

About the Study

Study Objective

“Develop a comprehensive transit vision for the waterfront to focus on near-term transportation changes”

Background

2007

CIVIC VISION FOR THE CENTRAL DELAWARE

The Civic Vision re-imagines the waterfront as a “humane, walkable, dense, and urban waterfront.” It calls for land and waterborne public

transportation, including a transit line down Delaware Avenue once the density and activity levels can sustain it.



2010

DRPA WATERFRONT STREETCAR STUDY

Delaware River Port Authority, operator of PATCO train service, completes assessment of various alternatives for transit service along the waterfront. Final recommendation calls for trolley from Girard Avenue to Pier 70, with a spur along

Market Street to City Hall. Proposal fails to move forward due to lack of funding.

2011

MASTER PLAN FOR THE CENTRAL DELAWARE

Master Plan builds off of the Civic Vision. One of the guiding principles of the plan is to create a “pedestrian-friendly and balanced transportation plan that supports the walkability of the waterfront and its strong connections

to the city and region.” The master plan recognizes the importance of public transit in revitalizing the waterfront. One of its key recommendations is to transform Delaware Avenue into an urban boulevard with dedicated transit.



Today

WATERFRONT TRANSIT STUDY

Better transit is essential to support development along the waterfront. However, preliminary travel demand modelling by the Delaware Valley Regional Planning Commission (DVRPC) shows that there is simply not enough demand today to warrant major transit investments like a waterfront light rail line.

DRWC's Waterfront Transit Study explores incremental ways we can improve the experience of the transit rider, with the goal of bridging the gap between today and a future when larger-scale investments may occur.

Project Goals

This study takes a broad look at how we can improve transit access along the Philadelphia’s Central Delaware River waterfront, from introducing new services to making it easier to reach existing transit. We identified five goals that guide the work of this study:



Transit Access

IMPROVE TRANSIT ACCESS TO THE WATERFRONT FOR PHILADELPHIANS AND VISITORS

Adjustments to existing transit service, along with the creation of new road and waterborne public transportation can improve Philadelphia’s access to the waterfront. Strengthening connections to the waterfront is a cornerstone of the waterfront Master Plan. Stretches of Delaware Ave. / Columbus Blvd. lack good transit service. This study strives to develop transit recommendations that are dependable, reliable, and frequent. We hope to use transit to better connect neighborhoods across the city to the riverfront.



Multi-Modalism

MAKE WALKING, BIKING, AND TRANSIT THE PREFERRED MODE OF TRANSPORTATION TO THE WATERFRONT

Improving transit service starts with making it easier to walk and bicycle to, from, and along the Delaware River waterfront. Many key destinations are a short distance away from frequent bus, trolley, and El service, yet I-95 and inadequate infrastructure make walking or biking between the waterfront and adjacent neighborhoods challenging. This study does not limit itself by only looking at public transportation and will explore policies and infrastructure investments that encourage walking and biking, as well as transit usage.



Placemaking

LEVERAGE TRANSPORTATION INVESTMENTS TO REALIZE DRWC'S WATERFRONT MASTER PLAN

The Master Plan calls for creating a uniquely Philadelphian waterfront, one with vibrant civic and public spaces. This study looks at how transit and supporting investments in pedestrian and bicycle infrastructure can achieve the Master Plan’s goals of creating comfortable, distinct, and appealing spaces. Better transit, pedestrian, and bicycle infrastructure supports public and private investment throughout the study area.



Public Buy-In

ATTAIN WIDESPREAD SUPPORT FOR TRANSIT IMPROVEMENT BY STAKEHOLDERS, INCLUDING THE PUBLIC

This study is committed to the inclusive and public-driven planning process established in the Civic Vision and Master Plan. Public support is essential for sustained investment in transit and infrastructure along the waterfront. Improving transit service will require close cooperation between DRWC and organizations like the City of Philadelphia and SEPTA. Our recommendations must be compatible with the plans and initiatives of our partners.



Feasibility

PROVIDE ECONOMICALLY SUSTAINABLE TRANSPORTATION

The Master Plan recognizes that transforming the waterfront cannot happen overnight. There are several barriers to improving transit service along the river, including financial constraints. This study takes an incremental approach to improving transit service by striving to provide a menu of improvements, some of which may take years to implement and some of which can be completed quickly. To fund improvements we will look at everything from private funding to reconfiguring bus service to maximize the productivity of existing routes.

What do you think?

Each board presents different ideas for how we can enhance the experience of traveling to, from, and along the waterfront.

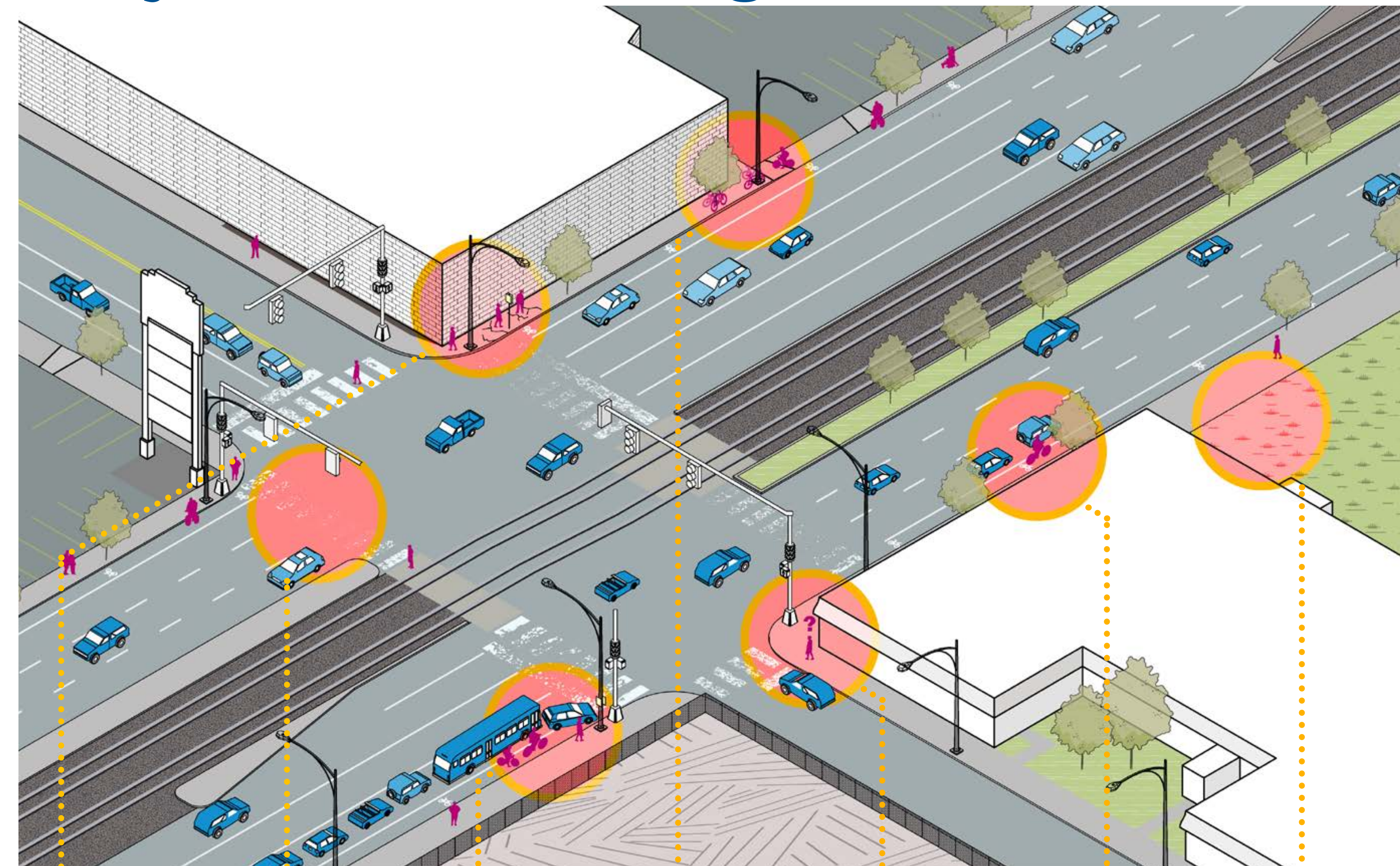
Visit the online survey at the link below to provide feedback.

We want to hear what you think!

