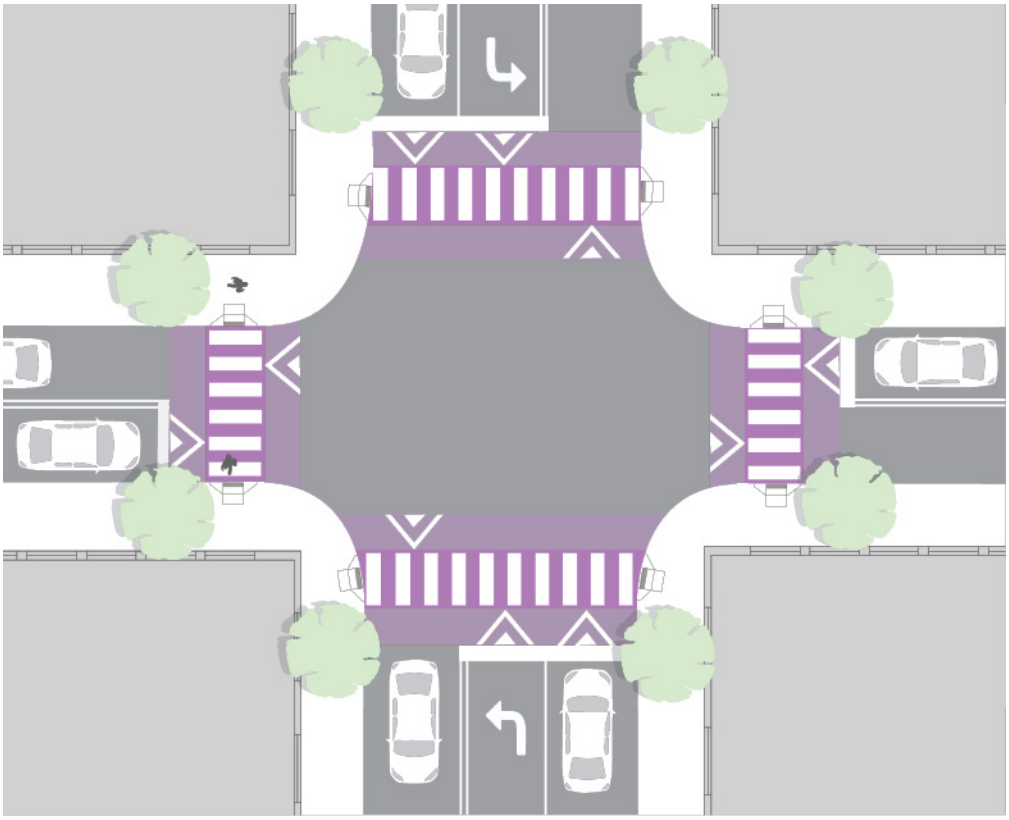
Maintenance

- As Raised Crosswalks can incorporate distinctive materials, like unit pavers, additional maintenance may be required. To ensure that the Crosswalk remains extremely visible, frequent re-striping may be required. Although the cost is greater on the front end, longer-lasting, high-visibility Crosswalk marking materials are a better value over time, as they require less maintenance.

RAISED INTERSECTION

DEFINITION

A vertical traffic calming device that raises an intersection's street surface to the sidewalk level.



APPLICATIONS

Raised Intersections are particularly appropriate at minor intersections or areas with a high volume of pedestrians and already low vehicular speeds (25 mph or less). They may be installed at locations where the goal is to calm traffic and enhance the pedestrian experience. Intersections with transit stops and along primary commercial corridors are also good candidates for this treatment. Central locations in Keyport, along pedestrian and bicycle priority streets, are ones where a Raised Intersection could be considered.

CONSIDERATIONS

- Raised Intersections should be avoided on major truck routes.
- Raised Intersections reinforce slow speeds and encourage motorists to yield to pedestrians at the Crosswalk.
- Raised Intersections may be applied to similar contexts where Speed Humps and Speed Tables are also appropriate.

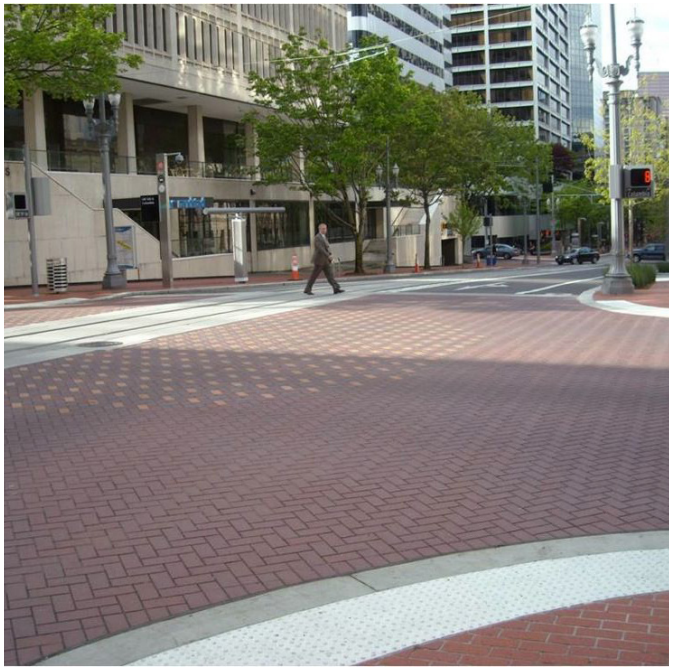


Image Source: NACTO.

Cambridge, MA. Image Source: Cara Seiderman.

DESIGN GUIDANCE

1. Crosswalks do not need to be marked unless they are not at grade with the sidewalk. However, marking Crosswalks can increase pedestrian visibility.
2. Raised Intersections can be built with a variety of materials, including asphalt, concrete, or pavers.
3. Tactile warning strips should be installed at the edges to enable site impaired people to detect the crossings.
4. Bollards can be added to the corners to provide additional protection for pedestrians and to reinforce curb radii that generate slow turning movements.

ADDITIONAL GUIDANCE

Design

- Pavement markings, like arrows, can be added to the incline at crosswalks, or in advance of the Raised Intersection, to alert vehicles to slow down, and that they're approaching an incline.
- Install warning signs in advance of the Raised Intersection.
- The materials used to install a Raised Intersection should provide some differentiation from the asphalt (e.g.. pavers or colored pavement).

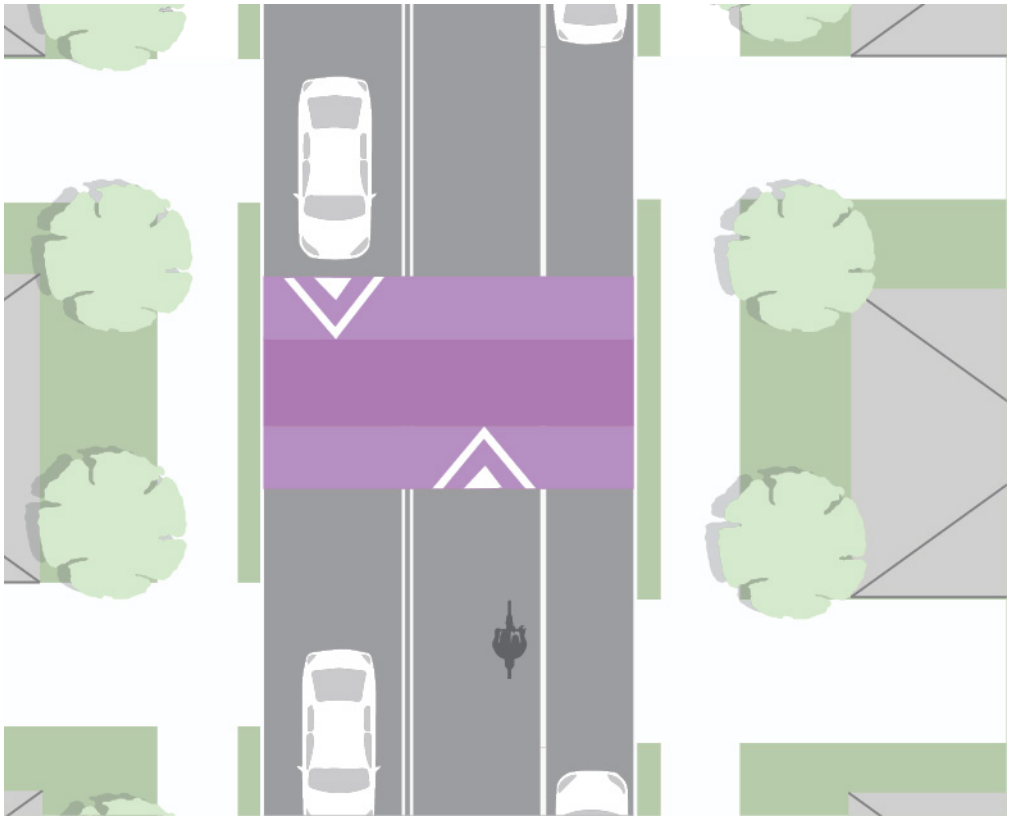
Maintenance

- Tactile warning strips, signage, and pavement markings shall all be regularly maintained to ensure optimum safety and functionality of the Raised Intersection.
- If pavers are used, these shall be checked and maintained regularly to minimize tripping hazards and potential damage to vehicles.

SPEED HUMP

DEFINITION

A parabolic vertical traffic calming device intended to slow traffic speeds on low volume, low speed roads.



APPLICATIONS

Speed Humps are typically applied on low volume and low speed streets, where speed management is desired. They may be applied on both one-way and two-way streets. In Keyport, Speed Humps should be applied where long blocks, curves in the roadway, and/or a lack of stop control lead to increased speeds.

CONSIDERATIONS

- Speed Humps are a cost-effective speed management tool.
- Speed Humps reduce speeds to 15–20 mph.
- Speed Humps are often referred to as “bumps” by the general public.
- Frequent driveways can make the installation of Speed Humps difficult.
- While Speed Humps are effective at managing speeds, they should be combined with other traffic-calming measures by design where feasible.


Image Source: NACTO.


Image Source: NACTO.

DESIGN GUIDANCE

1. Do not place Speed Humps in front of driveways or other significant access areas.
2. Use warning signs to alert drivers to upcoming Speed Humps (e.g.. MUTCD sign W17-1).
3. Speed Hump slopes shall not exceed 1:10 or be less steep than 1:25, and side slopes on tapers shall be no greater than 1:6.
4. Locate vertical speed control elements where there is sufficient visibility and available lighting.

ADDITIONAL GUIDANCE

Design

- Speed Humps can be accompanied by pavement markings indicating that cars should slow upon approach, or to make the slope more visible to drivers.
- Space Speed Humps no more than a maximum of 500 feet apart to achieve an 85th percentile speed of 25–35 mph. To achieve greater speed reductions, space Speed Humps close together.

