# Public Street

## Site Analysis + Recommendations for Public St. + Allens Ave

*The view from Public Street Beach. Feb 2022*

# Introduction

This report includes site analysis, review of current data and conditions, and a set of design recommendations to facilitate safe and joyful public shoreline access at the Public Street CRMC-designated right-of-way. My intention is to compile available information about the site to inform the forthcoming process of community engagement and design. I hope that this report contributes to the creation of a public space that honors the land and surrounding community, and becomes one of many ecologically-rich access-points to the Providence River.

Photographs and illustrations in this report are my own unless indicated otherwise.

*Fatema Maswood, MLA*

*Looking west on Public St. towards Allens Ave.*

*Looking east on Public St. towards the river, Jan 2022.*

# Overview

The Providence Office of Sustainability seeks designs for a stretch of Public Street between its intersection with Allens Avenue and the Providence River. The site is located on ancestral land of the Narragansett tribe, with 30,000 years of history inhabiting and stewarding this region. Over the past 500 years, what was a thriving saltmarsh has been paved over, engineered, and transformed by industrialization and urbanization. Walking to the eastern edge of Public Street is a reminder that the tidal shifts and brackish water of the River still host an ecologically rich and biodiverse system. However, with minimal pedestrian amenities, heavy traffic, limited signage, and nearby polluting industries, there are few features to facilitate public interaction with the waterfront.

Designated as permanent public access to the shoreline by the CRMC in July 2021, Public St. is adjacent to Washington Park and South Providence, two waterfront neighborhoods with high levels of industrial land use, air pollution, and childhood asthma. Washington Park is a designated Green Justice Zone, identified by the Racial and Economic Justice Coalition based on the EPA's Environmental Screening and Mapping Tool.

Transforming this site to offer meaningful public gathering space enhances one of the few waterfront access points in South Providence and Washington Park. Measures to enhance safety and access for all ages, mitigate pollution, and restore ecological diversity on the street are connected to goals for racial justice and climate justice outlined in the City of Providence's Climate Justice Plan. Redesigning Public St. and the waterfront are an opportunity to create community space and a safe, ecologically rich connection between the city and the river.

*Remnants of pilings at the Providence River waterfront.*

# Timeline

**2021** *CRMC public shoreline access formally designated.*

**2020** *Application for designation submitted to CRMC.*

**2019** *Capitol Improvement Plan includes dedicated funding for shoreline access. New stakeholders are introduced to project.*

*Community advocacy work through the People's Port and Green Justice Zones.*

*Periodic cleanups led by Save the Bay begin.*

**2018** *Information about Public St. comes up in Port and community working group meetings and begins to generate community interest.*

**2016** *Harbor Management Plan includes reference to Public St. as a potential CRMC shoreline access point*

**2014** *CRMC and Planning identified potential public access to waterfront off of Allens Ave at Oxford St. and Public St. Determined that Public St. was historically a public right-of-way and therefore a more likely possibility for CRMC designation than Oxford St.*

**1909** *Allens Ave paved in granite blocks.*

**1876** *Public St laid out extending to the tidewater.*

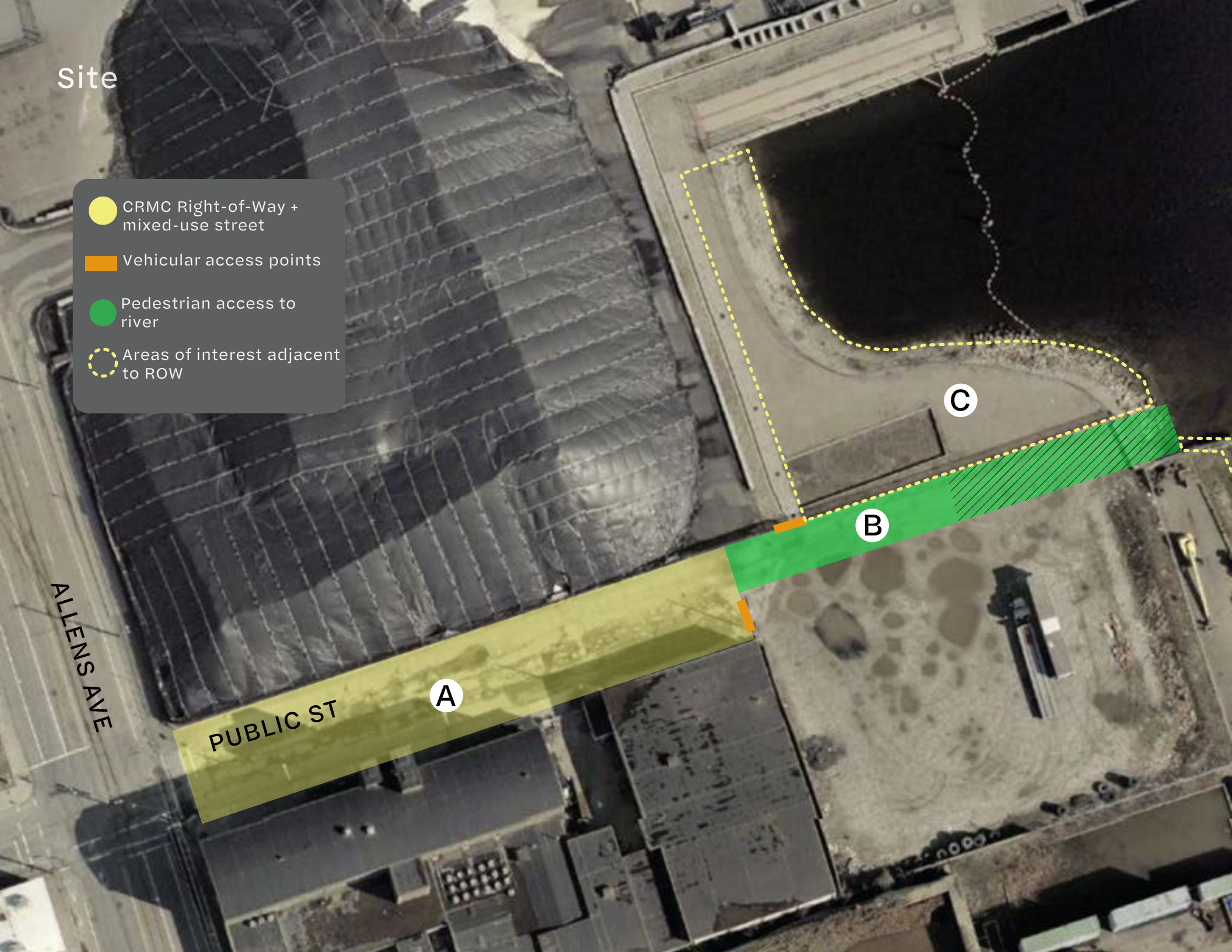
**1853** *US Army Corps of Engineers dredge Providence River to a depth of 40 feet.*

**1524** *Giovanni di Verrazanno is the first European settler to sail into Narragansett Bay.*

**20,000 years ago** *Glaciation forms Narragansett Bay.*

**30,000 years ago** *Starting point of Narragansett history on this land.*


*1948 advertisement for Sprague Energy.*
*Source: Providence Working Waterfront Alliance*


Site
CRMC Right-of-Way + mixed-use street
Vehicular access points
Pedestrian access to river
Areas of interest adjacent to ROW
A
B
C
PUBLIC ST
ALLENS AVE

Public St. has three distinct areas:

(A) Wider portion of Public St. consisting of a paved asphalt street. Businesses located on the block require vehicle access and parking.

(B) Narrower unpaved and capped portion of right-of-way extending to intertidal area at the eastern end of the street. This is a narrow stretch extending approximately to high tide line.

(C) Waterfront areas adjacent to the Public St. lot that are visible during low tide. These areas are a sandy “beach” and habitat for shoreline wildlife.