CLICK HERE FOR THE ONLINE SURVEY: <http://bit.ly/DRWCtransit>

The Public Realm

Major Issues Along The Waterfront



Inactive frontages
Cracked & narrow sidewalks
No bus stop amenities

Dangerous & degraded crosswalks

Conflicts between carshare vehicles, automobiles, and bicycles

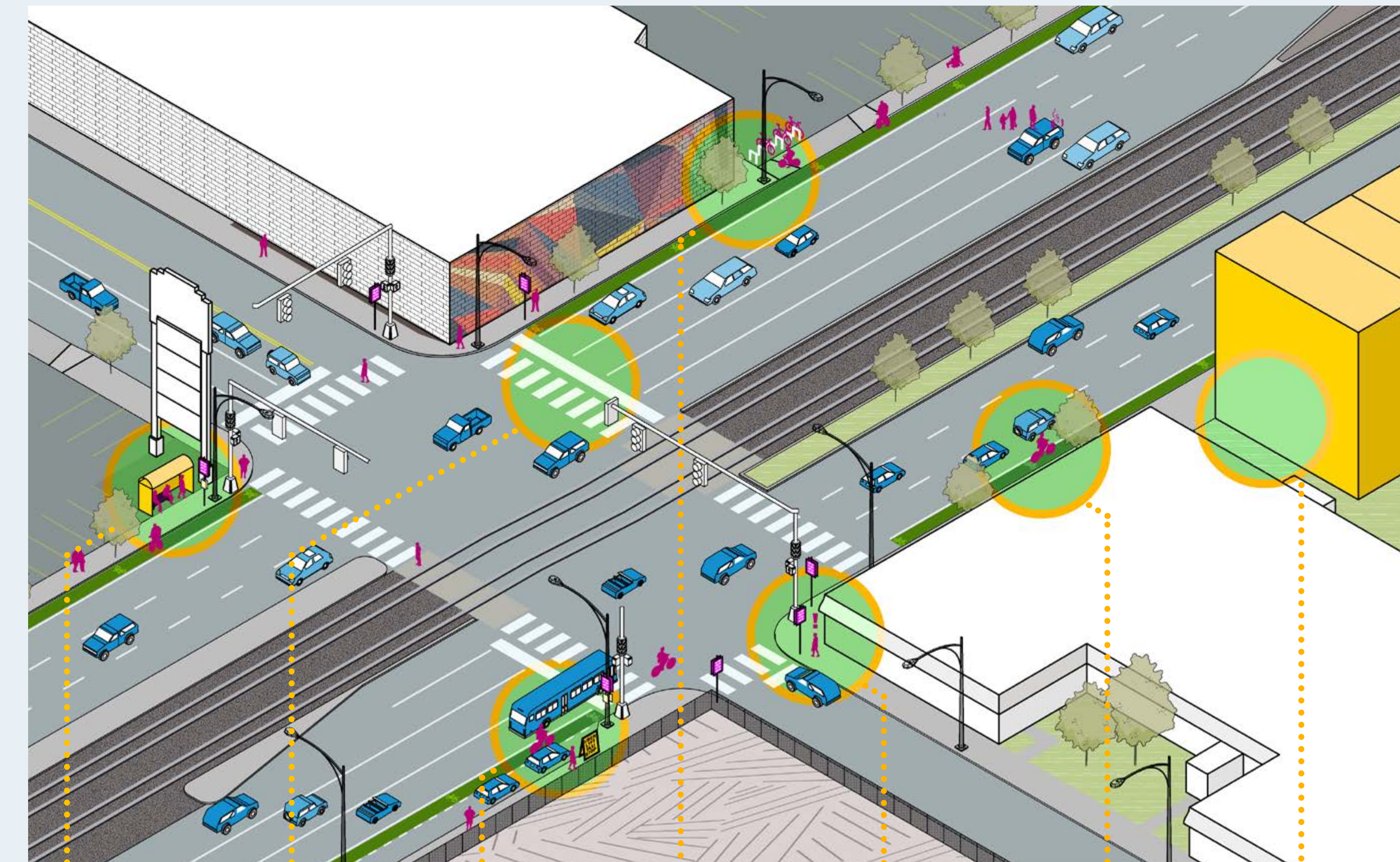
Inadequate bicycle parking

Lack of relevant pedestrian wayfinding signage

Narrow, poorly-marked bicycle lanes

Vacant lots and buildings

Some Possible Solutions



Improved bus stops and adjacent sidewalks

Repainted and well-lit crosswalks

Designated carshare drop-off and pick-up locations

Additional bicycle parking at major destinations

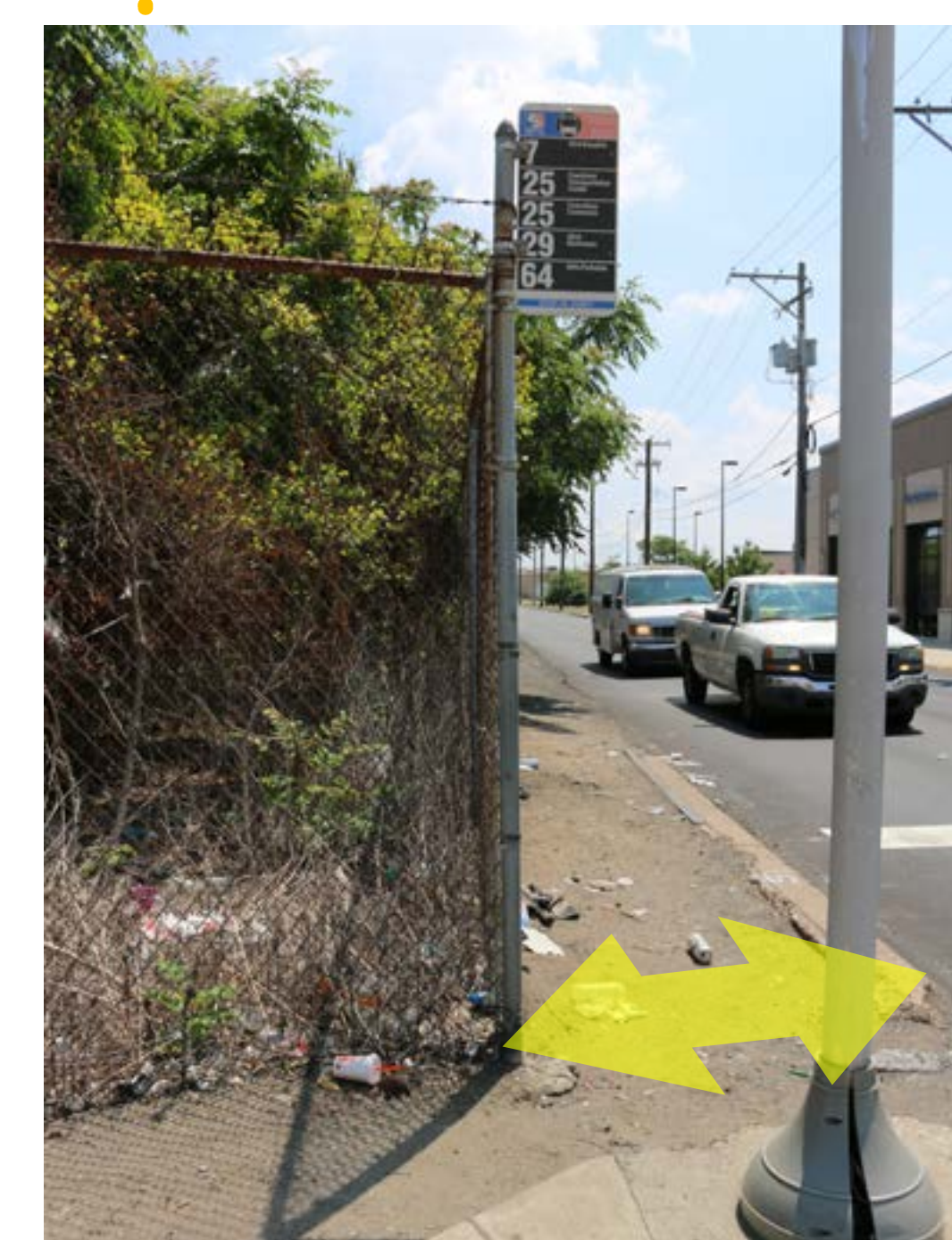
Pedestrian wayfinding signage with current destinations and transit connections

Improved bicycles lanes or trails

New development with active street frontages

Note: On-road bicycle trail on east side of Columbus Blvd to begin construction in 2020

See the next board for examples



Bus stop, narrow and degraded sidewalks at Columbus Blvd & Tasker Street



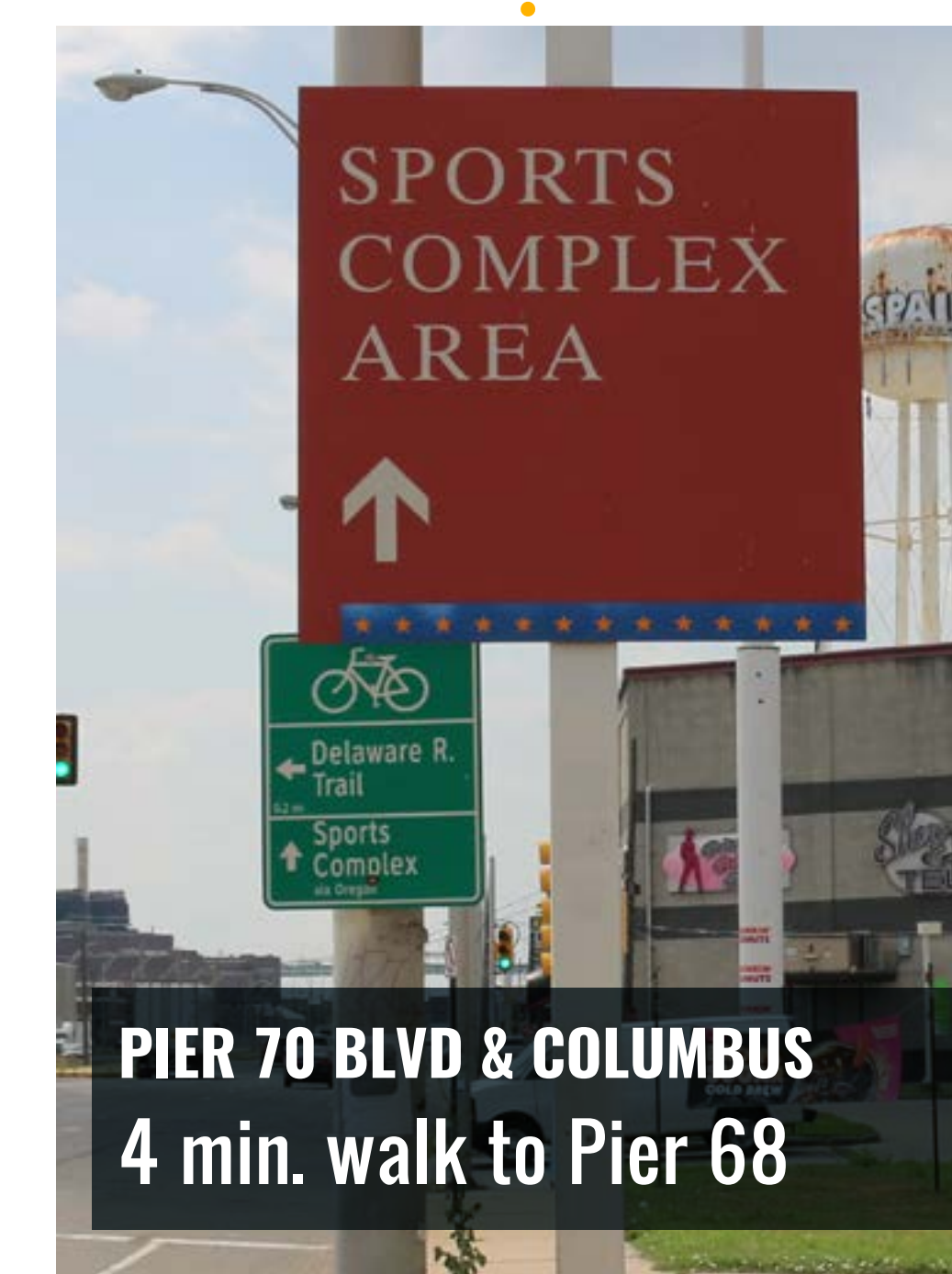
Bus stop, narrow sidewalk and inactive frontage at Columbus Blvd & Reed Street



Degraded crosswalks at Columbus Blvd & Lombard Circle, near the Chart House



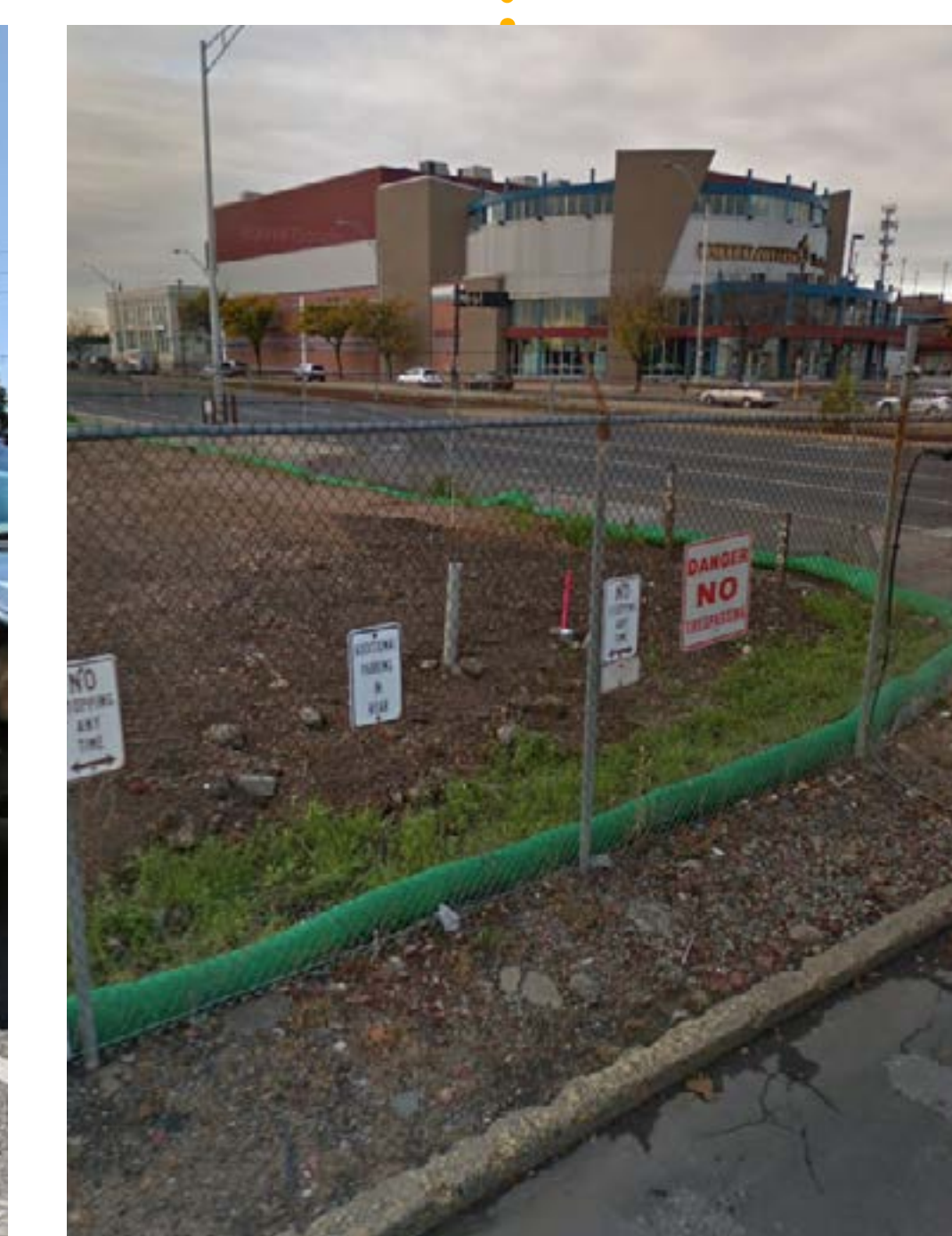
Wayfinding signage lacks current destinations at Spring Garden and Columbus Blvd



Wayfinding signage not tailored to pedestrians at Columbus Blvd and Pier 70 Blvd



Narrow, poorly marked bicycle lanes on Columbus Blvd near Poplar Street



Large, empty lot on Columbus Blvd at Reed Street

The Public Realm

Ideas like these could help to improve people's experience of traveling to, from, and along the waterfront. Help us understand which ideas we should prioritize and where.

Bus Stops



Bus stop amenities

These could include benches and/or shelters to improve the experience of waiting for or arriving by bus.



Informational elements

For people waiting, live wait time clocks, simplified schedules & lists of connections. For arriving riders, maps and wayfinding signage.



Public art

To help change peoples' perceptions of traveling to the waterfront by bus, and to make important stops easily recognizable.

Bicycle



IndeGo stations

New or relocated stations for Philadelphia's bike share system.



Bike parking

Additional racks where visitors can lock their personal bicycles.



Improved Bike Lanes

Repainted bicycle lanes or signage to alert drivers' and increase bikers' safety. Note that an on-road bicycle trail is set to begin construction on the east side of Columbus Blvd in 2020.

Public Realm



Improved sidewalks

Fixed cracks and uneven sidewalks, especially near bus stops. Where sidewalks are too narrow, improvements to widen them.



Wayfinding signage

Signs with current major destinations & nearby transit stops, at pedestrian height, with maps and approximate walking times



Repainted crosswalks

New paint for faded crosswalks. Possibly including artistic treatments at major crossings.



Landscaping/Lighting

Improvements to the aesthetic qualities of the public realm, including new trees and planters, and lighting along paths.

Car-share



Designated drop points

Well-designed locations where visitors are directed to order their taxis, Uber, and Lyft, for pick-up and drop-off at the waterfront.

What do you think?

We want to know two things from you:

FIRST, which of these ideas do you think is most important? and **SECOND**, where along the waterfront are these or other ideas needed most?

TAKE THE ONLINE SURVEY: <http://bit.ly/DRWCtransit>

Development & Land Use

What We Learned

A development pattern that isn't conducive to transit

The Delaware River Waterfront is home to a mix of land uses; however, much of the development pattern, particularly south of Washington, is auto-oriented with buildings set back from the street and situated in a sea of parking. This sort of development contributes to a public realm that does not support a positive transit experience.