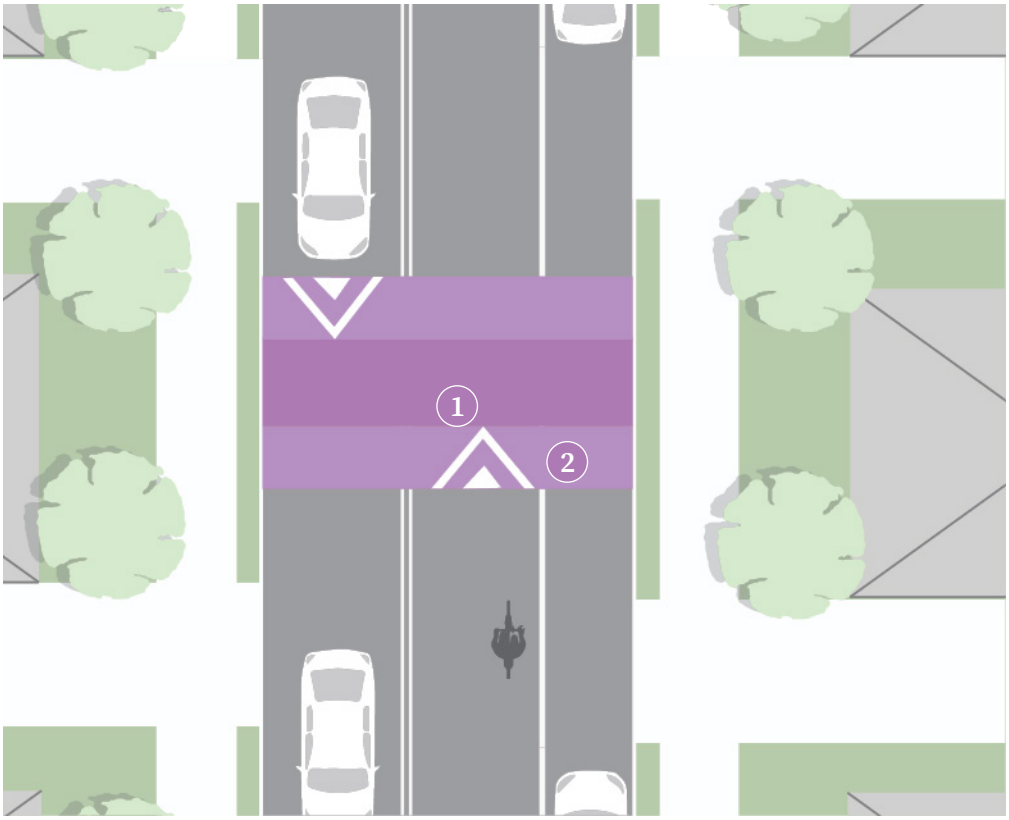
Maintenance

- Maintain the asphalt to ensure the Speed Hump surface remains smooth.
- Keep pavement markings leading up to or on the Speed Hump fresh and bright.
- Speed Humps that can be removed during winter months are ideal for snow plowing and routine maintenance.

SPEED TABLE

DEFINITION

A traffic calming device that raises the entire wheelbase of a car to the sidewalk level in order to reduce vehicular travel speed.



APPLICATIONS

Speed Tables are typically applied on collector or local commercial streets, or where traffic calming measures are seen as necessary, like along main streets, at schools, or in other locations with high-foot or bicycle traffic. Speed Tables are generally not applied on streets wider than 50 feet or with posted speed limits greater than 45 mph. Speed tables may also be used as Mid-Block Crosswalks.

CONSIDERATIONS

- Speed Tables are commonly used in Mid-Block Crosswalks, and in Mid-Block Neckdowns, to facilitate safer pedestrian crossings and reduce vehicle speeds along a street.

London, UK. Image Source: David Levinson.

Image Source: NACTO.

DESIGN GUIDANCE

1. Speed Tables should be about 22 feet long.
2. The slope of a Speed Table should not exceed 1:10, and not be any less than 1:25.
3. Side slopes on tapers should not exceed 1:6 and the vertical lip should not be more than a quarter inch.
4. Speed Tables should always be accompanied by signage alerting drivers, per MUTCD sign W17-1.

ADDITIONAL GUIDANCE

Design

- Advanced yield markings, or other markings on the Speed Table, help alert drivers to an upcoming change in elevation.
- Speed Tables are flat on top, whereas Speed Humps are parabolic.
- Crosswalk markings may be added to Speed Tables to create Raised Crosswalks (see pg. 123).
- Specialty pavers may be used to help differentiate the raised surface from the asphalt.

Maintenance

- Some maintenance will be required, especially if specialty pavers are introduced.
- Alert snow plow operators of their presence so that plow blades may be raised accordingly.

TEXTURED/SPECIALTY PAVEMENT

DEFINITION

Pavement of a different color and / or material used to highlight, mark, and delineate specific space within the roadway.

APPLICATIONS

Textured or Specialty Pavement is applicable on commercial streets, and on parts of the roadway that need to be highlighted or differentiated. Specialty Pavement can help delineate different spaces or uses of a roadway, and is particularly applicable as a gateway treatment to urban districts and commercial corridors. Specialty treatments could add visual interest near Keyport's civic institutions or commercial areas along West Front Street and the bayfront.

CONSIDERATIONS

- Individual pavers may buckle and move under the pressure of frequent, heavy trucks and vehicles. Individual pavers require more maintenance than stamped asphalt, and may not be an ideal choice if regular maintenance is not feasible.
- Specialty Pavement can be accomplished with pavers (vs. asphalt or concrete), or through the process of stamping or texturizing asphalt with a metal mold. Designs created by pavers can be replicated by stamping asphalt. This treatment can be applied to travel lanes, as well as to highlight and differentiate surfaces for different modes, like bike lanes and/or pedestrian paths.

Image Source: Endurablend.

Bethlehem, PA. Image Source: Jim McCullian.

DESIGN GUIDANCE

1. Ordinary asphalt is imprinted (stamped) using a welded wire rope template configured as a grid pattern that replicates the look of hand-laid brick.
2. Textured / stamped asphalt can be applied to newly laid asphalt, or existing asphalt through reheating the surface.
3. Apply a color coating after asphalt is stamped or texturized.
4. Specialty Pavement designs must be approved by the entity that manages pavement markings and roadways.

ADDITIONAL GUIDANCE

Design

- Any specialty treatment or asphalt should maintain adequate friction and skid resistance for people walking and biking.

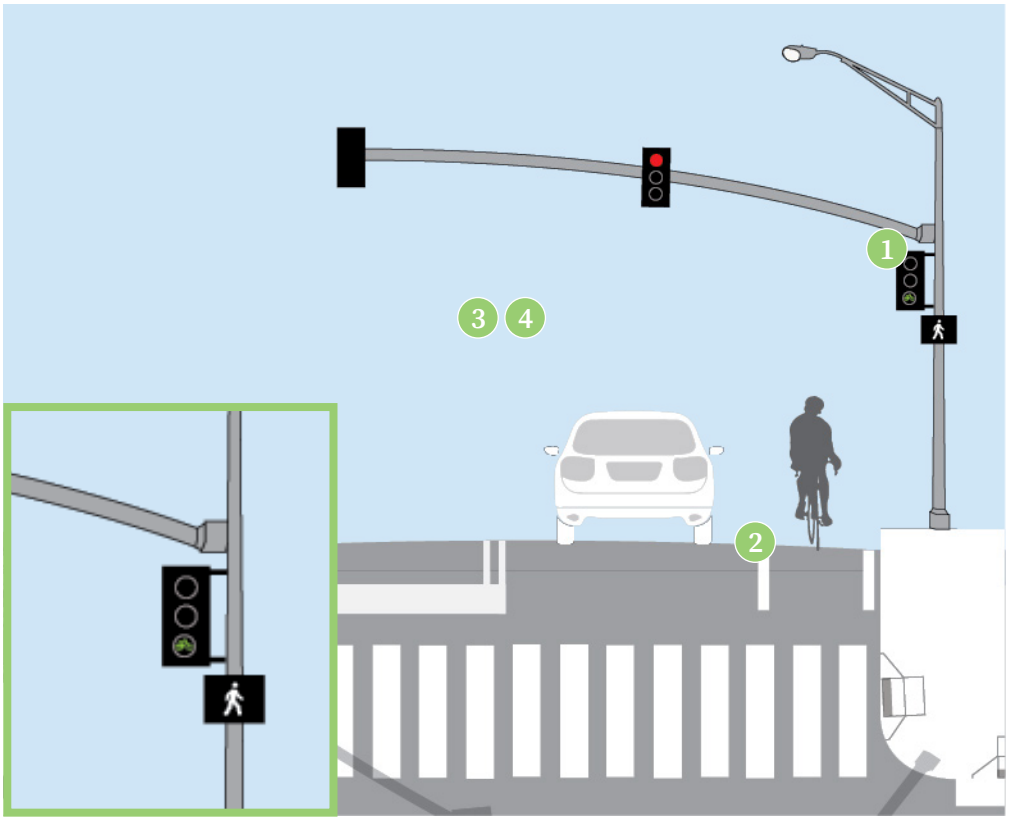
Maintenance

- Stamped or textured asphalt, or specialty pavers, require minimal regular maintenance, but should be routinely checked to ensure there are no large cracks, weed growth, etc.

BIKE SIGNAL

DEFINITION

An electrically powered traffic control device that indicates when bicycle-specific crossing movements should occur.



APPLICATIONS

Bike Signals are typically used to improve identified safety or operational problems involving bicycle facilities, or to accommodate bicyclists at intersections where they have different needs than other roadway users. They may be installed at signalized intersections to indicate bicycle signal phases and other bicycle-specific timing strategies. Like normal signal head lenses, Bike Signals make use of the conventional red, yellow, and green color convention.

CONSIDERATIONS

- A public education campaign should be conducted when Bike Signals are installed so that drivers and cyclists become familiar with them.

Tucson, AZ. Image Source: NACTO.

Madison, WI. Image Source: NACTO.

DESIGN GUIDANCE

1. A Bike Signal head should be placed either adjacent to or above the pedestrian signal head, or in advance of the intersection as a supplement to far-sided signals.
2. A "Bike Signal" sign is recommended, but not required, to reinforce the signal head. Intersection crossing markings are also recommended.
3. Where the Bike Signal is used to separate through bicycle movements from right-turning vehicles, a "No Turn on Red" sign is required.
4. Bike Signals should be actuated automatically, through detection methods or on a regular cycle.

ADDITIONAL GUIDANCE

Design

- If push button actuators are used, they should be installed so that cyclists do not have to dismount to activate them.
- The Bike Signal may also be timed to allow cyclists a head start through intersections of high-conflict (leading bicycle interval).

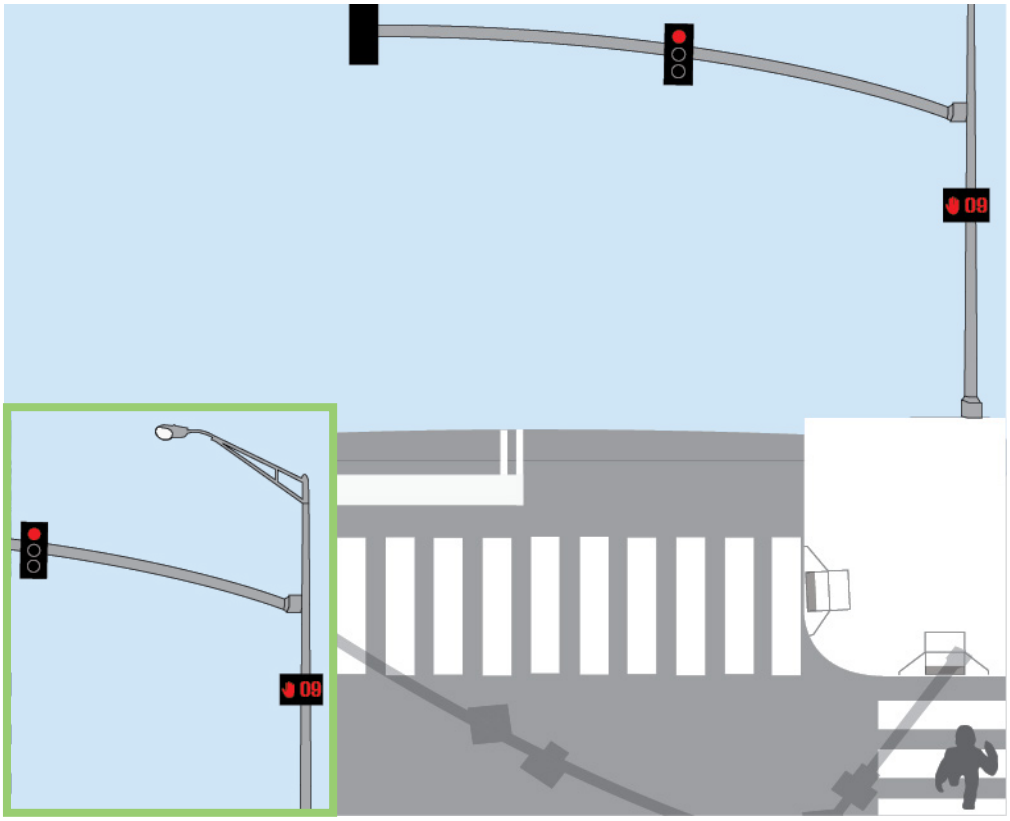
Maintenance

- Bike Signal heads require the same maintenance as standard traffic signal heads, which includes replacing bulbs and responding to power outages.

