



City of Alexandria Waterfront Master Plan

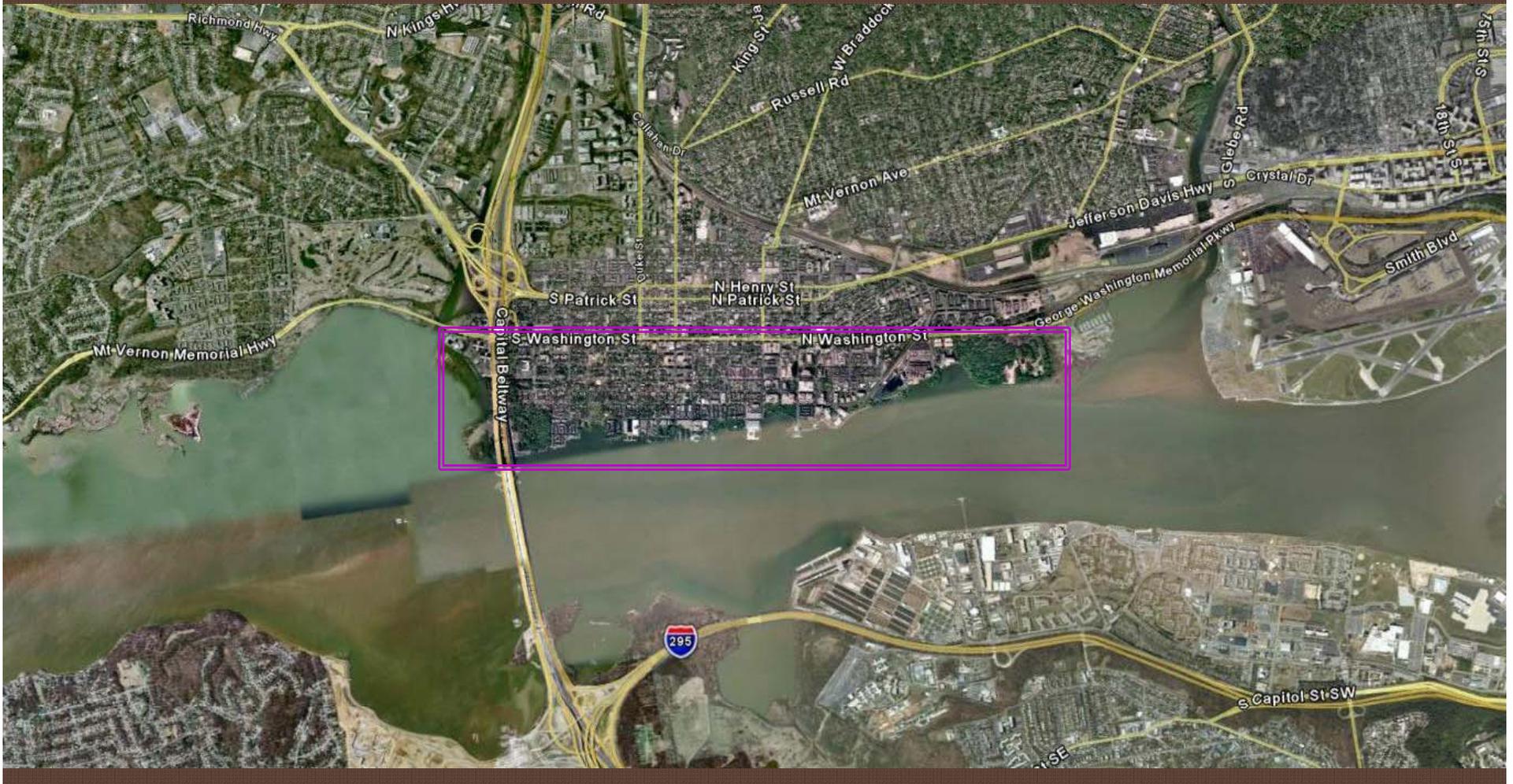


Transportation and Parking



Alan Harwood / EDAW | AECOM
Tom Moriarity / ERA | AECOM
Ryan Bouma / EDAW | AECOM
Nathan Imm / EDAW | AECOM
Craig Perl / T&ES City of Alexandria
Peter Elkan / Moffatt & Nichol
Doug Sarno / Perspectives Group

Transportation & Parking \ How do people get to the waterfront?



Guiding Transportation Principles

- 1. Alexandria will develop innovative local and regional transit options.*
- 2. Alexandria will provide quality pedestrian and bicycle accommodations.*
- 3. Alexandria will provide all its citizens, regardless of age or ability, with accessibility and mobility.*
- 4. Alexandria will increase the use of communications technology in transportation systems.*
- 5. Alexandria will further transportation policies that enhance quality of life, support livable, urban land use and encourage neighborhood preservation, in accordance with the City Council Strategic Plan.*
- 6. Alexandria will lead the region in promoting environmentally friendly transportation policies.*
- 7. Alexandria will ensure accessible, reliable and safe transportation for older and disabled citizens.*

March 21, 2008

Final Draft

Overview-2

Transportation & Parking \ Resources to date

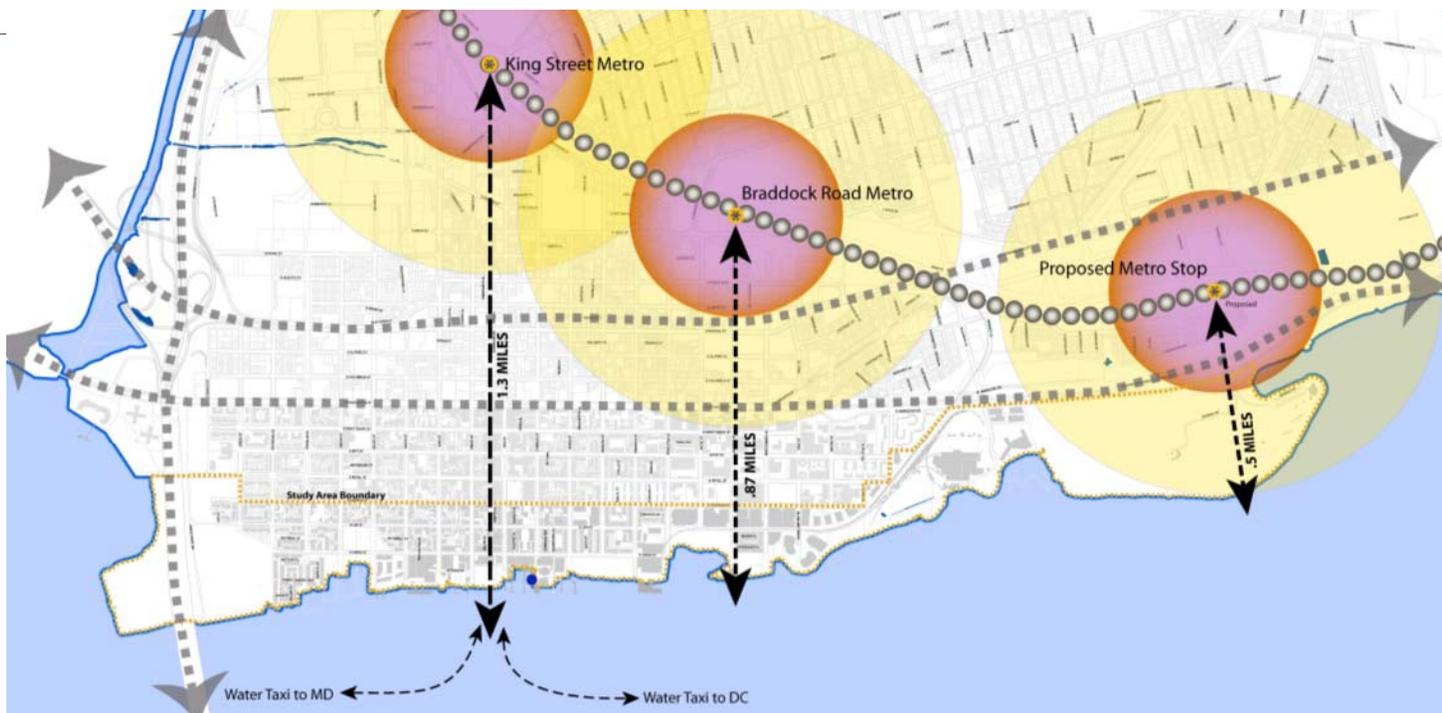
How do people get to the waterfront?

- ▲ Metro
- ▲ Bus / Trolley
- ▲ Car
- ▲ Bicycle
- ▲ Boat
- ▲ Walk
- ▲ Other



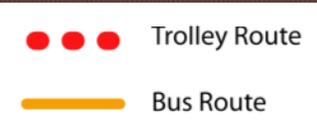
Transportation & Parking \ Proximity to Metro Station

- ▲ King Street is preferred corridor
 - Character, amenities, intermodal
- ▲ Proposed Potomac Yard station will be the closest to the waterfront



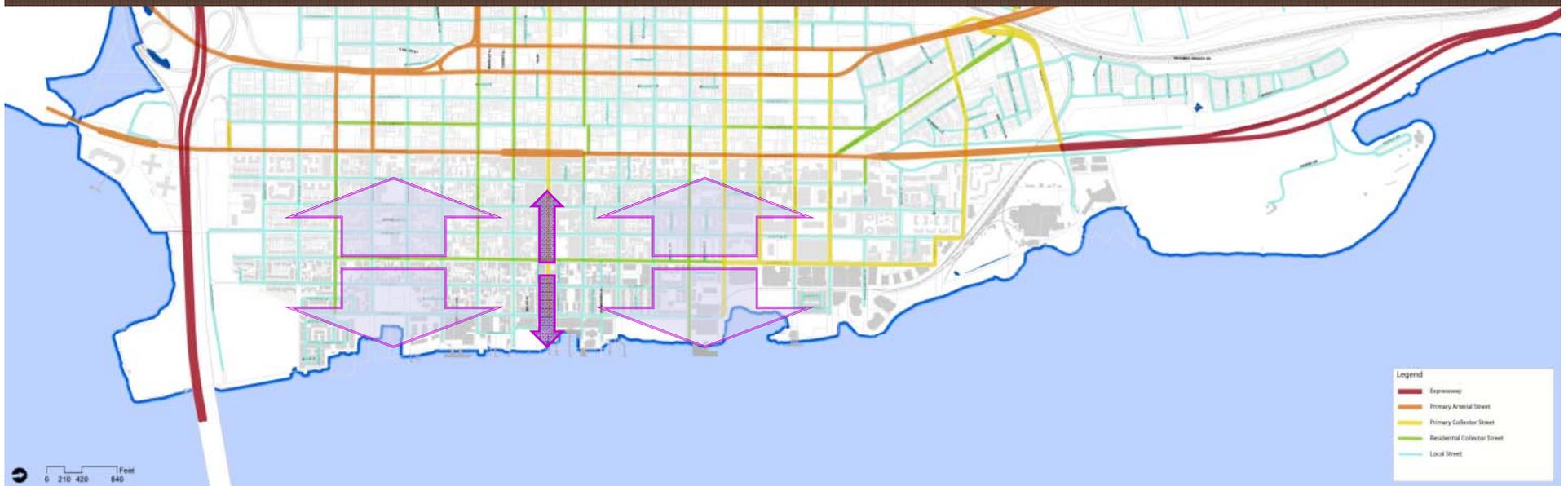
Transportation & Parking \ Bus

- ▲ Closest bus route 3 or 4 blocks from waterfront
- ▲ Less convenient south of King Street
- ▲ Trolley loop offers great East / West connectivity
- ▲ No north / south counterpart



Transportation & Parking \ Personal Vehicle

- ▲ Regional Connectors : I-95, I-495, Route 1, George Washington Parkway
- ▲ King Street is the dominant connection to the water
- ▲ Lack of designated “routes to the water” north and south of King Street



Transportation & Parking \ Bicycle / Walking

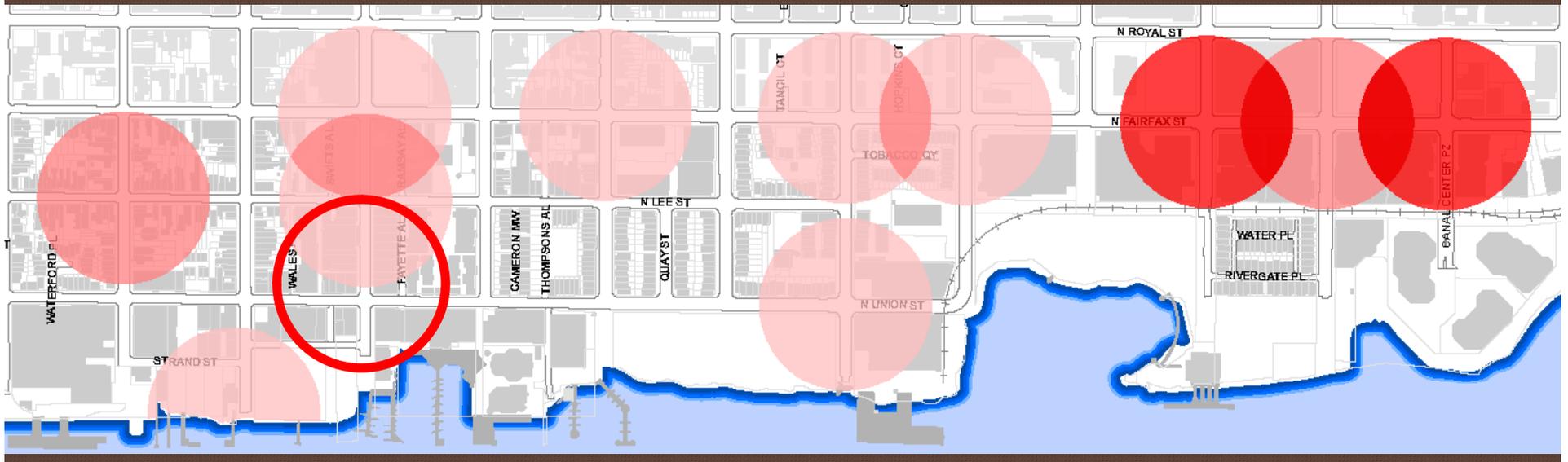
- ▲ MVT is used mostly by bicyclists
- ▲ Wilson Bridge Crossing is an added attraction
- ▲ Support services are emerging
- ▲ Potential for greater connectivity near Daingerfield Island