Along the six-mile stretch of Columbus Blvd / Delaware Ave:

65% has inactive / blank frontages on both sides of the street

25% has inactive / blank frontages on one side of the street

Only 10% has an active street wall on both sides of the street

New development on the horizon

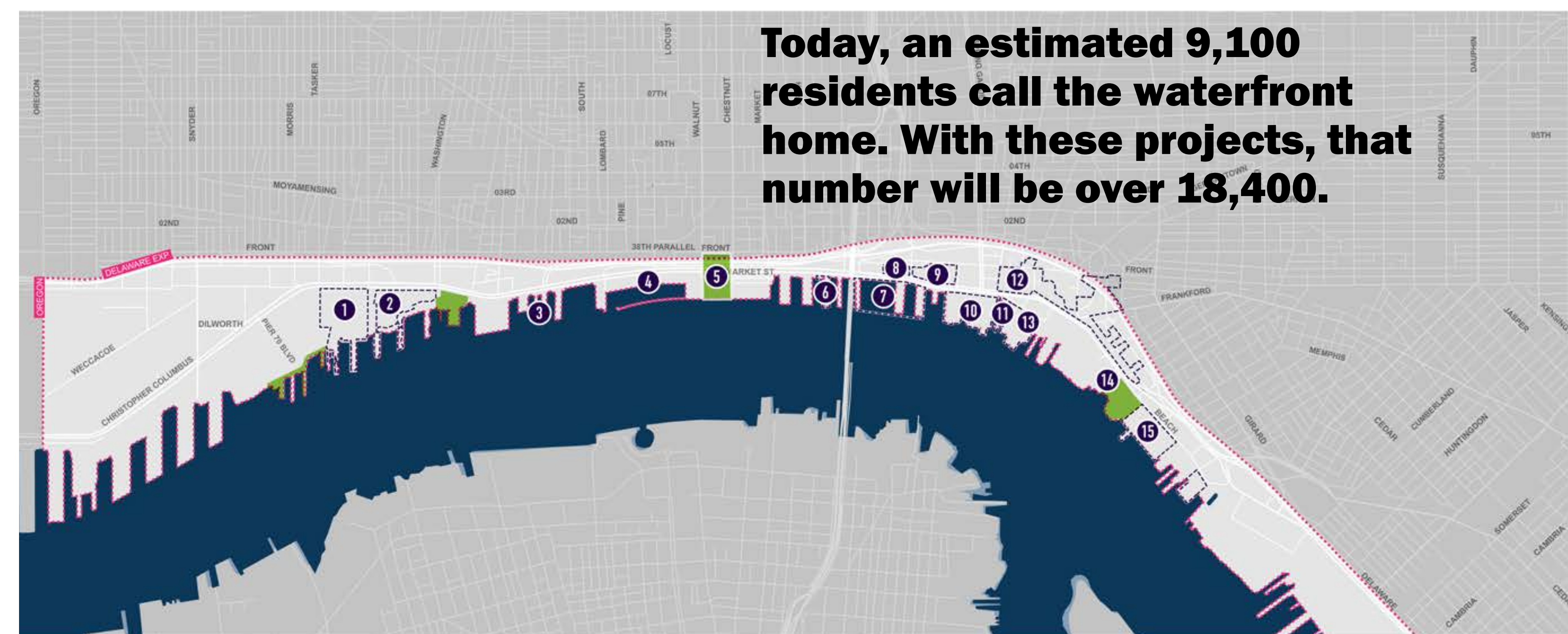
The Delaware River waterfront is changing.

Currently, there are at least fifteen catalytic development projects proposed across DRWC's six-mile jurisdiction. The waterfront of tomorrow will be a different place – both a destination

and a thriving neighborhood. To accommodate more people and active land uses, the waterfront will need to dedicate less land to parking and more space where people can live, work, and

play. Investments in transit, coupled with investments in the public realm that encourage people to walk, bike, or ride transit, are critical to a vibrant and transformed waterfront of the future.

Today, an estimated 9,100 residents call the waterfront home. With these projects, that number will be over 18,400.



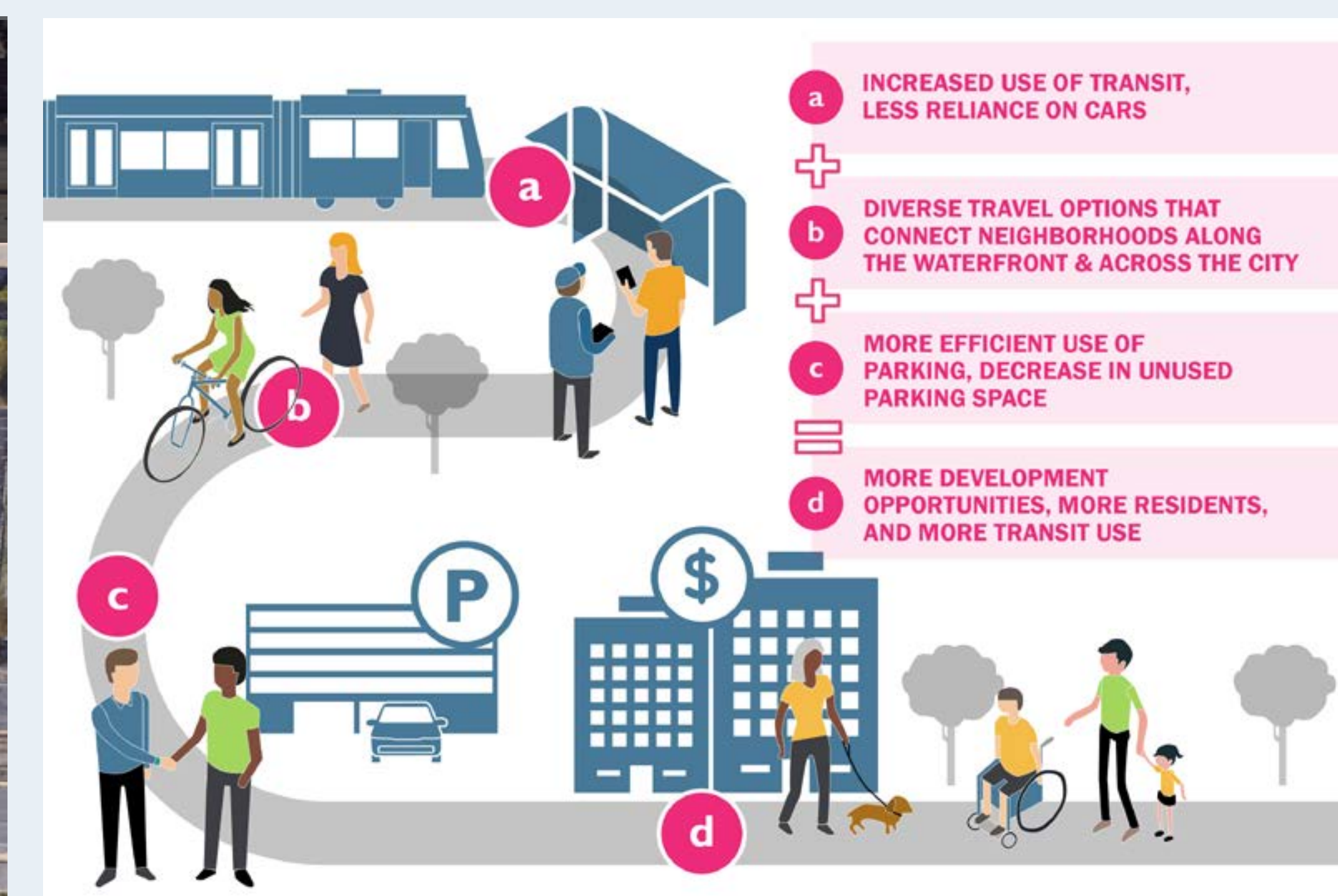
Select Renderings

Recent, Planned, or Anticipated Development Projects

- | | | |
|--------------------------------|---------------------------|--------------------------------|
| 1 Waterfront Boulevard | 6 Cherry Street Pier | 11 Pier 35 1/2 |
| 2 Liberty on the River | 7 Piers 12-24 North | 12 Penn Treaty Village |
| 3 Pier 34 | 8 Vine Street Parking Lot | 13 Waterfront Square |
| 4 Penn's Landing Redevelopment | 9 Renaissance Plaza | 14 Views at Penn Treaty |
| 5 Penn's Landing Cap | 10 Festival Pier | 15 Delaware Generating Station |

Looking Forward

Encouraging development that is suited to transit use



Some possible tools

Parking maximums

Define a maximum number of parking spaces that developers will be allowed to build per residential unit.

No parking on Columbus Boulevard

Parking must be tucked within development sites. This idea is already embedded in the Central Delaware Riverfront Overlay District (CDO).

Active edges to foster walkability

Development must face Delaware Ave / Columbus Blvd. with active frontages. This idea is already embedded in the CDO.

Dense, urban development with variation in height

Development must take on a dense, urban form with variety in design and height.

What do you think?

We want to know two things from you:

FIRST, Would you consider purchasing, renting, or leasing a home or commercial space along the waterfront if parking were not included with it? This may reduce the price of your home or work space.

SECOND, If you are not already car-free, could you be?

TAKE THE ONLINE SURVEY: <http://bit.ly/DRWCtransit>

Market Analysis

Transit Potential

Transit potential is an analysis of population and employment density. As transit service is generally most effective in areas with high concentrations of residents and/or businesses, combining both residential and employment densities show the locations with the highest potential to support transit service and generate strong transit ridership.

Existing Transit Potential



Public transportation is most efficient when it is within walking distance to large numbers of jobs and residents. As a general rule, a density of greater than five people per acre is needed to support base-level fixed-route transit service (service every 60 minutes).

The location and number of jobs is a second strong indicator of transit demand, as traveling to and from work accounts for the largest single segment of transit trips in most markets. Like population density, the employment density that can typically support a base-level of fixed-route service is greater than five jobs per acre.

Projected Transit Potential



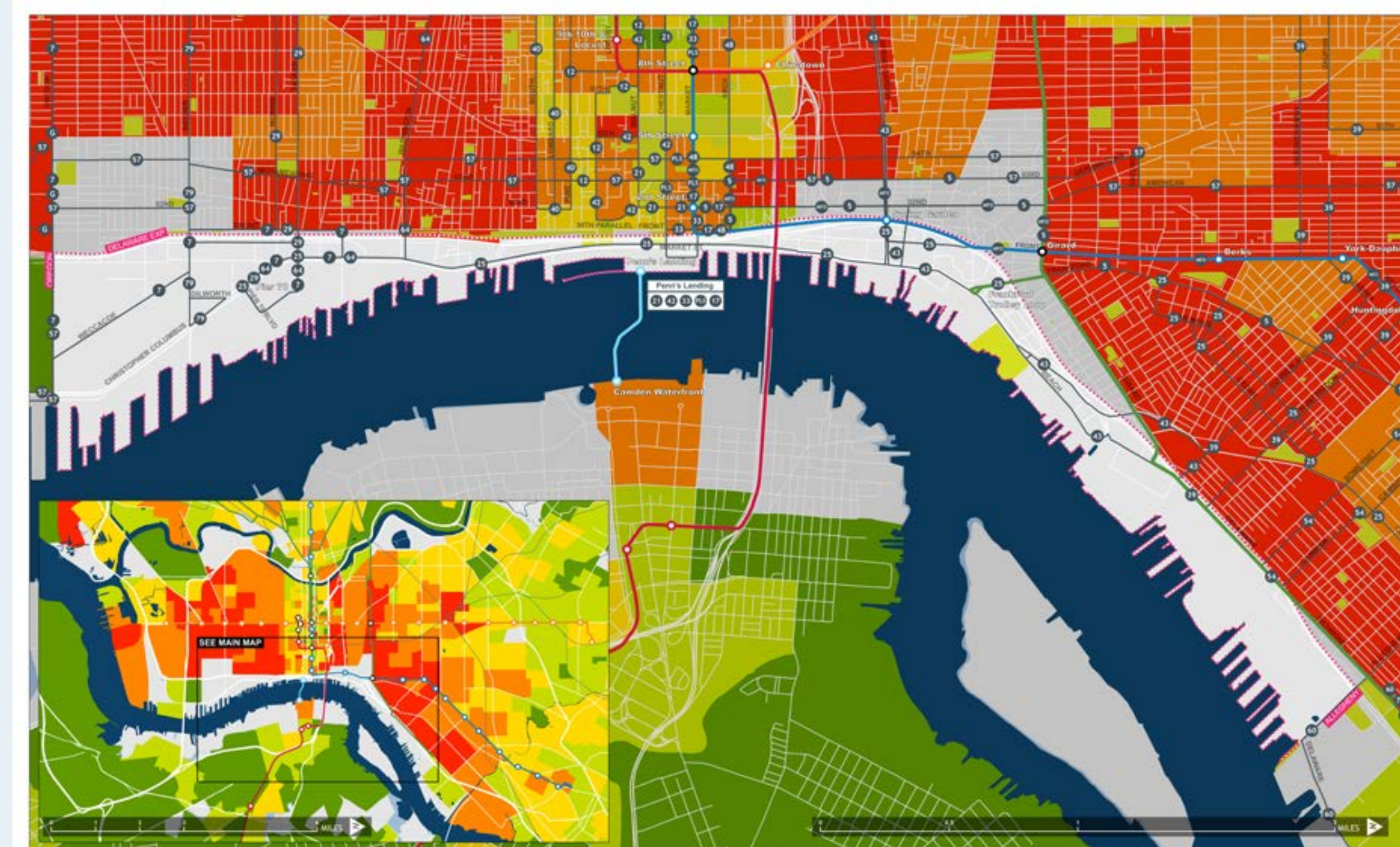
Since the Waterfront has been and is continuing to undergo rapid change, transit demand is expected to increase significantly over time

To project the increase in transit potential for the study area, proposed and in-progress residential and commercial developments were identified to calculate future increases in employment and population.