COUNTDOWN

DEFINITION

A pedestrian signal indication that gives people walking adequate warning that the pedestrian signal phase is coming to an end.



APPLICATIONS

A Countdown is applicable, and recommended, at any marked crossing with a pedestrian signal.

CONSIDERATIONS

- Pedestrian signals with a Countdown are required for any new pedestrian signal installations.
- Countdowns create a more predictable crossing environment. All pedestrian signals should include Countdowns where feasible, especially at newly marked crossings.
- Accessible Pedestrian Signals (APS) are devices that communicate information about the WALK and DON'T WALK intervals at signalized intersections, in non-visual formats, to pedestrians who are blind or have low vision.

Image Location: Unknown

Image Location: Unknown

DESIGN GUIDANCE

1. Countdowns can be on fixed-time or actuated (pushbutton) operation (see pg. 112).
2. A Countdown should start at the beginning of the clearance (flashing DON'T WALK) interval.
3. When possible, a WALK interval with a Countdown shall be provided at every signal cycle.
4. Where recall is not prioritized, pedestrian pushbuttons should be well-designed and within reach and operable from a flat surface for people in wheelchairs and with visual disabilities. Include audible countdowns where feasible.

ADDITIONAL GUIDANCE

Design

- A Countdown should provide adequate time for a pedestrian leaving the curb at the end of the WALK interval to reach the opposite curb before the traffic signal changes to green for oncoming traffic.
- The duration of a Countdown is a function of the width of the crossing and the pedestrian walk speed. For most locations, this is 3.5 feet per second.

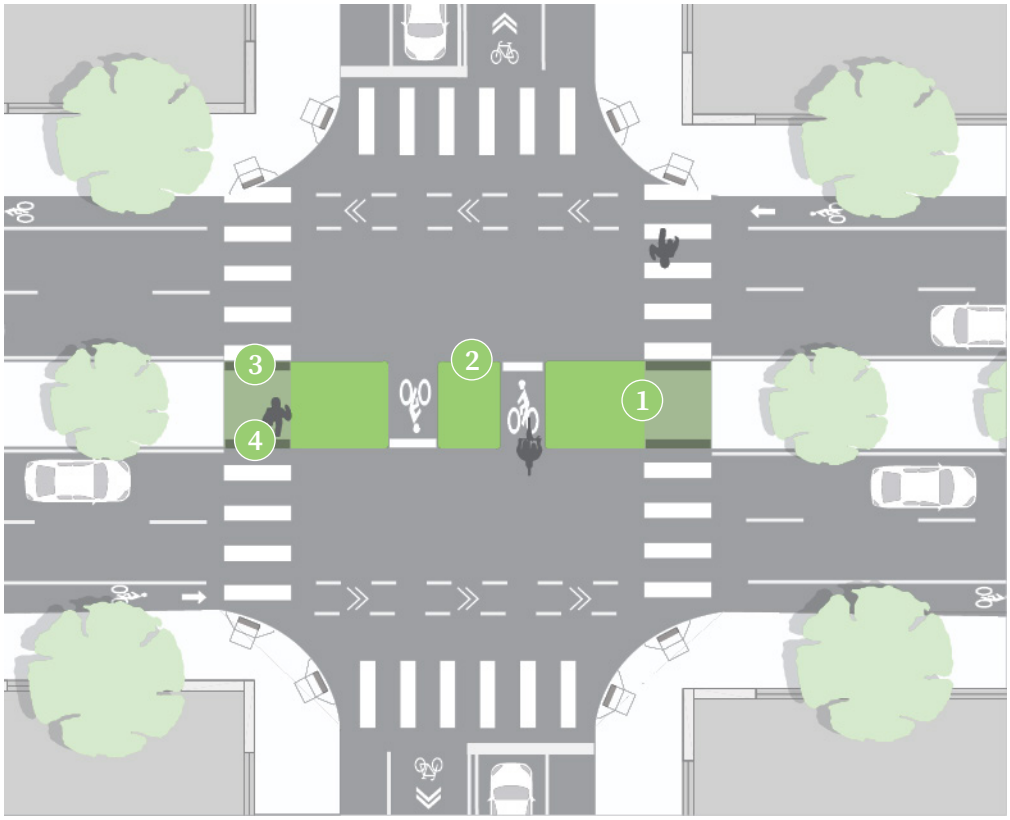
Maintenance

- Pedestrian signal heads shall be regularly checked for bulbs that need to be replaced, and to ensure that the signal is functioning properly.

CROSSING ISLAND

DEFINITION

A physically protected area where pedestrians and bicyclists can wait while crossing the street.



APPLICATIONS

Crossing Islands are recommended where pedestrians and bikes must cross three lanes of traffic or more in one direction, on either a one-way or two-way street. However, they may be implemented at narrower streets where space allows. They are also appropriate near and within neighborhood retail areas, civic and institutional uses, schools and senior facilities, and at large unsignalized intersections with large numbers of pedestrians.

CONSIDERATIONS

- In Keyport, Crossing Islands could be used where the Henry Hudson Trail crosses thoroughfares with multiple lanes in each direction, where space allows.
- Crossing islands are recommended at intersections of Routes 35 and 36 especially near the Henry Hudson Trail.
- At signalized intersections, Crossing Islands allow for crossing in two phases, which is especially helpful for seniors, children, and individuals with disabilities. At unsignalized intersections, they relieve the stress of finding a gap in traffic to cross multiple lanes.

New York, NY. Image Source: NYC DOT.

Portland, OR. Image Source: NACTO.

DESIGN GUIDANCE

1. Crossing Islands should be at least 6 feet wide to provide space for a bicycle or stroller, with a preferred width of 8-10 feet.
2. Ideally, Crossing Islands should be 40 feet long and include landscaping, but may be much shorter given context and project needs.
3. ADA-compliant detectable warning pads no less than 2 feet wide should also be placed at each end of the cut-through path.
4. The Crossing Island's cut-through pathway should equal the width of the crosswalk. If this cannot be achieved, crosswalks should be striped wider than the cut-through area.

ADDITIONAL GUIDANCE

Design

- At intersections, medians should have a rounded nose or thumbnail that extends past the Crosswalk, which slows turning drivers and protects waiting pedestrians.
- A narrower island is better than none where a 6-foot wide median cannot be achieved.
- Bollards, landscaped features, and / or signs should be provided on the thumbnail to increase visibility.
- The cut-through area may be paved differently than the asphalt (or concrete) to provide visual contrast.

Maintenance

- Beyond maintaining detectable warning pads and dealing with the general wear and tear of curb infrastructure, additional plantings, signs, bollards etc. may require occasional replacement / maintenance.

CROSSWALK

DEFINITION

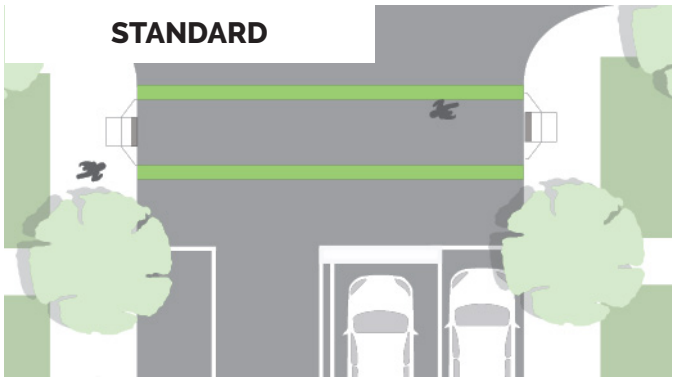
Pavement markings indicating a safe crossing space designated for pedestrians. By law vehicles must stop for people in marked crosswalks.

APPLICATIONS

Crosswalks should be explored wherever pedestrian traffic is anticipated or encouraged. Crosswalk installation is based on several factors, however, including land uses, present and future demand, pedestrian compliance, speed, safety, and crash history.

CONSIDERATIONS

- Crosswalks should be used to enhance or highlight desired crossings wherever practical, especially where uncontrolled intersections lack marked Crosswalks.
- Pedestrian volumes alone are not enough to determine whether or not a particular Crosswalk should be applied.
- Continental Crosswalks, which have longitudinal markings that are easier for drivers to see, should be installed wherever feasible.



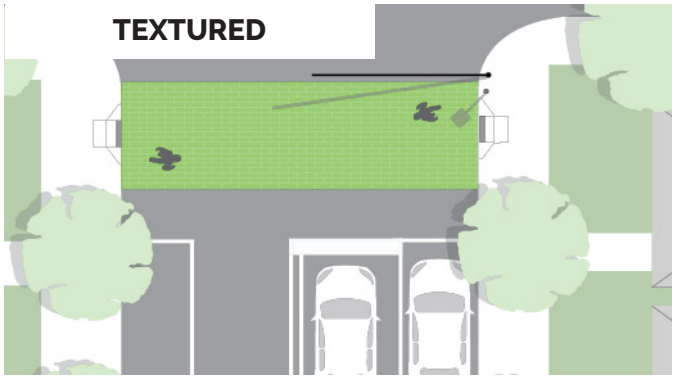


Image Source: NACTO.

Image Source: MyAsphaltDr.

DESIGN GUIDANCE

1. Continental Crosswalks should be used over standard Crosswalks, which have two parallel bars, wherever feasible.
2. All Crosswalks shall be a minimum of 6 feet wide. Place stop bars at least 4 feet from the edge of a Crosswalk.
3. Continental Crosswalks are created using lines parallel to the sidewalk, with the same width of separation between white markings as the white markings are wide (12-24 inches).
4. Textured Crosswalks are created using stamped asphalt, or other inlaid materials like brick, to provide further contrast between the Crosswalk and throughway.

ADDITIONAL GUIDANCE

Design

- Crosswalks must have Curb Ramps with tactile warning pads at each end to comply with ADA.
- Crosswalks are typically required in all directions at signalized intersections.
- Crosswalks may not be necessary at uncontrolled intersections on streets with low volumes (>3,000 ADT), low speeds (<20 mph), and/or only 1-2 lanes.
- Pedestrian signals should be installed alongside Crosswalks at uncontrolled intersections or mid-block, on streets with speed limits above 40 mph, four or more travel lanes or an ADT of 12,000 or greater.

