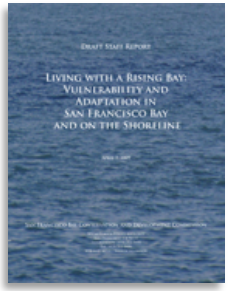
Adapting to Rising Tides
Bay Area

BARC Governing Board
11/15/2019

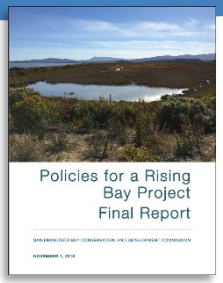
Metropolitan Transportation Commission

Bay Area **Regional Collaborative**

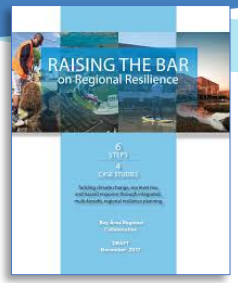
Climate Change Planning at BCDC



2011 Climate Change Policies



2015-16 Policies for a Rising Bay



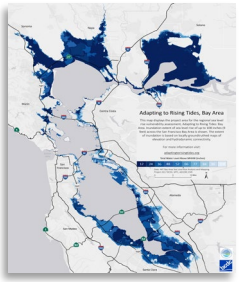
2017 Raising the Bar on Regional Resilience

2018 - 21 Horizon/ Plan Bay Area 2050

ART Program Established **2012**

BCDC Commissioner SLR Workshops **2016-17**

ART Bay Area **2016 -19**



What's at Risk

EADY SEEN:

inches SLR

JECTED BY 2050:

2 to 32 inches

Building on a History of Agency Collaboration

Caltrans

Metropolitan Transportation Commission

Bay Area Regional Collaborative

bcdc

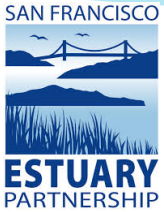
AECOM

BARHII
Bay Area Regional Health Inequities Initiative

natural capital PROJECT

Collaborating to Solve Regional Challenges

DELTA
STEWARDSHIP
COUNCIL



SFEI AQUATIC SCIENCE CENTER
SAN FRANCISCO ESTUARY INSTITUTE & THE AQUATIC SCIENCE CENTER

samTrans

East Bay
Regional Park District

Santa Clara Valley
Water District

Joint Venture
SILICON VALLEY

Bay Planning Coalition

COUNTY OF
MARIN

SFO
San Francisco
International
Airport

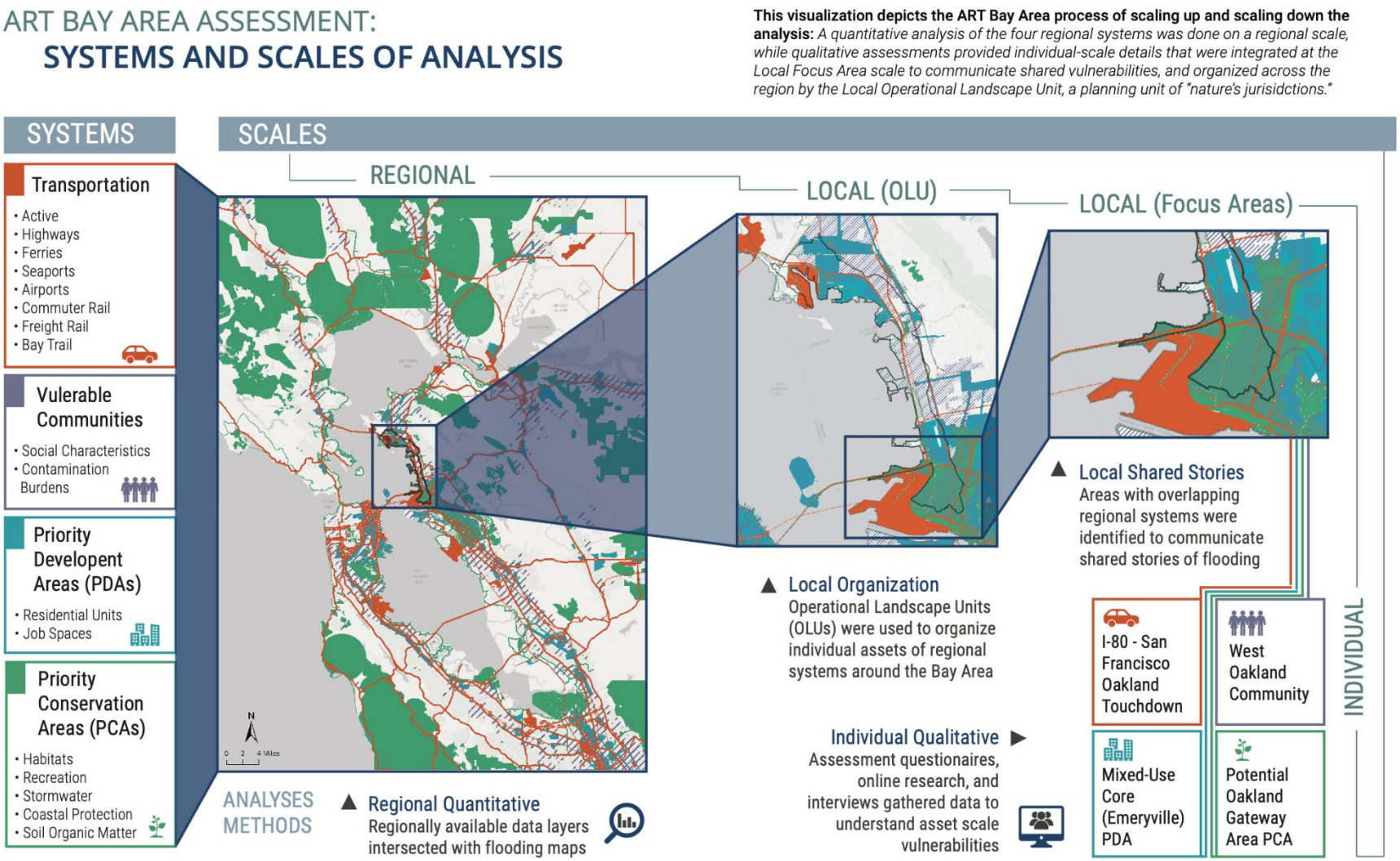
SHORE UP
MARIN

GREENACTION
for Health & Environmental Justice

PORT OF
SAN FRANCISCO

CALIFORNIA
WATER BOARDS
San Francisco Bay - R2

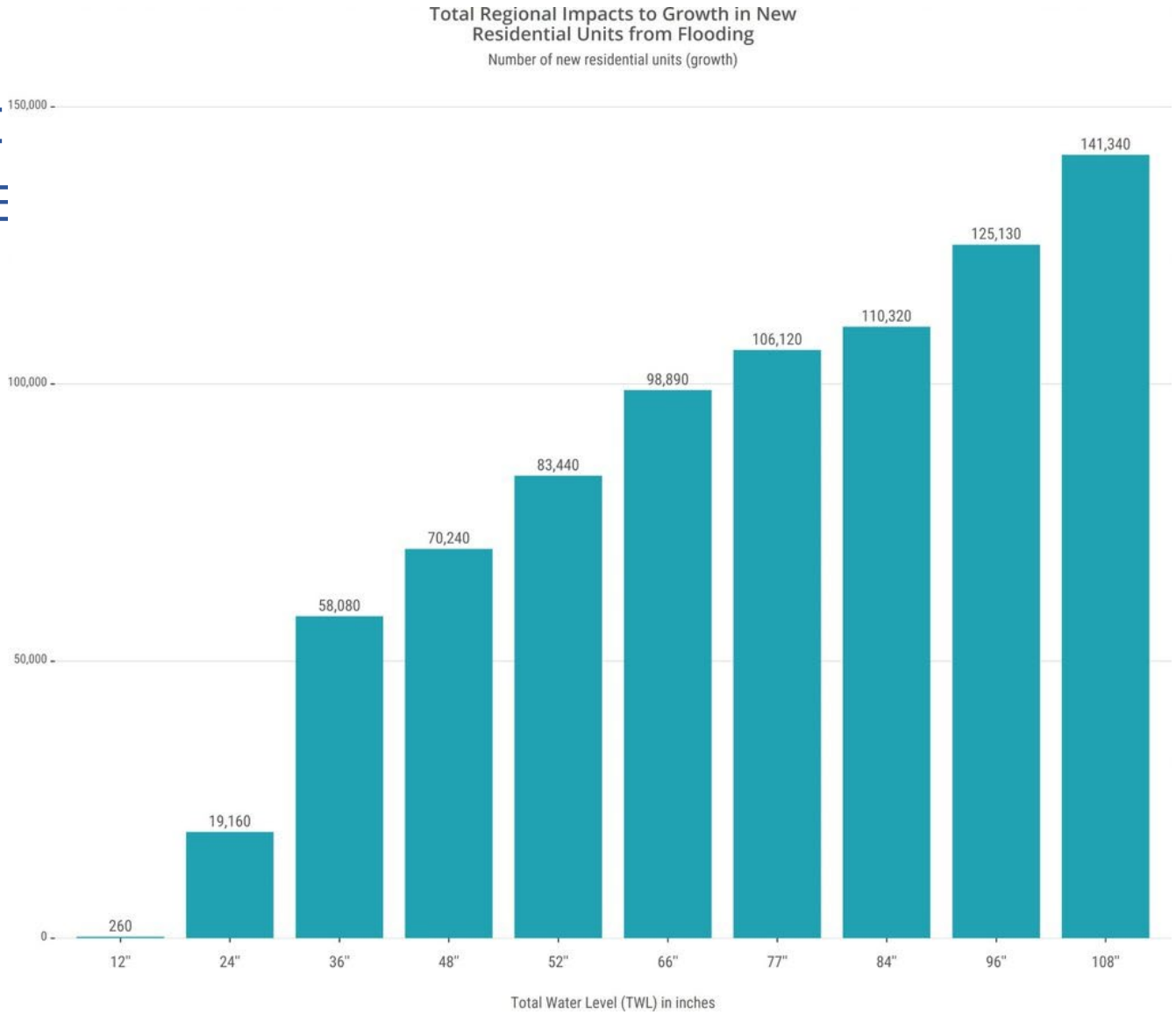
ART Bay Area Systems and Scales



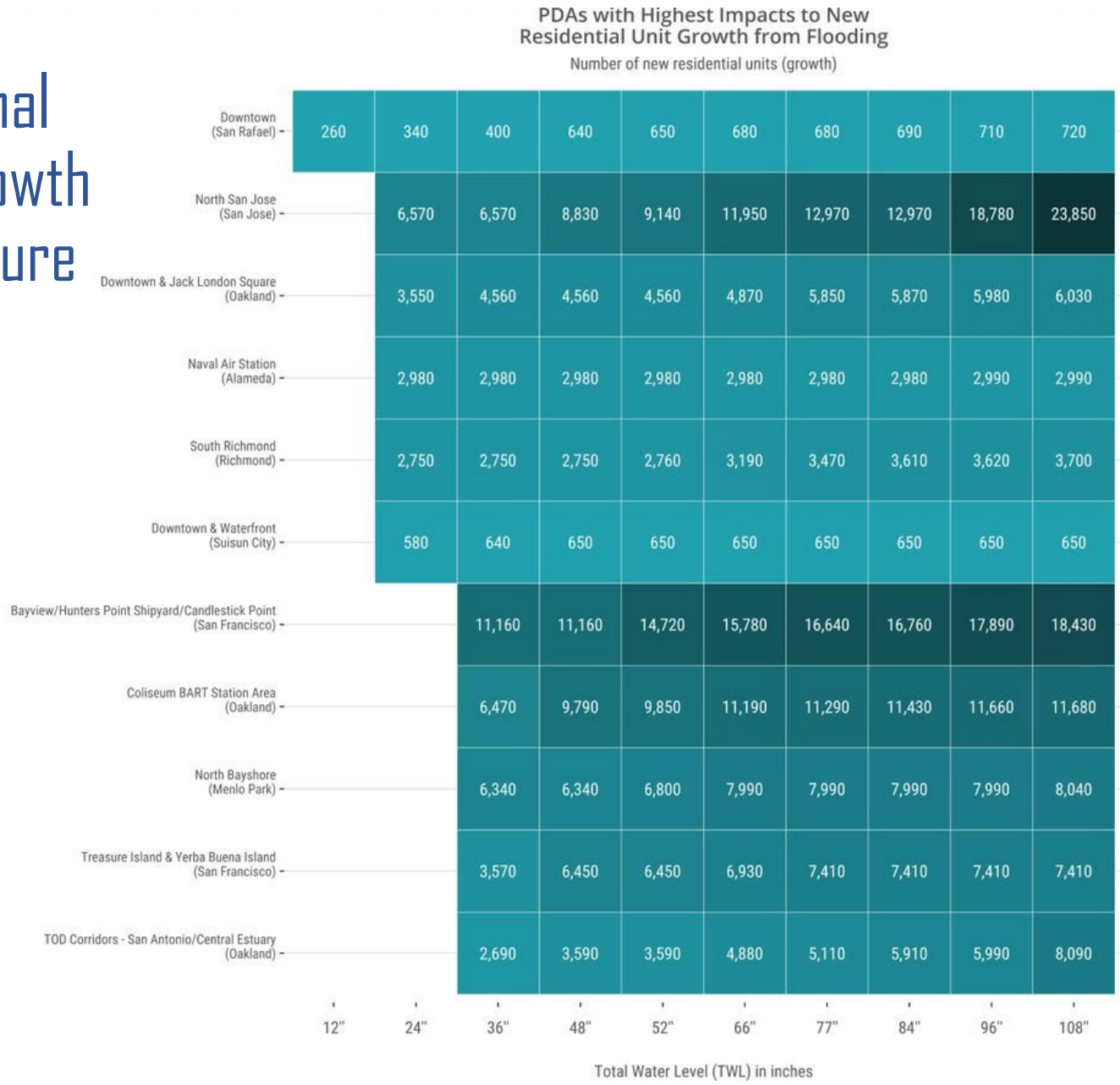
Regional Analysis

1. What gets wet within each system and where are impacts worst around the region?
2. Where are high consequence assets co-located around the region?
3. What regional planning issues emerged as common or pressing across the region?