Travel Flows

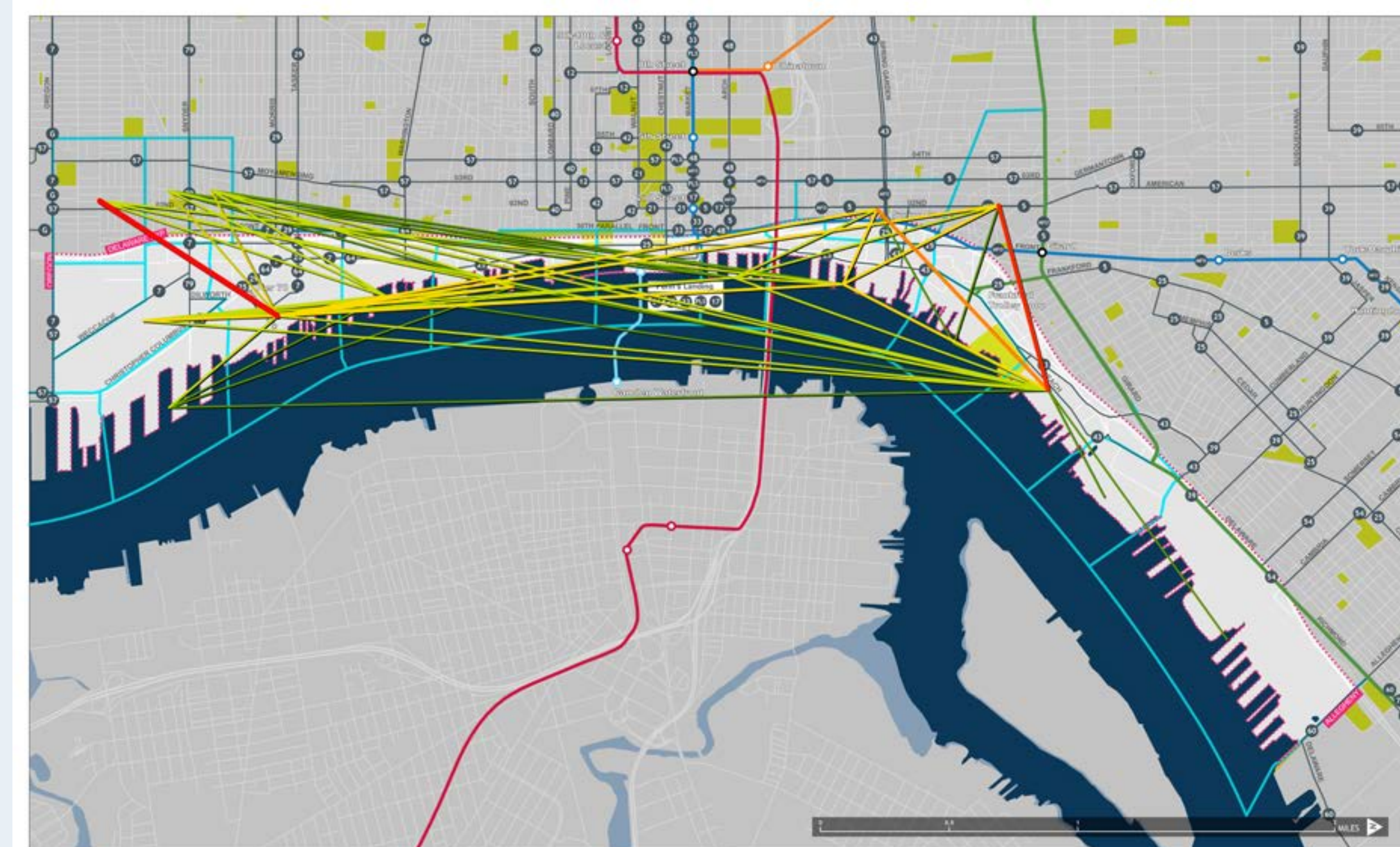
Using DVRPC's Regional Travel Demand Model, the total number of trips from a given Traffic Analysis Zone, or TAZ, in Philadelphia to the waterfront can be estimated for a typical weekday. This helps us pinpoint exactly where and how many people are coming from or going to the waterfront from other parts of the region (External Travel Flows). It can also help us determine how people travel within the waterfront (Internal Travel Flows).

External Travel Flows



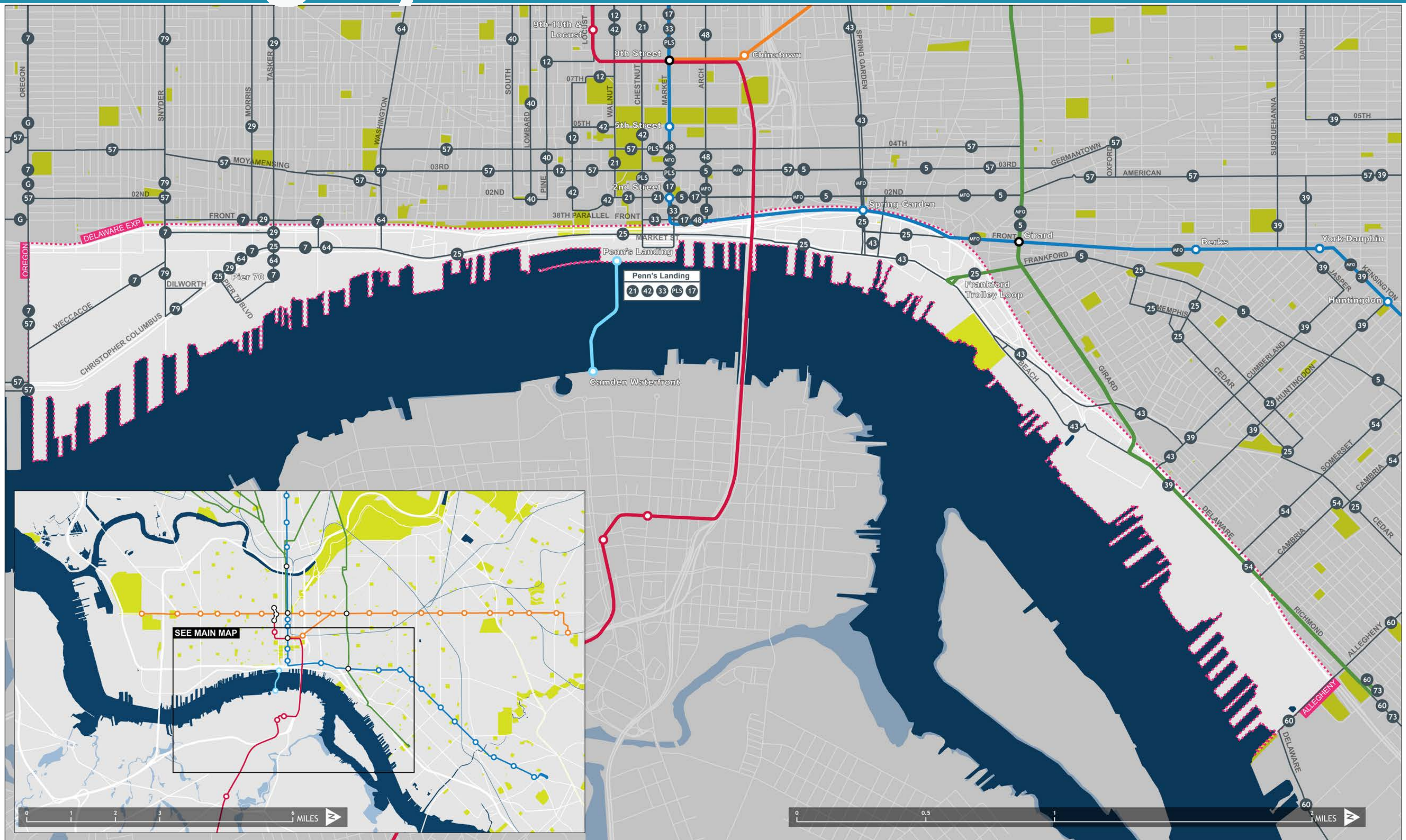
Center City and adjacent neighborhoods in South and North Philadelphia generate the greatest number of trips to and from the waterfront. Many of these neighborhoods are connected to the river by east-west cross-town bus routes.

Internal Travel Flows



There is only a moderate demand for trips between waterfront destinations. Most travel occurs from neighborhoods outside the waterfront to the waterfront. Pier 70 and the Sugarhouse Casino are the two major destinations for internal travel along the waterfront.

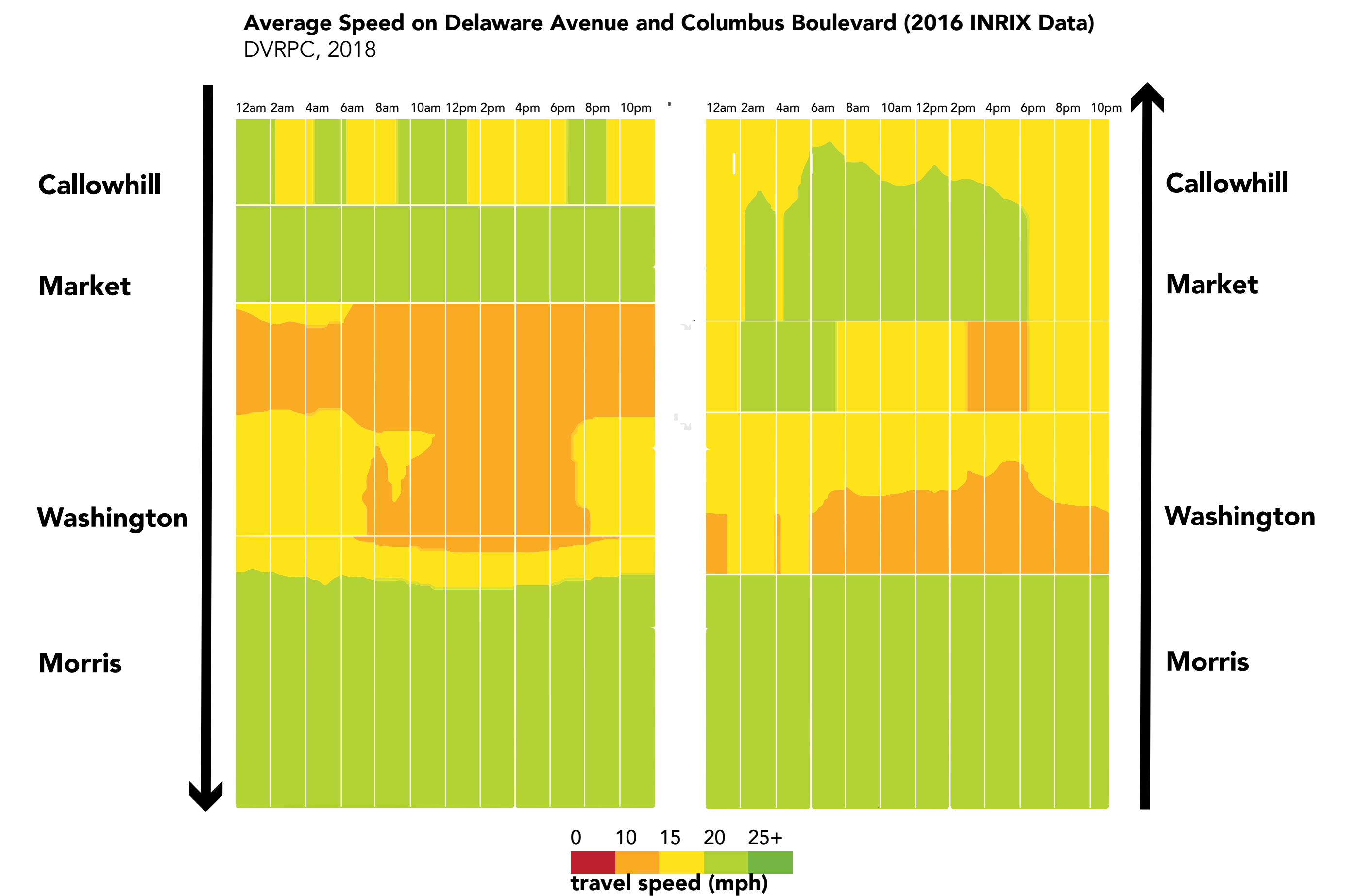
Existing System



The Central Delaware River Waterfront is already served by a robust transit system, including the Market Frankford Line and several nearby bus routes. A major challenge is that many of these services are located on the other side of I-95, requiring riders to walk over the expressway to reach Columbus Blvd and Delaware Ave. Many destinations require riders to transfer to the Route 25.

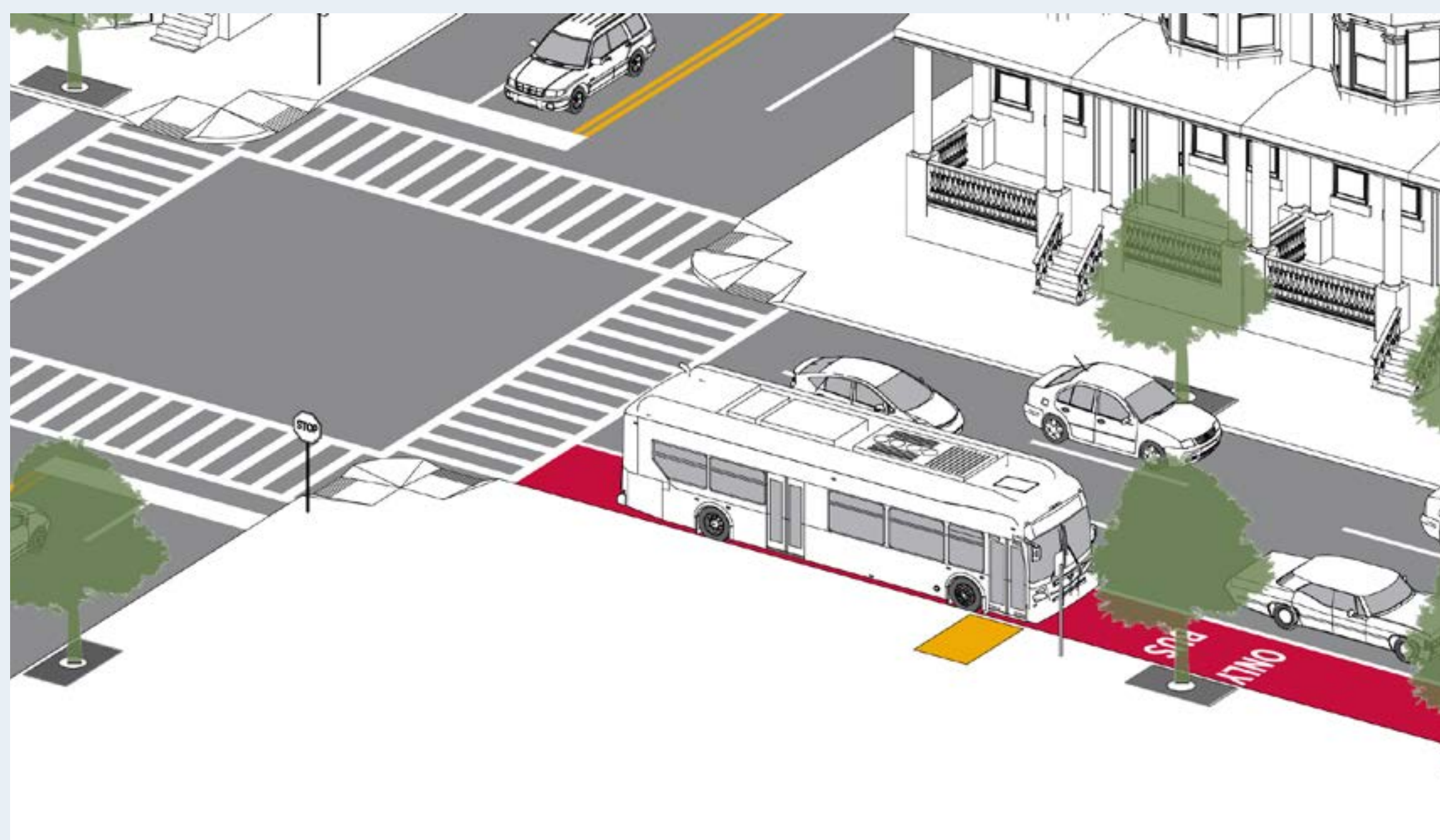
Bus Infrastructure

Delaware Avenue/Columbus Boulevard is one of the few corridors through central Philadelphia with the space to accommodate several types of bus priority treatments. Infrastructure to speed up transit would have the greatest impact on the segment of Columbus Boulevard between Market Street and Washington Avenue, where average speeds are below 15 miles per hour during peak periods. Below are examples of bus priority treatments.