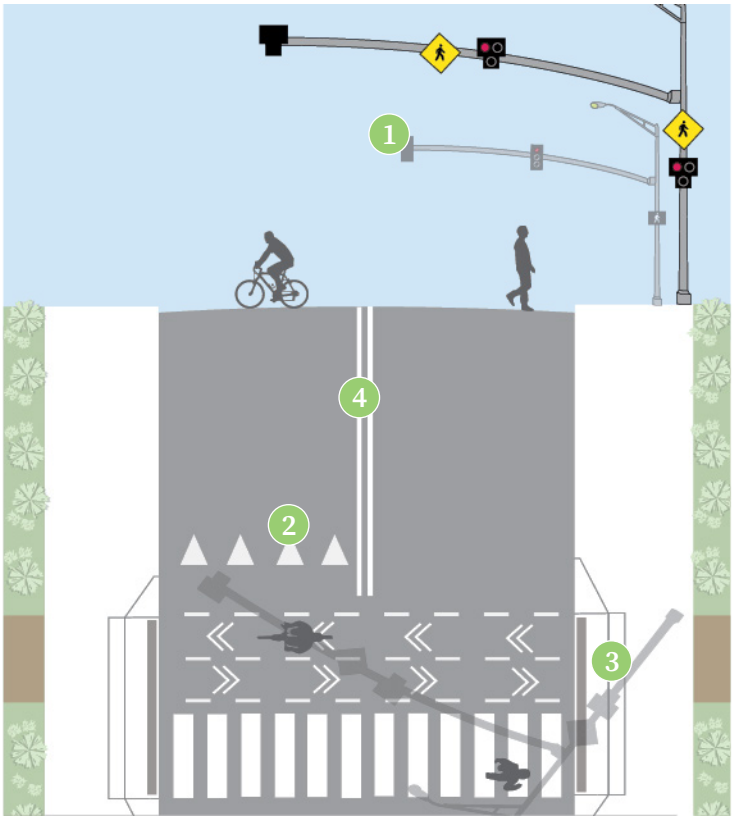
Maintenance

- Regularly maintain Crosswalks to ensure all white markings are visible and provide clear delineation of the pedestrian crossing area to motorists.
- Specialty paved Crosswalks may require frequent maintenance to eliminate tripping hazards.

HYBRID BEACON (HAWK)

DEFINITION

A signal head with two red lenses over a single yellow lens, intended to significantly increase the visibility of pedestrians and / or cyclists crossing major streets.



APPLICATION

A Hybrid Beacon, also known as HAWK (High-intensity Activated Crosswalk) signals, are most appropriate on major streets where side street volumes do not support the installation of conventional traffic signals. They are also implemented where off-street bicycle or pedestrian facilities, such as shared use paths, intersect major streets without existing signalized crossings, or at Mid-Block Crosswalks of major thoroughfares. Locally, HAWK signals may be appropriate for certain Henry Hudson Trail crossings.

CONSIDERATIONS

- Hybrid Beacons display no indication (no lights are illuminated) when they are not actuated. When actuated, it will flash yellow, become solid yellow, and then display two solid red lights to indicate that cars must come to a complete stop.
- The Hybrid Beacon provides more flexibility for bicyclists than a full signal because people do not have to actuate the signal if they find safe opportunities to cross during periods of light traffic.
- Studies show that Hybrid Beacons achieve very high driver compliance (greater than 95 percent).

Portland, OR. Image Source: NACTO.


Salt Lake City, UT. Image Source: NACTO.

DESIGN GUIDANCE

1. Hybrid Beacons should be placed at least 100 feet from intersections and On-Street Parking.
2. Hybrid Beacons should be used in conjunction with other signs and pavement markings to warn and control vehicular traffic.
3. Hybrid Beacons should only be installed at marked Crosswalks, and must include Curb Ramps.
4. Hybrid Beacons can also be installed near schools, Bus Stops, or near major pedestrian destinations.

ADDITIONAL GUIDANCE

Design

- Additional signs and pavement markings include "Stop Here on Red" and yield markings to indicate the Crosswalk.
- Continental Crosswalks should be used with Hybrid Beacons.
- For further guidance as to mounting, location, and height of hybrid beacons, review the MUTCD.

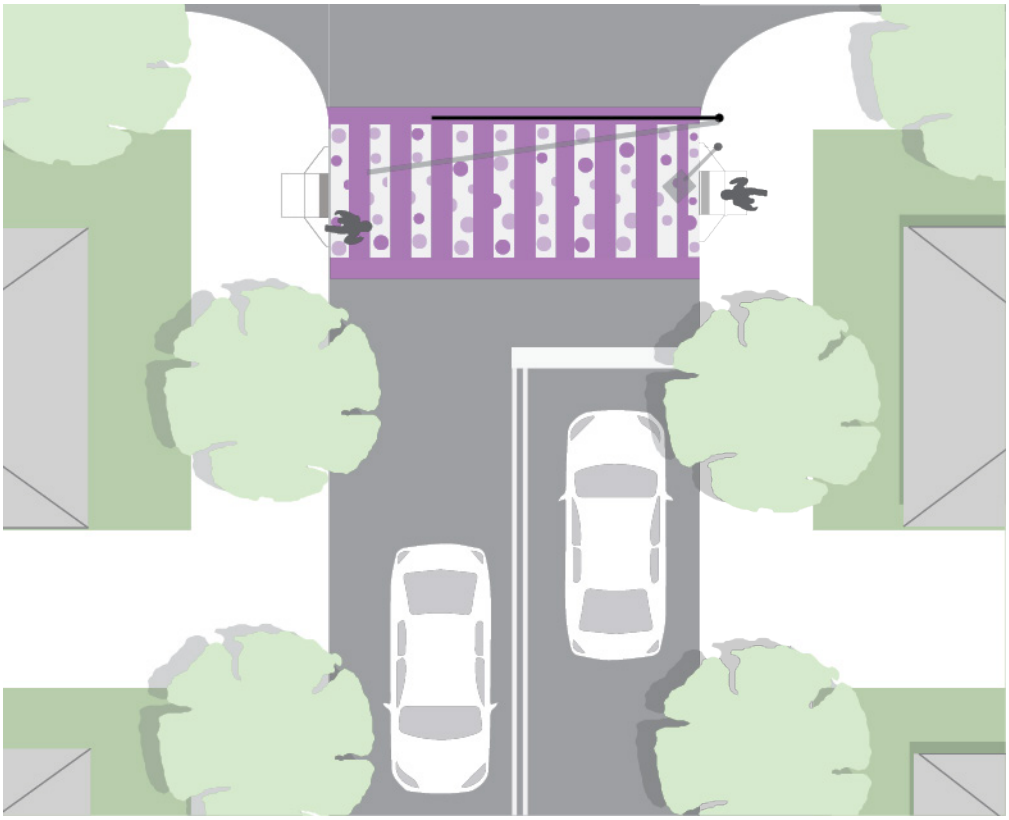
Maintenance

- Hybrid Beacons require the same maintenance as standard traffic signal heads, which includes replacing bulbs and responding to power outages.

INTERSECTION/CROSSWALK ART

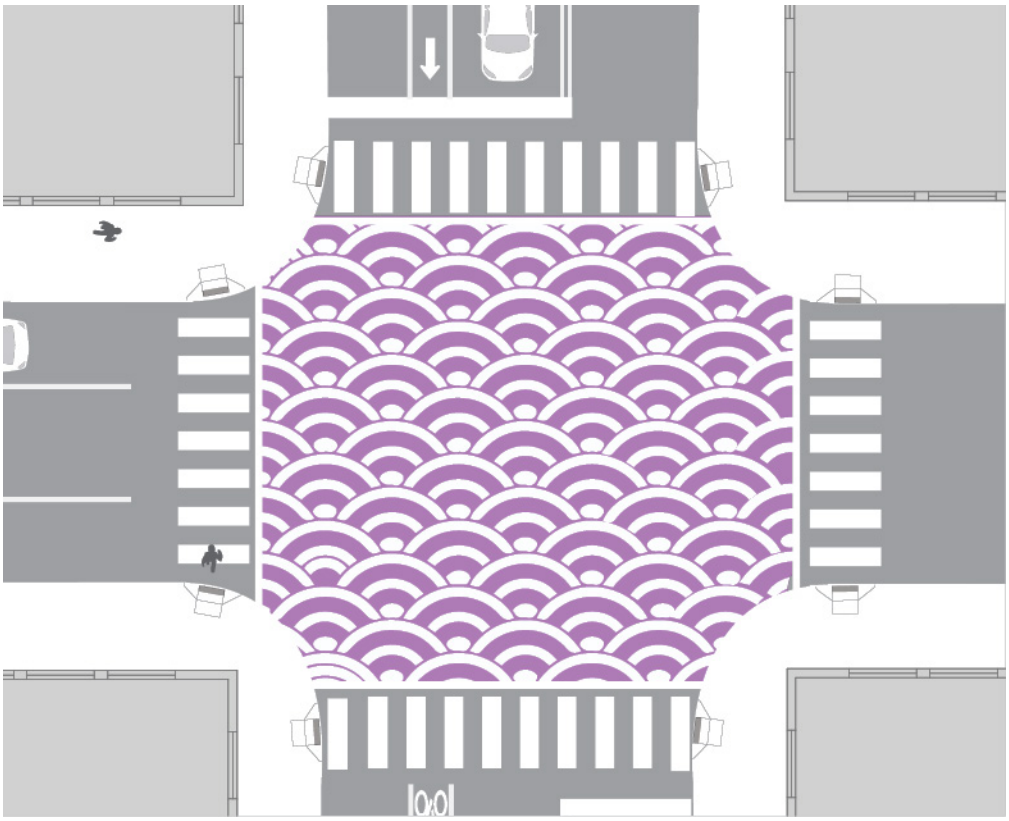
DEFINITION

Artistic surface treatments added to Crosswalks and intersections to both beautify and draw attention to spaces of potential car, bike, and vehicle conflict.



APPLICATIONS

Adding art to an intersection or Crosswalk is particularly appropriate on streets near schools and civic institutions, like Broad and Main Streets, in Keyport. Intersection murals are ideal for low-traffic, low-speed streets. The location of these treatments is also often determined by the steward of the intervention, as they can require more frequent maintenance. These treatments can also be installed in neighborhoods where a resident association or organization agrees to take ownership of it.



Rochester, NY. Image Source: Common Ground Health.

Durham, NC. Image Source: City of Durham.

DESIGN GUIDANCE

1. The material used to create the asphalt art is primarily dependent on the desired duration of the intervention.
2. The art can be a collaboration between the agency owning the intervention, and a local artist or arts organization.
3. These interventions can be paired with other placemaking projects along the same corridor, like Rain Gardens, Public Seating, and Bus Stop enhancements.
4. Intersection murals shall not encroach into the marked Crosswalk area.

ADDITIONAL GUIDANCE

Design

- Depending on local guidelines, Crosswalk Art may be placed between the stripes of a continental Crosswalk, or be a full design within a standard (transverse lines) Crosswalk (see pg. 139).
- Thermoplastic, resin, or colored textured treatments should be used for Intersection / Crosswalk Art expected to last more than a year.
- Neither intervention shall be considered as a traffic control or traffic calming device, although they may have that result.
- The street surface should be thoroughly swept and power washed before surface design application.
- Ensure the local agencies permit artistic treatments beyond the guidance provided by FHWA.