- Off-Street Bike Route
- On-Street Bike Route



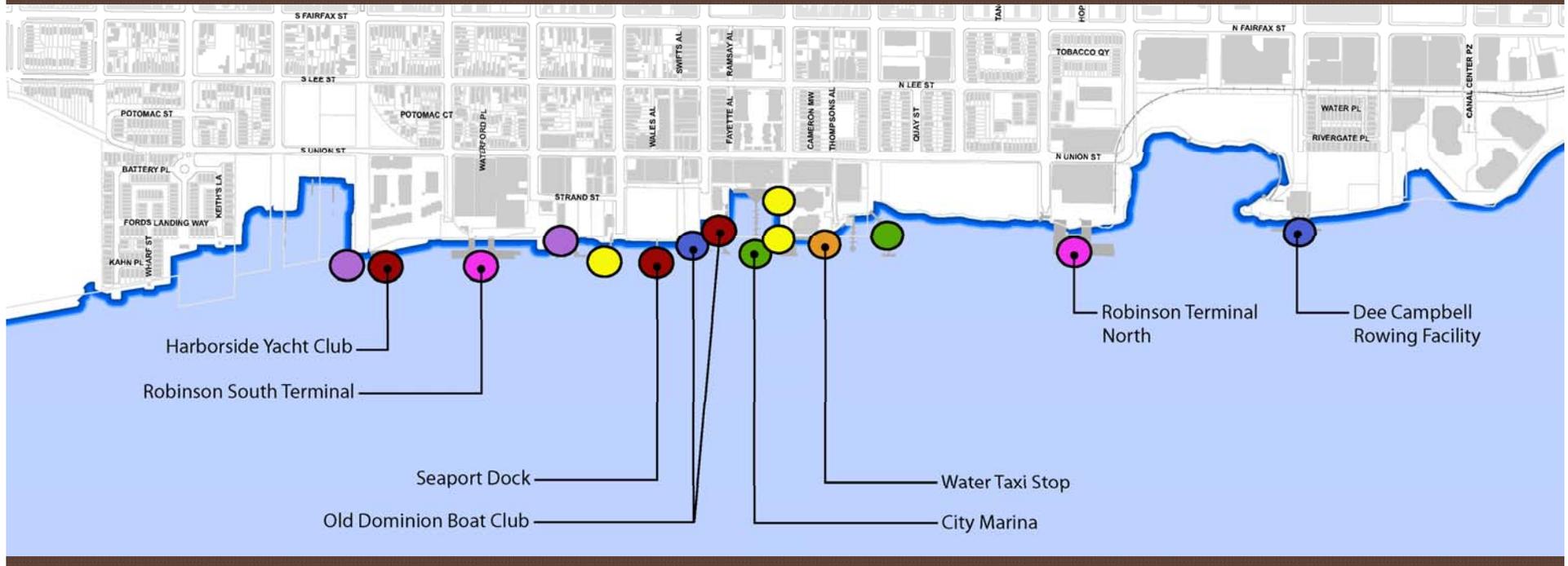
Transportation & Parking \ Bicycle / Walking

- ▲ Pedestrian / bike / car conflicts are increasing
- ▲ Areas of greatest conflict are along North Fairfax Street and at King and Union
- ▲ Signage, parking, traffic calming can improve safety



Transportation & Parking \ Boat

- ▲ Public (3), Private (3), and Day Cruise (3)
- ▲ Concentrated zone of boating activity
- ▲ Antiquated support services & high demand
- ▲ No official public launch area for kayaks etc.
- ▲ Inactive boat launches could be an opportunity



Transportation & Parking \ Boat

Water Taxi

- Between Alexandria and National Harbor
- Expansion to the Ball Park and the airport

Cruises

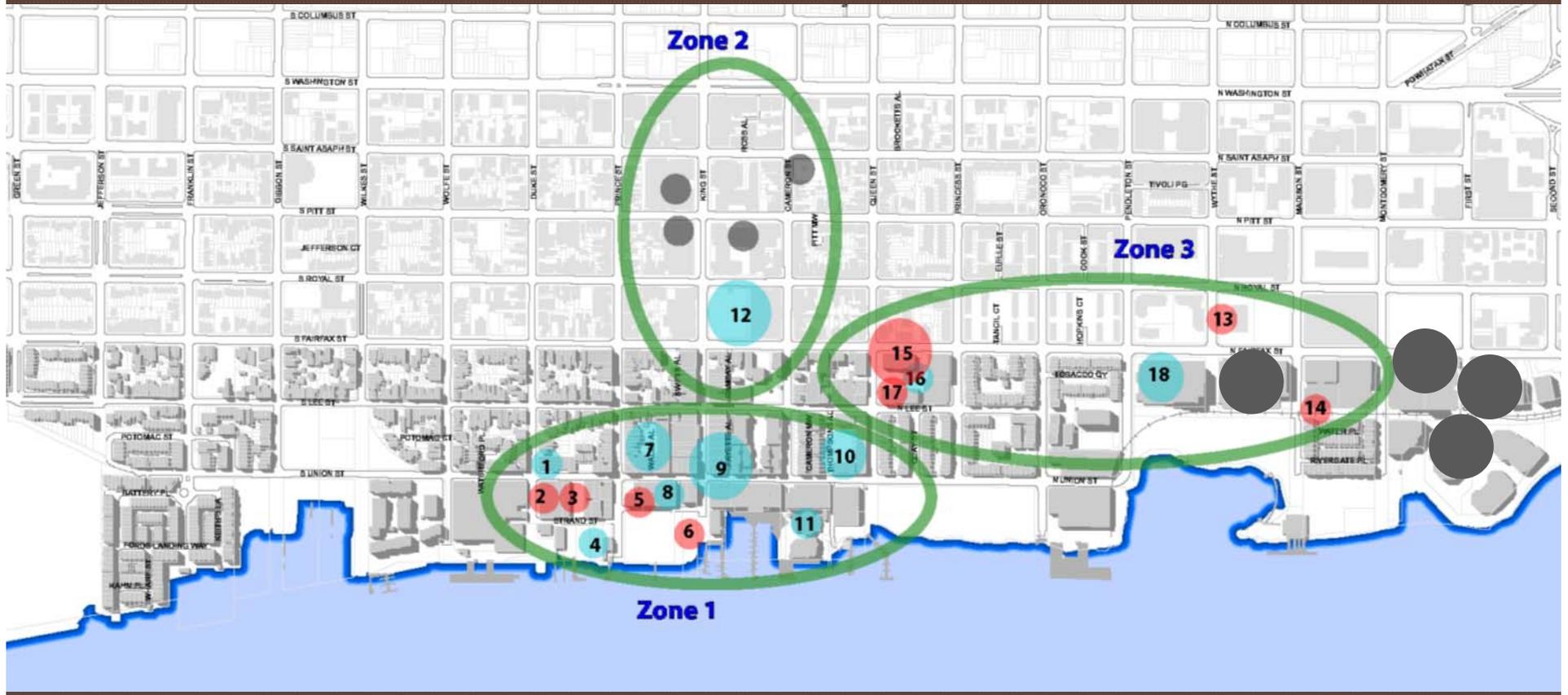
- Connect regional marinas



Transportation & Parking \ Off-Street Parking

- ▶ Where is it located?
- ▶ How much is there?
- ▶ Is it in the right place?

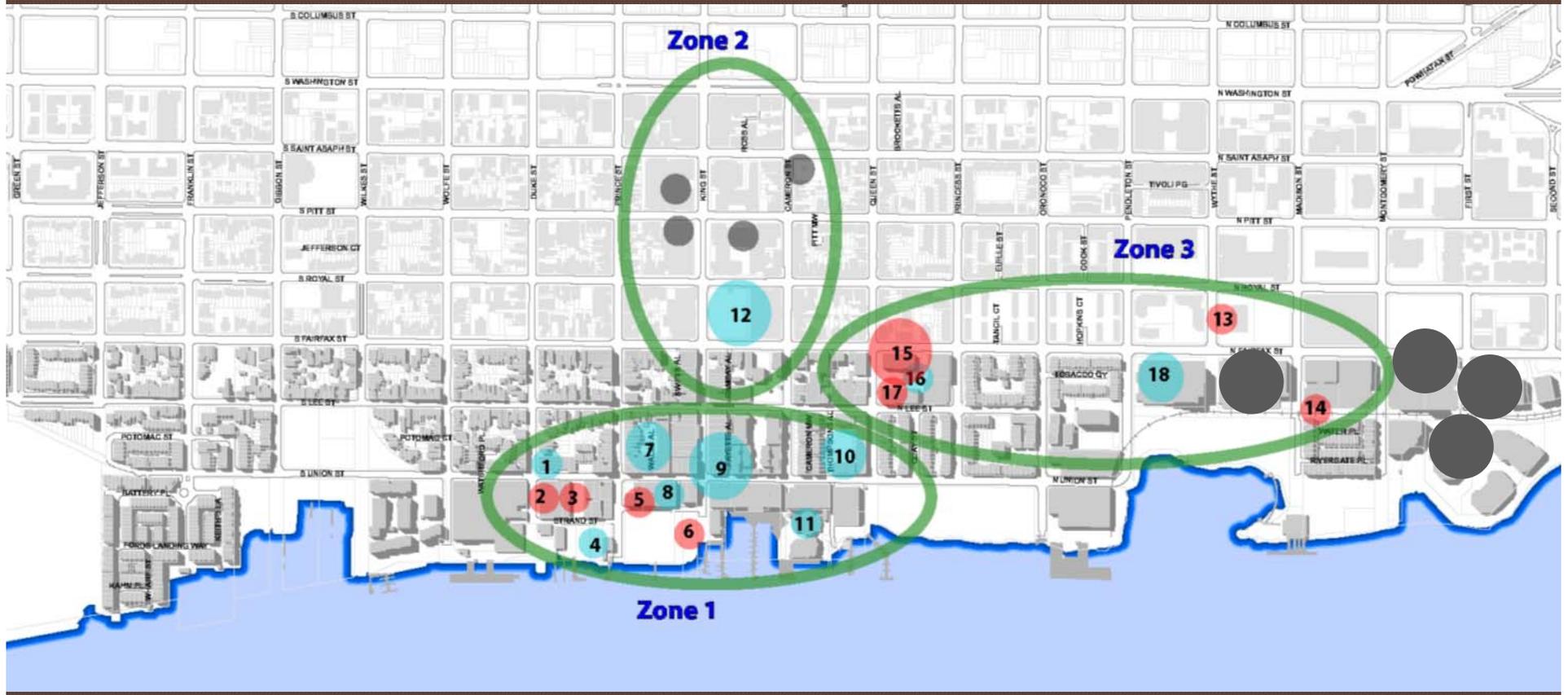
PUBLIC		PRIVATE	
	Public Off Street Parking 0-100 spaces		Private Off Street Parking 0-100 spaces
	Public Off Street Parking 101-200 spaces		Private Off Street Parking 101-200 spaces
	Public Off Street Parking 201 spaces or more		Private Off Street Parking 201 spaces or more



Transportation & Parking \ Off-Street Parking

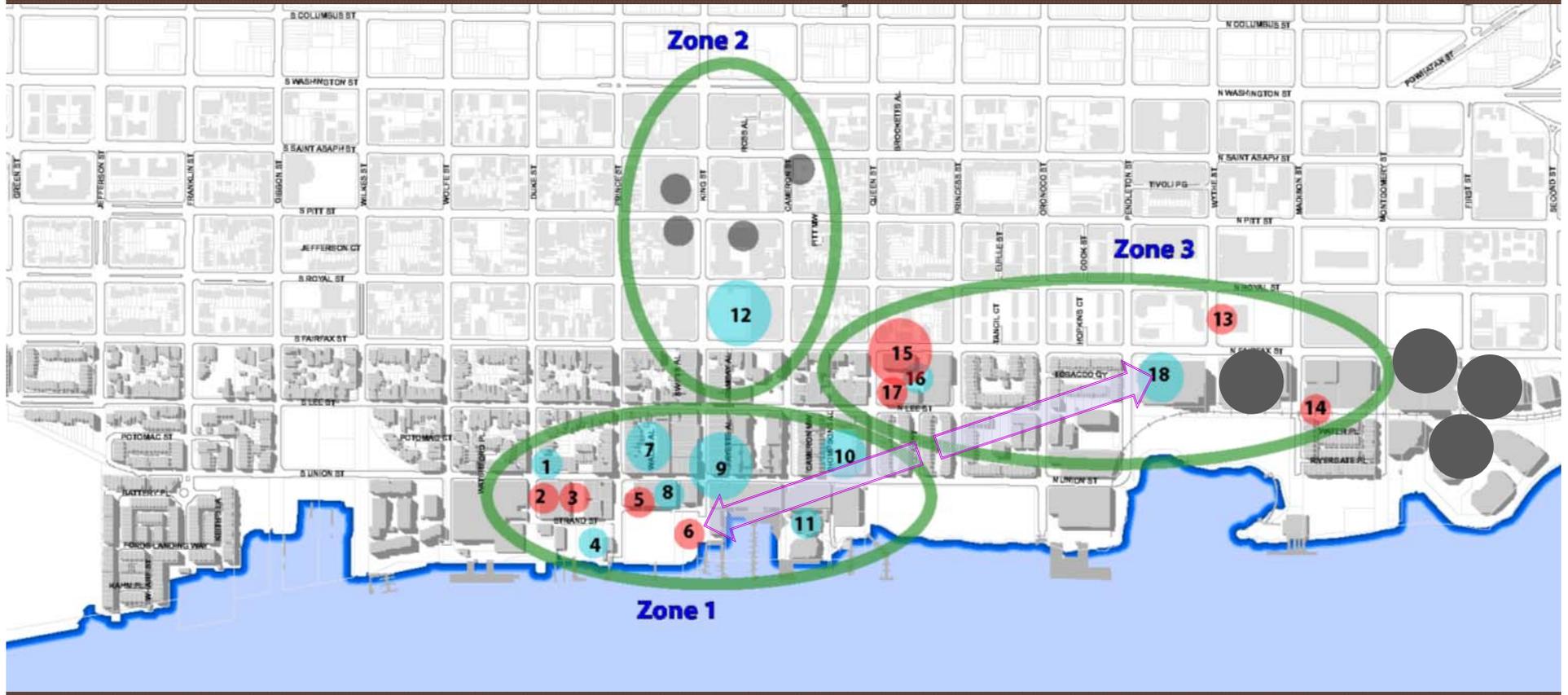
- ▲ Almost 1400 Spaces within Zones 1 & 2
- ▲ 90% Public