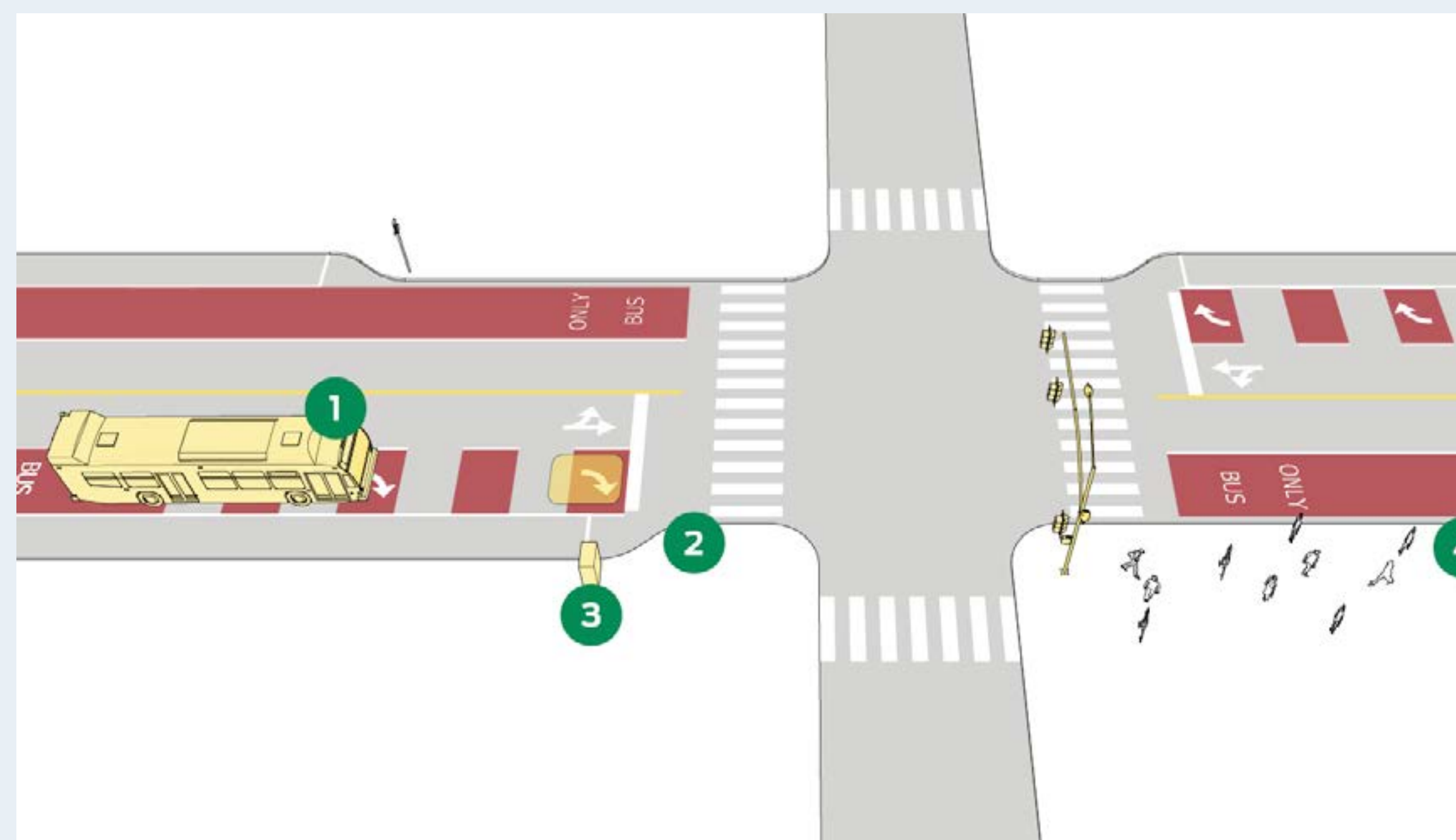
Priority Bus Lanes

Priority bus lanes (also known as bus only lanes) allow buses to move freely without being delayed due to regular traffic or vehicular accidents. Priority bus lanes allow the buses that use them to run quicker and more reliably, saving time for the riders and money for the transit agency. Lanes could allow high-occupancy vehicles or only be active in certain directions and times of day. Enforcement is crucial to ensure lanes are not blocked.



Transit Signal Prioritization

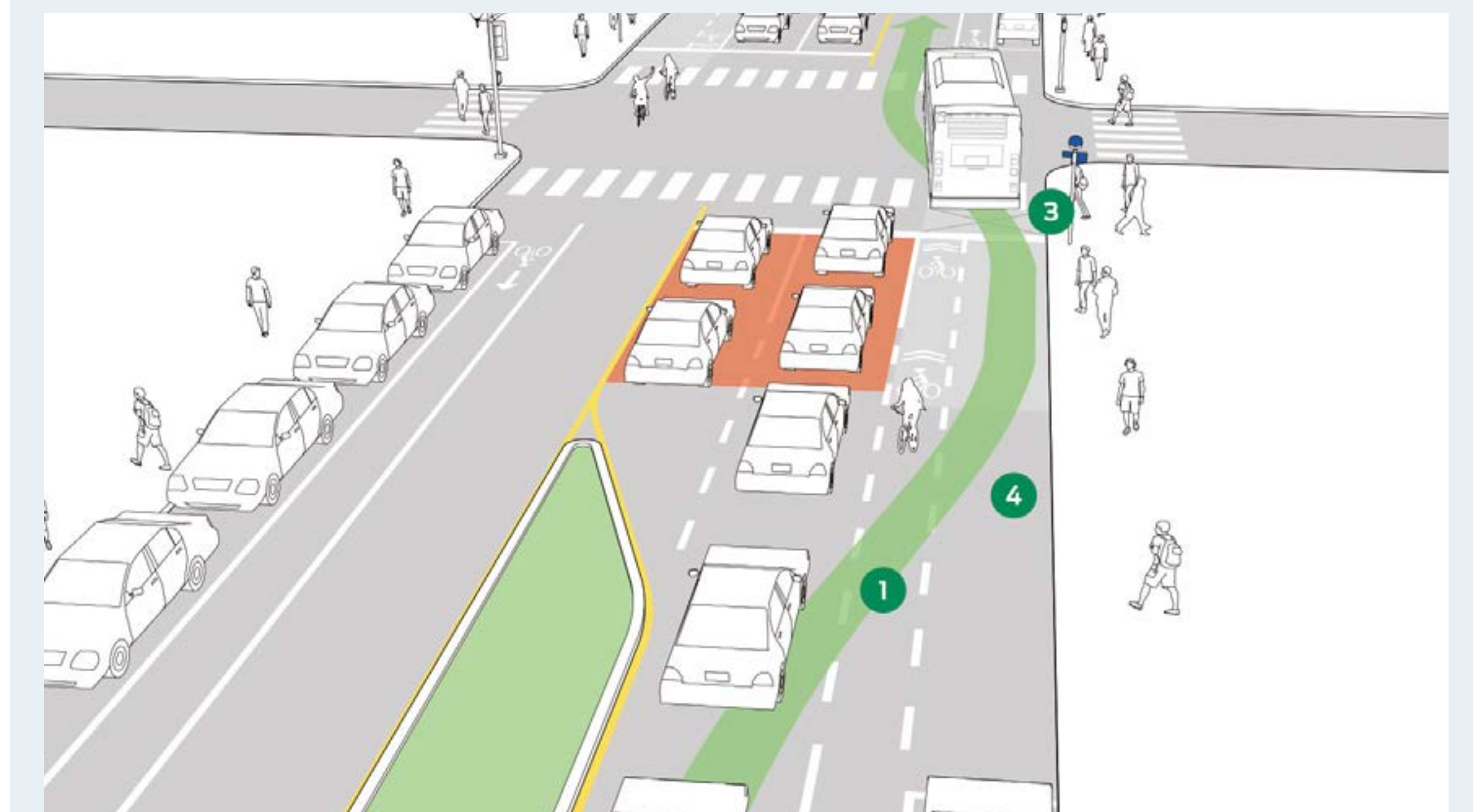
Transit signal prioritization is timing signal lights to turn green as soon as possible when a transit vehicle is detected to minimize wait time and delay. They allow buses to move quicker down major corridors and maintain a more reliable schedule, saving time for the riders and money for the transit agency.



National Association of City Transportation Officials (NATCO), Transit Street Guidelines

Queue Jumps

Queue jumps are a combination of a short bus-only lane and a specialized signals at the intersection to allow a transit vehicle to “jump” ahead of other waiting vehicles. The bus-only lane will allow the transit vehicle to pull up to the head of a waiting queue of vehicles, and a special transit signal will turn green several seconds before the rest of the intersection lights. This allows the bus to pull ahead of traffic. Queue jumps allow buses to avoid costly delays due to signal timing or slow-moving traffic.



National Association of City Transportation Officials (NATCO), Transit Street Guidelines

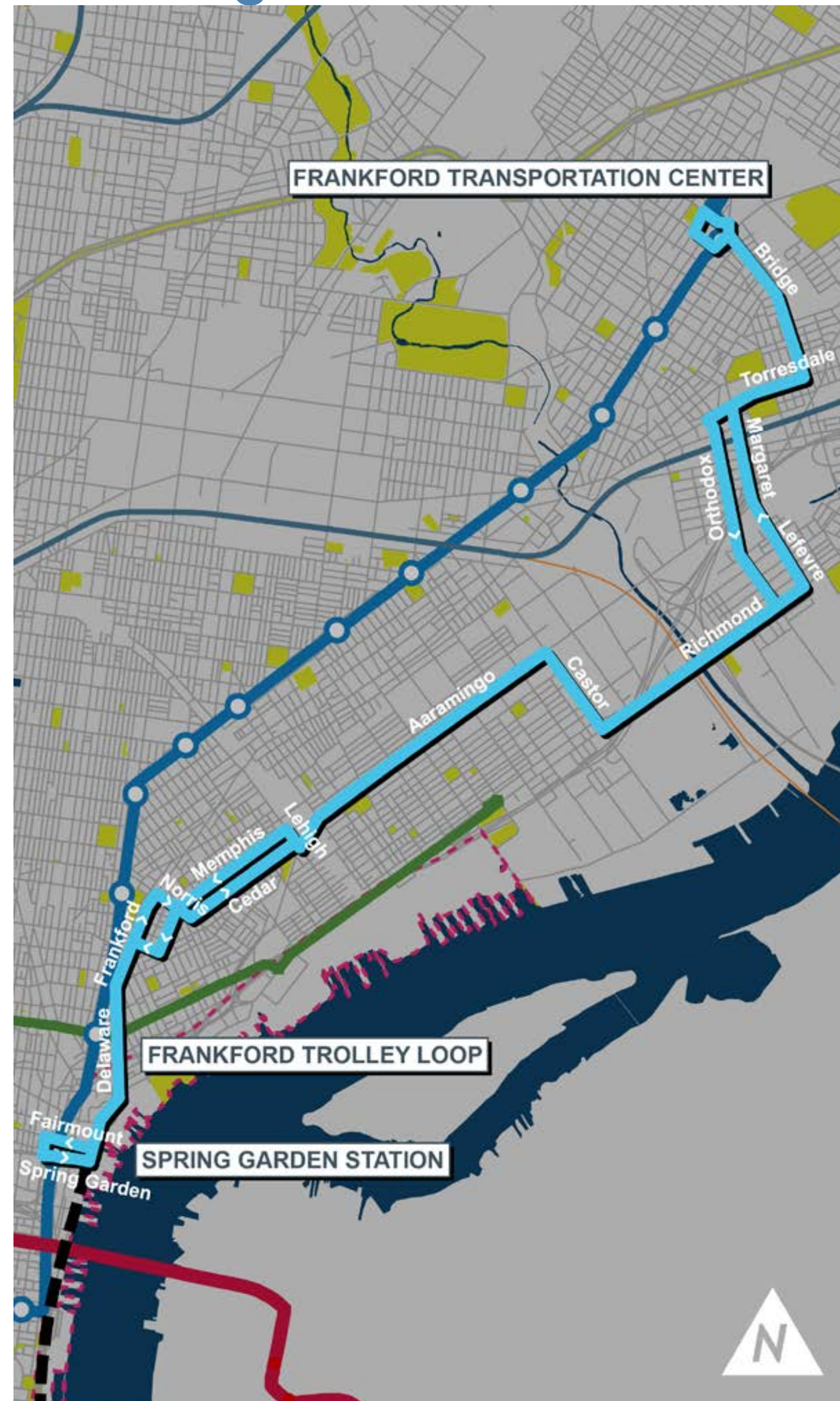
Transit Service Concepts I

There are several options for improving transit along the waterfront that would not require a major capital investment in fixed infrastructure like a new rail line. The following are examples of the types of changes and enhancements that can be made to transit services over the next decade. With the exception of new ferry service, these recommendations would require close review and cooperation with SEPTA's planning department. The ideas provided here are examples of concepts that could be developed in coordination with SEPTA and will require Board approval as well as a separate public engagement process before being finalized.