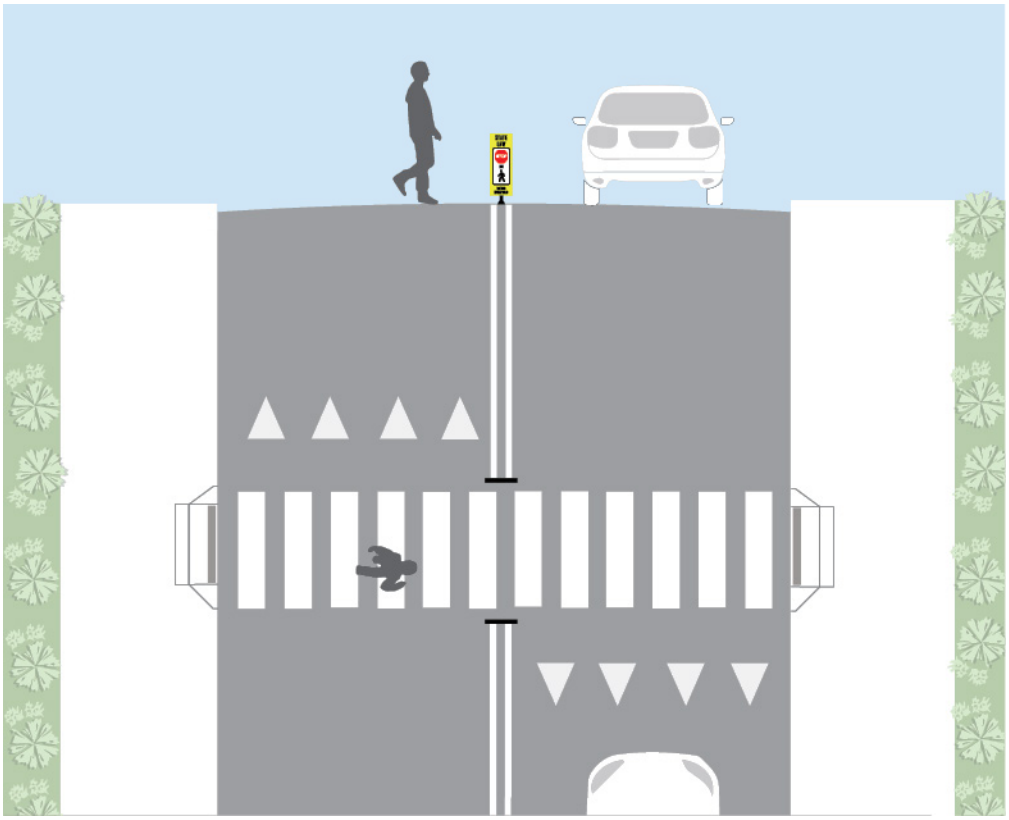
Maintenance

- Murals may need bi-annual or annual touch-ups. Develop a maintenance plan before applying the surface treatment.
- Murals and Crosswalk Art may be removed and re-painted regularly to feature local artists.

IN-STREET PEDESTRIAN SIGN

DEFINITION

An In-Street Pedestrian Sign is placed at unsignalized crossings, in the right-of-way, to signal to cars that they must stop if a pedestrian has entered the marked Crosswalk. The sign must be MUTCD-compliant.



APPLICATIONS

In-Street Pedestrian Signs are appropriate at unsignalized marked crossings, typically mid-block. Typically, these crossings are on low-volume and low-speed streets. There are two types of In-Street Pedestrian Signs indicating the state law: yield to pedestrians in the Crosswalk, and stop for pedestrians in the Crosswalk.

CONSIDERATIONS

- State law shall be consulted in conjunction with MUTCD to determine the appropriate sign type.
- In-street signage should be prioritized at higher pedestrian volume locations without other intersection control. These could include locations along First Avenue where four-way stops are rare.

Image Source: Greg Voltz.

Image Location: Unknown

DESIGN GUIDANCE

1. The in-street sign should be affixed to the asphalt via epoxy or bolts. Where this is not possible, the sign should have a weighted base.
2. Yield pavement markings (or sharks teeth) should be used with the yield sign, and should be no less than 5 feet in advance of the Crosswalk.
3. The sign should be placed in the roadway at the Crosswalk location on the center line, on a lane line, or on a median island.
4. The STOP FOR legend shall only be used in states where the state law specifically requires that a driver must stop for a pedestrian in a Crosswalk.

ADDITIONAL GUIDANCE

Design

- Unless the In-Street Pedestrian Sign is placed on a physical island, the sign support should be designed to bend over and then bounce back to its normal vertical position when struck by a vehicle.
- The top of an In-Street Pedestrian Sign should be a maximum of 4 feet above the pavement surface.
- An In-Street or overhead Pedestrian Sign should not be placed in advance of the Crosswalk to educate road users about the state law prior to reaching the Crosswalk, nor should it be installed as an educational display that is not near any Crosswalk.

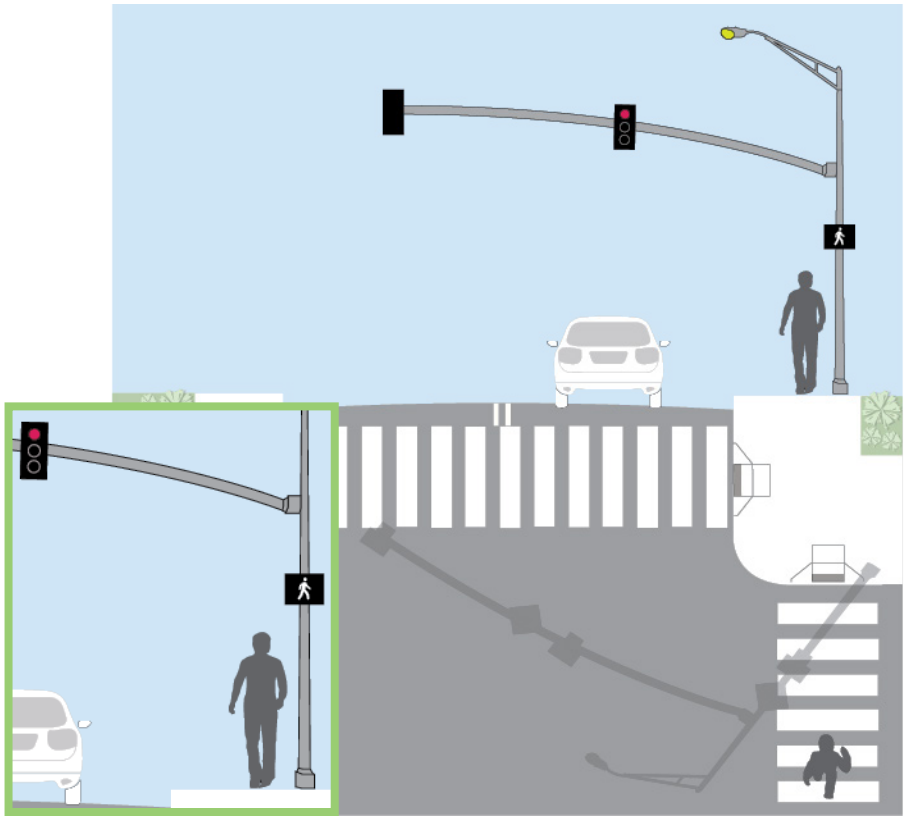
Maintenance

- Signage and pavement markings at the unsignalized Crosswalk must be well maintained to ensure maximum visibility from vehicles.

LEADING PEDESTRIAN INTERVAL

DEFINITION

The display of a WALK indication for pedestrians (and sometimes cyclists) while a red indication continues to be displayed to parallel through and / or turning traffic, affording pedestrians a head start before vehicles are allowed to turn.



APPLICATIONS

Leading Pedestrian Intervals (LPI's) are most effective at signalized intersections with high pedestrian volumes and a moderate to high-volume of turning vehicles, crash history, or where known conflicts between pedestrians and vehicles exist. LPIs can be of particular relevance in and around schools, areas with high senior or disabled populations, college campuses, employment hubs, and/or downtown / commercial districts. LPIs should be considered at all signalized locations within the Borough with a history of a lack of stopping for pedestrians, high turning volumes, or other crash history.

CONSIDERATIONS

- LPIs give pedestrians priority at intersections, for a relatively low-cost intervention (signal timing change).
- LPIs give people walking more confidence and help reduce conflicts/crashes with people driving.
- LPIs have been shown to decrease pedestrian / vehicle collisions and vehicle conflicts by as much at 60 percent at intersections where they are installed.

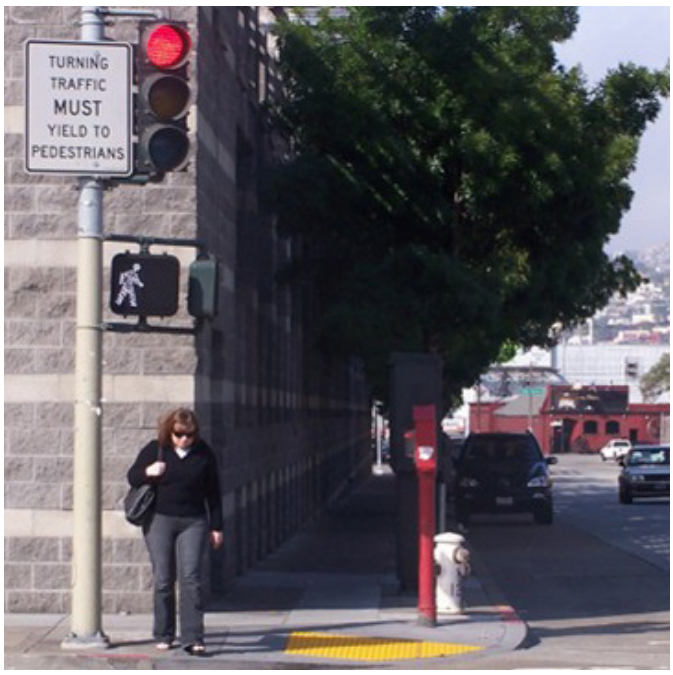


Image Source: FHWA.


Image Source: NYCDOT.

DESIGN GUIDANCE

1. Pedestrians should be given three to seven sections to cross before the vehicle interval begins.
2. Pedestrian signal heads should be located 7-10 feet above sidewalk level.
3. Curb Extensions are recommended at intersections with LPIs to decrease the crossing distance / increase pedestrian visibility.
4. LPIs may also be combined with a leading Bike Signal, where a bicycle facility would also conflict with turning vehicles.

ADDITIONAL GUIDANCE

Design

- For further guidance as to mounting, location, and height of pedestrian signal heads, review the MUTCD.