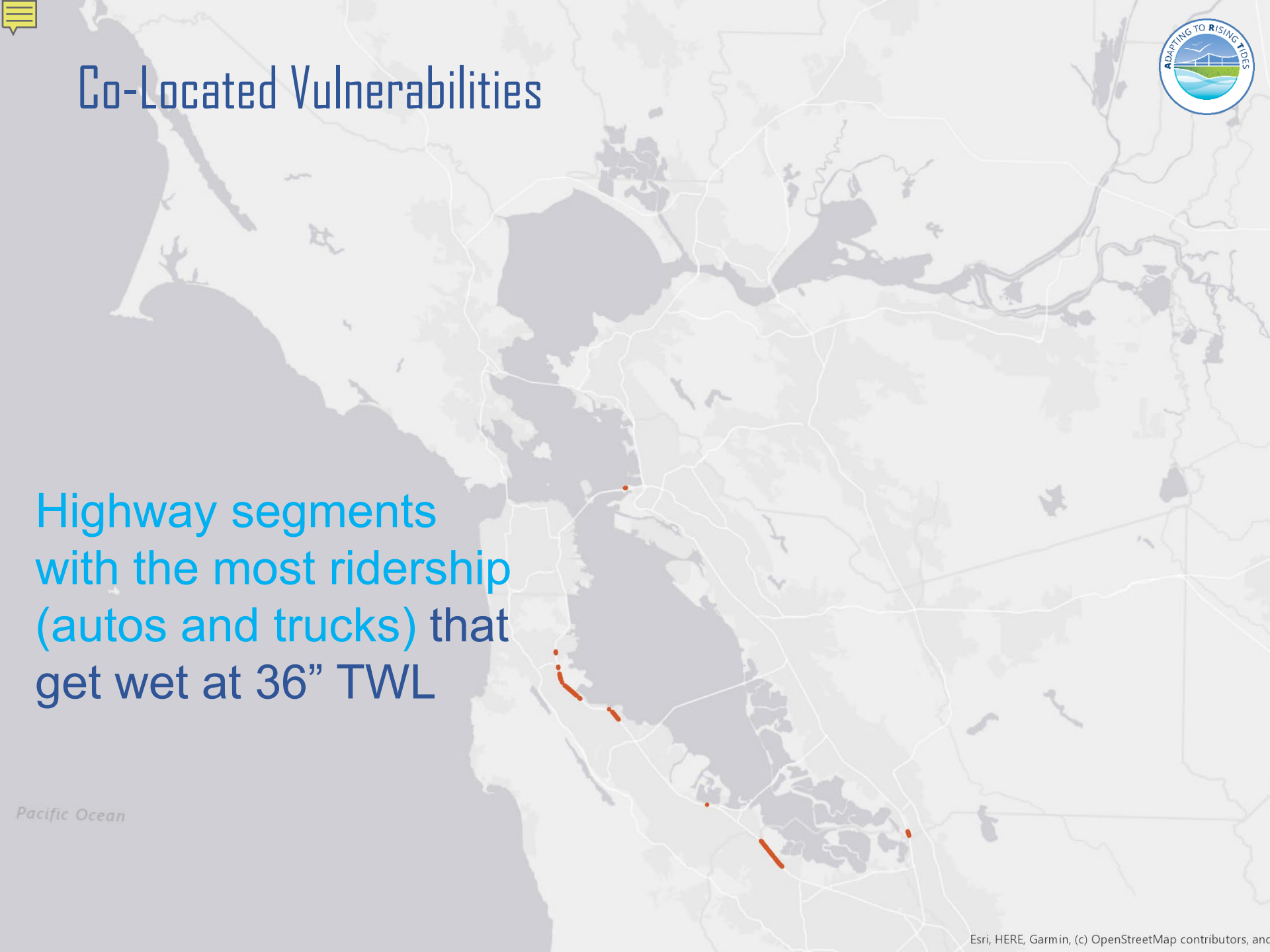
The Regional Future Growt Areas Picture



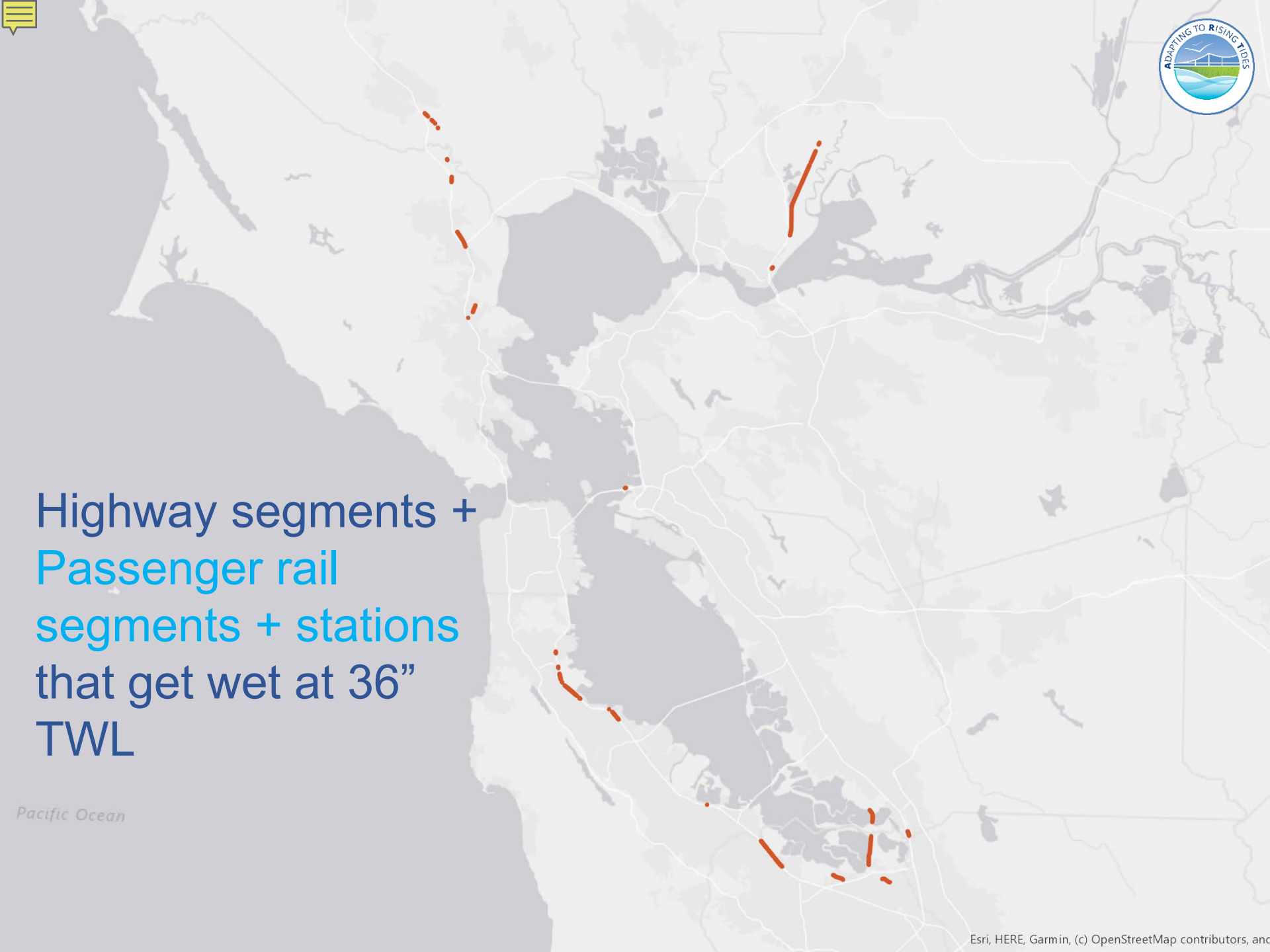
The Regional Future Growth Areas Picture