# Underneath the Pavement

Historic illustrations and maps suggest that much of the paved portion of Public St. between Allens Ave and the tidewater lies over a salt marsh or tideflat, shaped by a process of glaciation over 20,000 years ago, and intermittently inundated by the tidal shifts of the Providence River. Within the last 150 years, the entire block east of Allens Ave was submerged by the Providence River, also known as the Great Salt River.

The easternmost part of present-day Public St. was part of a tidemarsh known to European settlers as Hawkins Cove, and is one of many wetlands in South Providence that are marked on historic maps.  The location of Allens Ave suggests an area of sediment accretion, such as a barrier island, that later became a compacted earthen causeway.

*1875 atlas indicating presence of water surrounding the intersection of Allens Ave and Public St.*
*Source: Providence Public Library*

# Context


CRMC Right-of-Way
Presence of water, 1875
Areas of interest adjacent to ROW
ROW
PUBLIC ST.
EDDY ST
I-95
ALLENS AVE
OXFORD ST.
PROVIDENCE RIVER
0
400ft

# Uncovering Ecology

Changes to the landscape along the Providence River in the aftermath of European settlement continue to negatively impact site ecology. The landscape is continually re-shaped by sea level rise, erosion, accretion, dredging, and hydrological shifts influenced by urbanization. The present landform disrupts the delicate ecology of the intertidal zone, absorbing biodiverse wetlands and replacing them with impermeable hardscape and polluting industries.

Eelgrass beds, which are an important indicator of ecosystem health, historically flourished in Narragansett Bay. More than 90% of eelgrass population has been lost since the 1930s. USGS data from 2016 indicates the presence of eelgrass beds south of Public St, noted in site analysis for their ecological significance.

*Quonochcontaug low salt marsh, Charlestown, RI.*
*Source: RI Ecological Communities Photo Atlas, URI*

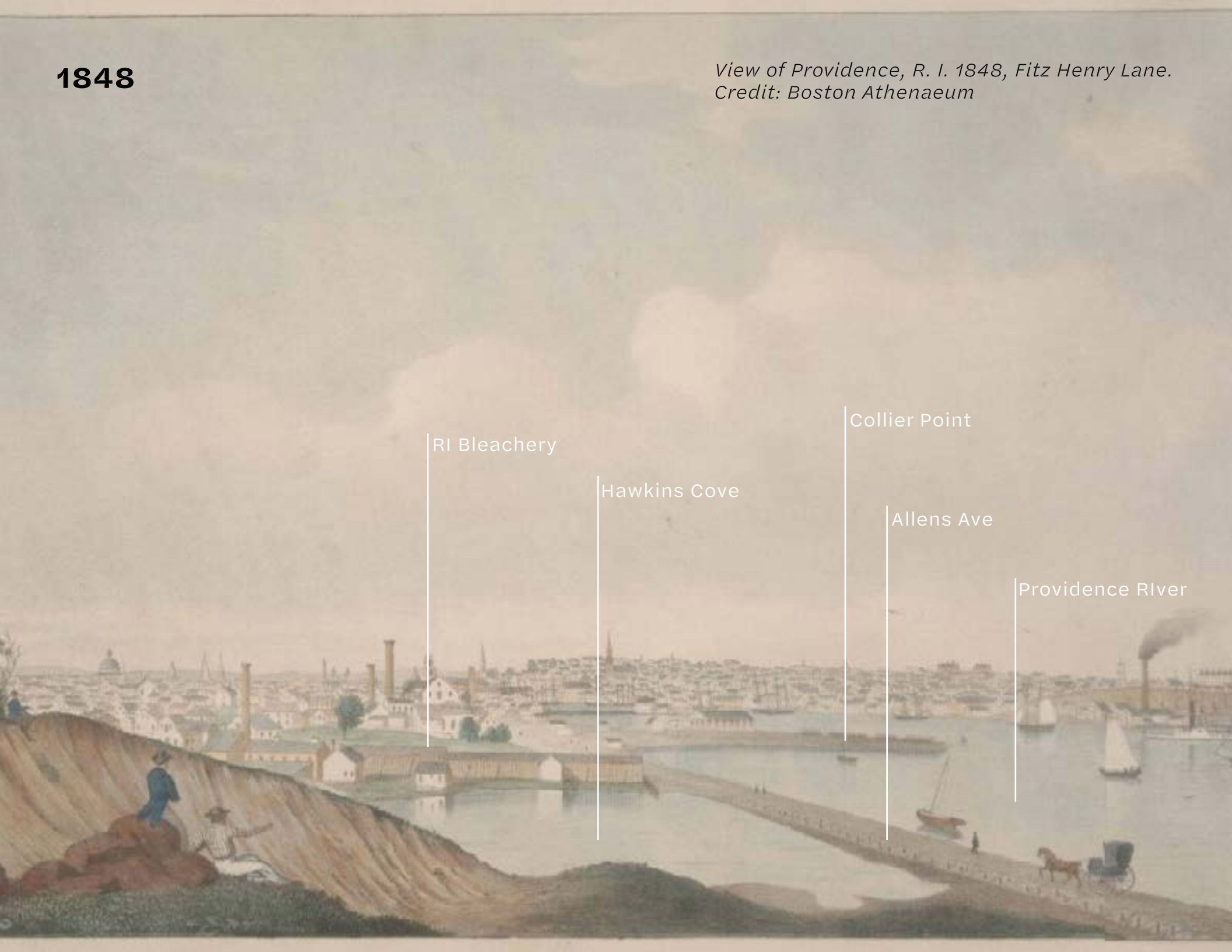
# 1819

A series of paintings and etchings depict multiple views of what is presently Allens Ave from a bluff located southeast of the site.

*View of Providence RIver from Southeast, 1819.*
*Credit: Rhode Island Historical Society*
*Collections Call #1905.1.1*
*Providence from Across the Cove by Alvan Fisher*