Efficiency Recommendations

Expanding bus service is expensive due to the need to procure buses and fund operations. One option to support new services is to free-up limited resources by making existing services more efficient and cost-effective. Changes to existing routes must be carefully done to minimize the negative impact on riders. Below are two examples of how service could be adjusted to free up resources for more waterfront bus service.

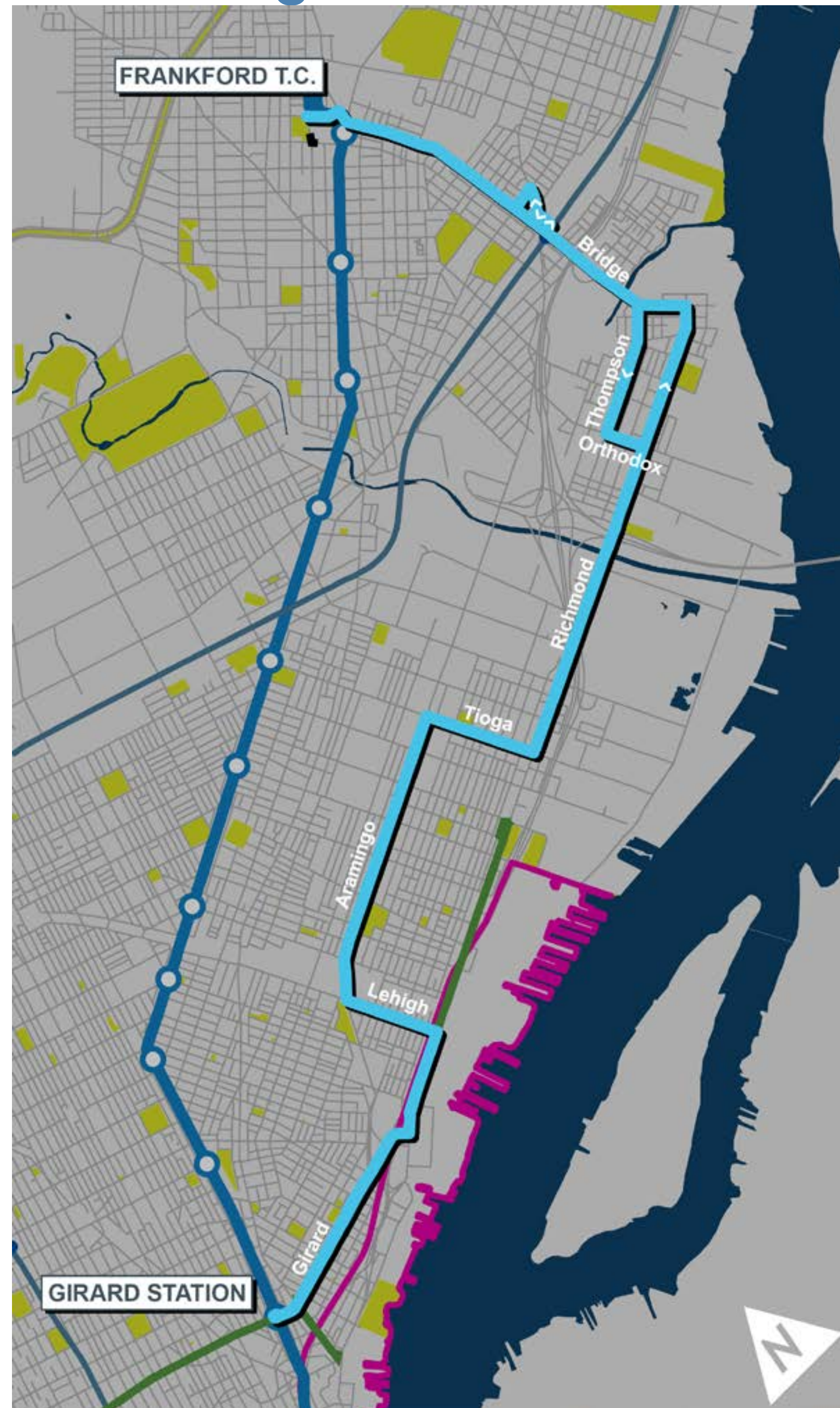
Reducing Under-Utilized Service



One way to free-up resources for improved waterfront transit is to shorten or reduce frequencies on existing routes. An example of this would be shortening Route 25 to terminate at Spring Garden

Station. As few people ride the route all the way from the River Wards to South Philly, shortening the route would lead to cost savings that can be re-invested in boosting frequencies on other routes.

Combining Routes



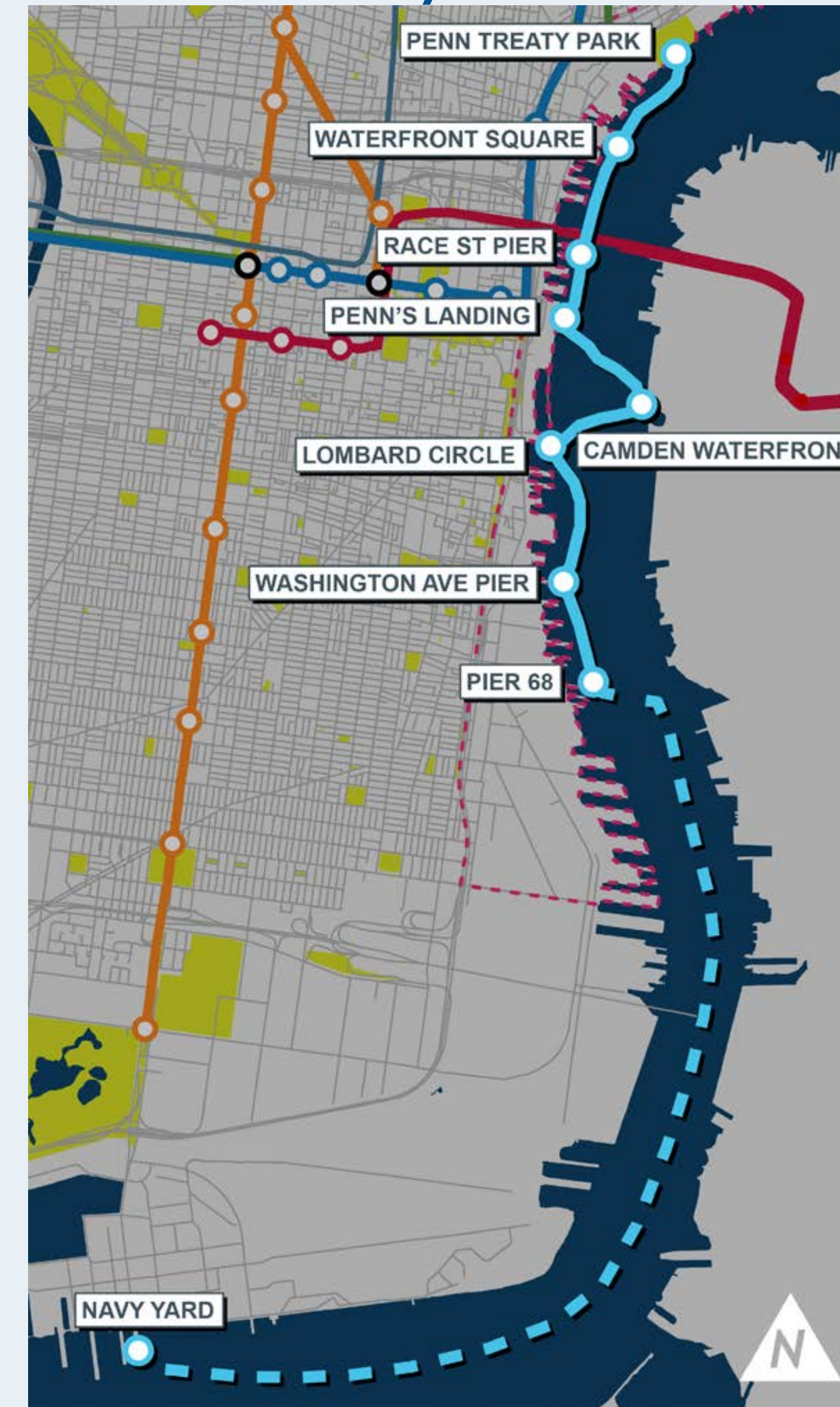
Another strategy for improving service efficiency is to combine routes together. One example is combining Route 73 and Route 15B, the bus-service replacing the northern portion of the Route 15

Trolley. Merging these routes eliminates the need to transfer for riders. A combined route would have lower operating costs.

New Service

Providing new north-south service along the Waterfront's spine is a top priority for making the area more accessible for both internal and external travel. A dedicated and branded bus, similar to Center City's Phlash bus could serve key destinations at reliable frequencies. On the river, an extension of the DWRC's ferry or water taxi system could provide a traffic-free connection between key waterfront destinations, with a possible long-term extension to the Navy Yard in South Philadelphia.

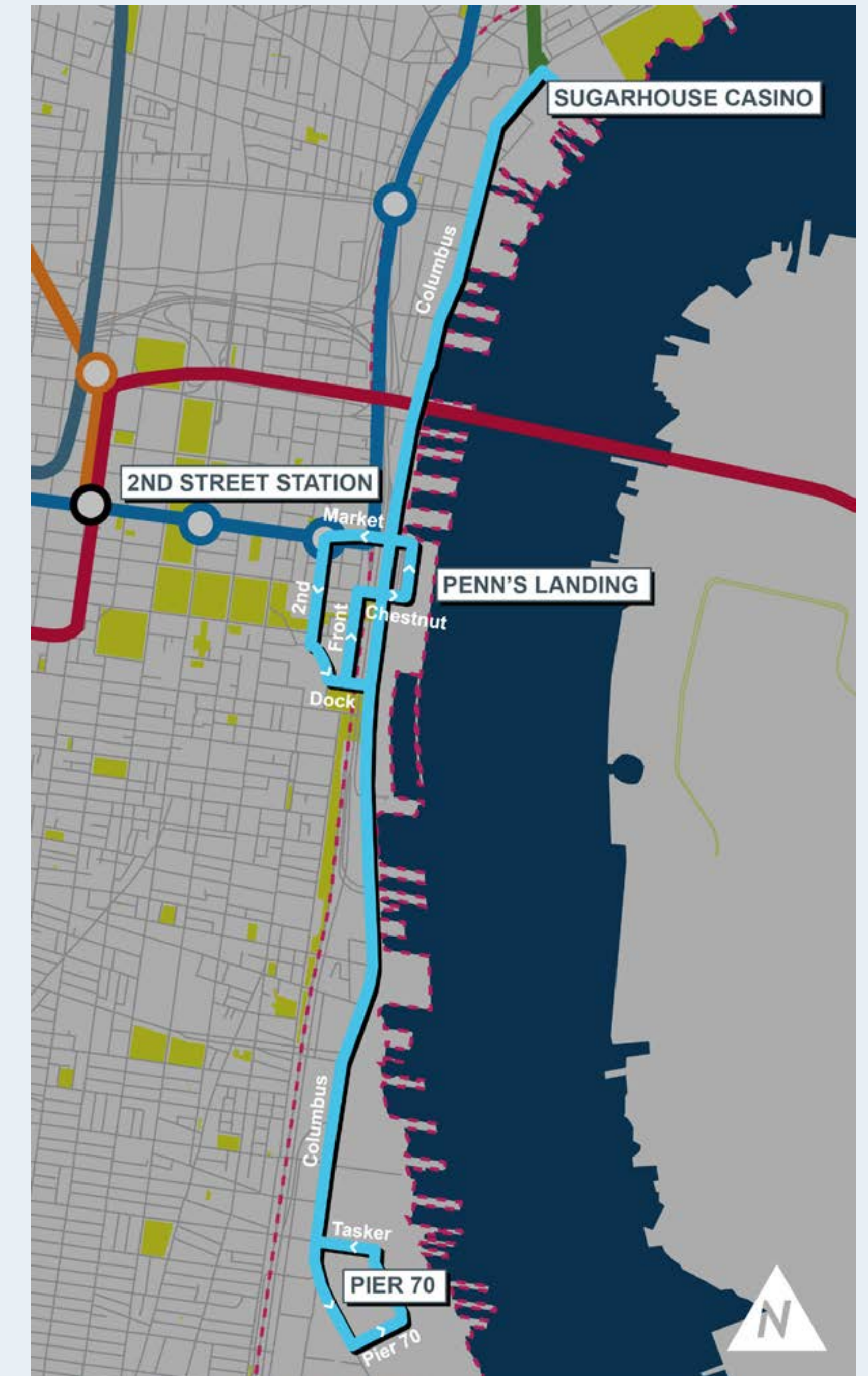
Waterfront Ferry Service



One proposed ferry-extension scenario is to create a multi-stop ferry along the waterfront that serves (north to south): Penn Treaty Park, Waterfront Square, Race Street Pier, Penn's Landing, the Camden Waterfront, Lombard Circle,

Washington Ave. Pier, the Pier 70 commercial district, and the Navy Yard. While the Navy Yard would be a long term goal, Pier 68 to Penn Treaty park could be accomplished sooner, tshorterm.