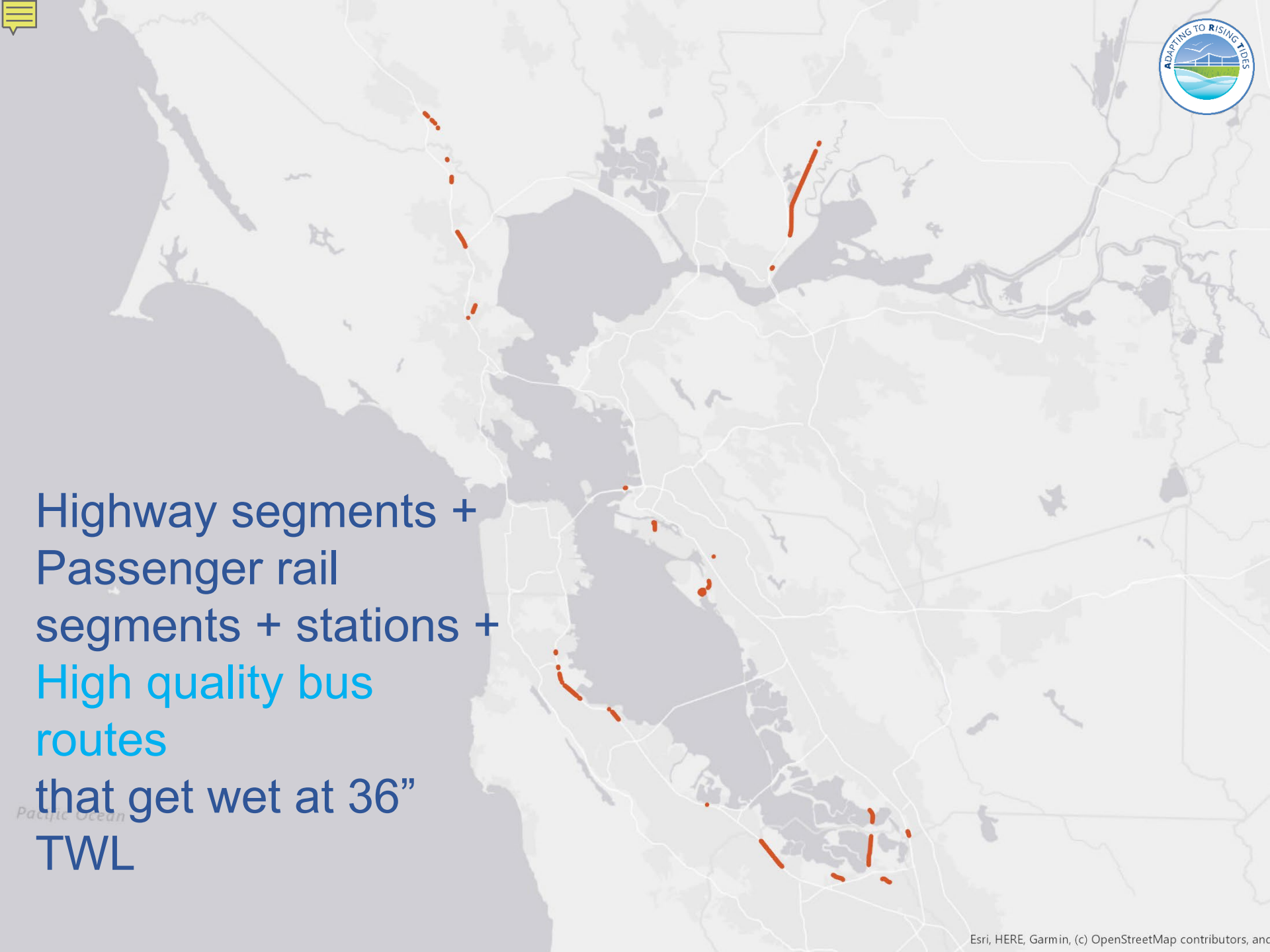


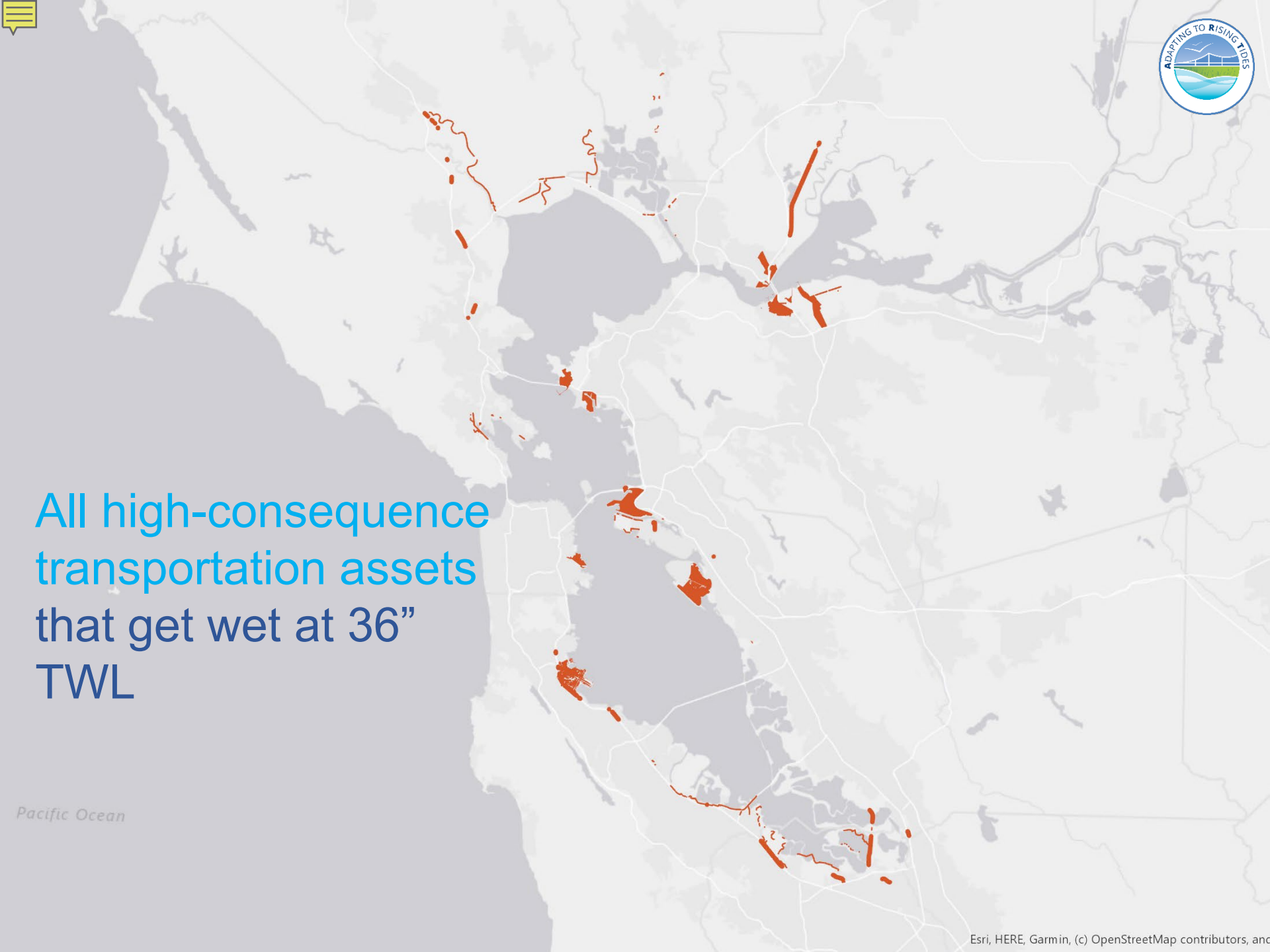
Co-Located Vulnerabilities

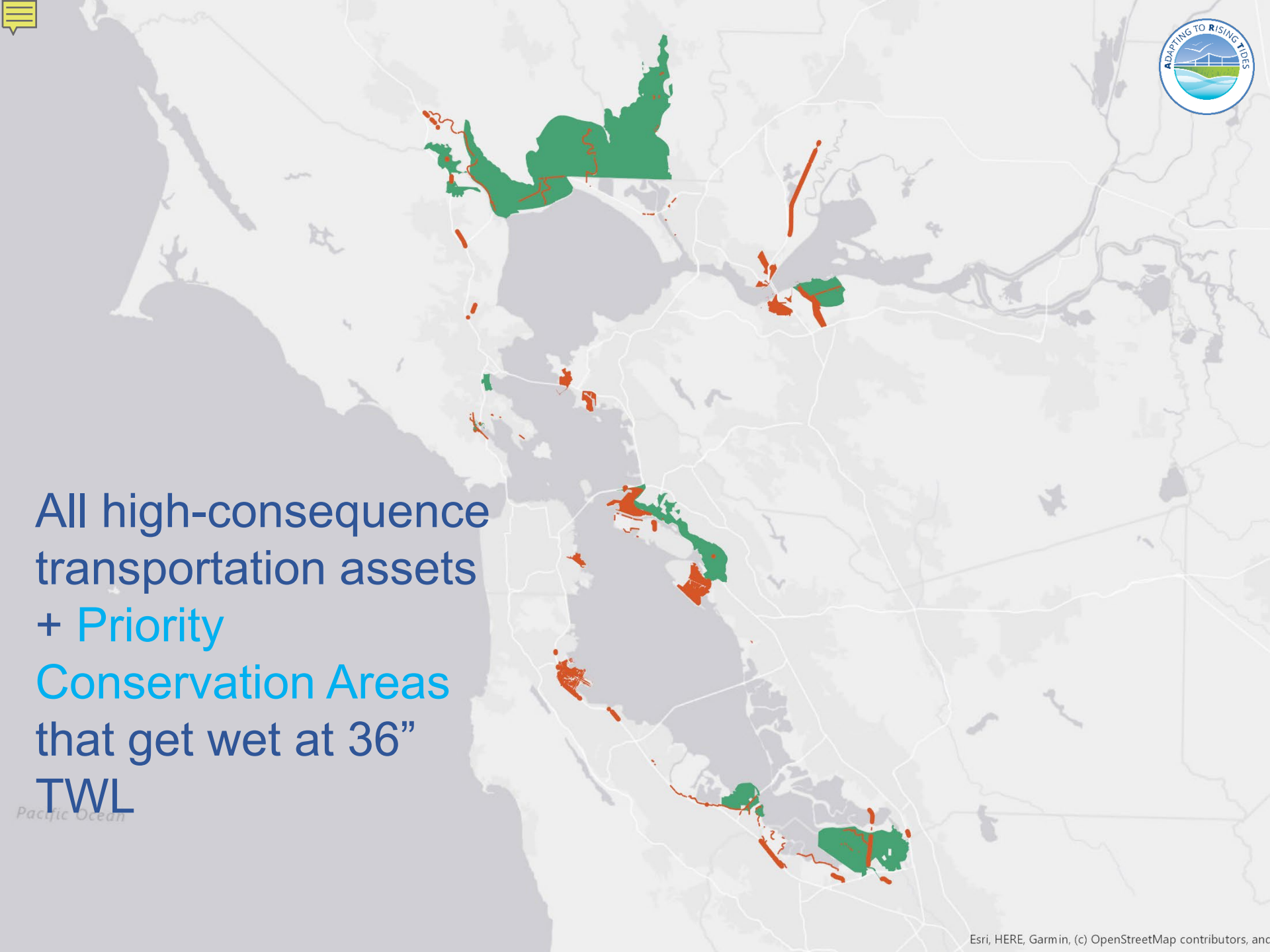


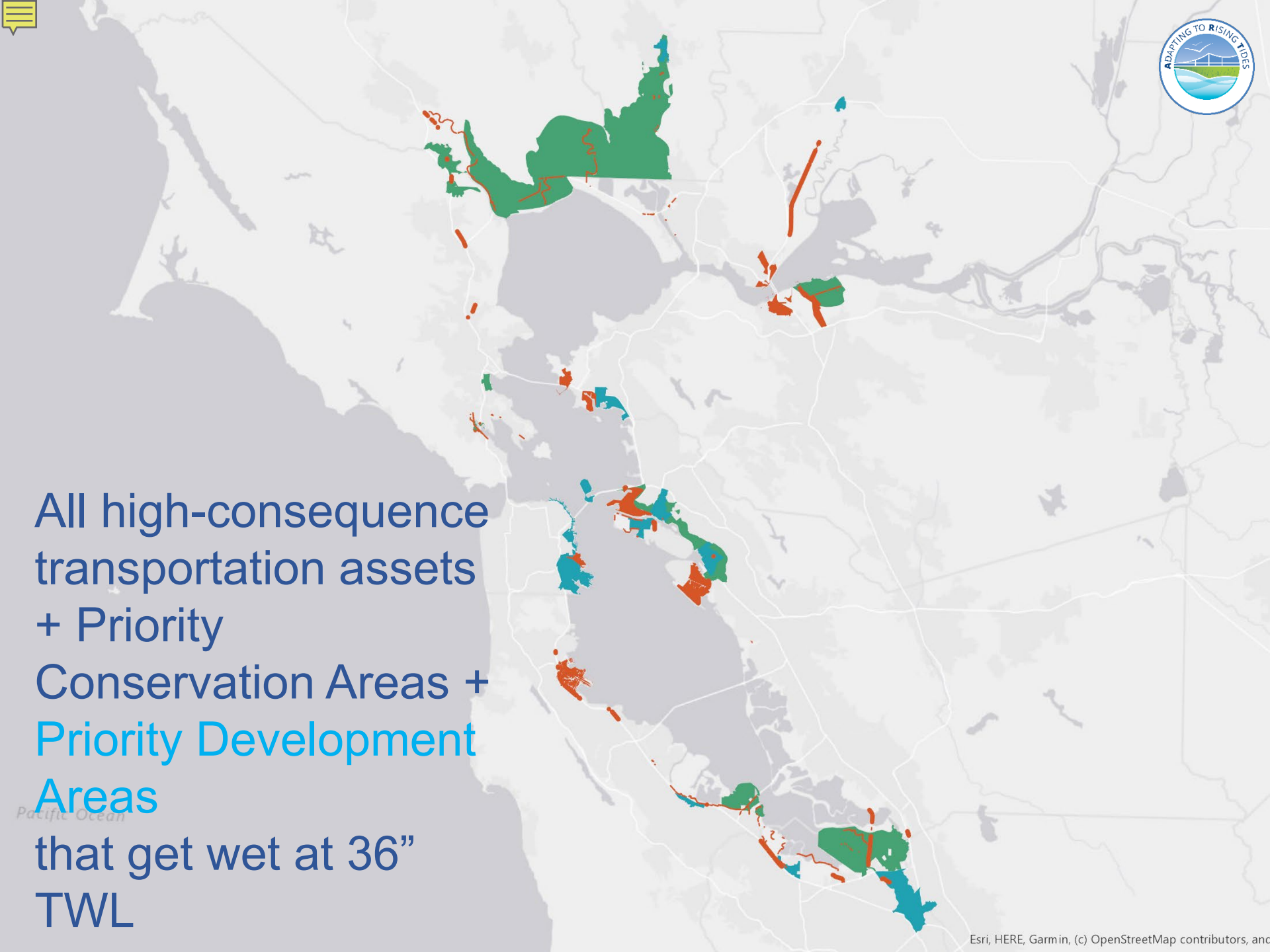
Highway segments with the most ridership (autos and trucks) that get wet at 36” TWL

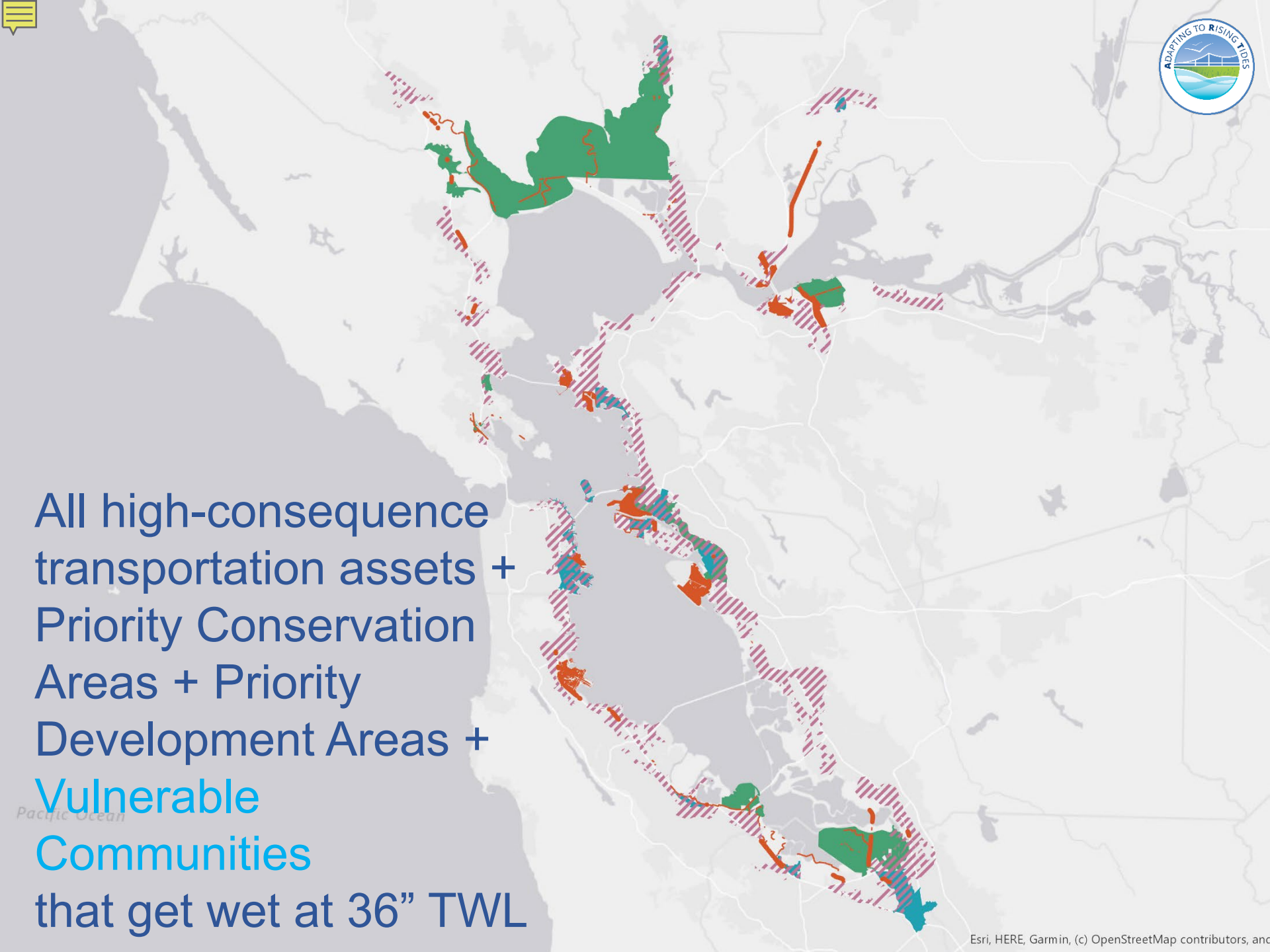

Highway segments +
Passenger rail segments + stations that get wet at 36” TWL
Pacific Ocean
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and