PUBLIC		PRIVATE	
	Public Off Street Parking 0-100 spaces		Private Off Street Parking 0-100 spaces
	Public Off Street Parking 101-200 spaces		Private Off Street Parking 101-200 spaces
	Public Off Street Parking 201 spaces or more		Private Off Street Parking 201 spaces or more



Transportation & Parking \ Off-Street Parking

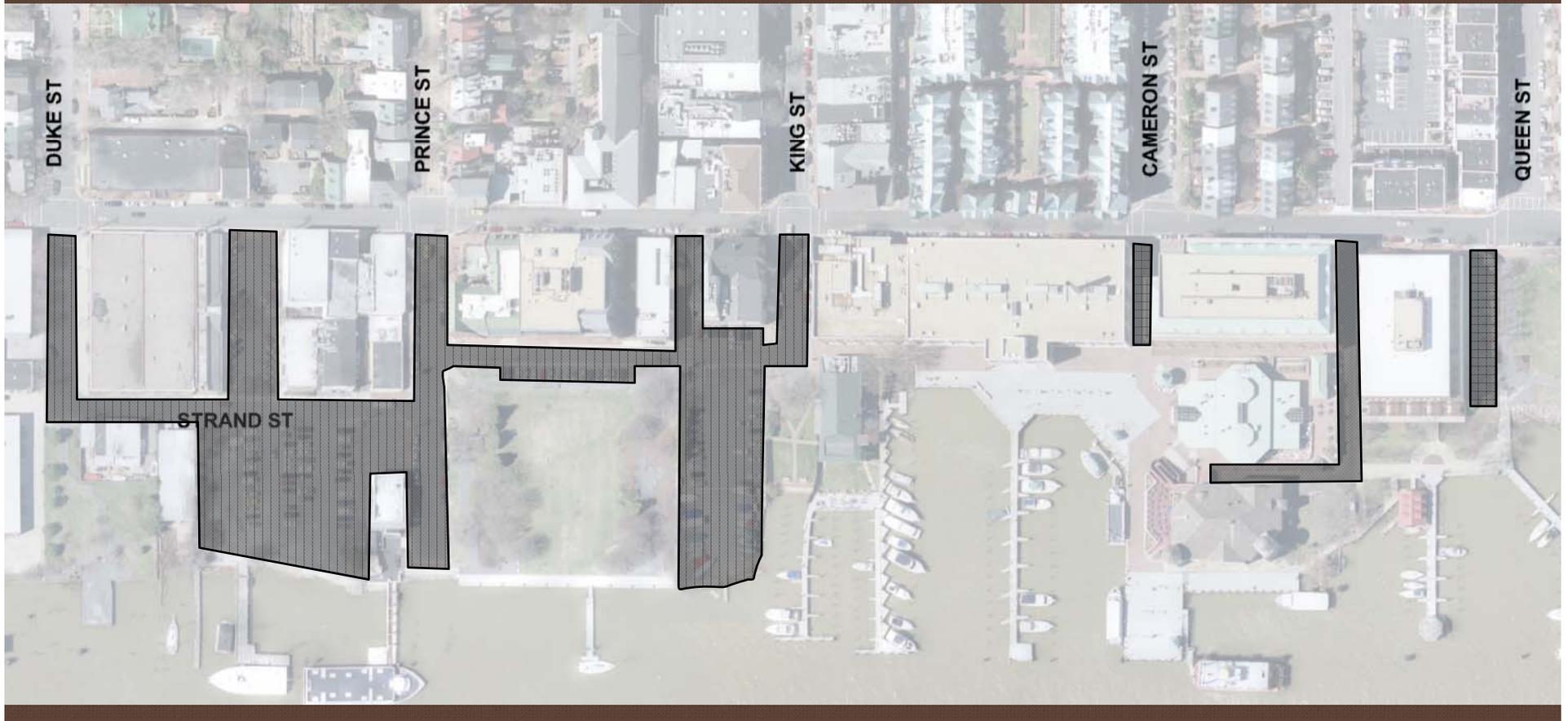
- ▲ Private parking garages underutilized at night
- ▲ Potential for valet services connected to existing parking facilities



Transportation & Parking \ Parking

▲ East of Union Street

- A significant amount of valuable waterfront is devoted to vehicle storage and circulation



Transportation & Parking \ Parking – On Street

- Removing parking from dead-end streets at the shoreline can allow those streets to become public spaces

On Street Parking Types

-  Metered Spaces
-  2 Hour Parking
-  3 Hour Parking
-  Unlimited Parking
-  No Street Parking Permitted



Transportation & Parking \ Service

- ▲ Service access is necessary infrastructure, but it doesn't have to detract from the public realm



Transportation & Parking \ Summary

- ▲ Getting to the waterfront is part of the waterfront experience
- ▲ Improving access is critical to maintaining a great waterfront
- ▲ Reducing the need for vehicles near the shoreline will open up significant opportunities for waterfront amenities
- ▲ Surface parking on the waterfront is an inappropriate use
- ▲ Key is to use existing resources better (additional capacity)



City of Alexandria Waterfront Master Plan



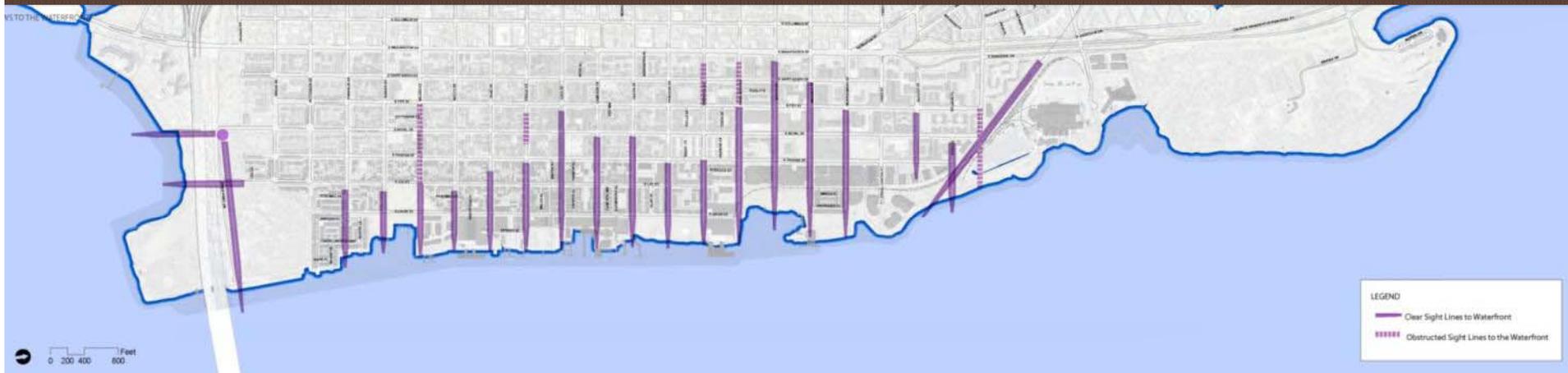
Open Space, Environment and Sustainability



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Open Space, Environment & Sustainability \ Views

- ▲ Define pedestrian range
- ▲ Important to visitor direction
- ▲ Define larger ‘neighborhood’



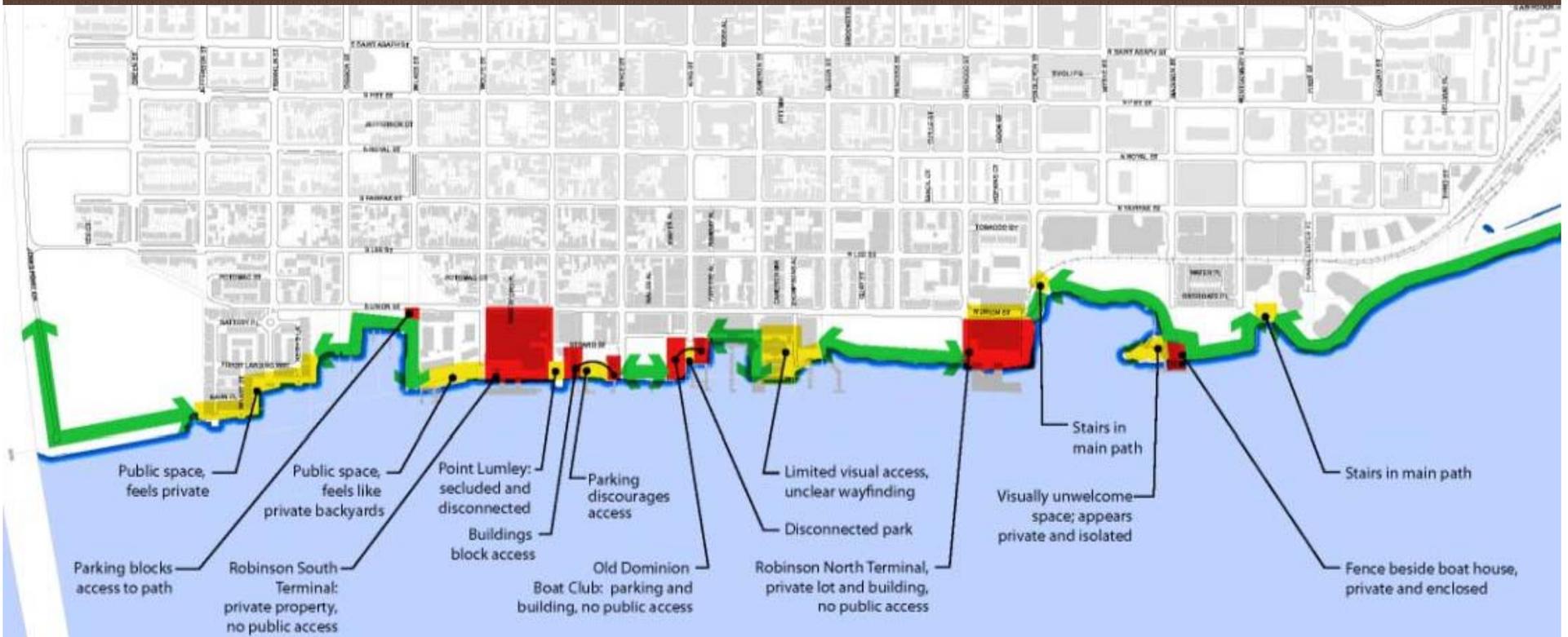
Open Space, Environment & Sustainability \ Views

- ▲ No single, all-encompassing view
- ▲ 7-8 segments or viewsheds
- ▲ Impediment to continuity



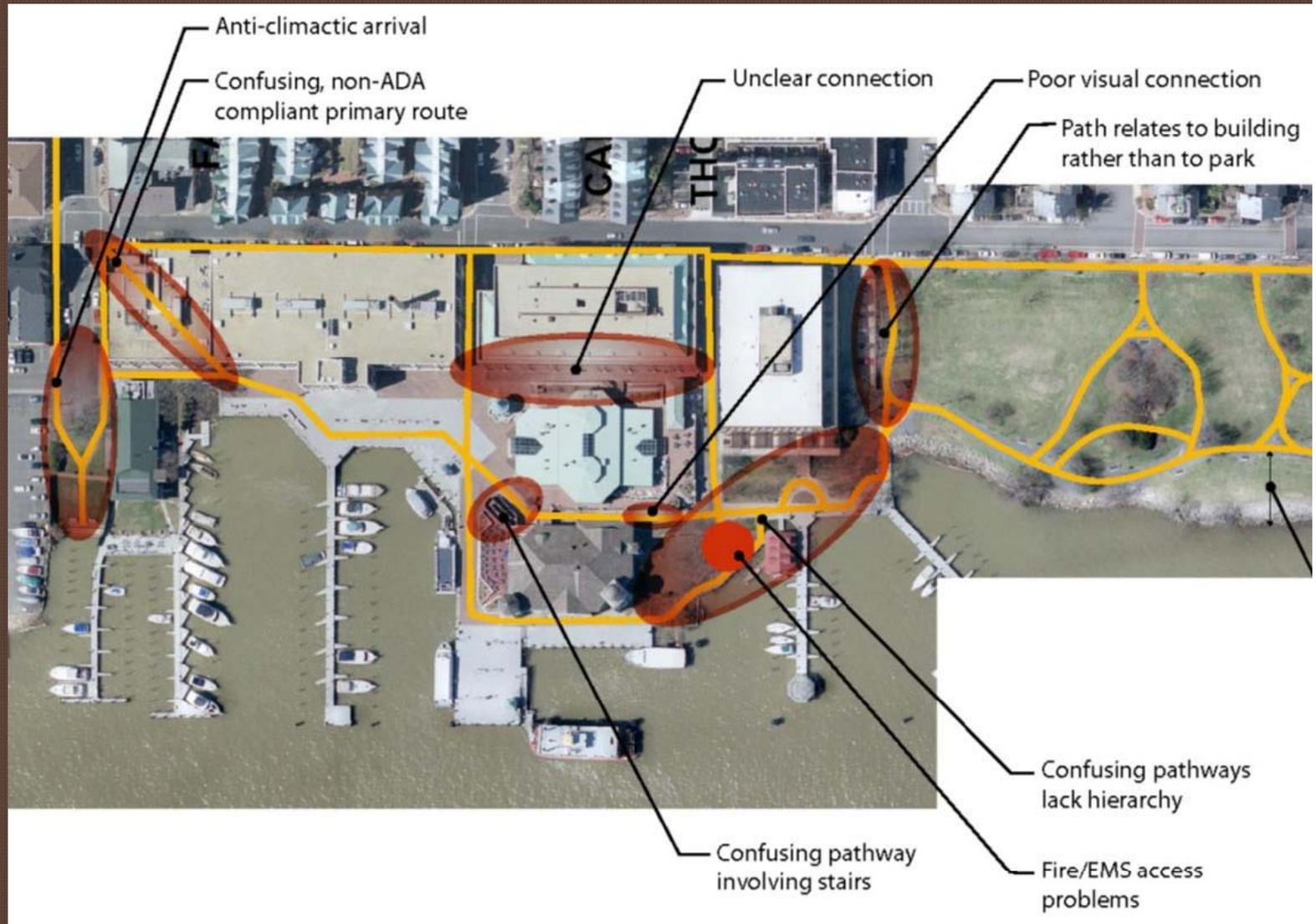
Open Space, Environment & Sustainability \ Mobility