# 1848

*View of Providence, R. I. 1848, Fitz Henry Lane.*
*Credit: Boston Athenaeum*

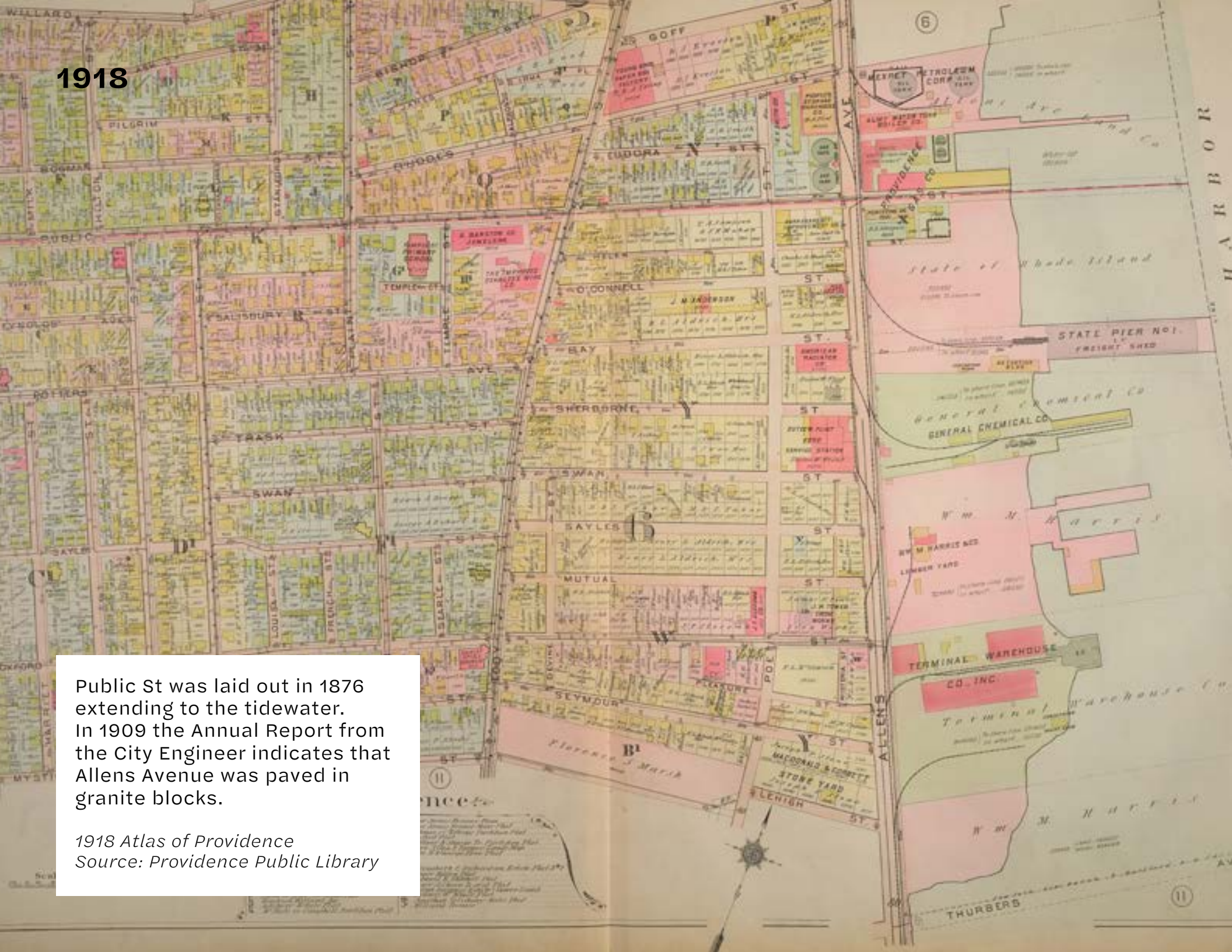


# 1849

*View of Providence RIver from the South, 1849. Charles Burton.*
*Credit: Library of Congress*

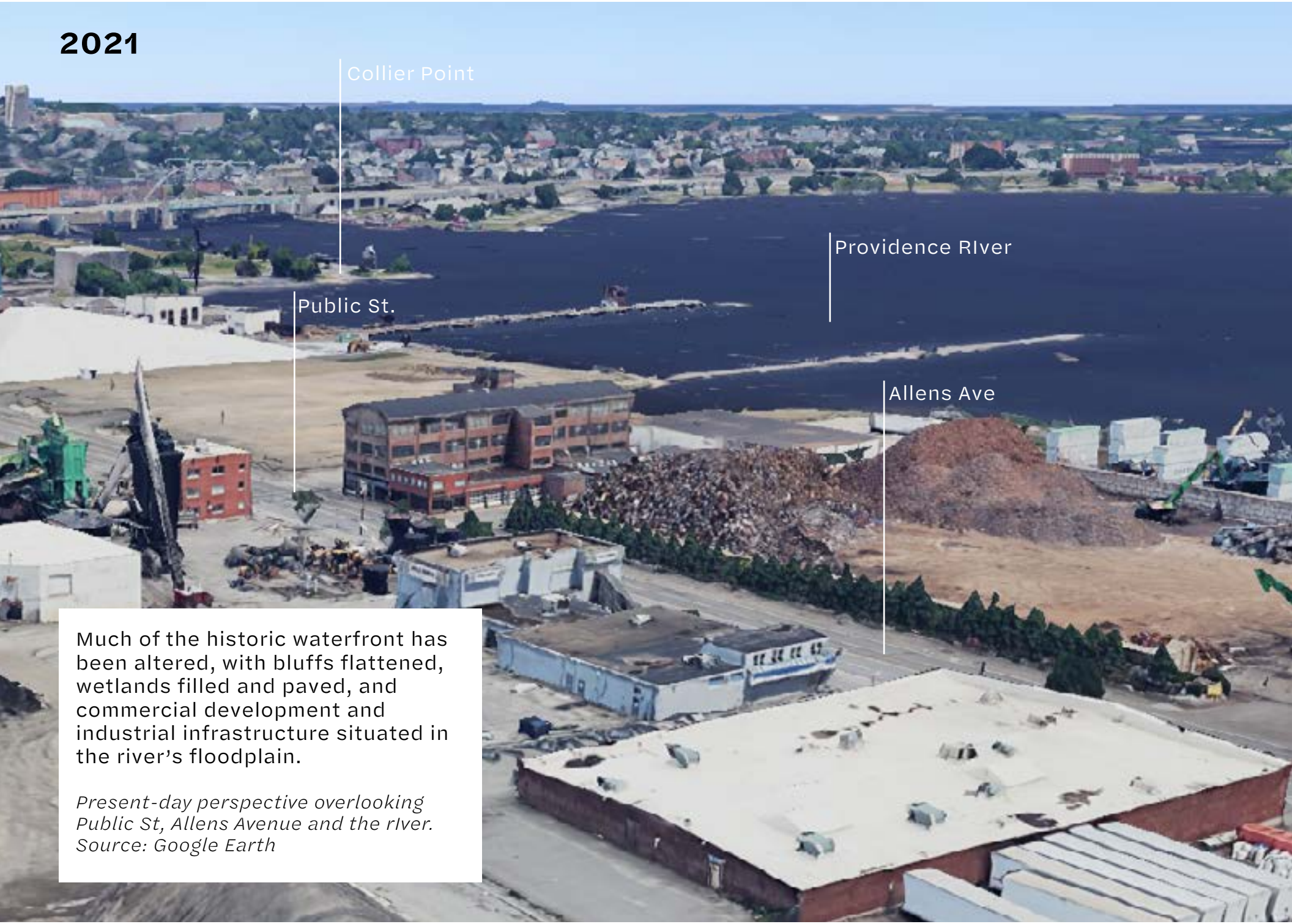
# 1858

*Providence, R.I., harbor view, taken from the grounds of Geo. W. Rhodes, Esq. 1858, J.B. Bachelder*
*Credit: Library of Congress*




Public St was laid out in 1876 extending to the tidewater.
In 1909 the Annual Report from the City Engineer indicates that Allens Avenue was paved in granite blocks.

*1918 Atlas of Providence*
*Source: Providence Public Library*




Much of the historic waterfront has been altered, with bluffs flattened, wetlands filled and paved, and commercial development and industrial infrastructure situated in the river's floodplain.

*Present-day perspective overlooking Public St, Allens Avenue and the rIver. Source: Google Earth*