Highway segments +
Passenger rail
segments + stations +
High quality bus
routes
that get wet at 36”
TWL
Pacific Ocean
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and

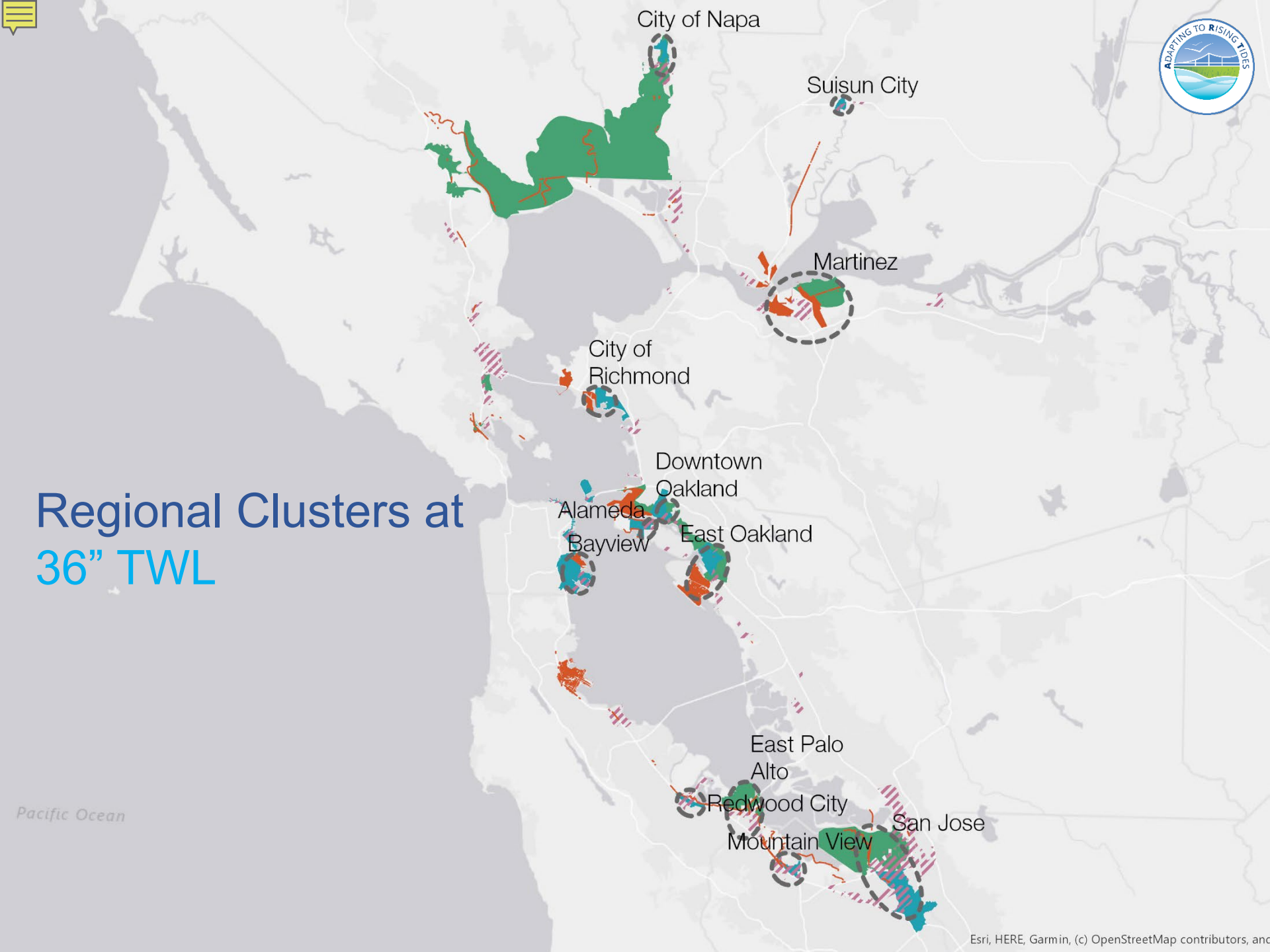

All high-consequence transportation assets that get wet at 36” TWL
Pacific Ocean
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and

