



TACOMA || TIDEFLATS
SUBAREA PLAN

**Tideflats Advisory
Group**

March 28, 2024

Meeting Agenda

- EIS Progress and Schedule and Plan Development Update
- Discussion: Sea Level Rise Policies and Actions
- Discussion: Tree Canopy

Work Plan – Plan Development Process

Section IX: Plan Development (Steering Committee)

- ✓ Analysis of Existing Conditions
- ✓ Visioning of Scope and Goals of Consultant Analysis
- ✓ Identification of Alternatives for Future Development
- Evaluation of Alternatives Including Environmental Review (in progress)
- Development and Recommendation of the Proposed Subarea Plan (in progress)

Section X. Planning Commission

Section XI. City Council

Plan Development Schedule

Topic	Tideflats Advisory Group	Steering Committee
Environment, Health, Tribal Assets	April 18 @ 4:00 PM	April 24 @ 12:00 PM
Land Use and Economic Development	May 2 @ 4:00 PM	May 9 @ 3:00 PM
Transportation and Infrastructure	June 6 @ 4:00 PM	June 13 @ 3:00 PM
DRAFT EIS Comment Review	June 26 (WED) @ 4:00 PM	July 11 @ 3:00 PM
Draft Plan Review	Aug. 1 @ 4:00 PM	Aug. 8 @ 3:00 PM

DRAFT EIS Tentative Schedule

- Anticipated release: 2nd week of April
- Public Comment Meeting: April 25th
- Expect Multiple Communications: Public notice signs, direct mailings, email, social media
- Comment portal will be available on project webpage

Issue Papers Available

- Shoreline Public Access
- Brownfields and Remediation
- Sea Level Rise and Coastal Flooding