# Community Engagement

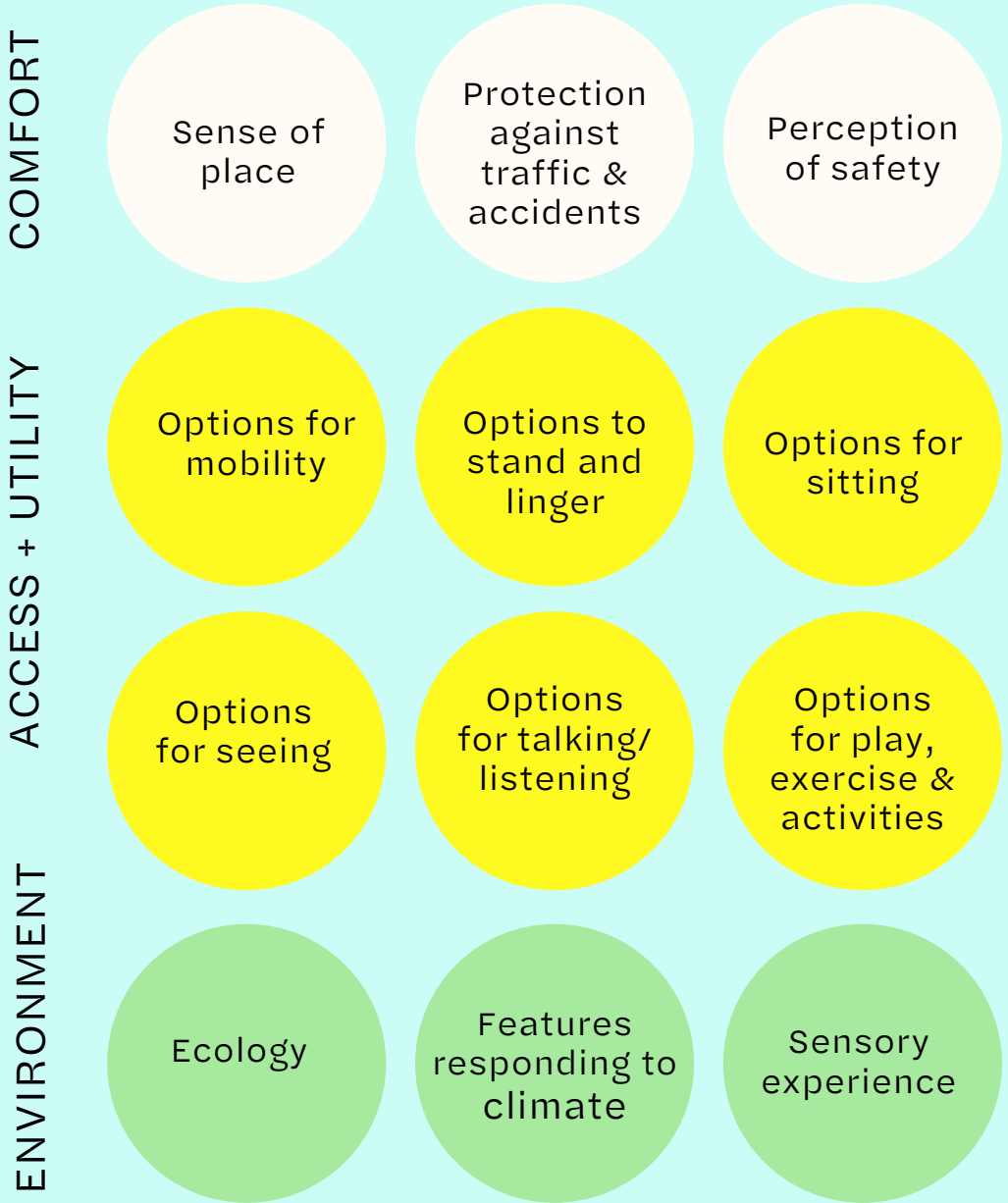
An October 2021 cleanup event organized by Save the Bay gathered stakeholders from state and city organizations, as well as some community members. Participants were offered a series of questions about public uses of Public St., as well as a modified version of the Gehl Institute's Twelve Quality Criteria to direct conversations and record feedback. The criteria are a tool used to assess the quality and utility of a public space, based on the following premises:

> *1) without basic protection from cars, noise, rain, and wind, people will generally avoid spending time in a space; 2) without elements that make walking, using a wheelchair, standing, sitting, seeing, and conversing comfortable, a place won't invite people to stay; 3) great public spaces tend to offer positive aesthetic and sensory experiences, take advantage of local climate, and provide human-scale elements so visitors don't feel lost in their surroundings.*

Thus, questions assessed those qualities and asked for recommendations. Designating a space for public access is insufficient if it does not also include pedestrian safety, environmental improvements, and accessibility measures to facilitate public interaction with the waterfront.

Community engagement processes by groups including Green Justice Zones and the Washington Park Association have also collected feedback since 2020. Additional community engagement centering lived experience of BIPOC and low-income communities living and working in the neighborhood is required for a final design.

# Public Space Assessment Criteria




Participants were offered a series of questions related to the quality criteria, which are available on the following page. Questions were only offered in English and in-person. Participants reading questions wrote ‘yes’ or ‘no’ in response to questions and wrote additional commentary on forms.

## Comfort

**Protection against traffic and accidents.**
Do groups across age and ability experience traffic safety in the public space? Can one safely bike and walk without fear of being hit by a driver?

**Place**
Do you feel welcome here? Does it feel like this space belongs to the community here? Does it feel like it represents any aspect of this city?

**Perception of safety**
Is the space perceived to feel safe both day and night? Are there people and activities at different times of day? Is there lighting at night?

## Access

**Options for mobility.**
Is this space accessible? Are there physical elements that limit or enhance walking, using a wheelchair, or pushing a stroller? Is there a clear path to move through the space comfortably?

**Options to stand and linger.**
Does the place have features you can stay and lean on, like a bus stop, a table, a tree, or a small ledge?

**Options for sitting.**
Are there good benches or chairs? Or is there only secondary seating such as a stair, seat wall, or the edge of a fountain? Are there non-commercial seating options so that sitting does not require spending money?

**Options for seeing.**
Are seating options placed so there are interesting things to look at? Is the space beautiful?

**Options for talking and listening/hearing.**
Is it possible to have a conversation here? Do you have the option to sit together and have a conversation?

**Options for play, exercise, and activities.**
Are there options to be active at multiple times of the day and year?

## Environment

**Ecology**
Does the public space integrate the environment into the city? Are there trees, plants, or animals that use the space? Do they interact well with human use of the space?

**Opportunities to enjoy the positive aspects of climate.**
Are wind, sun, and snow taken into account? With this in mind, where are the seating options placed? Are they located entirely in the shadows or the sun? And how are they oriented/placed in relation to wind? Are they protected?

**Sensory experience**
Are there noises, dust, smells, or other pollution? Does the public space function well when it's windy? Is there shelter from strong sun, rain, or minor flooding?

# Sample Responses

## What is your relationship to Public St?
*(eg. live in the neighborhood, part of an organization, get my car worked on here)*

- *It's in Providence*
- *I go to Brown, haven't explored it yet*
- *I live in the neighborhood*
- *I  pass by*
- *Save the Bay*
- *work in area regularly*
- *RI AG's office*
- *Working to provide public access*
- *STB volunteer*

## What would you change?

- *less trash, add trash can*
- *more shrubbery*
- *path to water*
- *loud noises and waste*
- *address concentration of industry along water*
- *more walkable*
- *get rid of the chainlink fence*
- *a bench or two*
- *access to water's edge*
- *clear directions/signs (parking, etc.)*

## What would make this a more accessible public space, in terms of mobility, use, and feeling?

- *paved or more regular graded gravel*
- *sidewalks*
- *More time to cross intersection*
- *Signage*
- *Paths*
- *Traffic calming*
- *Ramps*
- *Kayak launch*
- *Clear definitions of space*

## Name your top three priorities for this space
(eg. soil and water remediation, play-space, parking, seating, habitat restoration)

- *Habitat restoration*
- *Water quality*
- *City trash can*
- *City lighting*
- *Greenery/Green space*
- *Accessibility*
- *Aesthetic*
- *Security*
- *Seating*

# Summary

### *Strengths*

- Waterfront
- Tidal ecology
- View of Providence downtown + port
- Near several RIPTA stops

### *Opportunities*

- Community design input aligned with Climate Justice Plan
- Public St pedestrian connection to water
- Arts-based engagement + cultural infra-structure
- Waterfront recreation
- Stormwater management
- Link to Collier Point Park
- Education about RI coastal ecology
- Community land stewardship

### *Challenges*

- Management + responsibility
- Capped site (ELUR)
- Vehicular access and truck turnaround for adjacent businesses
- Stormwater runoff/non point source pollution
- Parking
- Pedestrian safety

### *Threats*

- Storm event flooding
- Sea Level Rise
- Private development in adjacent areas
- Resilience planning without intentional community engagement

# Design Recommendations

# *1. Living Street*

While the CRMC's formal designation of Public St as a public access point to the waterfront is an important step, the street requires significant transformation to make shoreline access safe for the public. One of the primary challenges on Public Street is the need to accommodate vehicles for adjacent businesses. However, the street's location, somewhat predictable traffic pattern, and limited traffic flow create the opportunity for a **Living Street**, also known as *woonerf* or a shared street.