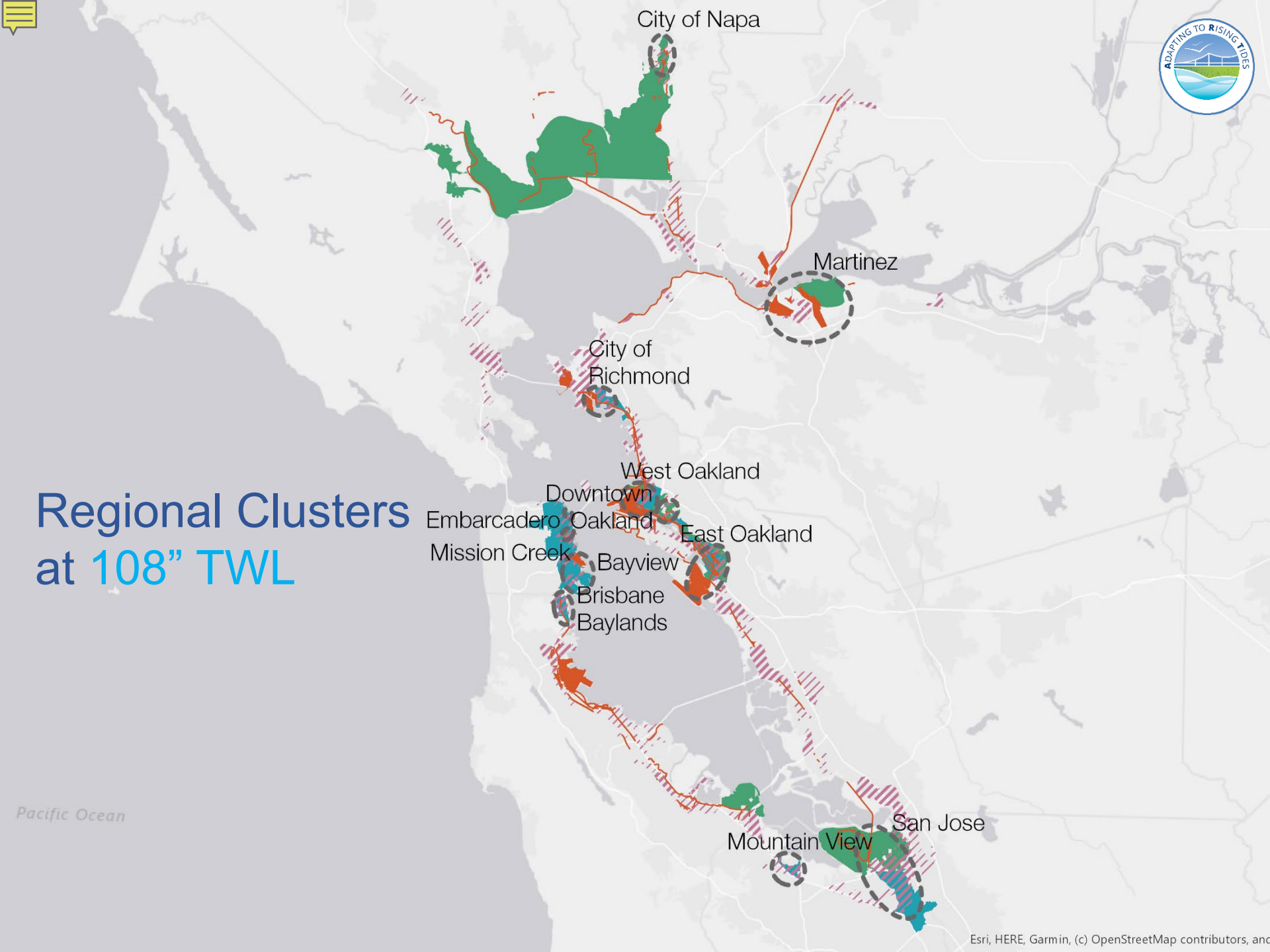

All high-consequence transportation assets
+ Priority Conservation Areas
that get wet at 36” TWL
Pacific Ocean
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and


All high-consequence transportation assets + Priority Conservation Areas + Priority Development Areas that get wet at 36” TWL
Pacific Ocean
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and


All high-consequence transportation assets + Priority Conservation Areas + Priority Development Areas + Vulnerable Communities that get wet at 36” TWL
Pacific Ocean
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and

Regional Clusters at 36” TWL





Regional Clusters at 108" TWL

Regional Key Planning Issues

1. Local and Regional Transportation System Connection Hubs Flood Together
2. Sea Level Rise Decision-Making is Complicated by Ownership, Governance, Management, and Regulatory Issues
3. Interconnected Local and Regional Emergency and Critical Service Functions are at Risk
4. Contamination Complicates and Exacerbates Flooding Issues

Regional Key Planning Issues

5. Sea Level Rise will Amplify Existing Housing Displacement Concerns
6. Future Development Areas can be Critical Tools for Resilience
7. Sea Level Rise will Put Pressure on the Relationship Between Regional Recreation and Habitat
8. Nearshore Habitats and the Ecosystem Services they Provide are Sensitive to Sea Level Rise Early On

Building Resilience, Region-Wide

Timing	Strategy	Partner(s)
Short	Ensure that Plan Bay Area to incorporates land use resilience goals, specifically around planning future housing to avoid placing more of the region's population at risk, into programs, incentives, and funding, such as the PDA program/OBAG grant program or new planning tools and funding source(s) that support resilient existing and future development	MTC/ABAG, BCDC, BARC, cities and counties
Short	Based on ART Bay Area consequence indicators analysis, establish regional protection priorities for vulnerable communities identified to be at high risk of displacement, and utilize regional funding mechanisms to plan and implement protection measures in these locations	BCDC, MTC/ABAG, BARC, cities and counties, community groups, NGOs
Short	Advocate that the allocation of future housing growth (such as RHNA) accounts for relocation and/or loss of housing due to flooding to ensure that no net loss of housing occurs	MTC/ABAG, Cities and Counties, HCD, NGOs, CBOs
Medium	Establish partnerships with existing or new housing leadership entities (such as CASA's proposed Regional Housing Enterprise) to ensure that sea level rise considerations are incorporated into the implementation of housing policies	MTC/ABAG, BCDC, cities and counties, NGOs, CBOs

What ART Bay Area Does

- Provides definitive answers about what gets wet, where, and when
- Provides a foundation to help guide regional and local decision-making
- Helps build networks and local and regional capacity
- Primes a region-wide group of stakeholders for action
- Informs regional and local planning, including Plan Bay Area

Building off ART Bay Area

- Use findings to guide shared decision-making
- Use as a starting point to discuss local and regional roles and responsibilities
- Continue to inform Plan Bay Area
- Use locally - technical assistance
  - Invite us to present to your staff and partners
  - Support more localized assessments, adaptation planning, and implementation of projects
  - Support planning through funding

Linking ART Bay Area and Plan Bay Area

Horizon Futures Planning

2018-2019

- Multi-topic broad regional stakeholder-driven initiative
- Used divergent scenario planning to study the effects of 1', 2', and 3' of inundation, not just on the region today, but with growth out to 2050.
- Outcomes
  - Integrated sea level rise into land use and travel models.
  - Incorporated a single high-level sea level rise adaptation strategy for consideration in Plan Bay Area.

ART Bay Area

2017-2019

- Sea level rise-focused regional stakeholder-driven initiative
- Studied the sea level rise impacts on future growth, vulnerable communities, ecosystem, and transportation systems across 10 water levels.
- Outcomes
  - Data on exposure and consequence for 30+ regional systems
  - Qualitative analysis of 30+ local "hot spots"
  - Identification of 8 regional-level common planning issues
  - 80+ adaptation strategies for local,

Linking ART Bay Area and Plan Bay Area

Plan Bay Area 2050

through summer 2021

- Build a 1.0 framework to incorporate sea level rise into regional planning and modeling.
- Develop a 1.0 regional level revenue and need assessment for sea level rise adaptation.
- Develop clear and actionable next steps for how MTC/ABAG can partner to advance adaptation from 2021-2025.

Regional Shoreline Adaptation Strategy

through summer 2020

- Establish Guiding Principles for local and regional adaptation planning
- Establish consensus around a coordinated regional Action Platform to support local and regional adaptation

Where Do We Go From Here?

1. Integrated planning for housing, transportation, and sea level rise – we can walk and chew gum at the *same time, and it's critical we do!*
2. Being proactive vs. reactive – wildfires are a lesson in the need for planning and investments before disaster strikes
3. Getting to a comprehensive regional plan for equitable adaptation and resilience
    1. Guiding principles
    2. Clear goals and outcomes
    3. Roles and responsibilities at the local, regional, state, and federal levels