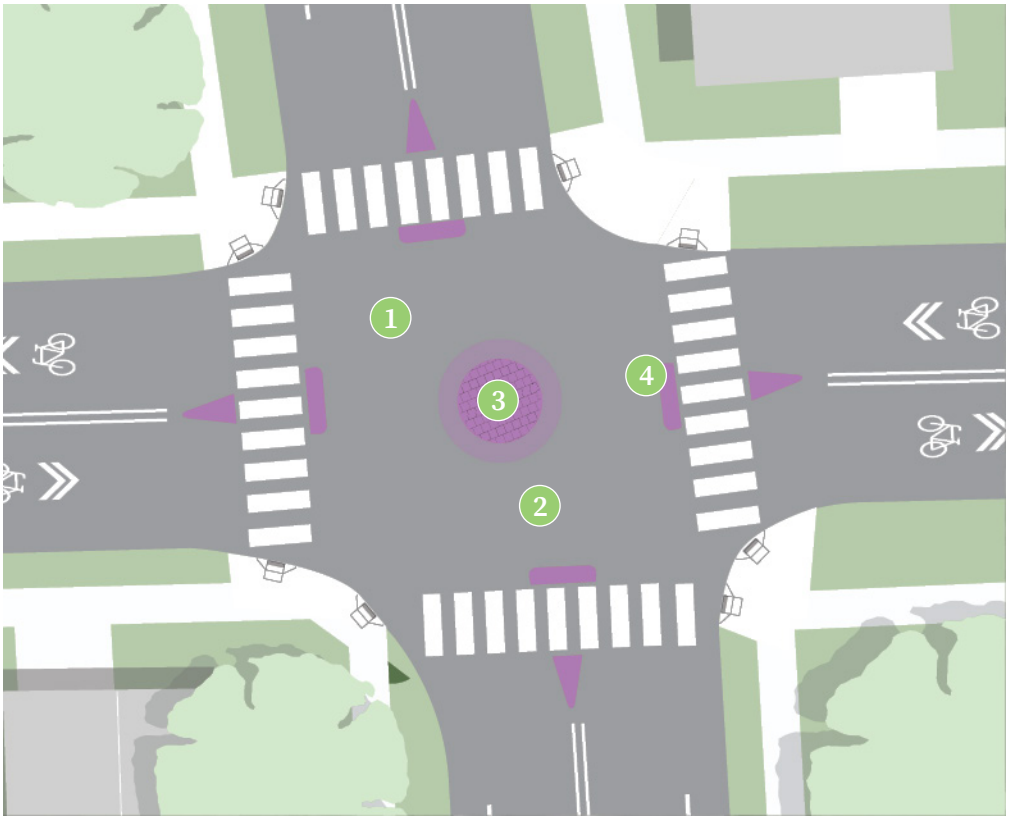
Maintenance

- An LPI requires the same maintenance as standard traffic signal heads, which includes replacing bulbs and responding to power outages.

NEIGHBORHOOD TRAFFIC CIRCLE

DEFINITION

A circular design feature placed in the center of intersections to simplify turning movements and lower vehicle speeds at minor, uncontrolled intersections. Neighborhood Traffic Circles are also often referred to as "mini roundabouts".



APPLICATIONS

Neighborhood Traffic Circles are common interventions at minor intersection crossings, and are an ideal treatment for uncontrolled or four-way stop-controlled intersections. They're particularly appropriate along low-volume corridors (less than 3,000 ADT), in neighborhood contexts.

CONSIDERATIONS

- Neighborhood Traffic Circles include splitter islands and horizontal deflection to slow the approaching vehicle.
- They have been shown to improve safety, air quality, and reduce noise pollution.
- Careful attention should be paid to the available lane width and turning radius used with traffic circles.
- Traffic circles can be challenging to implement on narrow residential streets, or in offset intersections, due to the intersection geometry.
- Crosswalks should be marked to clarify where pedestrians should cross and that they have priority.
- Accommodation of and navigation by people with ambulatory and vision disabilities should be prioritized; ADA-compliant Curb Ramps and deflector strips are required.
- Neighborhood Traffic Circles provide an opportunity to improve community aesthetics through landscaping that can further calm traffic and beautify the street. However, trees, shrubs and the like need to be properly maintained so they do not hinder visibility.

Long Beach, CA. Image Source: Allan Crawford.

Image Source: FHWA.

DESIGN GUIDANCE

1. There should be a 15-foot clearance between any curb and vertical element used to define the Neighborhood Traffic Circle.
2. Splitter islands for traffic circles may be used to calm and deflect vehicular traffic approaching the intersection. Yield signs are recommended on the intersection approach.
3. Neighborhood Traffic Circle dimensions will vary, but a 10-foot diameter is common.
4. Travel lanes should be 9-11 feet from the curb to the nearest edge of the splitter island (if used) to help control approach speed.

ADDITIONAL GUIDANCE

Design

- The mid-point of the center circle should be positioned where the diagonal curb to curb lines intersect.
- A Mountable Curb allows emergency and design vehicles to make turns over the outer edge of the inner circle, as needed.
- A different surface material, colorful curbs or striping, and / or Planters should be used to distinguish the traffic circle from the rest of the road.
- Chevrons or shared lane markings may be used to reinforce the direction of bicycle travel.

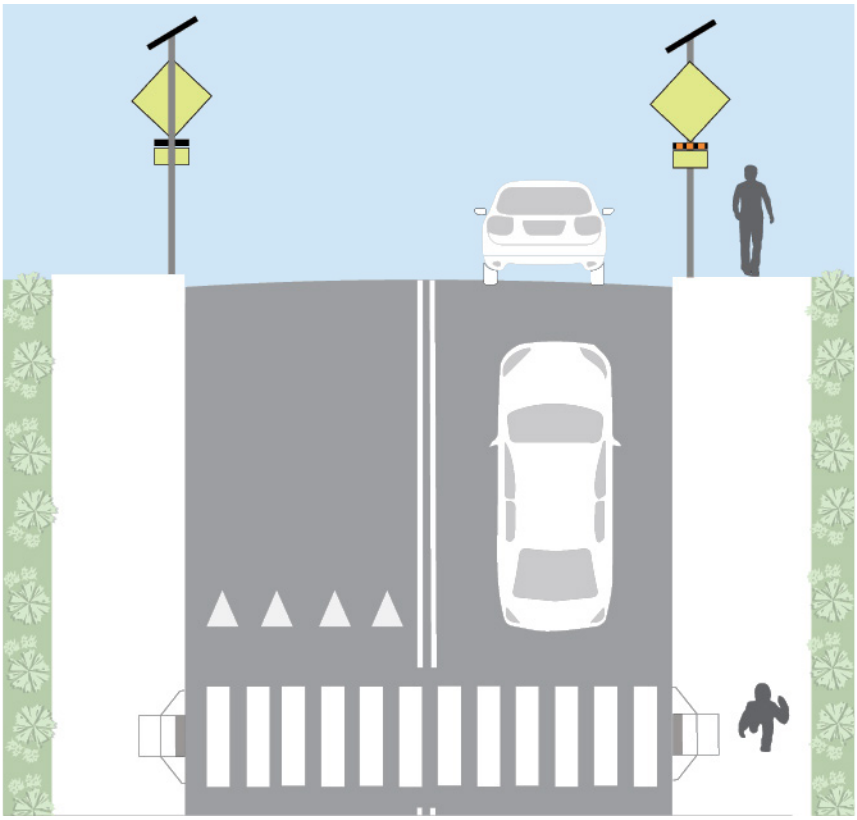
Maintenance

- While expensive to install, Neighborhood Traffic Circles require less maintenance than signalized intersections, which cost $5,000-$10,000 per year.
- Any plants or trees placed inside the traffic circle may need regular maintenance.

PEDESTRIAN ACTUATION

DEFINITION

An on demand pedestrian signal that becomes operational through physical detection or by pressing a manual button.



APPLICATIONS

Pedestrian phases should be included at all existing signalized intersections in Keyport, so that pedestrians do not need to push a button to cross. Pedestrian Actuation is more appropriate at Mid-Block Crosswalks, such as along the Henry Hudson Trail, because crossing volumes are less predictable. Rectangular Rapid Flashing Beacons (RRFBs) are most commonly implemented at intersections without existing signalized crossings with significant pedestrian activity, at mid-block crossings of major streets, and at trail crossings. They can be installed on two-lane and multi-lane thoroughfares, and are particularly applicable where high vehicle speeds and volumes make pedestrian crossings difficult or dangerous.

CONSIDERATIONS

- Within Keyport, Pedestrian Actuation is not required at standard signalized intersections with a pedestrian phase, but is required at Mid-Block Crosswalks.
- Pedestrian actuated signals should have visual and audible messages to communicate to pedestrians of all abilities that the button has been pressed and that their desire to cross has been communicated to the controller.
- A common type of pedestrian signal only activated by a pedestrian intending to cross the street is an RRFB. These beacons are solar-powered, yellow LED lights placed on the sidewalk in conjunction with a Crosswalk. They flash in a wig-wag pattern when activated by a crossing pedestrian, indicating the presence of a crossing pedestrian to motorists.

Image Source: Texas Transportation Institute.

Image Source: Jordan Pascale, DCist.

DESIGN GUIDANCE

1. Actuated beacons should be used in conjunction with marked crossings and Curb Ramps.
2. Designers should consider the surrounding context in installing actuated signals like an RRFB, so that existing signage doesn't contribute to clutter, and decrease the visual impact of the signal.
3. Pedestrian Actuation should only be implemented where crossings are intermittent.
4. Where used, actuated signals should be timed to be as responsive to activation as possible, with delay kept to a minimum.

ADDITIONAL GUIDANCE

Design

- Signage may indicate both pedestrian and bicycle crossing if at a trail crossing.
- For further guidance, review the MUTCD.
- FHWA encourages the installation of RRFBs as a pedestrian safety countermeasure (source: https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/step2.cfm).

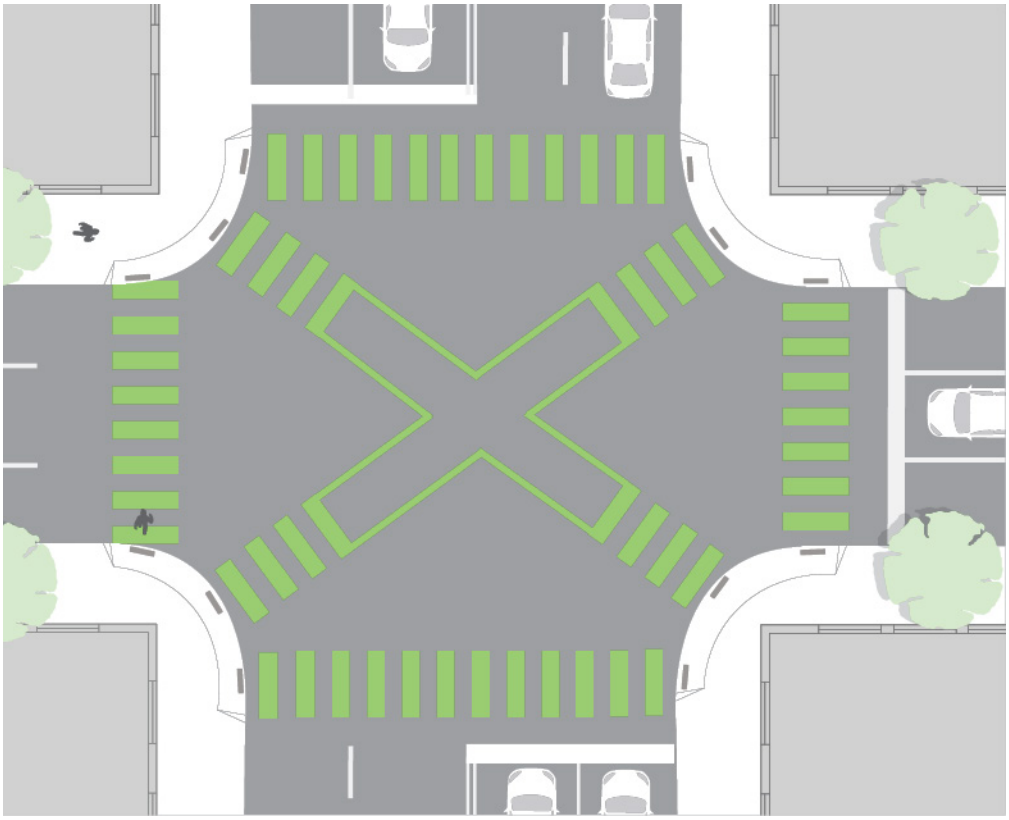
Maintenance

- Pedestrian actuated signals require the same maintenance as standard traffic signal heads, which includes replacing bulbs and responding to power outages.