A Living Street is a right-of-way that accommodates vehicles and parking while prioritizing pedestrian and cyclist safety. Living Streets use design cues to slow traffic, integrate stormwater features and green space, and create spaces for play and community gathering. At Public St, the following recommendations would support the creation of a Living Street.

*12th Ave Park and Woonerf, Seattle, WA*
*HEWITT*

### *a. Raise street grade to be flush with curb.*

Elevating the grade of the entire street creates a visual cue to prioritize pedestrian and cyclist safety, while maintaining possibility of vehicular access. At the street entrance, a 'table' or gradual change in grade in transitioning from Allens Avenue onto the ROW is an additional spatial cue for vehicles to slow down on the street.

### *b. Re-pave referencing historic paving pattern*

Adjacent to the Conley building are granite block pavers that may be the granite blocks Allens Avenue was paved with in 1909. Continuing or referencing this paving pattern, rather than paving the street in asphalt, transforms the experience of the street. Light-colored paving has higher solar reflectivity, mitigating localized effects of urban heat island.

*Woonerf in Victoria, BC with flush curb and street, as well as pavers cuing priority for pedestrians and cyclists.*

*Granite pavers adjacent to Conley Wharf building. Likely historic pavers dating back to early 1900s.*

## *c. Modify streetscape to distinguish areas for vehicles and the public*

Public Street has sufficient width to create a non-linear traffic pattern that allows for a minimum 29.5’ truck turning radius adjacent to vehicle access points. The strategic location of street plantings and amenities allow for vehicle space while expanding stormwater features and pedestrian comfort. This also creates opportunity to integrate seating, bike parking, water fountains, additional lighting, and other pedestrian amenities and site improvements.

Integrate pinch points and chicanes into the street scape as traffic-calming measures. A pinch-point is a narrowing of the street, while a chicane refers to a gentle bend with appropriate room for car turning radius and consideration of sight-lines.

## *d. Maintain ADA accessibility from the intersection to the water*

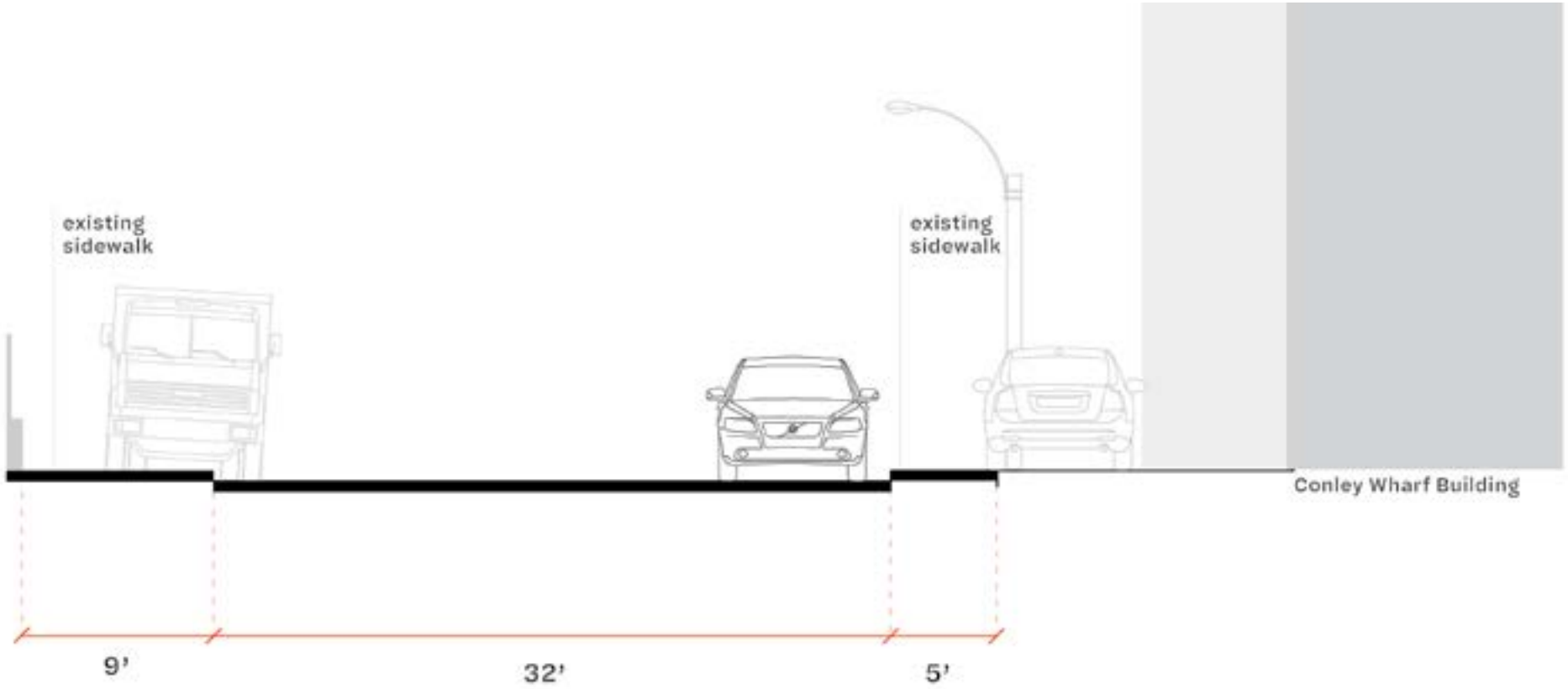
Remove existing obstables and integrate features such as a boardwalk or steel grating to extend a pathway to the high tide line.