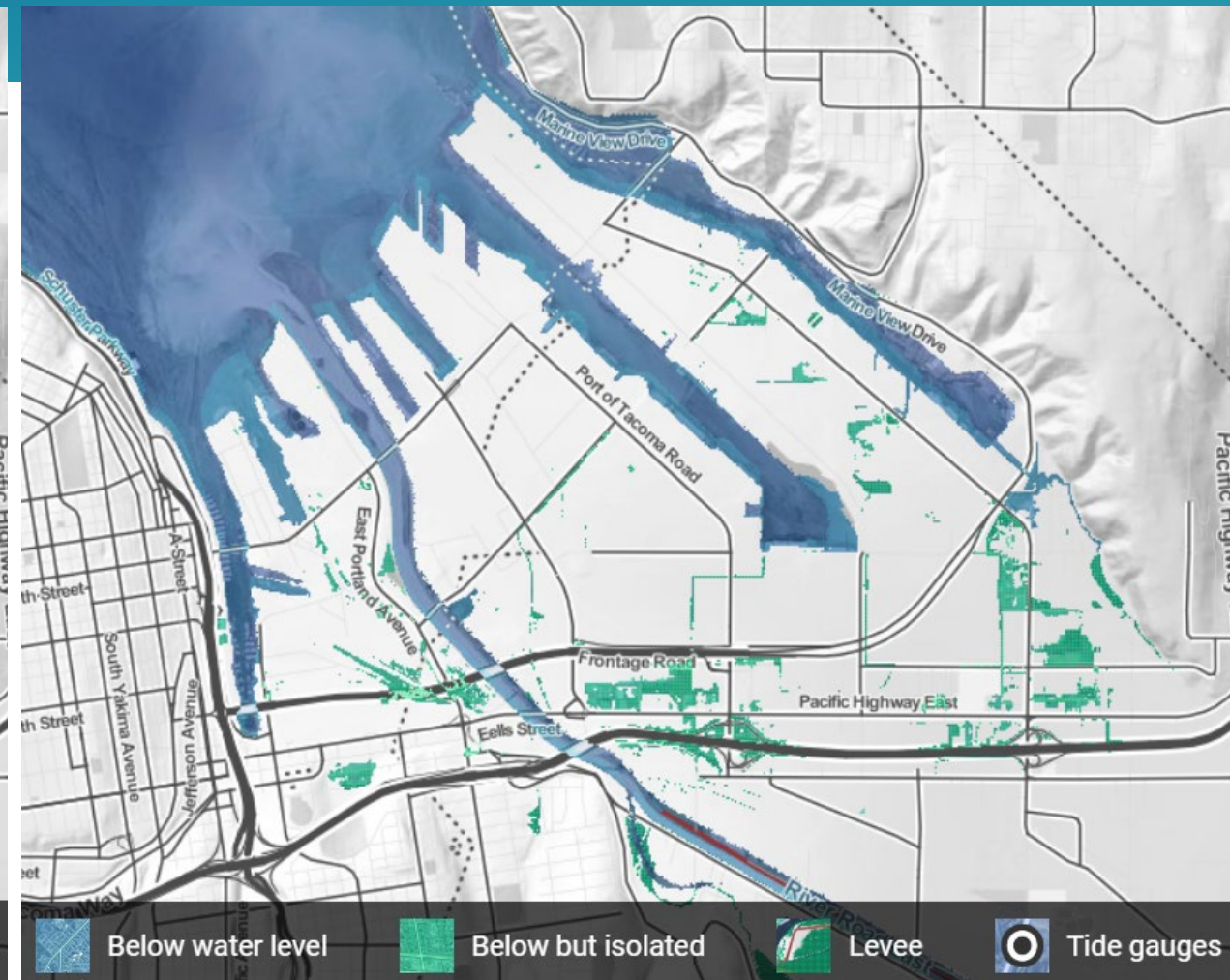