SCRAMBLE

DEFINITION

An exclusive pedestrian signal phase, often accompanied by Crosswalk markings indicating that pedestrians may diagonally cross an intersection.



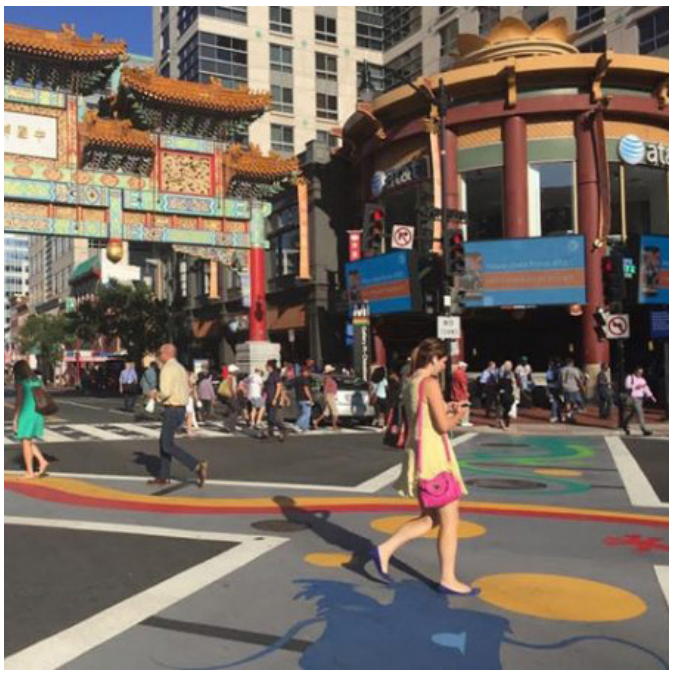
APPLICATIONS

A Scramble is best implemented at signalized intersections with high pedestrian volumes and frequent vehicular turning movements, such as Broad Street at Front Street. It is commonly implemented at key intersections in downtown areas, where pedestrian traffic is steadily high throughout the day, especially at peak morning and afternoon rush hours.

CONSIDERATIONS

- Scrambles are intended to reduce vehicle turning conflicts and walking distance.
- A Scramble requires the switch to exclusive pedestrian signal phasing, prohibiting crossings during any vehicular phase.
- The benefits of accommodating a pedestrian Scramble should be weighed against the increased average wait times per signal phase.

Los Angeles, CA. Image Source: LA Great Streets.


Washington, DC. Image Source: Lauren Landau.

DESIGN GUIDANCE

1. The timing of the pedestrian signal phase should reflect the crossing distance from diagonal corners.
2. A pedestrian Scramble should be discouraged at overly wide intersections, due to the signal phase length it would require.
3. A striped X is a common pavement marking used in the middle of the intersection to guide pedestrians to cross diagonally at the corners.
4. Wide Curb Ramps that cover the entire curb radius should be installed so that pedestrians may cross diagonally.

ADDITIONAL GUIDANCE

Design

- Asphalt art treatments may be implemented as part of the Scramble to further draw attention and to support neighborhood / district identity.

Maintenance

- Pedestrian signal heads require the same maintenance as standard traffic signal heads, which includes replacing bulbs and responding to power outages.
- Pavement markings, if applied, should be regularly maintained to ensure they stay fresh and visible.

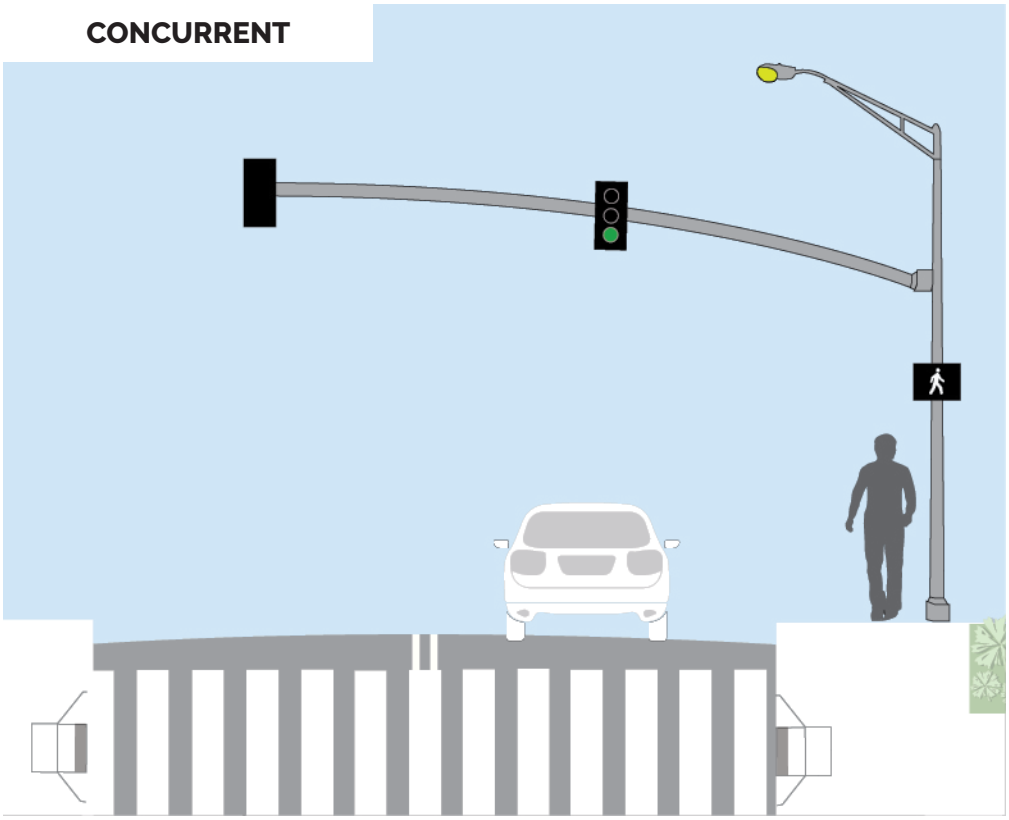
SIGNAL PHASING

DEFINITION

Concurrent Signal Phasing is when the pedestrian signal appears at the same time that the green traffic signal activates.

Exclusive Signal Phasing is when pedestrians cross in all directions while all vehicles remain stopped.

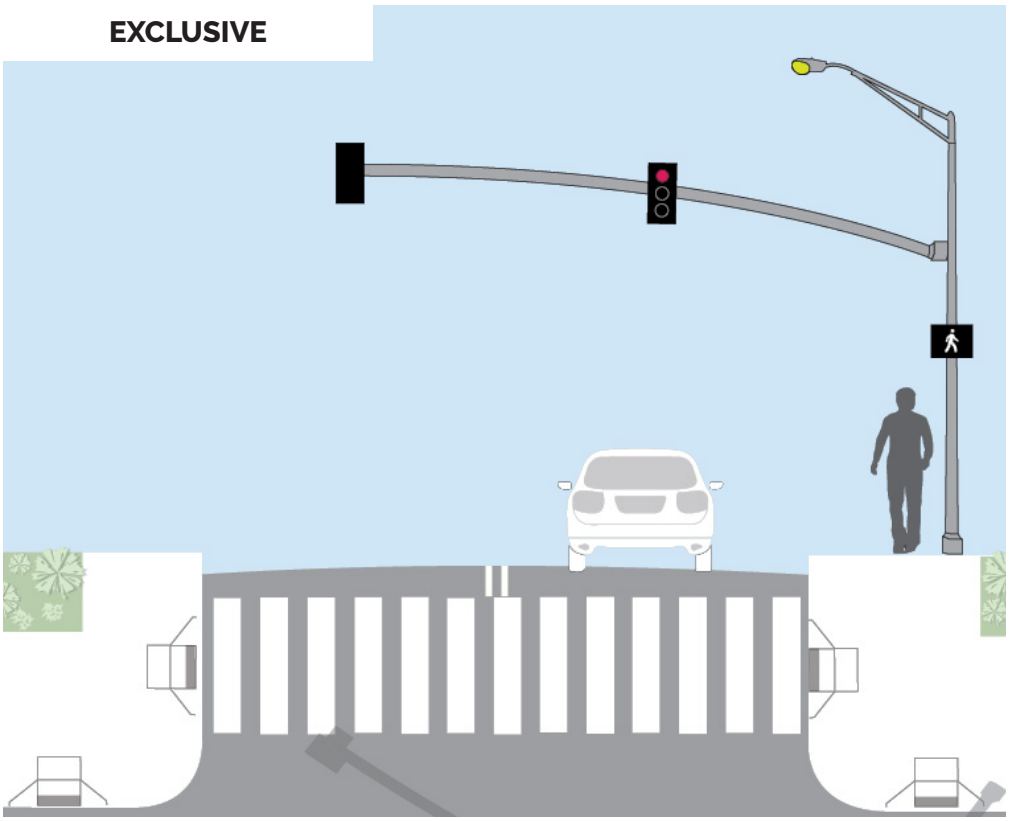
CONCURRENT



APPLICATIONS

Exclusive Signal Phasing is safer for pedestrians, and is applicable at intersections with high volumes of pedestrian and vehicle traffic, and at intersections with frequent and non-exclusive turning movements. Often, this Signal Phasing is used in commercial centers, or along multi-lane roads, where multiple traffic lanes and simultaneous turning movements pose more of a threat to pedestrians in the right-of-way.

EXCLUSIVE



CONSIDERATIONS

- While exclusive Signal Phasing is safer for pedestrians, pedestrians have to wait through a full traffic signal cycle (allowing vehicle throughput in all directions) before they may cross the street.
- Exclusive Signal Phasing is also considered for intersections with excessive pedestrian-vehicle conflicts caused by factors such as limited sight distance, and complex road geometry.
- An exclusive phase can increase the potential for pedestrian violations during the DON'T WALK interval.
- Concurrent Signal Phasing can reduce pedestrian and vehicle wait times.

DESIGN GUIDANCE

1. Exclusive Signal Phasing is used for Scrambles (see pg. 153).
2. Exclusive Signal Phasing is also appropriate at intersections with access to things like schools and parks / trails.
3. Exclusive Signal Phasing should be weighed against potential impacts to traffic. Exclusive phasing can decrease an intersection's overall capacity.
4. For exclusive phasing to be employed properly, clear and appropriate audible cues must be provided for the visually impaired.

ADDITIONAL GUIDANCE

Maintenance

- Regardless of the phase, signals and bulbs shall be regularly maintained to ensure vibrancy, and proper timing.

APPENDICIES

APPENDIX A: THIRD STREET CONNECTION DETAILS

INTRODUCTION

The Keyport Complete Street Design Guide identifies substantial changes to 3rd Street that would help the Borough meet the goals identified in the Complete Streets Ordinance. This appendix seeks to clarify what is envisioned for Third Street, why the vision meets the needs of Keyport residents, and answer common questions that have arisen.

THIRD STREET VISION

The Complete Street Guide proposes the addition of a **two-way bicycle facility** that would be located adjacent to the southern curb and replace the eastbound drive lane (Figure 16). Sometimes referred to as a "cycle track", this facility would have bike lanes going in both directions on the same side of the street (Figure 17). Third Street would become **one-way westbound**. As a result of this proposal, **there would be no change to the location of or amount of parking on Third Street**. During the public comment period, many residents identified the need to make **Second Street one-way eastbound** to ensure that traffic flowed easily. A one-way Second Street up to at least Fulton Street, potentially Stone Road, would allow all residents to easily access their homes with little inconvenience.