*Chicane*
*Source: National Association of City Transport Officials (NACTO)*

*Pinchpoint*
*Source: NACTO*

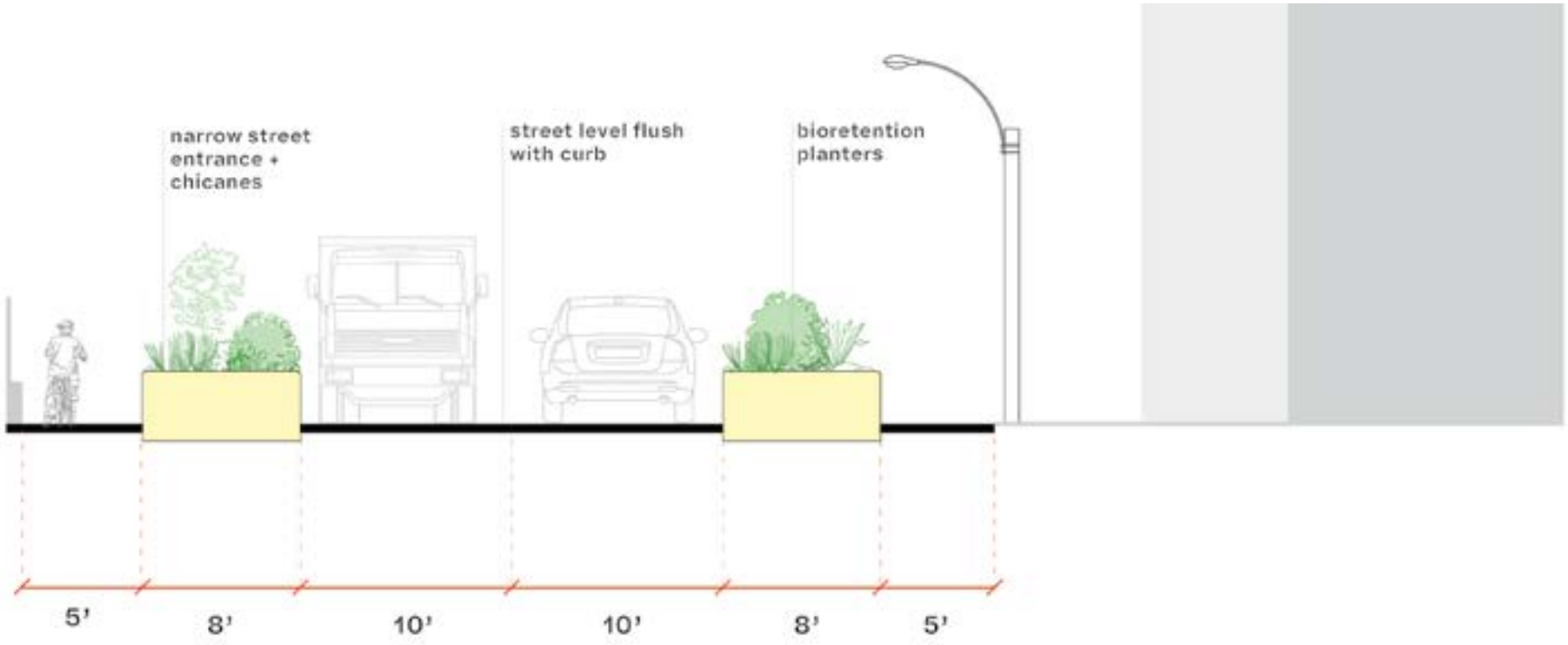
# Modified Streetscape Examples

# A Existing



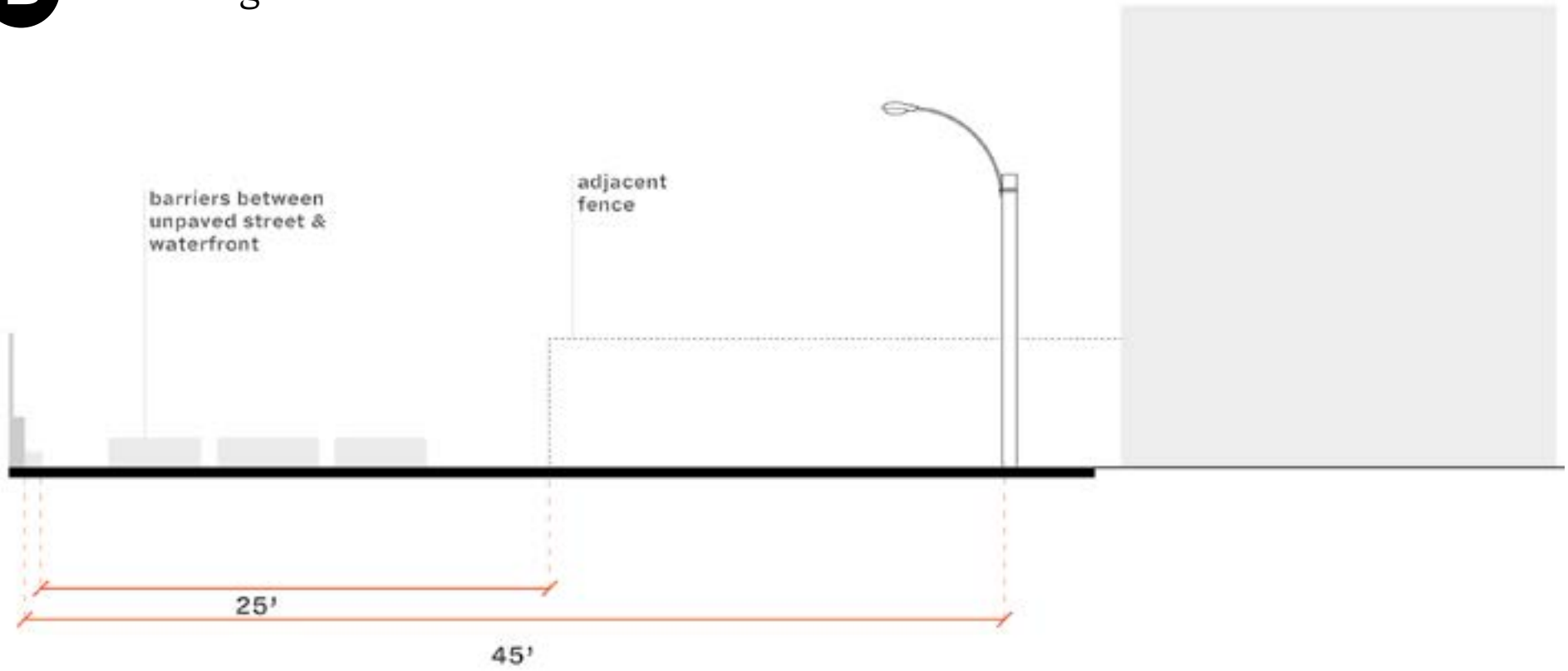

A diagram of the entrance of Public St. where it intersects with Allens Ave, facing east. Without designated parking areas, cars and trucks use any available spaces on the street and next to adjacent buildings. There are no features that make the site accessible to pedestrians beyond a traffic light at the intersection and brief segments of sidewalk.

# A Alternative



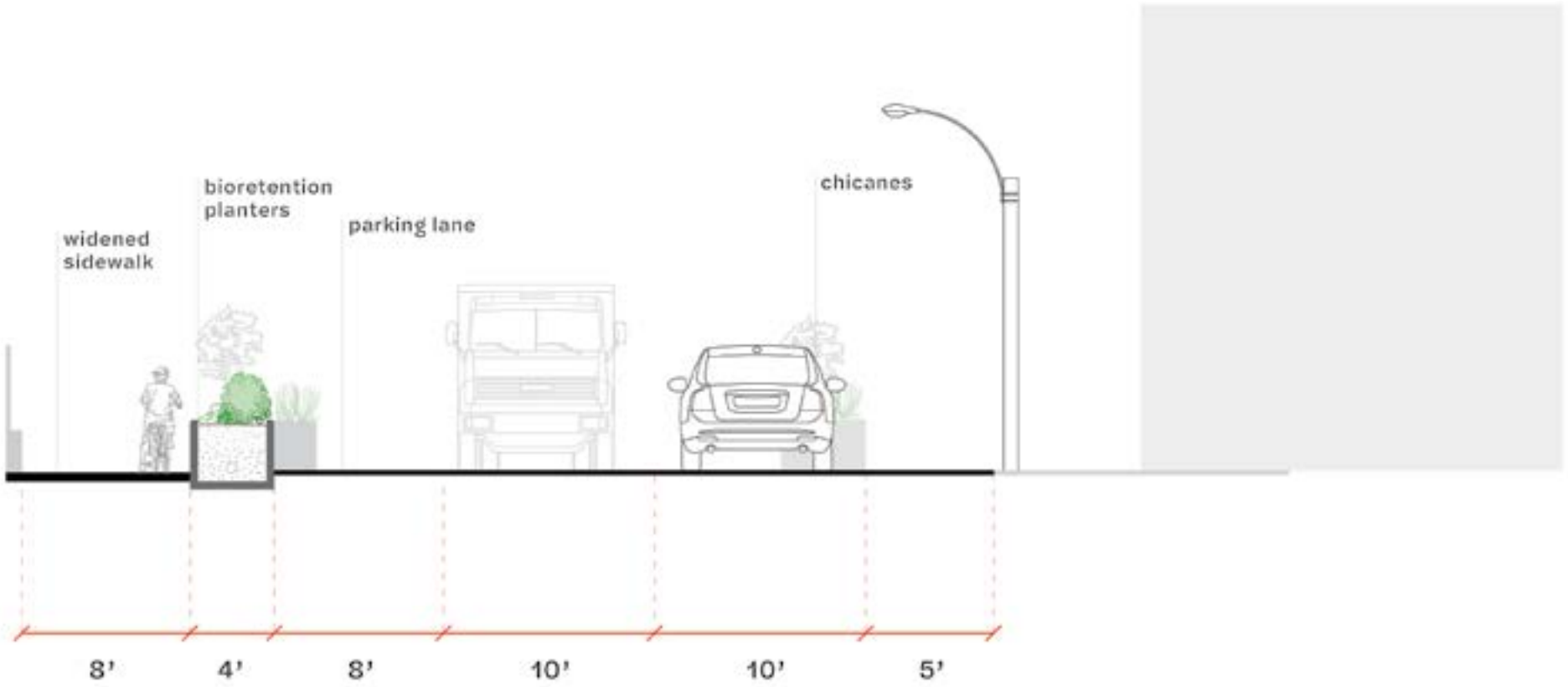

An alternative streetscape with designated width for two-lands of traffic, stormwater plantings, and sidewalks that meet the code minimum. These dimensions are suggested for the street entrance; Living Streets often have a narrowed street entrance to encourage entering vehicles to reduce their speed.