- ▲ Highly divided
- ▲ Barrier in all areas
- ▲ Solvable



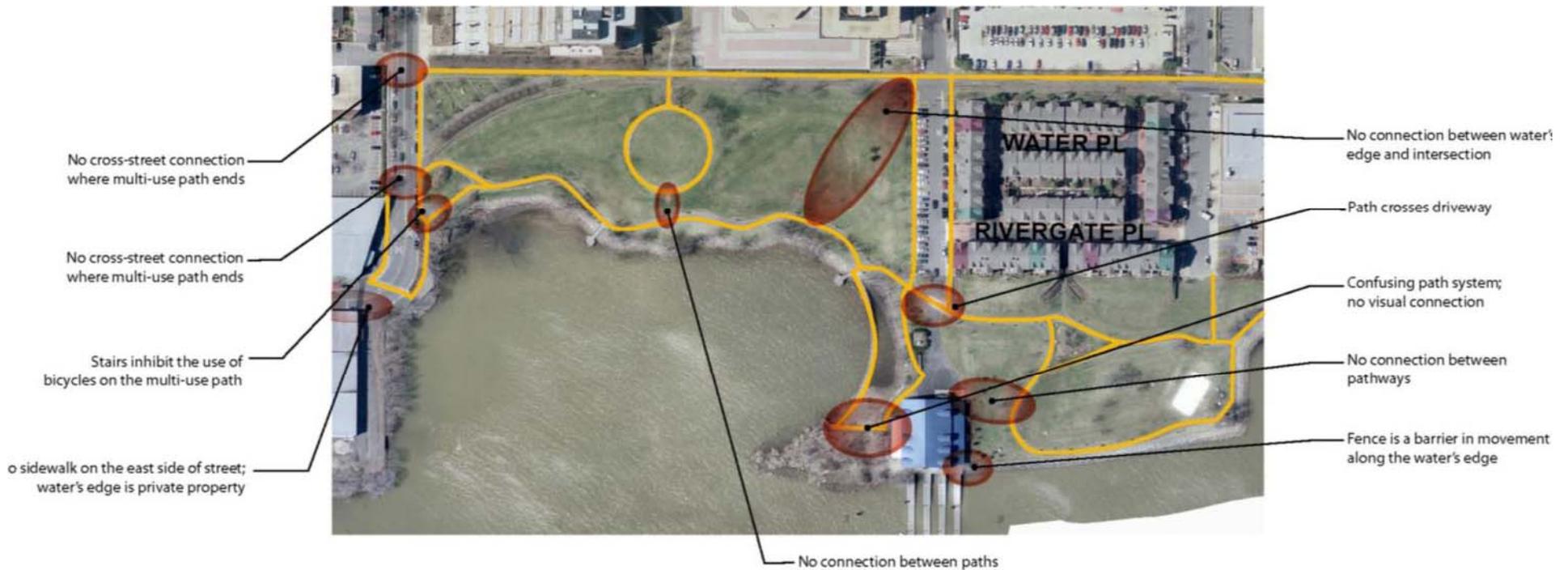
Open Space, Environment & Sustainability \ Mobility

Example #1: Torpedo Factory



Open Space, Environment & Sustainability \ Mobility

▲ Example #2: Oronoco Bay



Open Space, Environment & Sustainability \ Open Space Zones

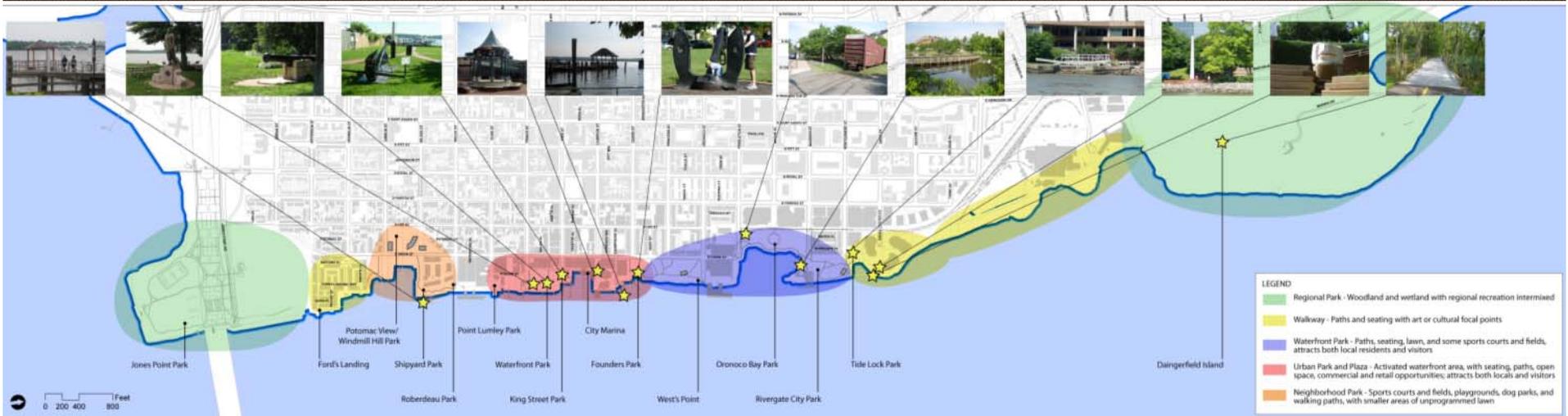
▲ Groupings/areas of similar nature

- Landscape
- Pathways
- Architecture



Open Space, Environment & Sustainability \ Open Space Zones

- ▲ Organizational challenges
 - ▲ Historic Elements/objects
 - ▲ Art
 - ▲ Amenities



Open Space, Environment & Sustainability \ Open Space Zones - History

- ▲ Zones have distinct history
 - Archaeology
 - Point Lumley & West's Point



Open Space, Environment & Sustainability \ Open Space Zones - History

▲ Place names

- Historic uses
- Historic events or people



Open Space, Environment & Sustainability \ Open Space Zones - History

▲ Place names

- Historic uses
- Historic events or people



Open Space, Environment & Sustainability \ Sustainability

Urban Environment – Challenges and Opportunities

- Impervious area (65%- buildings, sidewalks, parking, roads)
- Heat island
- Pollution impacts



Open Space, Environment & Sustainability \ Sustainability

▲ Waterfront green space

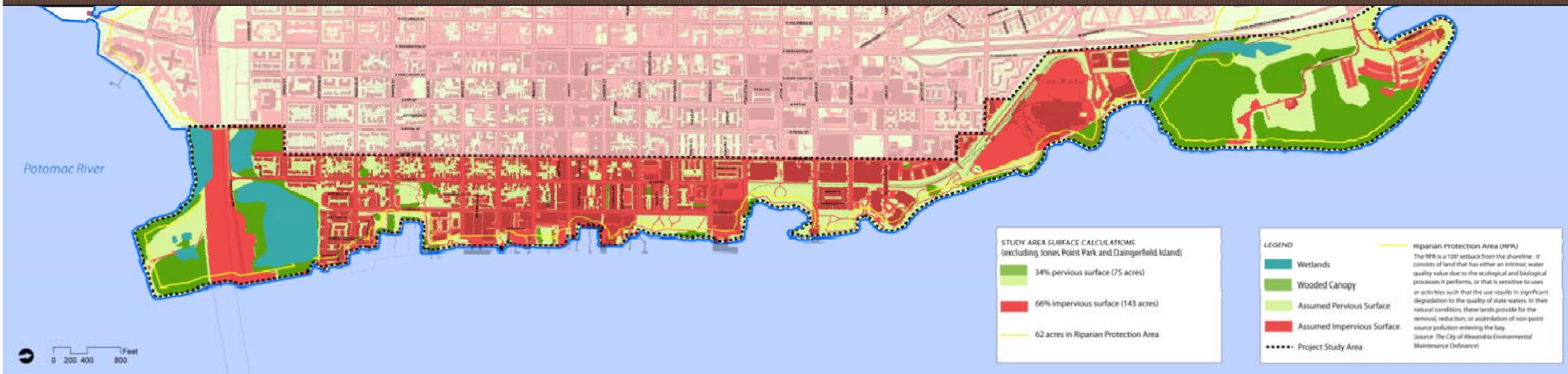
- Urban relief zone
- Human comfort



Open Space, Environment & Sustainability \ Sustainability

Park ends

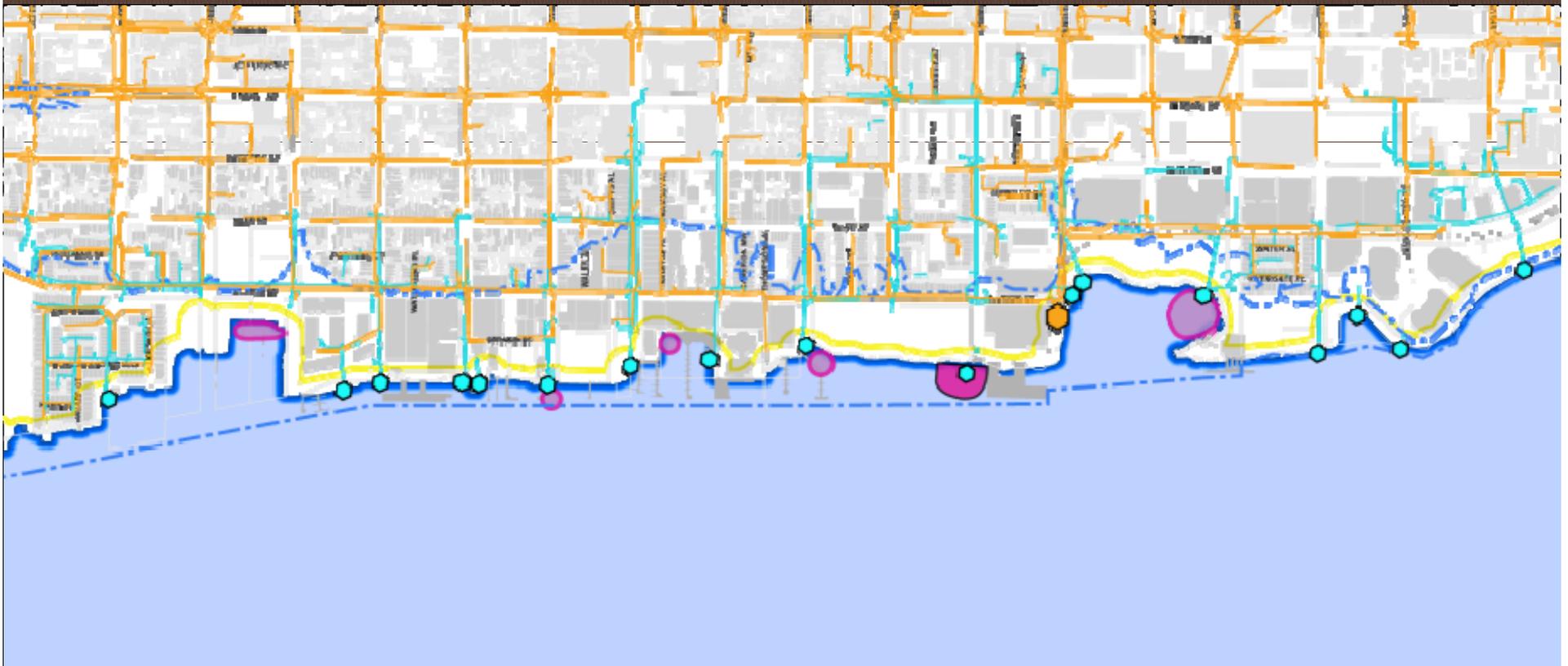
- ▲ Daingerfield & Jones Point Park
 - ▲ Tree canopy
 - ▲ Habitat linkages