Figure 16. Borough Connector as Applied to 3rd Street

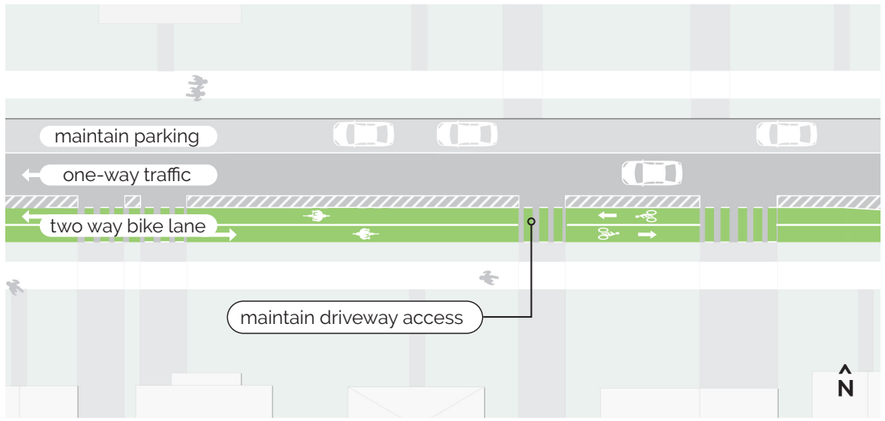


Figure 17. Example Cycle Track

WHY ARE BICYCLE LANES ON THIRD STREET NEEDED?

The Borough of Keyport has set the goal of providing "multi-modal access to employment centers, schools, recreational and open spaces, public facilities, retail and commercial centers, and transit centers" for all residents. (Keyport Complete Streets Ordinance §16-9.2) To achieve that goal, the Borough must work to provide all residents access to bicycle facilities that meet the needs of all users and abilities.

This section of the Borough is in particular need of safe bicycle facilities for a number of reasons:

The area is home to many school age children: Nearly 1 in 4 people (24%) who live in the area are school-age children. (See Existing Conditions Report, Page 37). These are some of the most vulnerable road users, with the fewest mobility options, and who need the safest facilities.

There are people who do not have access to a car: According the US Census Bureau, approximately 3% of households have no access to a car and 42% have access to only one car. Nonetheless, 75% of households are occupied by two or more people. This strongly suggests there is a strong constituency of people who do not have regular access to a vehicle.

There are currently no safe routes to access downtown services and amenities: As illustrated in Existing Conditions Report, many of the Borough's key essential services are located Downtown between Third Street and the bayfront (See Existing Conditions Report, Page 45). Currently, there is no bicycle facility that allows access to these services and the streets do not meet bicyclist needs: when asked to assess the current conditions for biking, workshop participants gave First, Second, and Third Street an average rating of 1.5 out of 5 stars.

There are no good alternative options: Stakeholders and residents frequently identified First Street as unsafe for bicyclists. They noted the volume of vehicles, truck traffic, speeding, and a narrow roadway width as reasons why. The narrow roadway width limits opportunities for new bicycle facilities, especially ones that would be considered safe for all users.

Second is a lower volume street than First Street and has a characteristic similar to Third Street. However, it dead ends at Church Street and would thus leave bicyclists no safe option for connecting with the rest of the network. Alternatively, Third Street continues through to Broad Street which is identified as a major cross-Borough bicycle connection.

The Henry Hudson Trail provides residents in this area good access to south-west sections of the Borough but does not connect to Downtown. It is unreasonable to expect that riders will take the Trail to Broad Street and then backtrack via the proposed Broad Street bicycle lane.

ADDITIONAL ECONOMIC BENEFITS

Supporting a strong economy is identified in the Complete Streets Ordinance (§16-9.2.a.2) as a major goal of future mobility improvements. The Borough has the opportunity to substantially increase the number of people who visit the Downtown by bicycle. Some of these riders would have otherwise driven but will switch to bicycling because of the improved connectivity. This will help address the lack of available parking in the Downtown. Additionally, the new facilities will call attention to the fact that a robust and vibrant downtown is only a short detour off the Henry Hudson Trail. As a result, the Borough should expect to see an increase in visitors to the Downtown.

COMMON QUESTIONS AND CONCERNS

What do my neighbors think of this project?

The Third Street bicycle facility was first presented during the online workshop and there was overwhelming support for it: 72% of participants (23 people) supported the project and an additional 16% (5 people) supported it with modifications (See Complete Streets Outreach Summary). When presented with the Design Guide, a total of 87% of respondents (27 people) supported the Borough Connector Typology completely or with minor modifications.

What are the next steps? How soon will this happen?

The project team has studied the area in sufficient detail to be confident that the project is viable. However, more work needs to be done to determine that the project should move forward. The Borough will need to conduct a detailed feasibility study and, if appropriate, develop a design for implementation. This will include active public participation, especially from people who live on the street. This will include a study of the impact on parking, vehicle circulation, and property access, among other topics. The timeline for that work will depend relative importance of the project against other improvements proposed in the Design Guide.

I don't see people biking now, why are these needed?

A survey of 262 residents of Keyport found that nearly 30% of residents bike to access essential services at least some of the time and more than 45% bike to access parks and open spaces. As such, Keyport residents are riding their bikes. However, there are likely many more who want to. Research has shown that there is a strong relationship between the availability of safe and convenient bicycle facilities and the number of people who ride their bikes. Simply put, only the most adventurous riders will bike without facilities. As such, adding facilities should open up opportunities for new riders.

APPENDIX B: SCHOOL LOADING

INTRODUCTION

As identified in the Existing Conditions Report and Outreach Summary, the school loading area on Broad Street is one of residents' biggest areas of concern. Keyport is a walking school district, but in many locations pedestrian do not feel safe. As a result, many parents drive their children to school. In particular, people noted that many parents the pick-up and drop-off area along Broad Street at Keyport School's main entrance is particularly concerning for parents. At the mid-block crossing, parents drop children off on both sides of the street, blocking the view of drivers behind them and creating a dangerous condition for children crossing. This creates a reinforcing loop whereby parents drive their children to school because they feel its unsafe, but in doing inadvertently add more traffic to the area, which increases the sense that it is unsafe. This appendix illustrates an alternative for school loading approach.

It should be noted that a major objective of the Complete Streets was to develop a network that would allow the most vulnerable road users, which include school age children, to feel comfortable and safe walking and biking in Keyport. As the Borough implements the Complete Streets recommendations, it should begin to see a reduction in the need for pick-up and drop-off spaces, which should in turn make pick-ups and drop-offs easier for those students who need it. Overall, the result will be a return to walking-oriented schoold district.

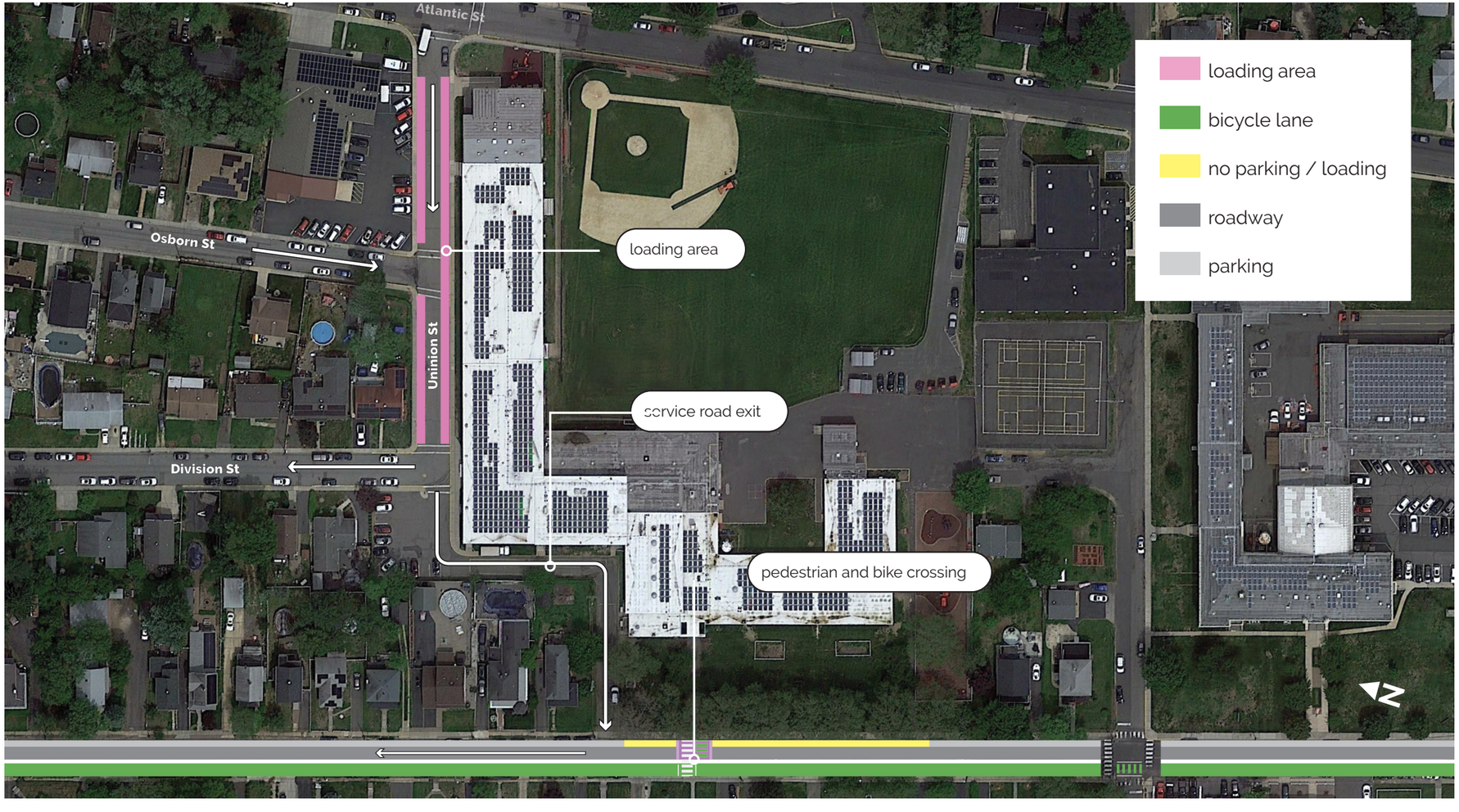
UNION STREET LOADING

Under this scenario, loading would be prohibited on Broad Street and all loading would be required to be on Union Street. To accommodate smoother pick-up and drop-off, Osborne Street and Division Street one-way traffic would be inverted: traffic on Osborn would go towards the school while traffic on Division would go away from it. At the same time, Union Street would be one-way moving away from Atlantic Street. This would allow for pick-up and drop-off to happen on both sides of the street. Since traffic moves at very low speeds on Union, and there is no through traffic, students should be able to safely cross the street.

Drivers would have two options to enter the loading area: from Atlantic Street or from Osborne Street. The Osborne Street entrance would likely be favored by those who currently do their pick-up and drop-off on Broad Street. To address the potential for increased traffic volumes on Division Street, the School and the Borough should explore formalizing the service road as an alternative exit onto Broad Street.

The wider protected bike lane will allow sufficient space for cyclists to stop and safely cross at the crosswalk in front of the school. The construction of a speed table will reinforce the requirement that drivers stop for pedestrians and cyclists at this crossing.

Figure 18. Union Street Loading



intentionally blank

COMPLETE STREETS DESIGN GUIDE

JULY 1, 2021

An Element of the Keyport Complete Streets Design and Implementation Plan