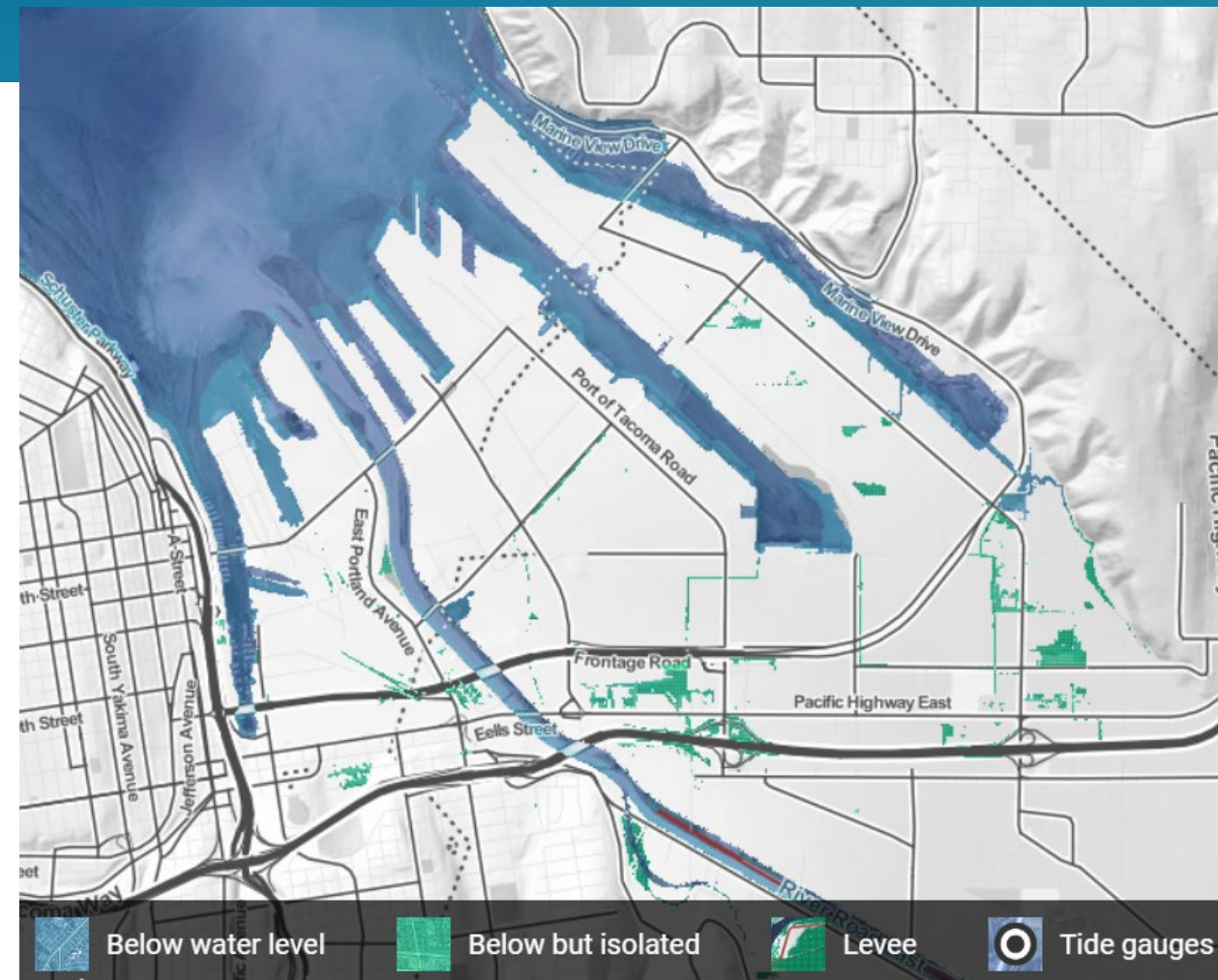
www.cityoftacoma.org/tideflatsplan