Open Space, Environment & Sustainability \ Sustainability

▲ Potomac River as challenge

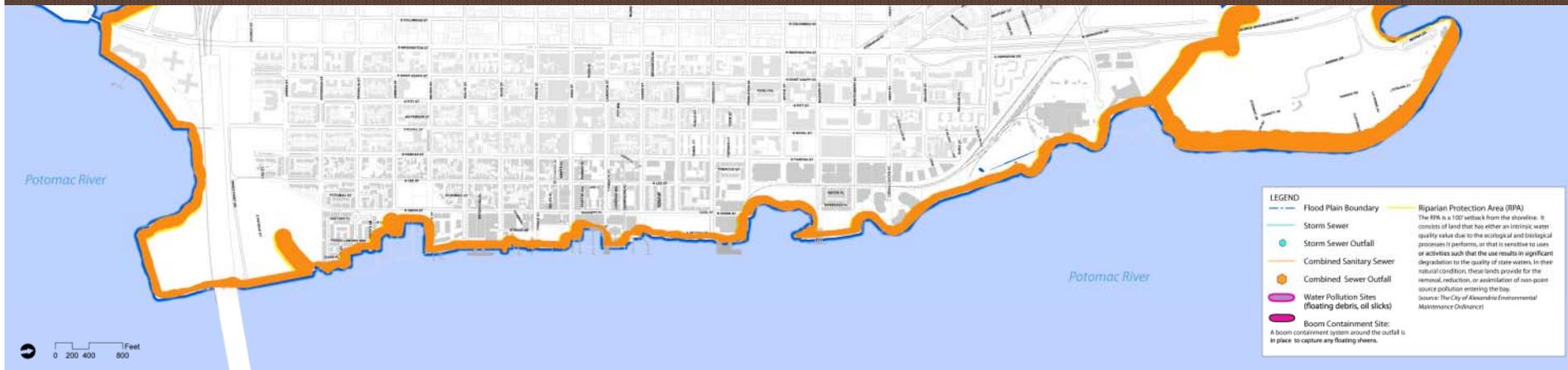
- Pollution
- Debris



Open Space, Environment & Sustainability \ Sustainability

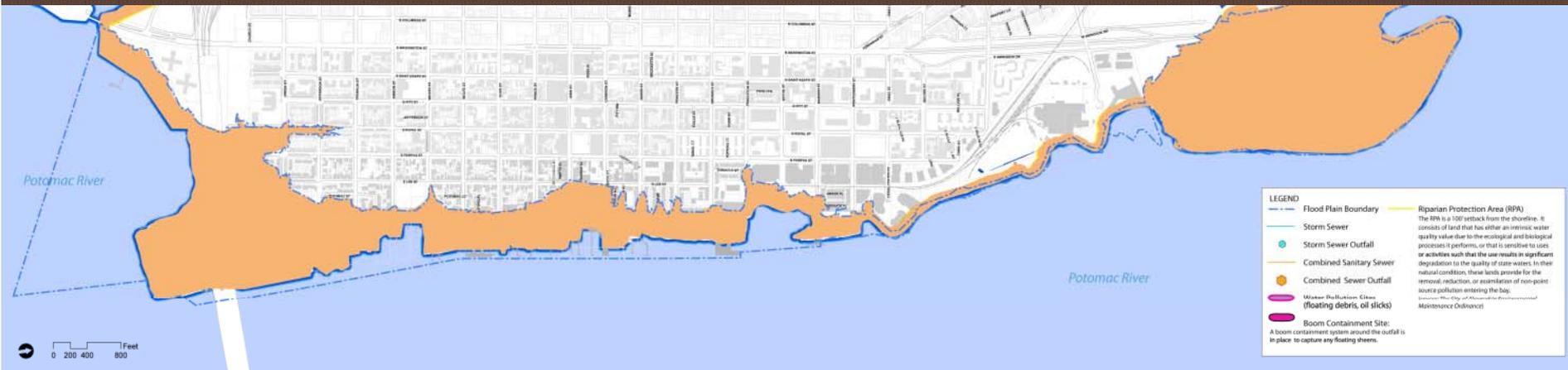
▲ Potomac River as resource

- Chesapeake Bay
- Historic & current resource



Open Space, Environment & Sustainability \ Sustainability

- ▲ Potomac River as challenge
 - Flooding





City of Alexandria Waterfront Master Plan



Shoreline Conditions and Flood Study

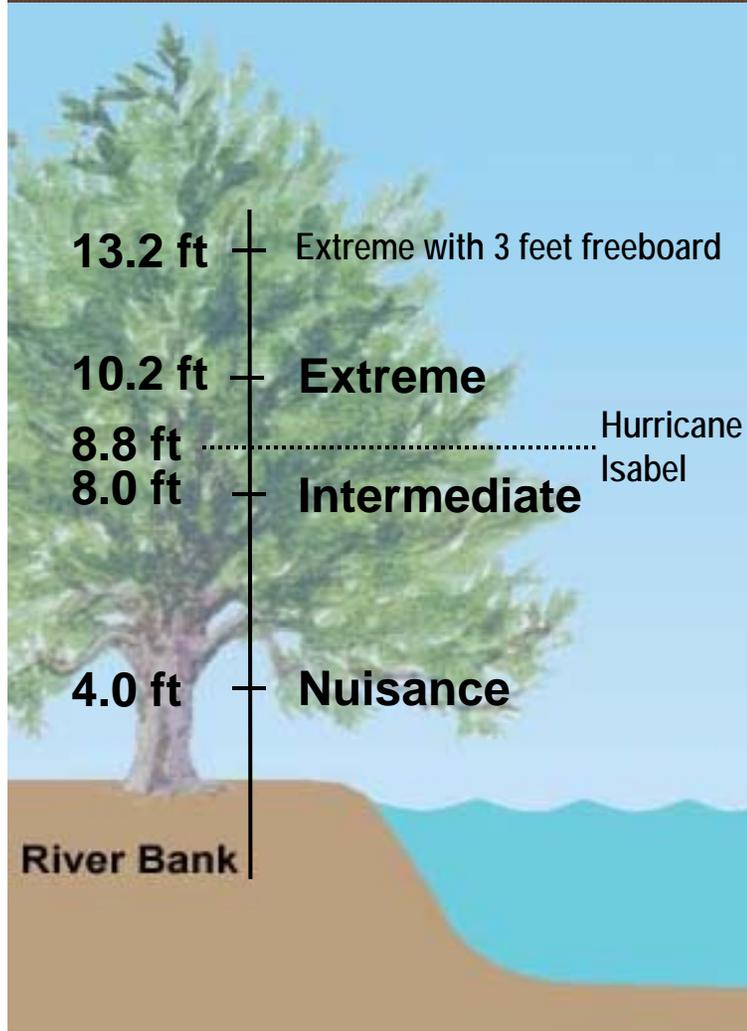
EDAW | AECOM

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pg the perspectives group

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Shoreline Conditions & Flood Study \ Flooding



▲ Sources of Flooding

- Tidal
- Drainage
- Riverine
- Storm Surge

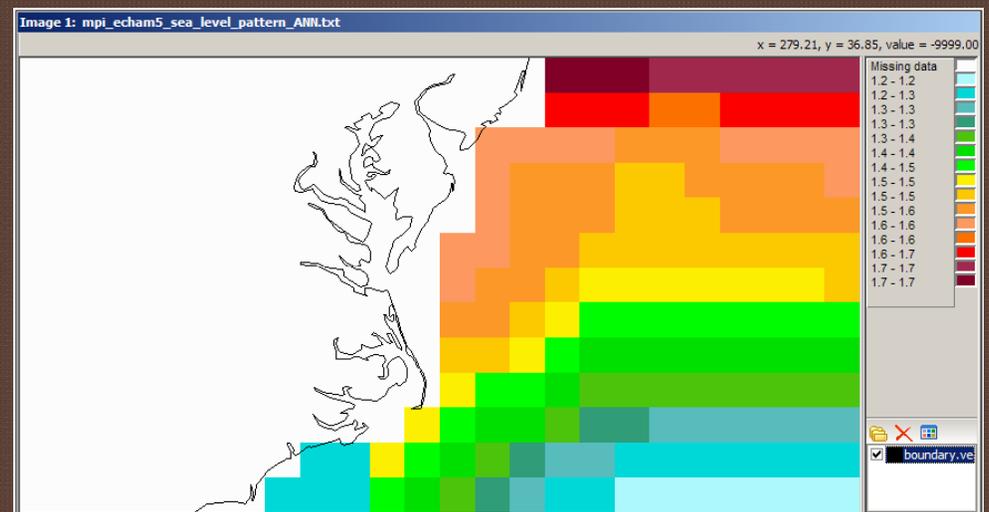
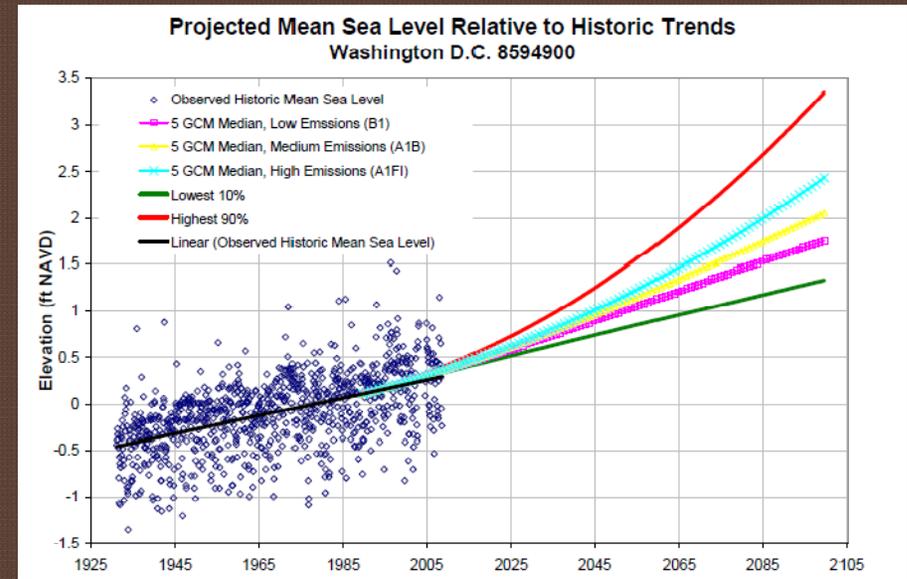
▲ Study Elevations

- Nuisance
- Intermediate
- 100-year

*All elevations in NAVD88

Shoreline Conditions & Flood Study \ Global Climate Change

- ▲ Sea Level Rise
 - 1 foot rise in MSL observed over last 100 years.
 - GCM projections to 2100 range from 1.8 to 2.5 feet rise.
 - Other projections as high as 5.2 feet.
- ▲ Responses: Mitigation, Adaptation, Retreat



Shoreline Conditions & Flood Study \ Floodplain Ordinance

▲ Residential

- Must elevate new or substantially improved buildings above BFE.

▲ Non-Residential

- Includes office, retail, commercial and mixed-use.
- May elevate new or substantially improved buildings above BFE.
- May dry flood-proof lower floors.





City of Alexandria Waterfront Master Plan



Marine Planning and Engineering



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Marine Planning & Engineering

- ▲ Infrastructure Site Inventory/Opportunities
- ▲ Navigation & Environmental Permitting Considerations
- ▲ City Marina



Marine Planning & Engineering / Shoreline Treatment

Shoreline Type

- ▲ Bulkhead
- ▲ Natural
- ▲ Revetment
- ▲ Other

6 miles of Shoreline

- ▲ 50% revetment
- ▲ 34% Bulkhead
- ▲ 7% ~2000lf “natural”



Marine Planning & Engineering / Structures

Structures

- ▲ Wharfs
- ▲ Piers
- ▲ Floating docks

- ▲ 21 structures
- ▲ 12 timber pile pier/boardwalk
- ▲ 4 wharfs
- ▲ 2 floating
- ▲ 3 other



Marine Planning & Engineering / Condition Assessment Rating

6 miles of shoreline

- ▲ 50% good/satisfactory
- ▲ 32% fair/poor
- ▲ 6% serious/critical
- ▲ 12% na

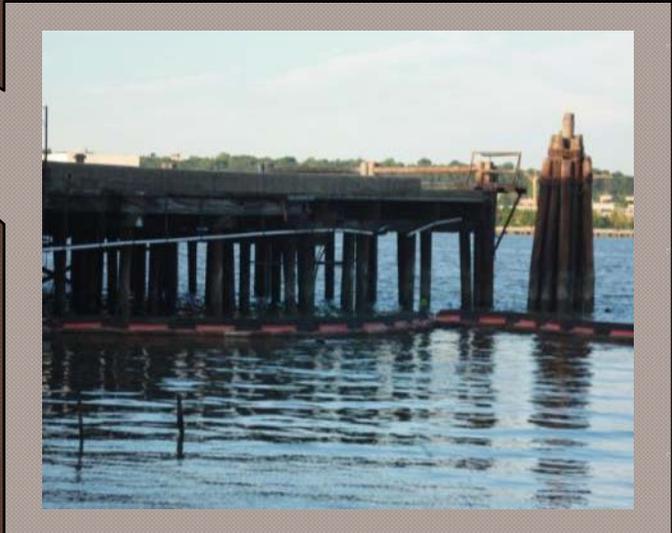
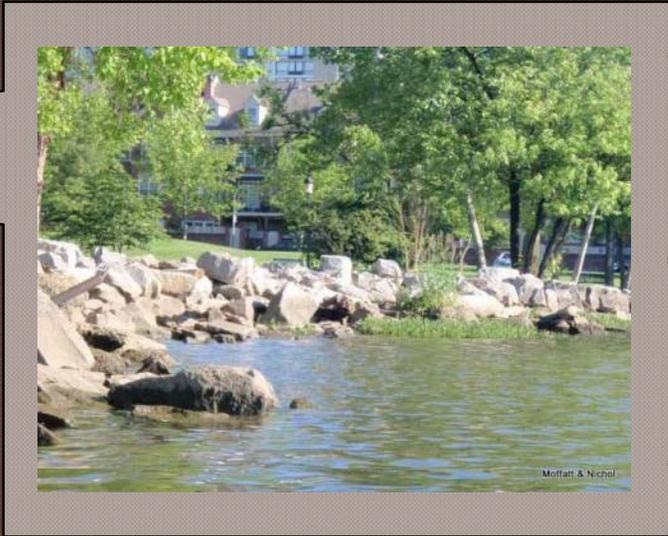
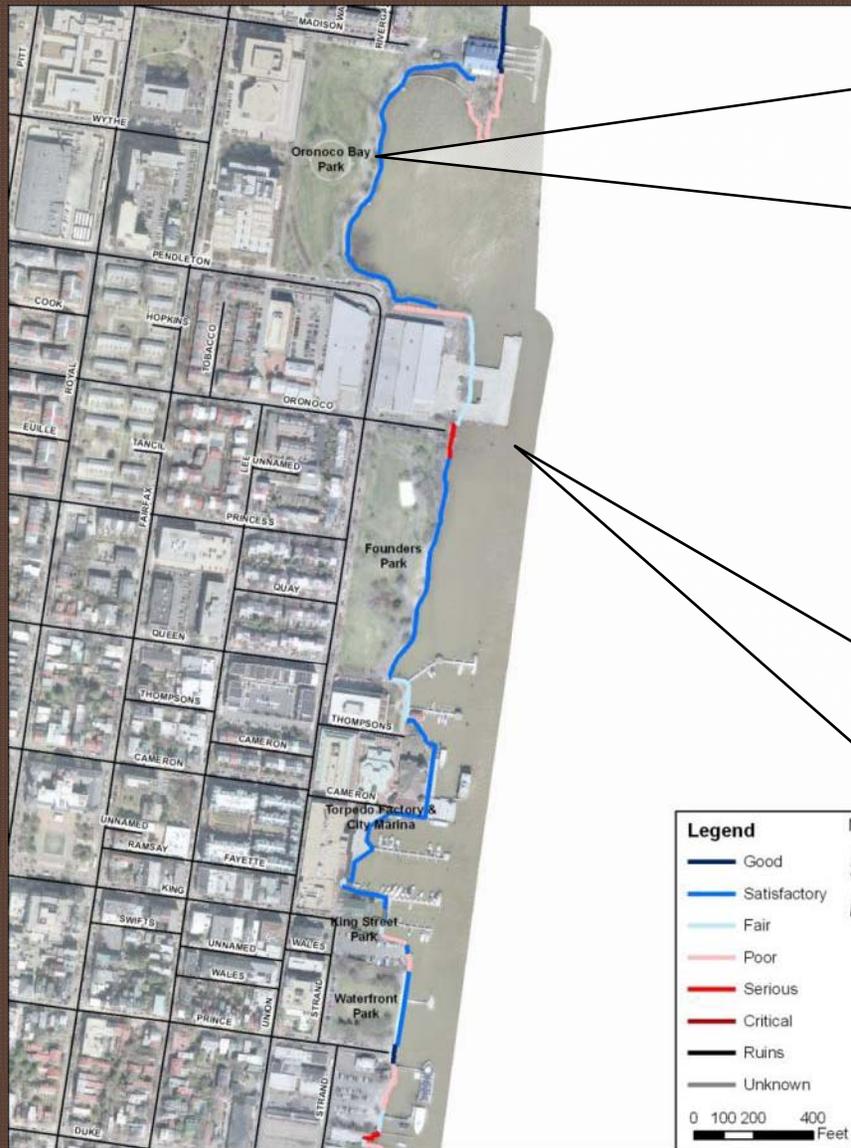
22 structures