New Waterfront Circulator



A dedicated and uniquely branded Waterfront Circulator or 'Phlash' service could run from Sugarhouse Casino and Penn Treaty Park to Pier 70 in the south, serving the spine of

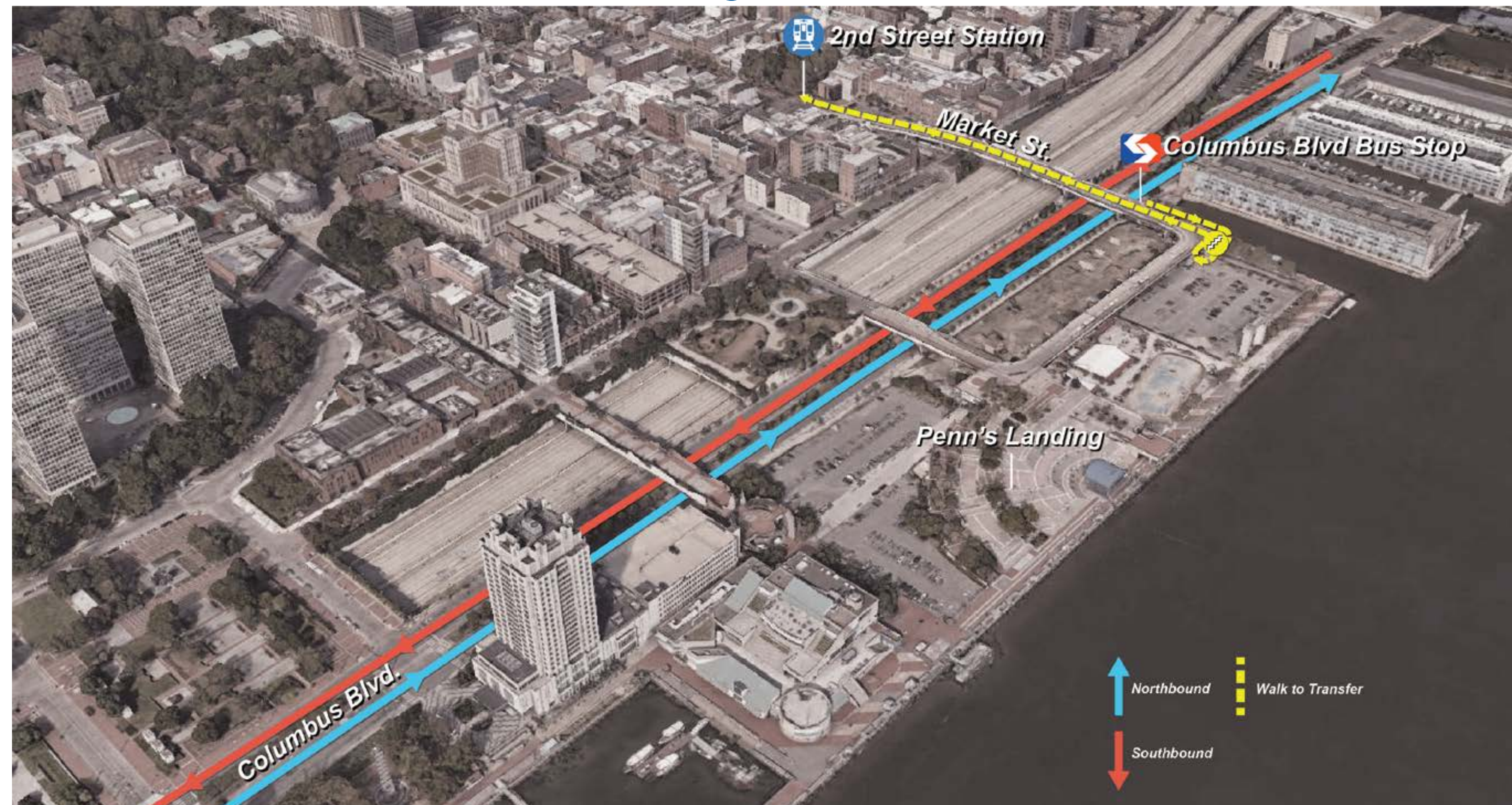
the study area and providing a direct connection to the MFL. This service would require additional funding source outside of SEPTA's regular funding.

Transit Service Concepts II

Improving Connections to the Market-Frankford Line

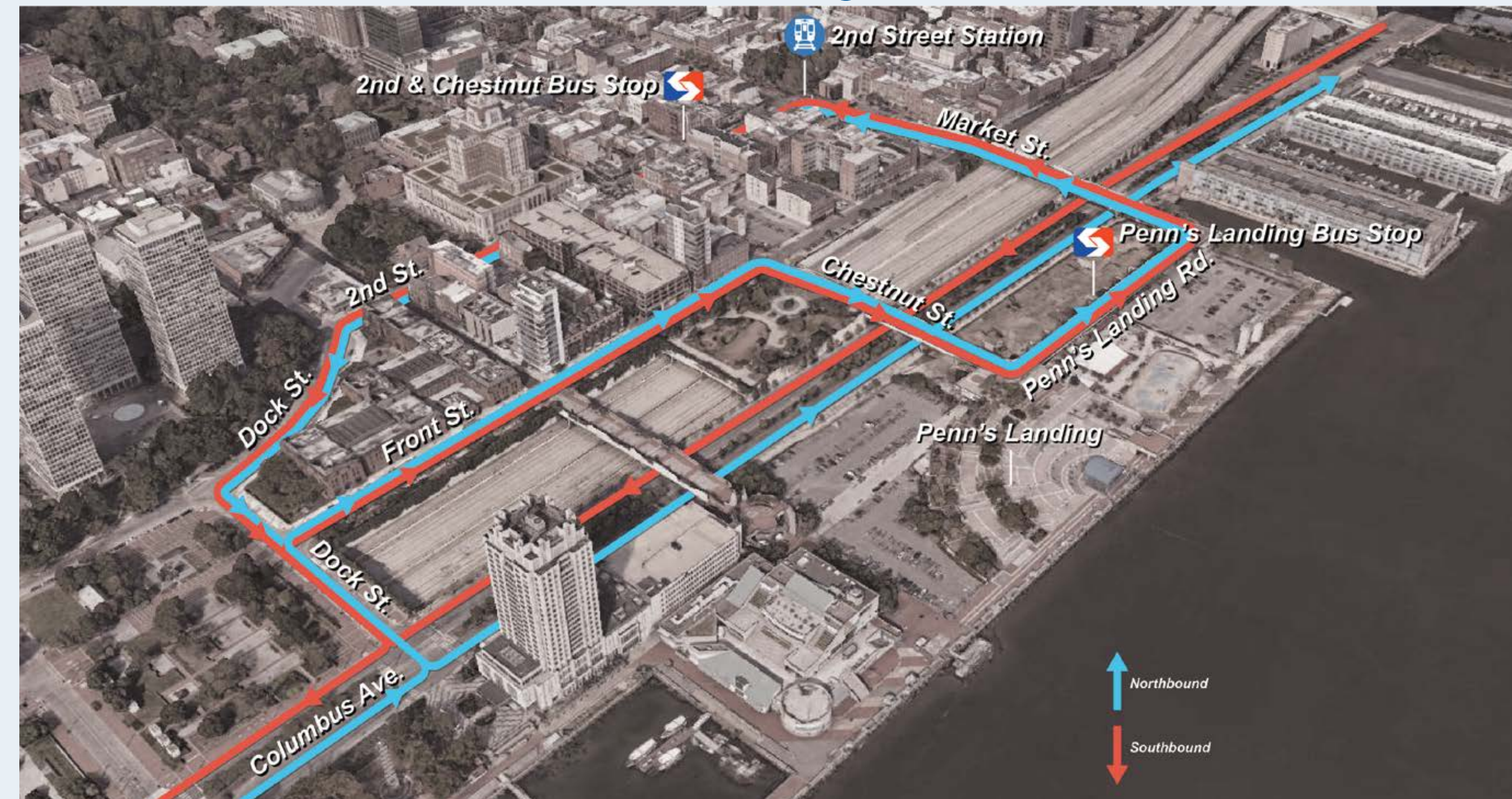
The Market-Frankford Line (MFL) runs parallel to the Waterfront between 2nd Street Station and Girard Station. Unfortunately I-95 is a barrier between the waterfront and the MFL. Existing transit on Columbus Blvd / Delaware Ave require riders to walk approximately a quarter mile to reach the MFL. Alternatively, service could be rerouted to directly reach the 2nd Street MFL station. Rerouting bus service to the MFL would come at a price, negatively impacting operating costs, travel time, and service reliability.

Existing Conditions



Due to major variations of topography and the physical barrier presented by Interstate 95, there is no easy connection between Columbus Boulevard, Penn's Landing, and the Market Frankford Line. For passengers coming from SEPTA Route 25 on Columbus Boulevard, they have to take several flights of stairs to reach Market Street or Chestnut Street. Walking over I-95 can be an unpleasant experience due to traffic noise and being exposed to the elements.

Possible Realignment



A new alignment can serve Columbus Boulevard, Penn's Landing, and 2nd Street Station by taking a 5-minute detour along Dock Street, 2nd Street, and Front Street. This new routing brings riders across I-95 and directly to the MFL. This alignment would require additional funding to support the detour. Moreover the numerous turns can slow down bus service and negatively impact travel time reliability.

What Matters Most to You?

There are trade-offs to nearly every service change. We want to know which of the following matters most to you when taking public transportation.

TELL US IN THE ONLINE SURVEY:

<http://bit.ly/DRWCtransit>

RELIABILITY

How Dependable is the Schedule

TRAVEL TIME

Length of time aboard transit

ACCESS TIME

Length of walk time to reach transit

ONE-SEAT RIDE

Whether you can make the trip without transferring

FREQUENCY

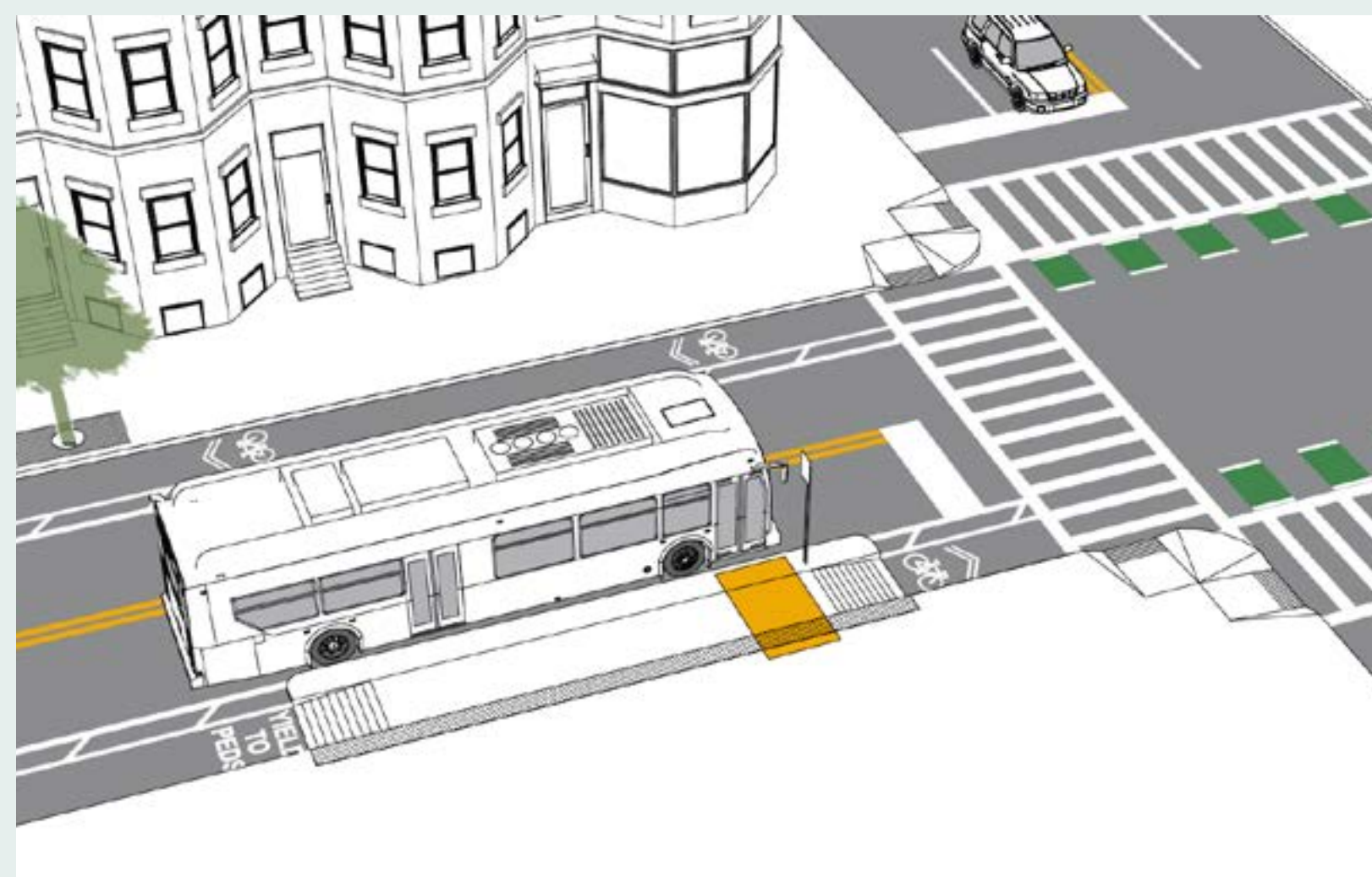
Does a route operate frequent enough that you don't need a schedule