Discussion – Sea Level Rise

- Are there gaps in draft policies and actions?
- How should we prioritize actions and next steps?
- Are there specific factors we should be considering in making long-term decisions on adaptation strategies?

1 ft Sea Level Rise (SLR)

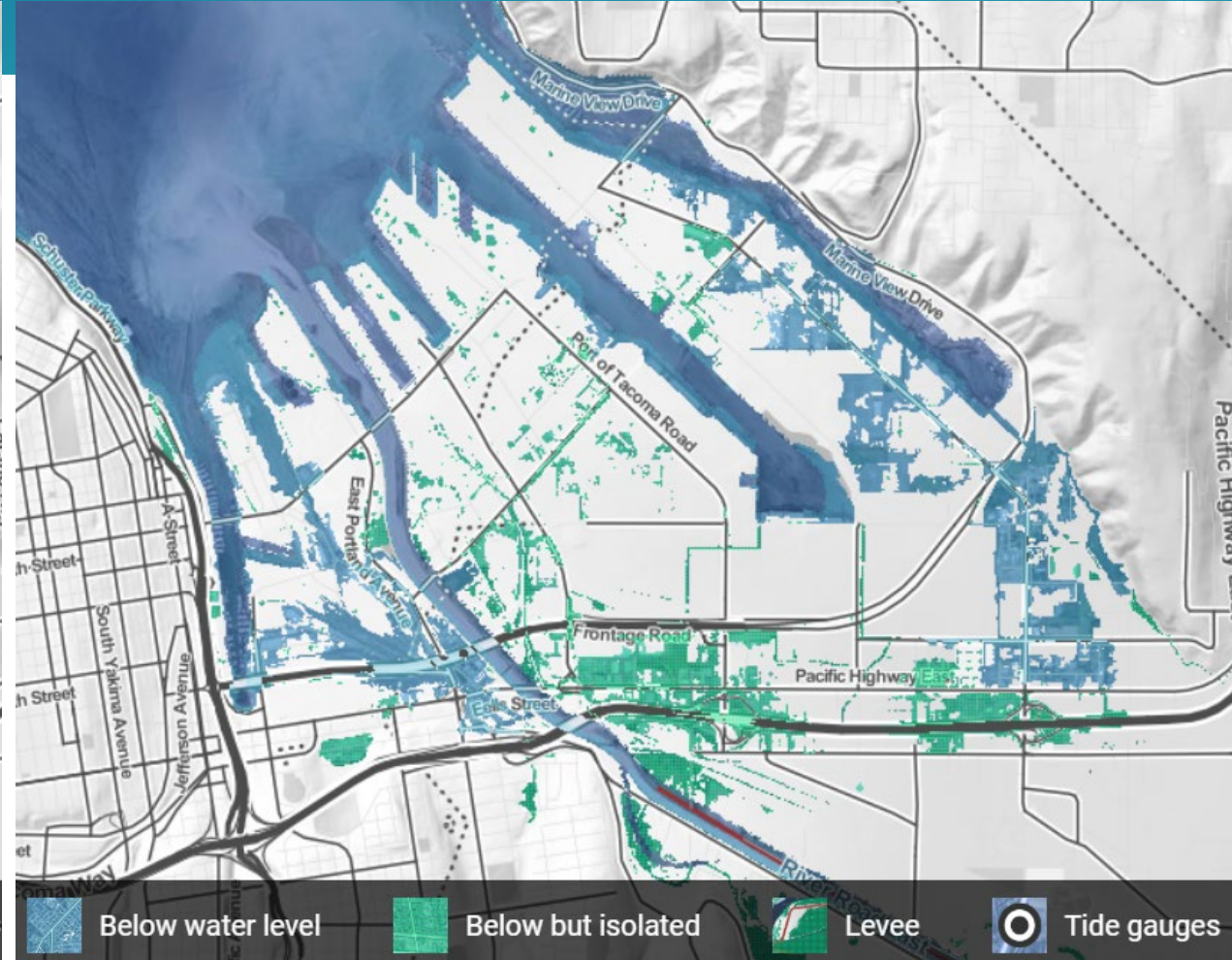
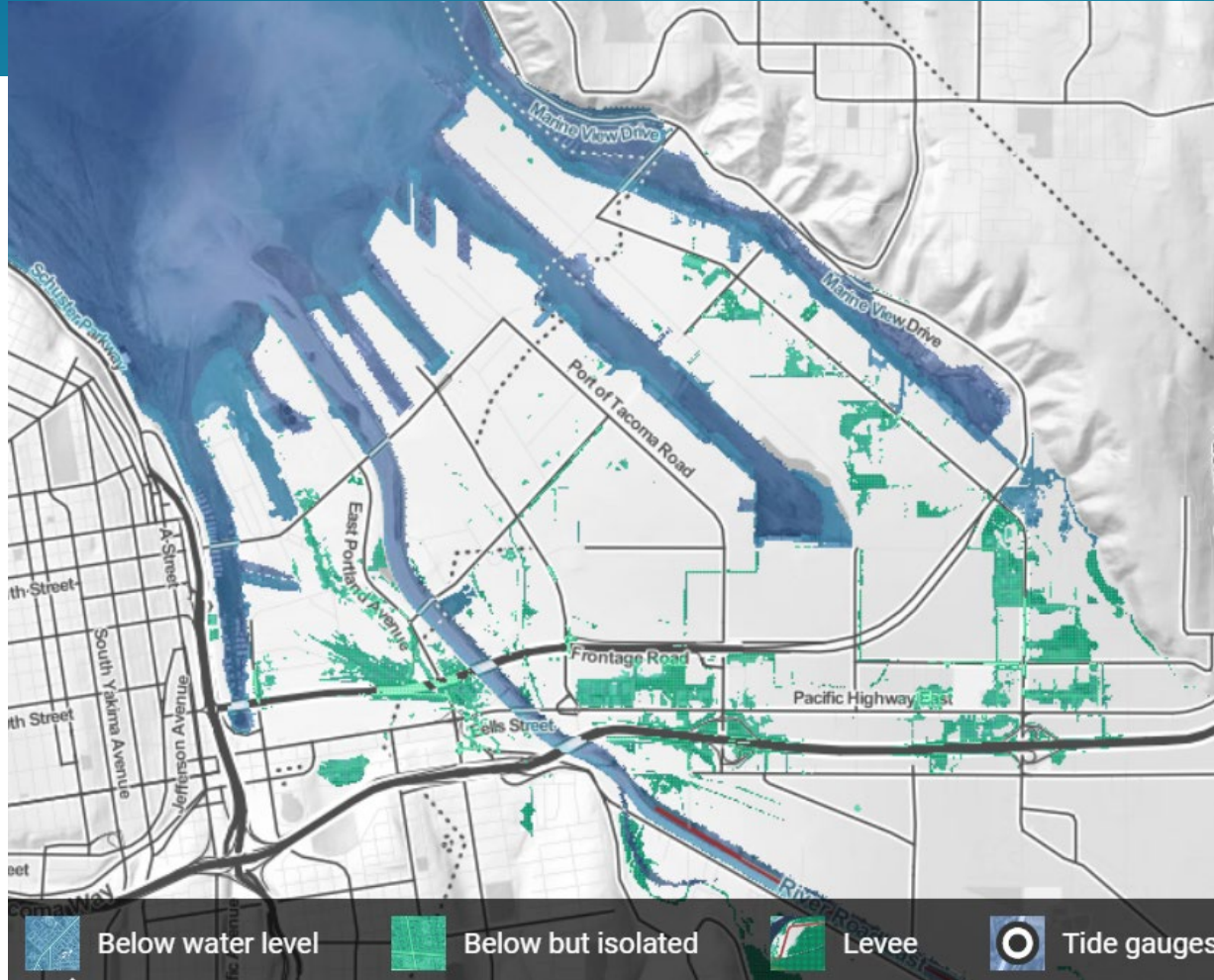
2 ft SLR