- ▲ 18 good / satisfactory
- ▲ 4 fair/poor

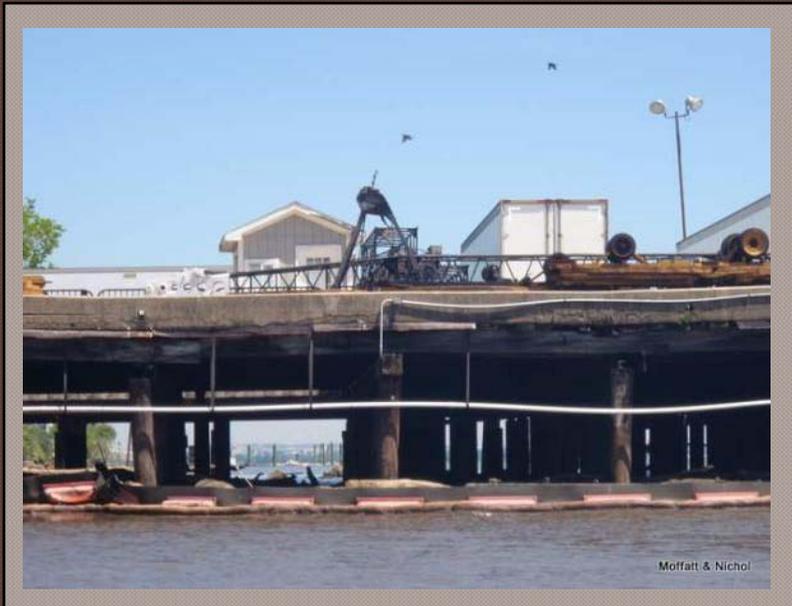
Rating	Description
Good	No or only minor damage is noted.
Satisfactory	Limited minor to moderate defects.
Fair	Localized areas deterioration .
Poor	Deterioration widespread, moderate urgency.
Serious	Advanced deterioration, urgency.
Critical	Very advanced deterioration.



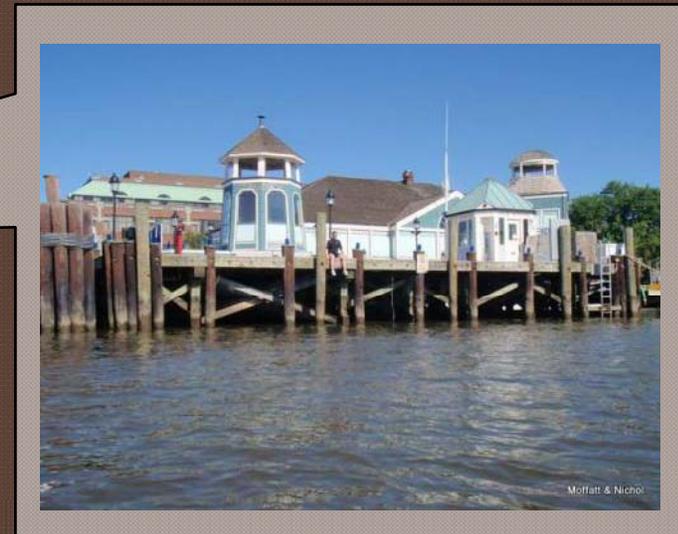
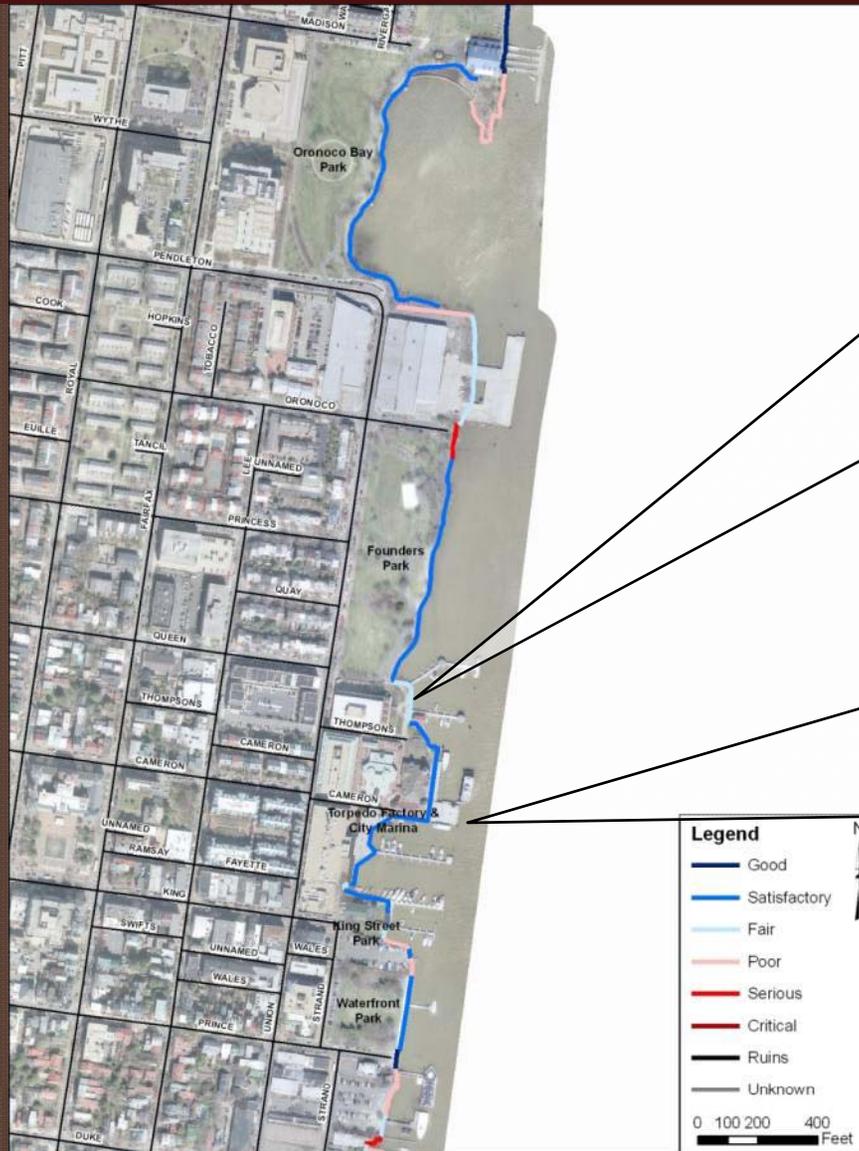
Marine Planning & Engineering / Assessment / Opportunities



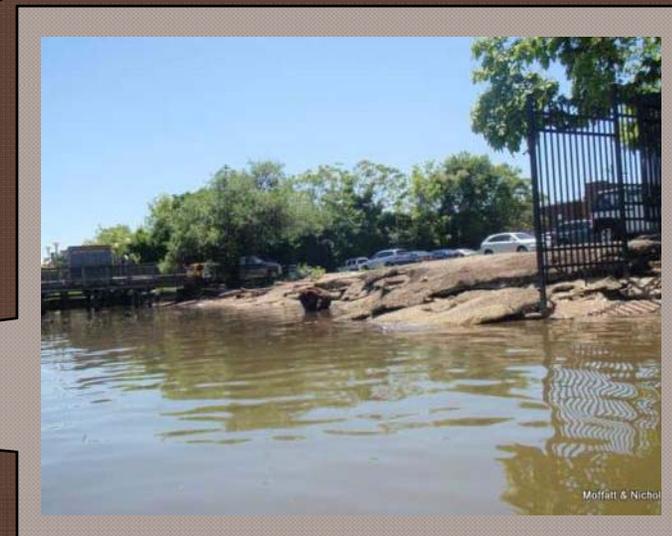
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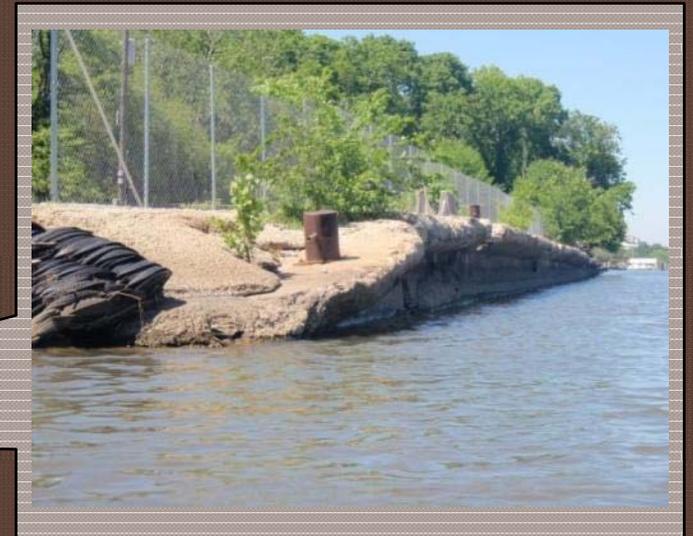
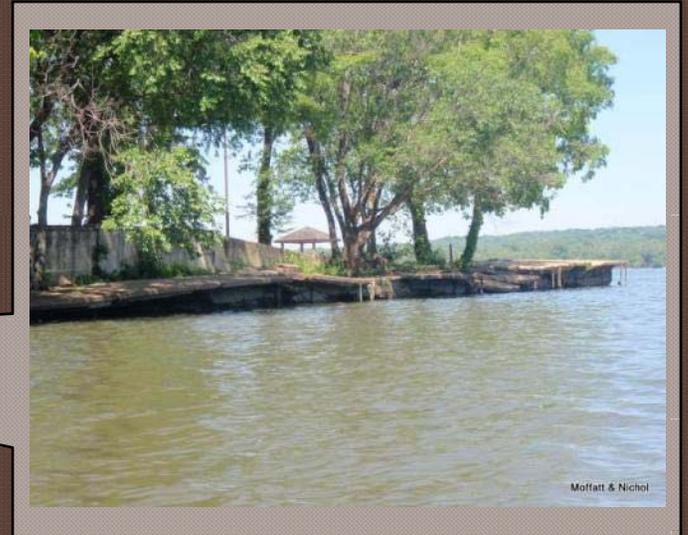
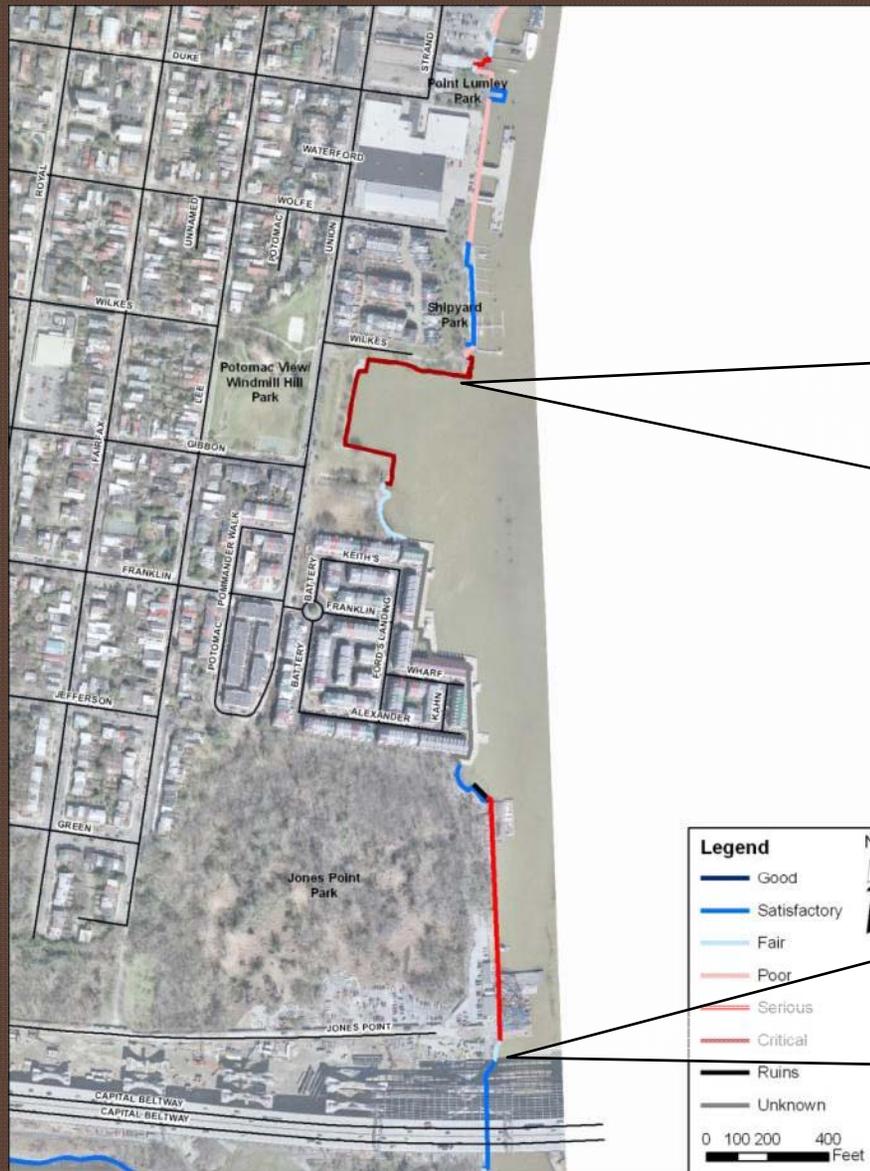
Marine Planning & Engineering / Assessment / Opportunities