# B Existing




This diagram shows street dimensions towards the eastern end of Public St, at the transition point from paved to unpaved street. The paved street area is approximately 45' wide, while the narrower portion near the water is ~25' wide. Cars are frequently parked in this area as well as along both sides of the street. Concrete barriers are set between the unpaved street end and the shoreline. A fence, put up in 2020, separates the adjacent lot (60 Public St.) from the narrow street portion.

# B Alternative




An alternative streetscape diagram with space for two lanes of traffic as well as parking, a widened sidewalk, and bioretention planters. Planters can be used to establish pinchpoints, chicanes, widen sidewalks, and designate parking areas. This layout continues to privilege vehicle access on the street, although more space can be reclaimed for pedestrians and green space.

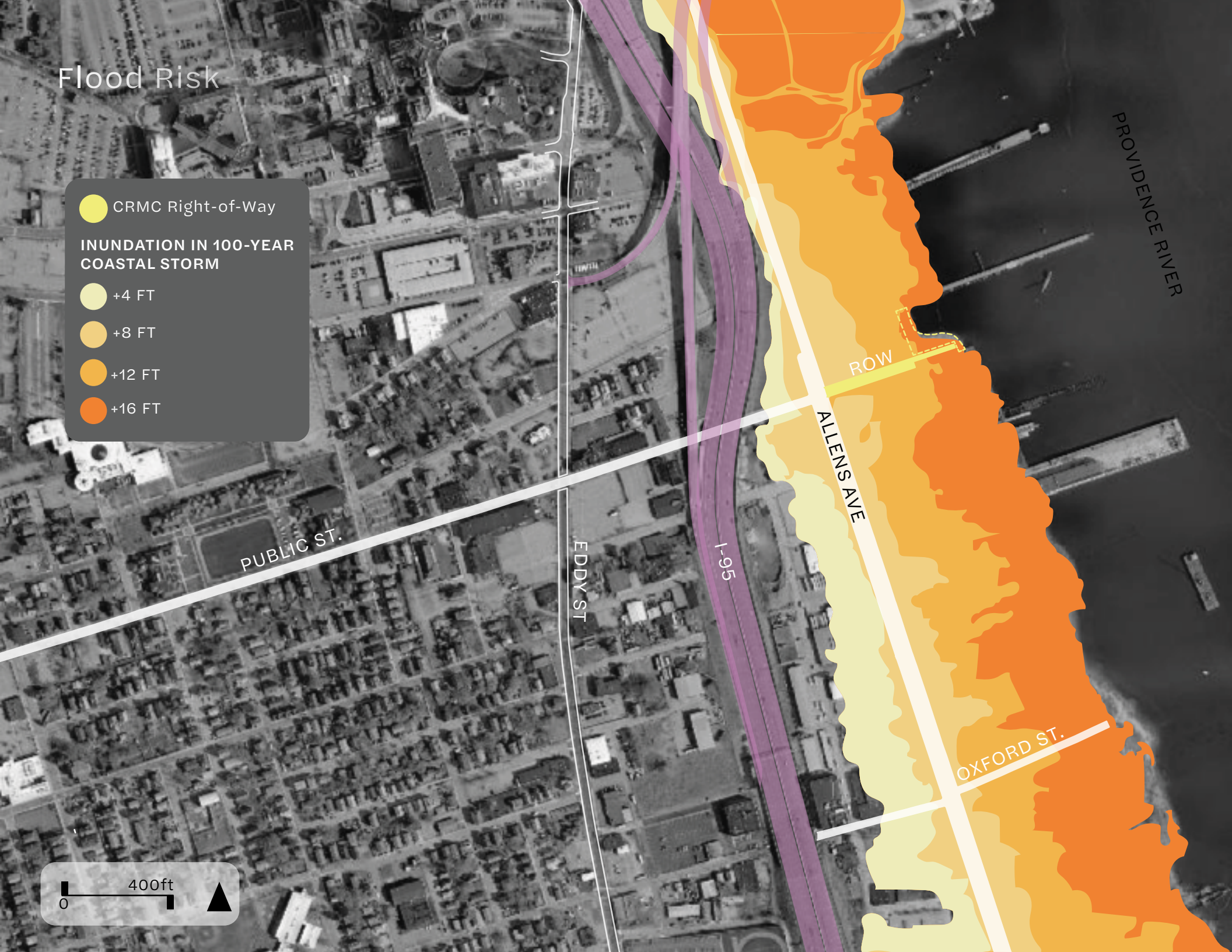
# *2. Floodable Public Space*

The image on the following page indicates floodwater levels in a severe coastal storm, without adjusting for sea level rise. Data from CRMC STORMTOOLS was used to determine flooding location and levels. The high likelihood and severity of coastal flooding indicates that climate adaptive and floodable measures are necessary features on Public St. and elsewhere in the Providence River's floodplain. *How can floodability be integrated into a shoreline access design at the CRMC designated access point?*

Public St. has been capped as part of environmental remediation efforts (see ELUR), limiting the possibility of infiltrating stormwater features. However, flow-through bioretention planters and other non-infiltrating stormwater treatment methods remain a viable option.

In the image below, two images of floodable infrastructure in New Orleans are overlaid to provide an example of urban infrastructure intended to manage large quantities of stormwater in major flooding events.

# Flood Risk

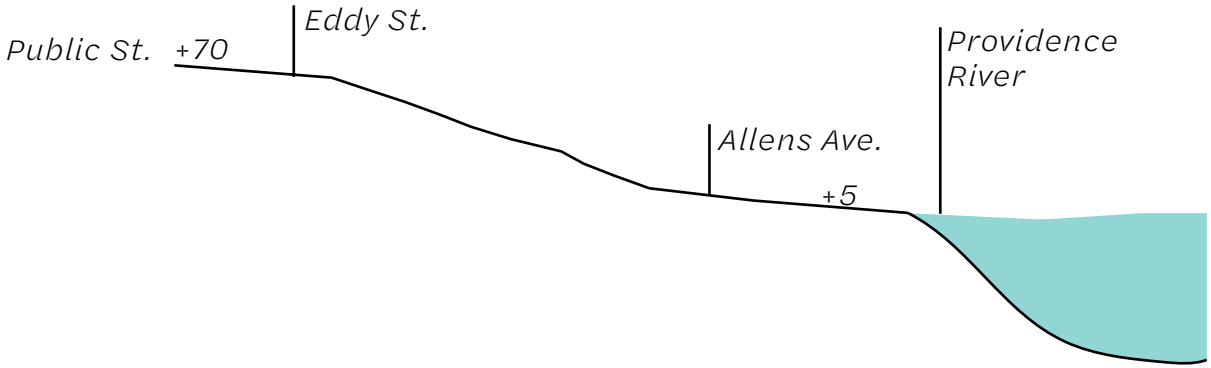

CRMC Right-of-Way
INUNDATION IN 100-YEAR COASTAL STORM
+4 FT
+8 FT
+12 FT
+16 FT
PUBLIC ST.
EDDY ST
I-95
ALLENS AVE
ROW
OXFORD ST.
PROVIDENCE RIVER
0
400ft

## *a. Consider the role of public space in managed retreat from the waterfront*

Advocacy is required to shift impermeable surfaces and vulnerable land uses away from the water as part of a climate adaptive risk response.