Source: Climate Central Surging Seas Risk Zone Map, additional elevation data courtesy of NOAA
 Note: These base maps have not been updated to reflect the latest changes, including to the waterways.

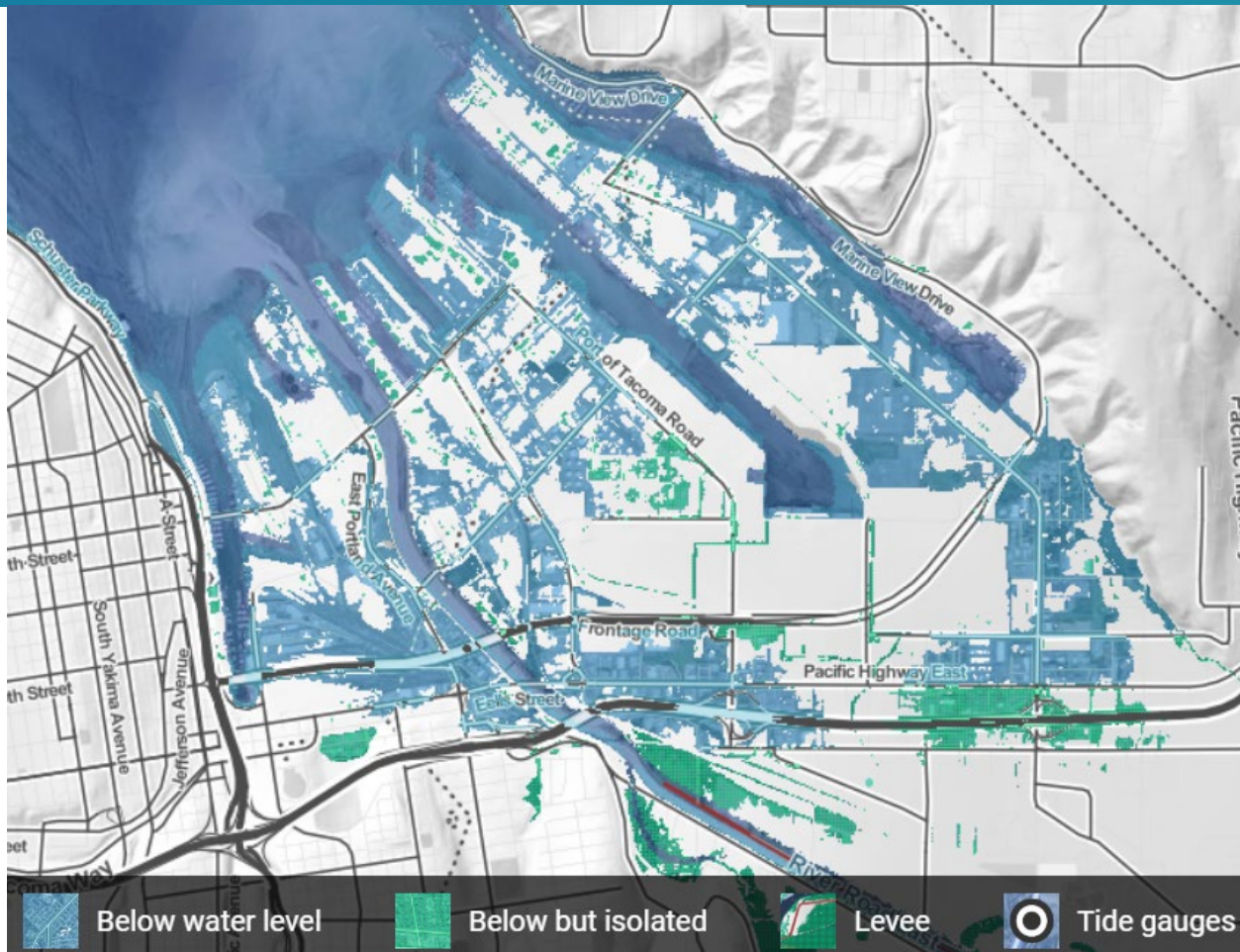
3 ft SLR

4 ft SLR



Source: Climate Central Surging Seas Risk Zone Map, additional elevation data courtesy of NOAA
 Note: These base maps have not been updated to reflect the latest changes, including to the waterways.

5 ft SLR



Key Takeaways

- Within the Subarea Plan's 20-year planning horizon, sea levels could increase to 1 to 2 ft.
 - Short-term planning should account for 1-2 ft SLR.
 - Long-term planning should account for 5 ft SLR.
- Areas impacted by SLR of 1-2 ft will be limited to low-lying areas.
- Flooding vulnerabilities within the Tideflats increase due to SLR.
 - Coastal flooding due to storm surges are expected to become more severe over time.

Source: Climate Central Surging Seas Risk Zone Map, additional elevation data courtesy of NOAA

Proposed Policies & Actions

Incorporate SLR Projections

- Regularly monitor & reevaluate SLR hazards to maintain flexible SLR adaptation
- Use lower “relative sea level rise” (RSLR) scenarios (1-3ft) to guide short-term mitigation and adaptation
- Account for 5 ft RSLR in long-term planning

Design Standards

Adopt responsive design standards & thresholds to respond to climate change impact, including

- SLR
- coastal flooding
- riverine flooding
- extreme rainfall storm surges

Nature-based Solutions

- Prioritize habitat preservation & restoration to maximize potential hazard mitigation co-benefits
- Use nature-based solutions to reduce vulnerability to hazards

Collaboration

Coordinate RSLR adaptation across jurisdictions & with regional initiatives

Workforce

Support safety & a resilient workforce in the Tideflats

Emissions Reduction

Align emissions reductions targets with City & Regional goals & targets

Proposed Policy: Regularly monitor and reevaluate RSLR hazards to maintain flexibility in RSLR adaptation strategies.