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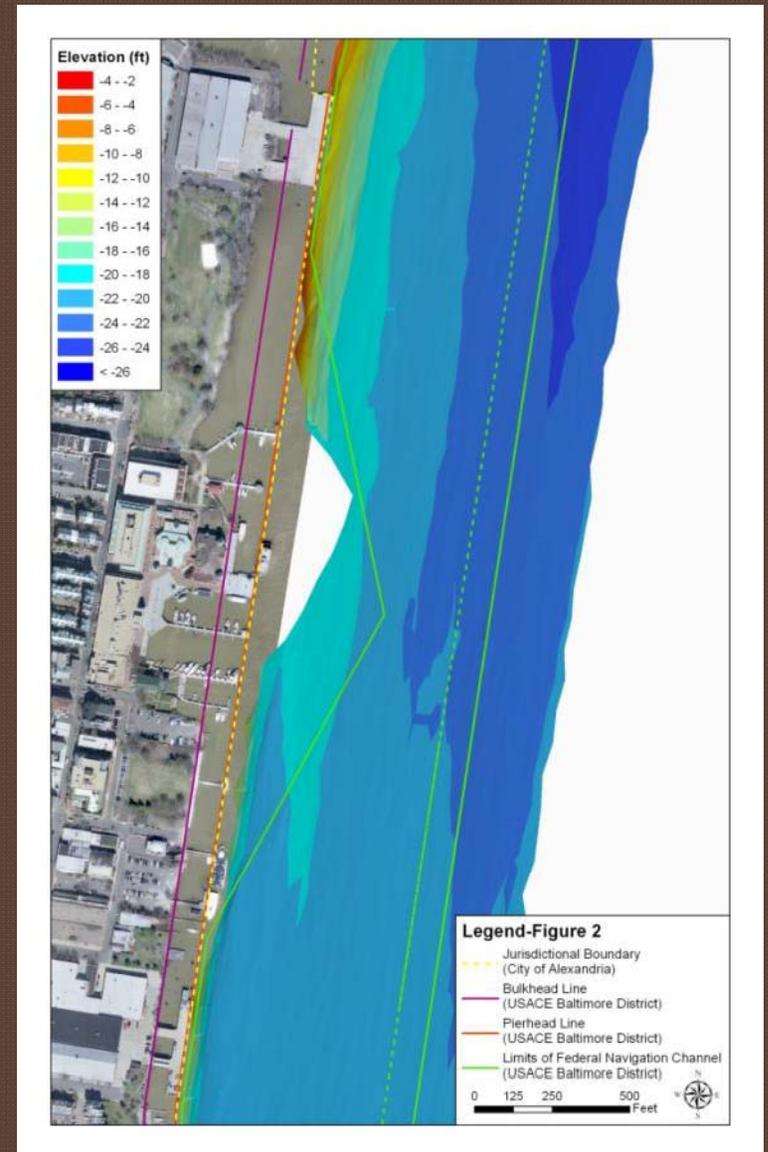
Marine Planning & Engineering / Assessment / Opportunities



Marine Planning & Engineering / Navigation

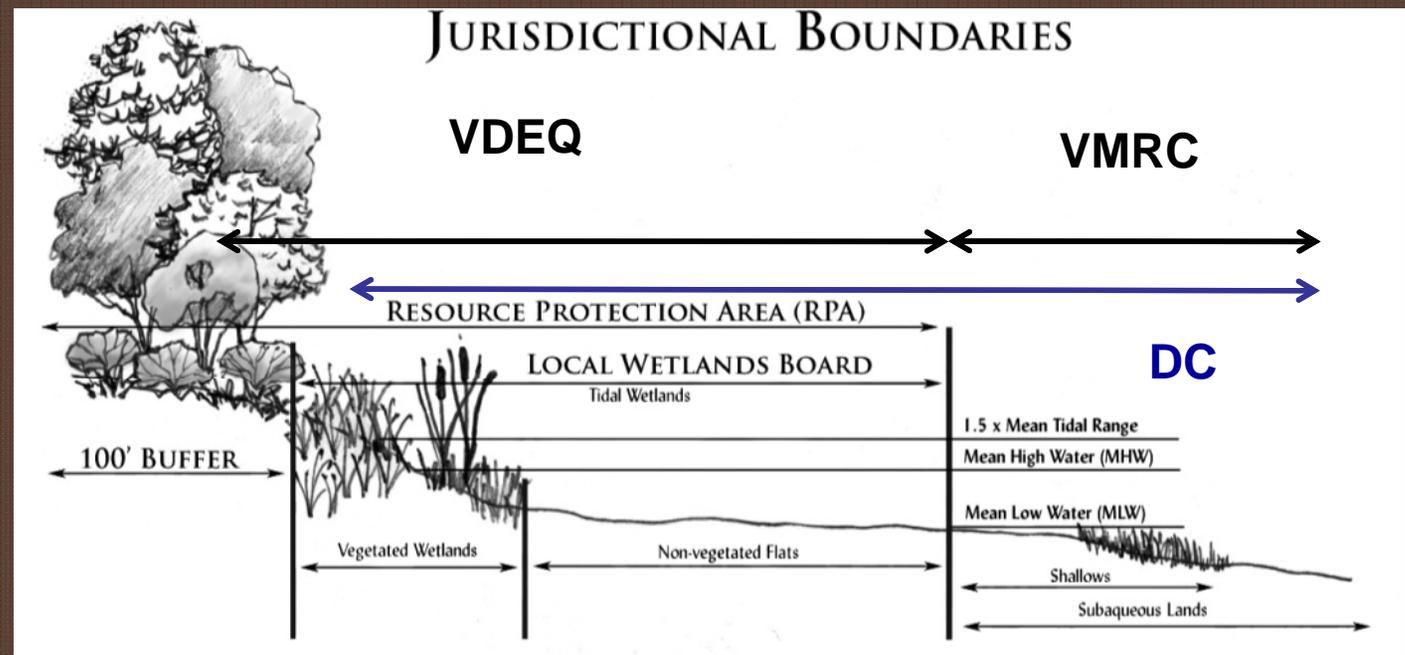
Constraints

- ▲ USACE Bulkhead & Pierhead lines
- ▲ Federal Navigation Channel
- ▲ Setback 3:1 – 75 ft
- ▲ Washington DC Bottom Lands



Marine Planning & Engineering / Environmental Permitting

- ▲ State / VDEQ / VMRC
- ▲ DC jurisdictional line
 - north of 2nd St. – mhw
 - south - pierhead line
- ▲ Federal/USACE
 - Permit Norfolk
 - Operations Baltimore
- ▲ Joint Virginia Water Protection Program Permit (401 / 404)
- ▲ SEPA / NEPA Process
 - (Nationwide, EA, EIS)



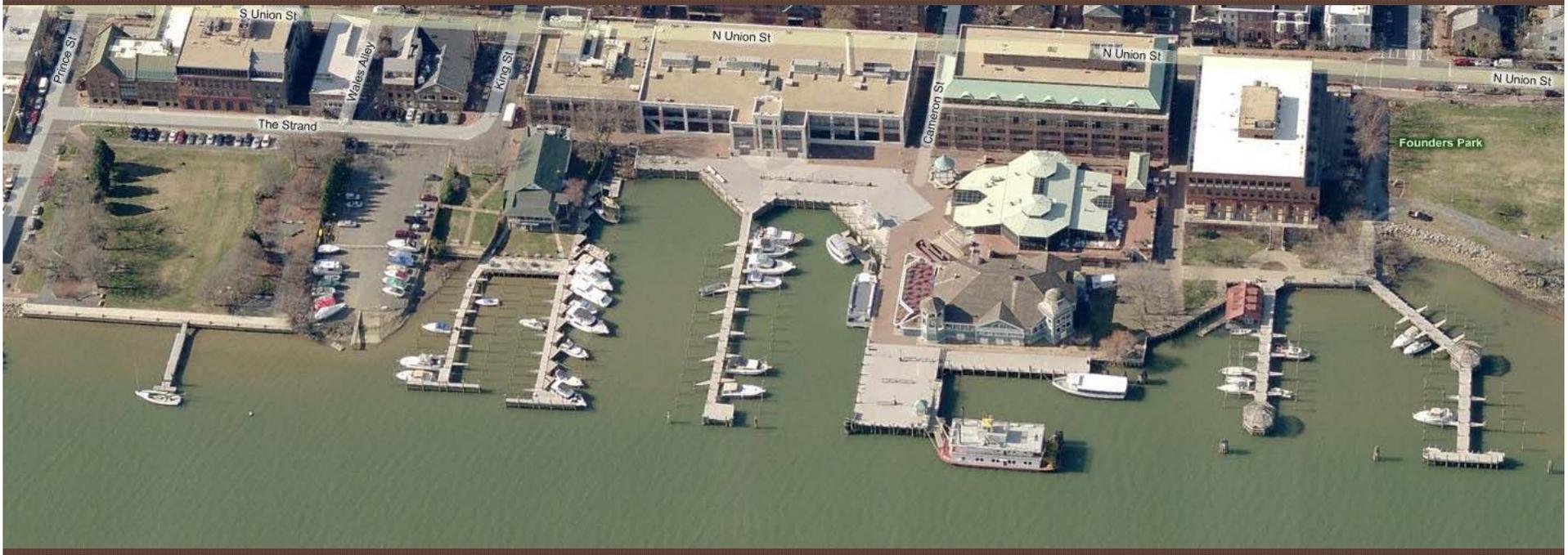
Marine Planning & Engineering / City Marina Operations

▲ Docking Facilities

- 62 slips plus three "T" heads and bulkhead
- 6 commercial vessels
- Demand exceeds supply in-season

▲ Key Operation / Planning Considerations

- Water Level & Waves
- Sedimentation / Dredging Requirements
- Trash / Debris & Ice





City of Alexandria Waterfront Master Plan



Summary

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Summary / Constraints

- ▲ Barriers
- ▲ Open Space Needs
- ▲ Desired Activities
- ▲ Operational Issues
- ▲ Underutilized Areas



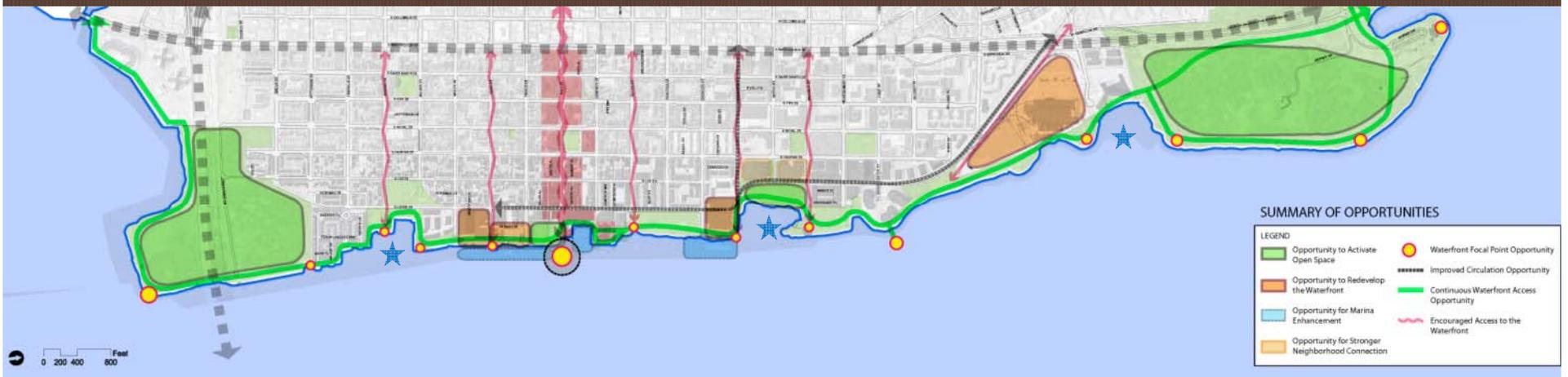
Summary / Opportunities

▲ Essential Elements

- Continuous Access
- Retail and Restaurants
- Art and History
- Activities for All Ages
- Flood Protection

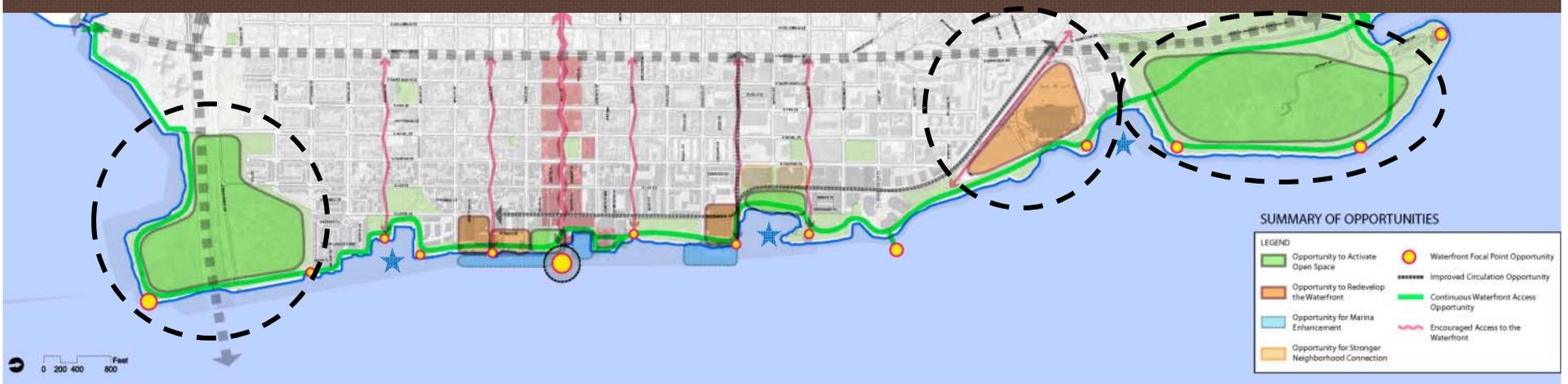
▲ Opportunities

- Development Opportunity Areas
- Open Space Opportunity Areas
- Water Opportunity Areas
- Urban Design Opportunity Areas