Bus Stop Changes

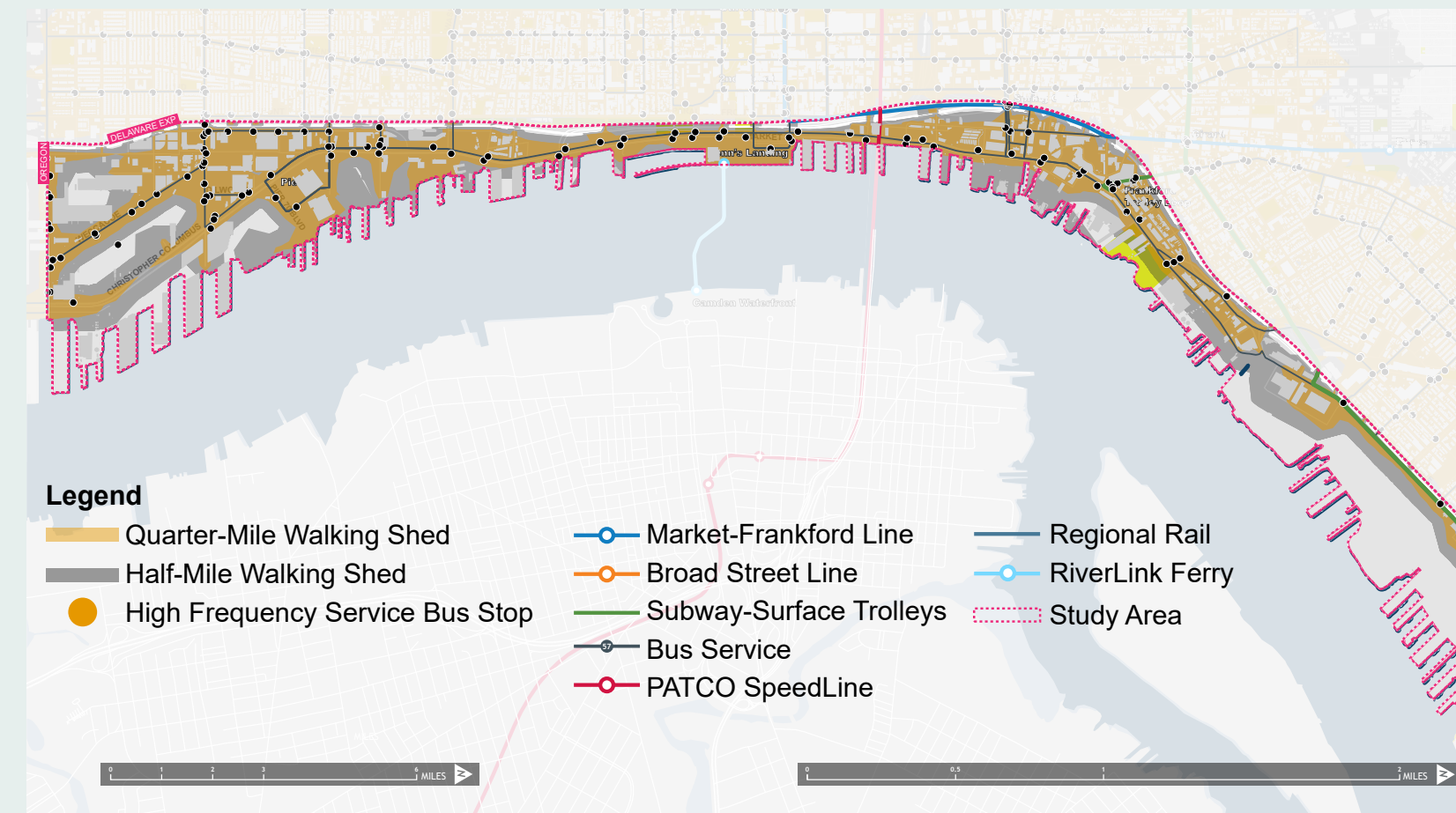
Improvements

Increasing passenger comfort and safety at the bus stop is important for encouraging transit use. Several bus stops along Columbus Blvd / Delaware Ave do not accommodate wheelchairs boardings or provide space for waiting transit riders. The addition of concrete waiting pads, and amenities such as seating and shelters will help to increase passenger comfort at the bus stop.

Many bus stops require transit vehicles to enter the bike lane on Columbus Blvd / Delaware Ave. The below example is one way to increase safety and visibility of both the waiting transit rider and the bicyclist. Pavement markings warn bicyclist of pedestrians boarding and alighting vehicles, while the bus bulb (concrete extension) removes the need for the transit vehicle to enter the bike lane to board passengers.



Consolidation



Some bus stops along Columbus Blvd / Delaware Ave are spaced as little as 500 feet apart. Frequent stopping can slow transit and make it a less attractive option for travelers. However, stop spacing that is too far apart can decrease access to transit. Striking a balance in stop spacing is key to providing a quick and convenient transit ride.

The above map shows the walkshed from bus stops along the waterfront. Most of the waterfront can be accessed within a quarter mile (about a 5 minute walk) from a transit stop. In several stretches along Columbus Blvd / Delaware Ave, there are locations where the additional transit stops do not add additional access benefits.

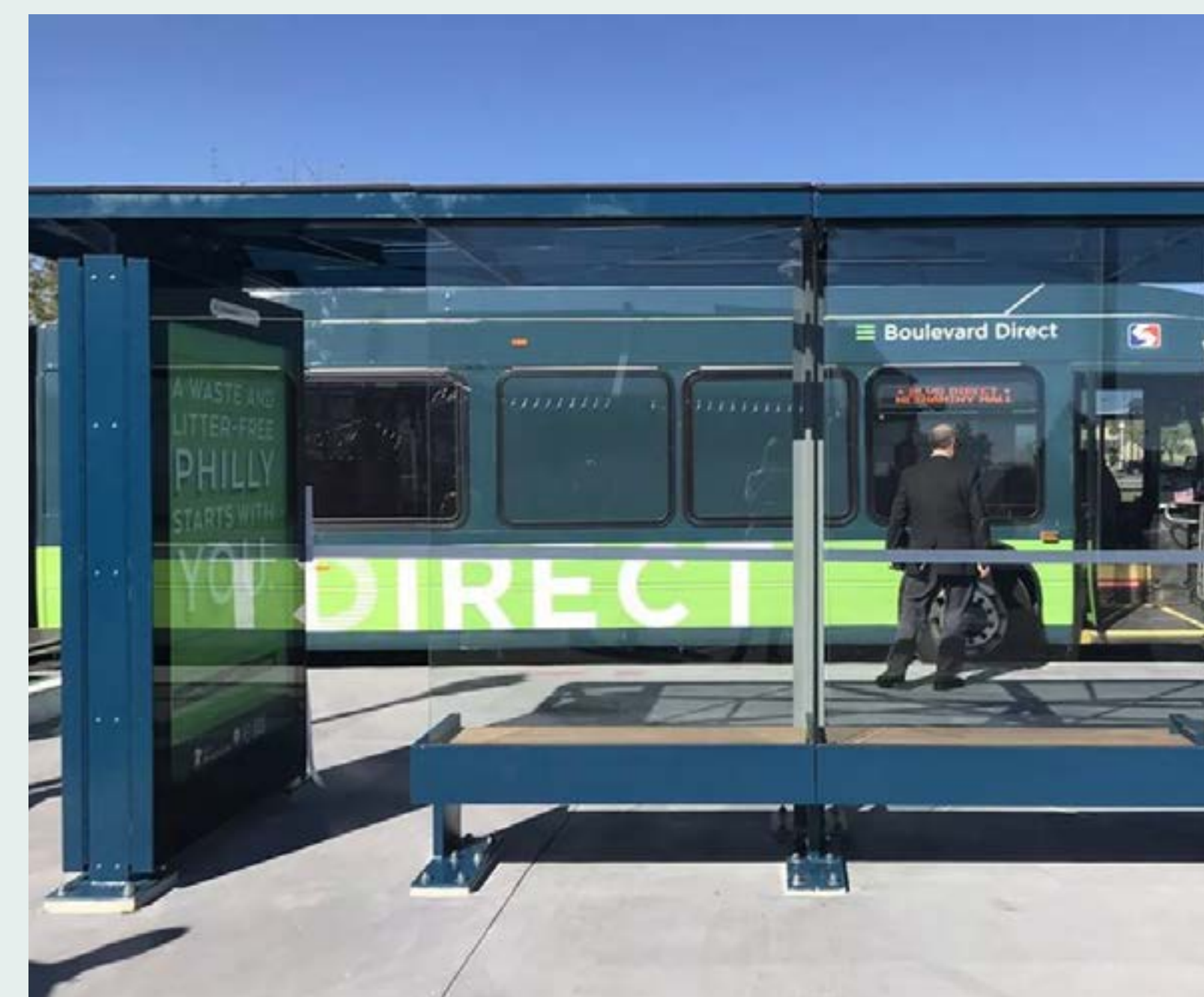
Relocate

There are several considerations when siting the location of bus stops. Bus stop locations should leverage existing pedestrian facilities and amenities where possible, such as:

- Seating
- Lighting
- Sidewalks (preferably 8' wide)
- Trash cans

Locations should also consider passenger safety and convenience, such as proximity to:

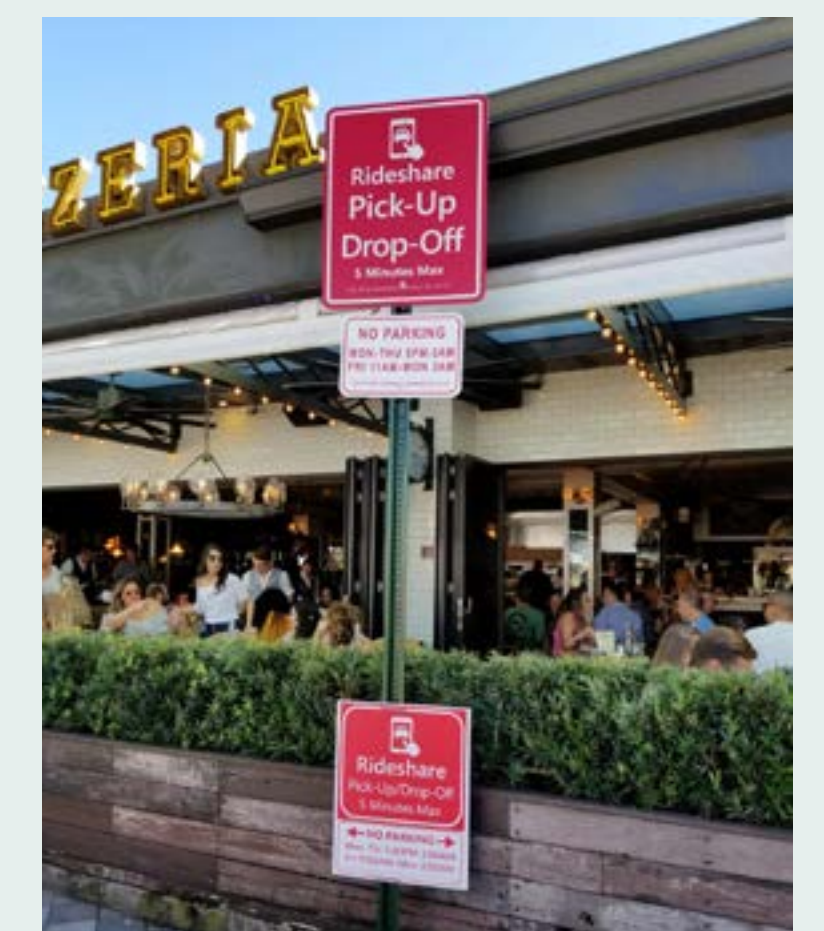
- Safe street crossings (pedestrian signals and crosswalks)
- Completed sidewalk networks
- Points of interest
- Multi-modal connections (near bikeshare or rail stations, and trail entrances)



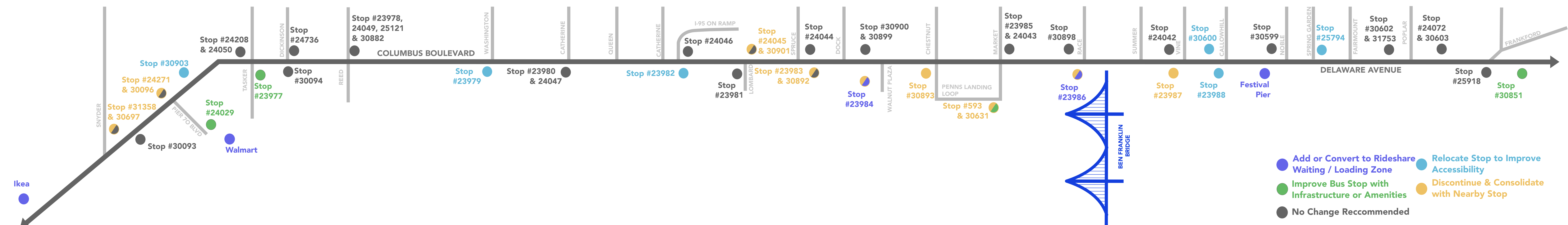
Rideshare Waiting and Loading Areas

Rideshare is increasingly becoming an important component of our transportation network. Uber and Lyft are examples of Transportation Network Companies, or TNCs. Many cities and transit agencies are looking at ways to accommodate these TNCs while also managing public safety conflicts with other modes. One

way is to provide dedicated curb space for TNC operators to safely wait, load, and unload passengers. Part of that management includes unified signage and clearly marked and advertised Rideshare Waiting and Loading Zones.



Map of Possible Curb Side Improvements



What do you think? We want to know! **TELL US IN THE ONLINE SURVEY:** <http://bit.ly/DRWCtransit>