PROPOSED ACTIONS

1. **Implement monitoring program** to track sea level and shoreline changes at key locations to determine needed adaptations and reduce chances of over or underestimating hazard mitigation needs. A shoreline inventory and characterization report will help determine SLR monitoring locations.
2. **Map, monitor, and analyze** coastal flood events.
3. **Conduct a Sea Level Rise Risk Assessment** or add SLR into other assessments (e.g., wave runup, storm surge, and tsunami hazard).
4. **Conduct a review of current science** focusing on flooding impacts to critical roads, infrastructure, and steep slopes due to increasing intense rainfall events, SLR, flooding, and landslides. Integrate findings into City development codes, emergency management, and capital planning.
5. **Explore smart technologies** to monitor changing conditions and identify potential threats. Smart technology applications may be especially useful in monitoring sites and areas that are hard to reach. For example, installing water-detection sensors in underground utility vaults may help identify water intrusion from events like groundwater flooding that may otherwise go unnoticed.
6. **Maintain up-to-date floodplain maps.** Work with FEMA to update outdated areas and develop a systematic way to regularly update the maps as projects are completed that affect the floodplain.
7. **Develop a local floodplain definition** to help revise mitigation and adaptation strategies.



Proposed Policy: Utilize lower RSLR scenarios (1-3 ft) to guide short-term mitigation and adaptation response.

PROPOSED ACTIONS

1. **Implement flood mitigation measures in low-lying areas** such as in surrounding drainage canals within the MIC, the southern portion of the Thea Foss Waterway at the Route 509 bridge, and Near I-5 south of the Blair Waterway.
2. **Implement flood mitigation efforts** at the Central Wastewater Treatment Plant.

Incorporate
SLR
Projections

Proposed Policy: Account for 5 ft RSLR in long-term planning.

PROPOSED ACTIONS

1. **Require planning for SLR in shoreline areas** found within the Shoreline District S-8 (Thea Foss Waterway, Downtown Waterfront), S-9 (Puyallup River), and S-10 (Port Industrial).
2. **Restrict hazardous uses** in the 500-year floodplain.
3. **Develop a retrofit plan** for public infrastructure in coastal flood hazard areas.
4. **Assess conditions** of seawalls, piers, revetments, shoreline infrastructure, open spaces, parks, and habitat to identify length of service, repair, and maintenance.
5. **Identify the most at-risk facilities** to help prioritize resiliency improvements.
6. **Evaluate flooding impacts** on existing habitat areas such as areas at the mouth of the Puyallup River, Blair Waterway, and Hylebos Waterway. Implement additional modifications to mitigate flooding impacts on surrounding areas.

Incorporate
SLR
Projections

Proposed Policy: Adopt responsive design standards and thresholds to response to climate change impacts including SLR, coastal flooding, riverine flooding, extreme rainfall, and storm surges.

PROPOSED ACTIONS

1. **Identify places where infrastructure can be set back** as part of capital improvement project implementation.
2. **Conduct a shoreline inventory** and characterization to establish a baseline and repository of data that can be used to inform:
 - Appropriate changes to existing setback and buffer distances around marine shoreline that are responsive to SLR and flooding impacts
 - Sea level monitoring locations
 - Area widths for transitional zones around the nearshore
3. **Ensure that stormwater infrastructure protects against flooding hazards** such as coastal flooding, riverine flooding, urban flooding, and groundwater flooding. With rising sea levels and increasing extreme precipitation events, it is especially important to maintain stormwater infrastructure in good condition and adapt stormwater systems to changing conditions.

Proposed Policy: Prioritize habitat preservation and restoration to maximize potential hazard mitigation co-benefits.