Summary / Opportunities

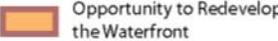
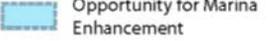
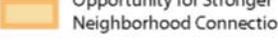
- ▲ Jones Point Park
- ▲ Daingerfield Island
- ▲ Mirant/PEPCO Power Plant

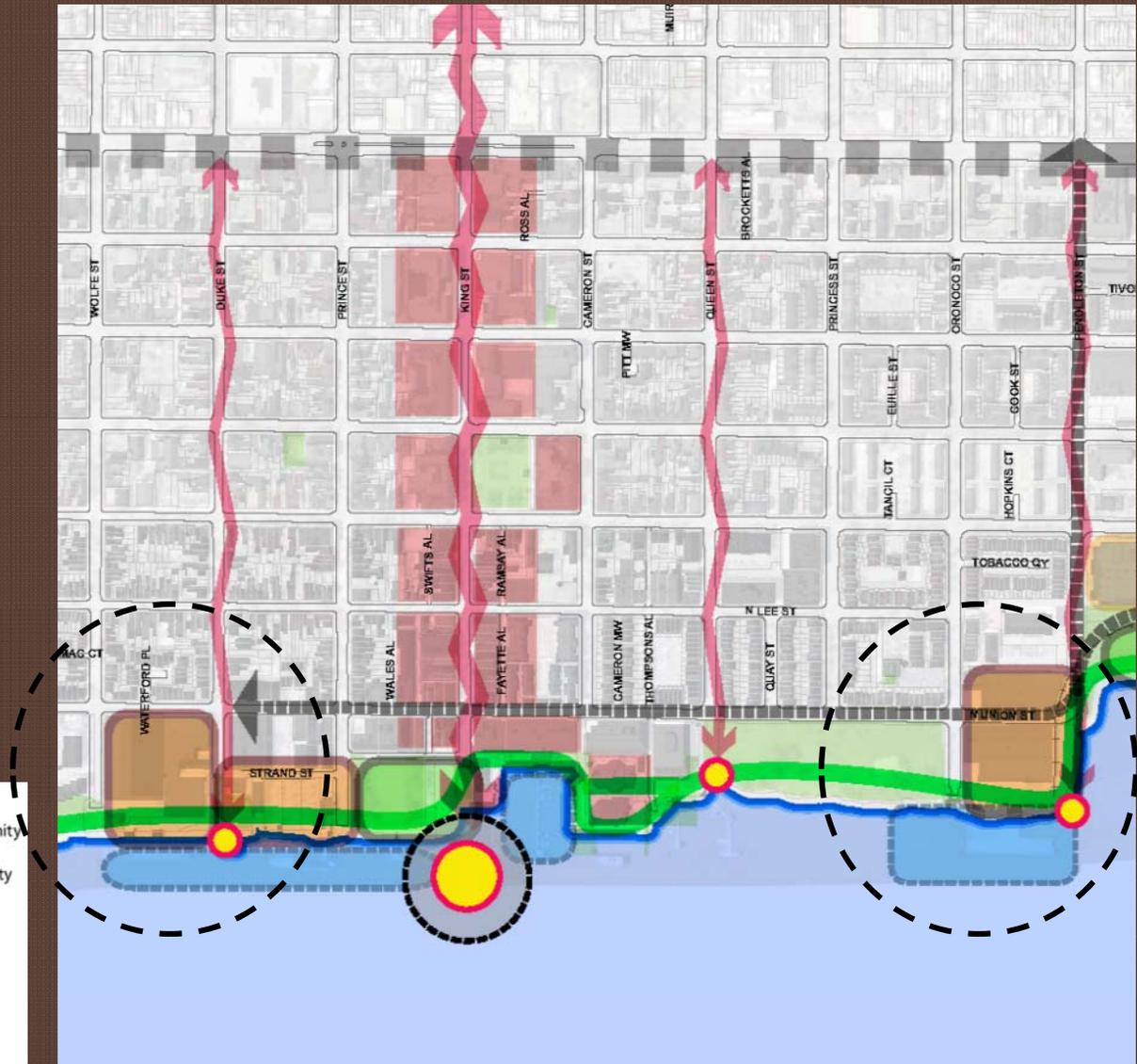


Summary / Opportunities

▴ Robinson Terminals

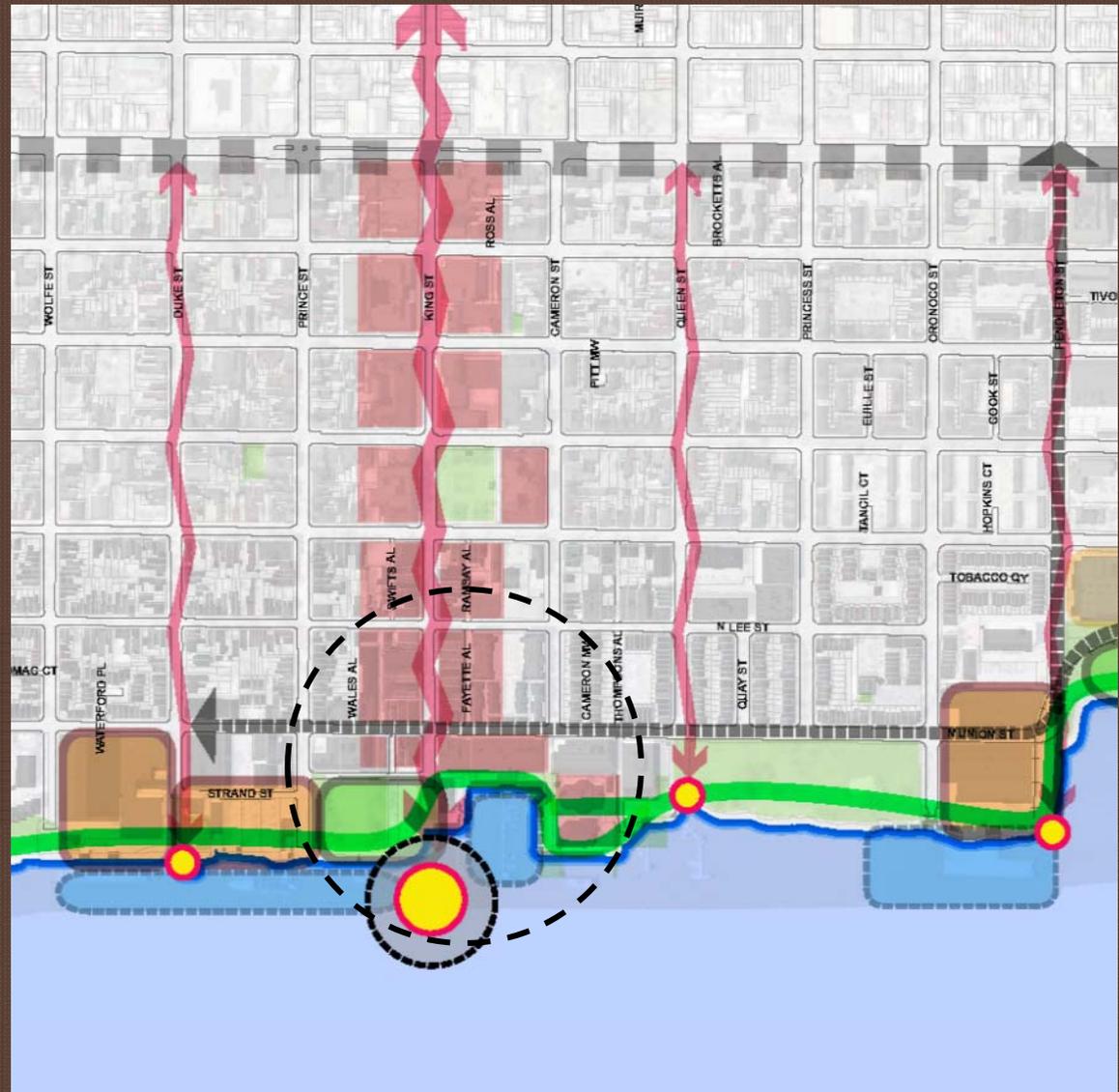
LEGEND

	Opportunity to Activate Open Space		Waterfront Focal Point Opportunity
	Opportunity to Redevelop the Waterfront		Improved Circulation Opportunity
	Opportunity for Marina Enhancement		Continuous Waterfront Access Opportunity
	Opportunity for Stronger Neighborhood Connection		Encouraged Access to the Waterfront



Summary / Opportunities

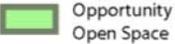
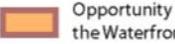
King Street to the Torpedo Factory and City Marina

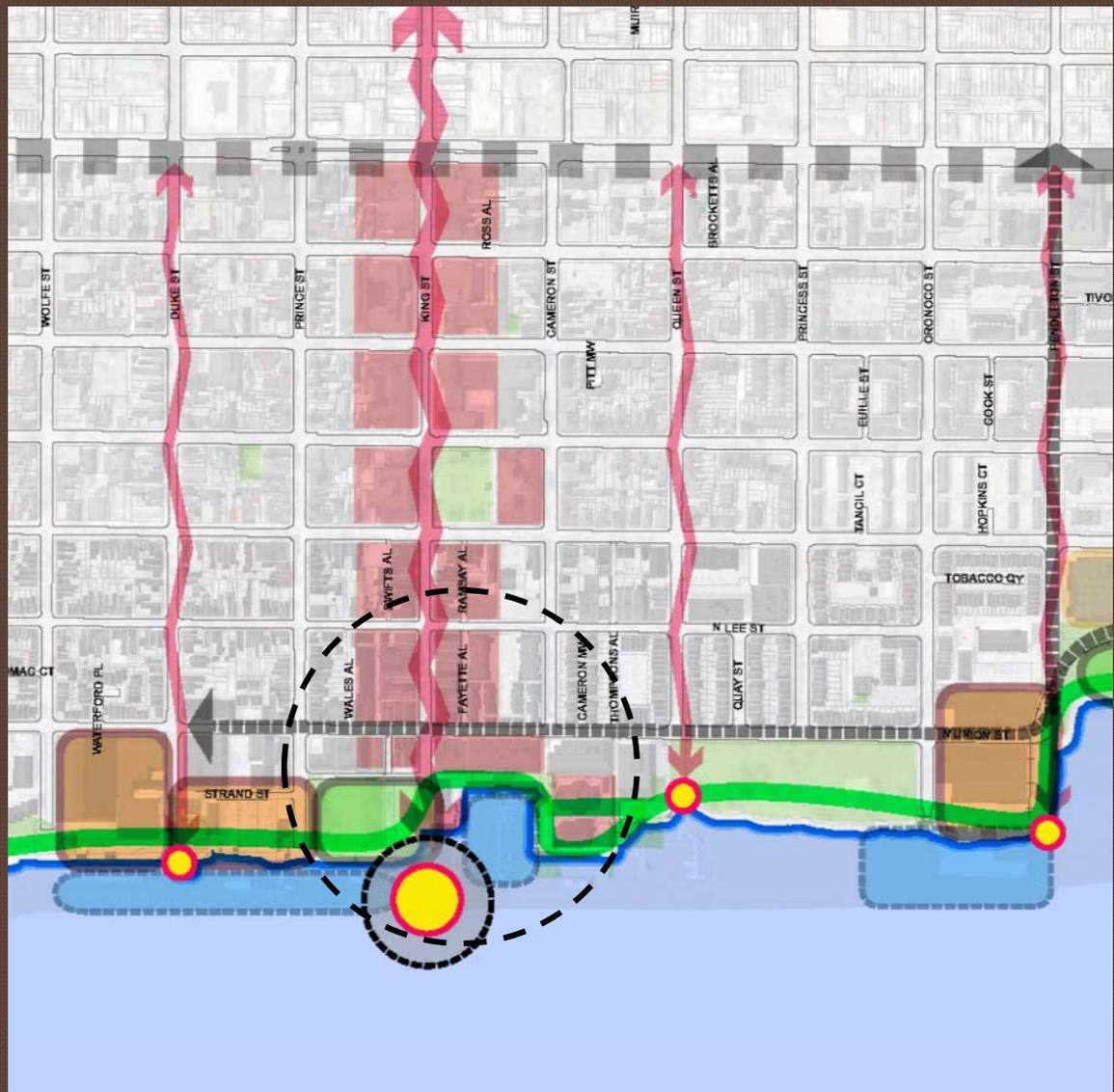


Summary / Opportunities

King Street to the Torpedo Factory and City Marina

LEGEND

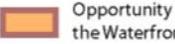
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Summary / Opportunities

Founders Park to Torpedo Factory and City Marina

LEGEND

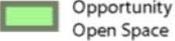
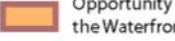
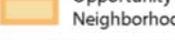
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 Opportunity for Stronger Neighborhood Connection	 Encouraged Access to the Waterfront



Summary / Opportunities

King Street to Waterfront Park and The Strand

LEGEND

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Summary / Opportunities

King Street to Waterfront Park and The Strand



Summary / Opportunities

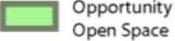
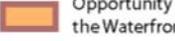
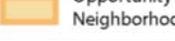
King Street to Waterfront Park and The Strand



Summary / Opportunities

King Street to Waterfront Park and The Strand

LEGEND

	Opportunity to Activate Open Space		Waterfront Focal Point Opportunity
	Opportunity to Redevelop the Waterfront		Improved Circulation Opportunity
	Opportunity for Marina Enhancement		Continuous Waterfront Access Opportunity
	Opportunity for Stronger Neighborhood Connection		Encouraged Access to the Waterfront