## *b. Integrate stormwater features*

Public St. has approximately 65 ft of elevation drop between its intersection with Eddy St. and the waterfront. Topographically, the street forms a valley that slopes down to the waterfront, facilitating the flow of stormwater runoff into the river. Thus, Public St. offers an ideal site for stormwater management that improves localized conditions for habitat, and introduces the possibility of safe interaction with the River in the future.




*Visualizing change in grade from Public St. and Eddy down to the River. Diagram not to scale.*

Infiltration is not possible on Public Street because it is constructed on top of fill and capped. The ELUR dictates that the street's cap cannot be excavated. Flow-through bioretention planters, which are self-contained and direct overflow to storm drains, offer an alternative method for plantings.

DLand Studio's Gowanus Sponge Park Pilot utilizes modular flow-through water filtration systems to slow the movement of storm-water before it reaches the Gowanus Canal. An elevated boardwalk allows the public to access the waterfront.

## *c. Plant salt-tolerant native and perennial species to facilitate small-scale habitat restoration*

Recommended plants prefer wetlands and/or disturbed habitats, have relatively high tolerance for salinity, and preference for sandy soils. Some are typically found in upland salt marshes or are facultative halophytes, able to withstand fluctuating levels of salinity. Some of these plants, including Solidago sempervirens, are already present at Public St. Beach. Others, such as Spartina patens, are typically present in upland salt marsh. Agalinis maritima, typically found in marsh salt pans, may be able to withstand high salinity resulting from a salt storage pile adjacent to the site. These plants reflects a small selection of possible native and perennial plantings.

*Spartina patens*

*Juncus gerardi*

*Agalinis maritima*

*Asclepias incarnata*

*Eryngium yuccifolium*

*Solidago sempervirens*

*Aronia melanocarpa*

*Salix discolor*

*Prunus maritima*

*Images from [Native Plant Trust GoBotany]*

# 3. Connecting the Waterfront to the Neighborhood

Exploring arts-based engagement on Public St., with the intention of activating the street and intersection leading to the Living Street, creating opportunities for wonder, play, and ecological connection. Short term transformations and small-scale activations introduce the possibility of long-term change by creating an intentional connection between the city and the river. The following recommendations support arts-based engagement with Public St. and are suggestions that can be folded into public art proposals facilitated by the City of Providence Department of Arts, Culture, and Tourism.

### *a. Traffic-calming street murals*

Street murals are a relatively low-cost, high-impact method of improving crosswalks, calming traffic, defining spaces, and highlighting the surrounding neighborhood's culture, history, and art. They identify pedestrians as prioritized users of a space. The example below is part of work done in partnership with the Seattle-based Africatown Community Land Trust as a celebration of Black culture, history, and futures in Seattle. The mural connected the intersection of 23rd and Union St. to the ACLT plaza, creating an outdoor living room for community gathering and visioning.

*Midtown Activation, Africatown Community Land Trust, Seattle, WA*

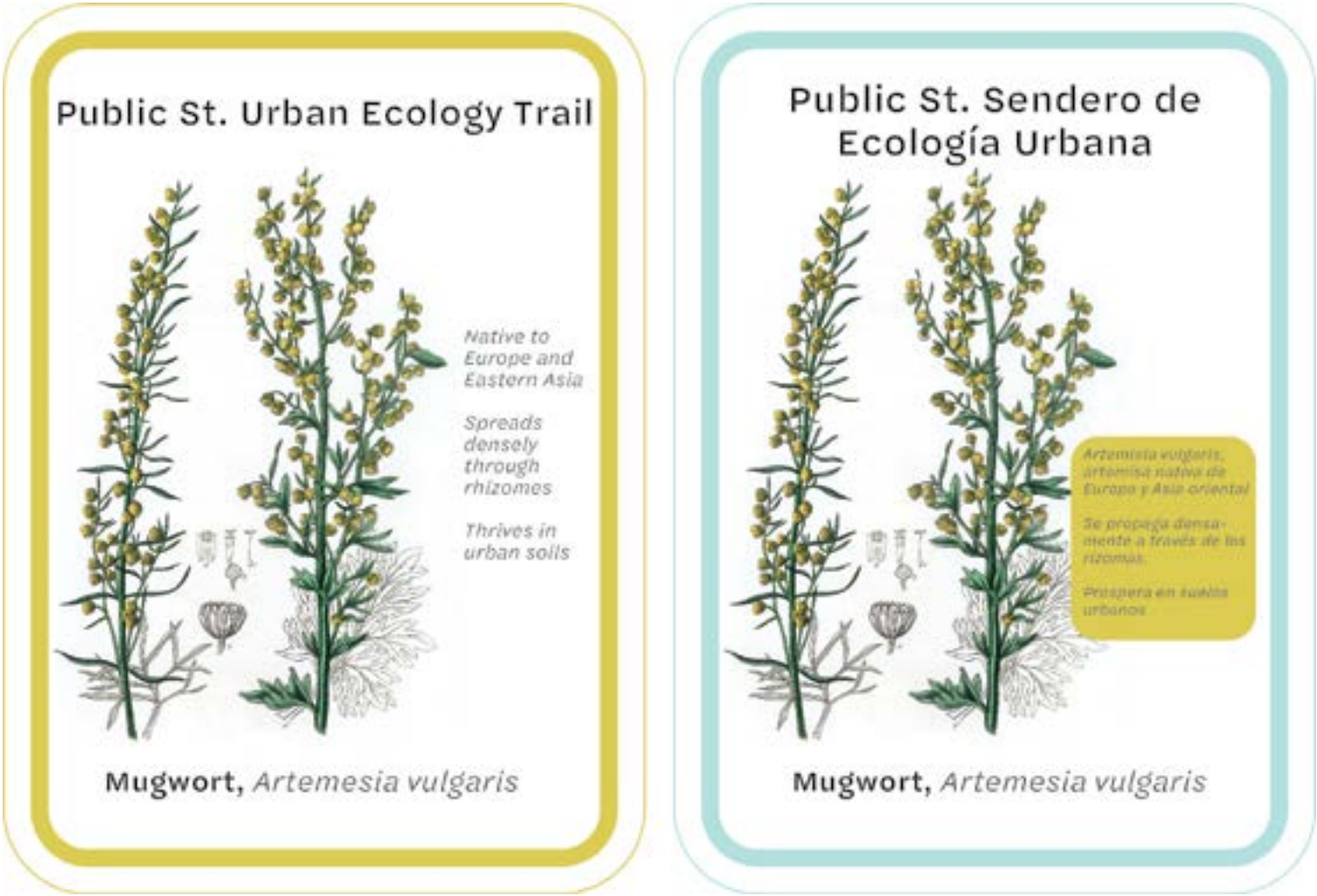
*Credit: Studio Zewde*

*Midtown Activation, Africatown Community Land Trust, Seattle, WA*
*Credit: Studio Zewde*

## *b. Public Street Urban Ecology Trail*

Signage is an opportunity for eco-cultural activation along Public St. from Elmwood Avenue to the waterfront. The images below reflect two sets of signage proposals.

**1**




*A series of signs identifying common urban plants and wildlife, native and introduced.*
*Credit: Fatema Maswood*

2


*A series of signs uncovering ecologies that have been disappeared by colonization and urbanization, including wetlands, forests, and springs present throughout the city of Providence.*
*Credit: Fatema Maswood*