PROPOSED ACTIONS

1. **Remove bulkheads and shore defense works** to restore shoreline, preserve natural processes, and help adapt to SLR.
2. **Develop additional habitat sites** along the Puyallup River, the Hylebos Creek, and Wapato Creek that support the ecosystem and increase flood storage capacity.
3. **Prioritize protecting existing habitat sites** to avoid decrease in ecological function due to coastal flooding impacts.



Proposed Policy: Use nature-based solutions to reduce vulnerability to hazards.

PROPOSED ACTIONS

1. **Use green infrastructure to capture stormwater** and reduce urban flooding issues.
2. **Increase tree and vegetative cover** where appropriate to reduce urban heat island effect.
3. **Protect shorelines from coastal flooding** and erosion using natural hardening methods that help reduce wave action, decrease water velocity, or prevent waters from overtopping the shoreline and getting on terminals.
4. **Employ vegetative planting techniques** to avoid coastal erosion while avoiding outright armoring of coastal areas.

Nature-
based
Solutions

Proposed Policy: Coordinate RSLR adaptation efforts across jurisdictions and with regional initiatives.

PROPOSED ACTIONS

1. **Establish a coastal hazard working group** to continue solving coastal flooding issues as they relate to zoning and land use. Representatives should include Port/NWSA, Pierce County, City of Tacoma, Puyallup Tribe, and City of Fife.
2. **Coordinate with climate change planners** to anticipate infrastructure improvements or adaptation techniques to minimize damage to infrastructure or disruption to services related to future SLR (or other climate-related effects to the community).
3. **Implement the programmatic and project recommendations** as outlined in the Pierce County 2023 Comprehensive Flood Hazard Management Plan in collaboration with the City of Tacoma, City of Fife, Port, Puyallup Tribe, and Pierce County.
4. **Develop a SLR Flood Damage Ordinance or Flood Damage Protection Ordinance** with the City of Tacoma. The ordinance would reduce losses due to flooding by restricting or prohibiting uses that are dangerous to health, safety, and property due to water related hazards. It would require uses vulnerable to floods to be protected, controlling the alteration of natural habitat, and/or regulating development that may increase flooding.
5. **Develop and implement a Commencement Bay Restoration and Resiliency Plan** with the City of Tacoma, Port, Puyallup Tribe, and County.
6. **Develop uniform flood control standards**—with the City of Tacoma, Port, Puyallup Tribe, City of Fife, and County—to prevent riverine flooding due to coastal flooding and tidal influence of the Hylebos, Wapato, and Puyallup.
7. **Maintain functionality and legal compliance of stormwater systems** that rely on discharge into Commencement Bay, namely the Erdahl Ditch and Fife Ditch in collaboration with the City of Fife.



Collaboration

Proposed Policy: Support safety and a resilient workforce in the Tideflats.

PROPOSED ACTIONS

1. **Develop and maintain emergency response plans** for various hazards and hazardous working conditions. Allow for coordination and collaboration with stakeholders.
2. **Encourage the use of emergency response plans** to include worker safety plans in the event of hazards or evacuation.
3. **Support development of and collaboration on Continuity of Operations Plans in the Tideflats** for continuation or quick recovery after an event.
4. **Maintain Port of Tacoma's status and capabilities** as a Strategic Seaport. The Port of Tacoma is a Strategic Seaport and part of the National Port Readiness Network and must be ready to make the port and its facilities available to support the deployment of military forces.



Workforce

Proposed Policy: Align emissions reductions targets with City and Regional goals and targets.

PROPOSED ACTIONS

1. **Implement the Northwest Ports Clean Air Strategy** and other efforts to reduce emissions and the impacts of climate change.

2. **Establish a net-zero by 2050 emissions reductions target.**

- The **Northwest Seaport Alliance** has adopted to “phase out emissions from seaport-related activities by 2050”.
- The **City of Tacoma** has a net-zero by 2050 goal outlined in the 2030 Climate Action Plan.
- The **Puyallup Tribe** established “a goal to transition existing fossil fuel facilities to non-fossil fuel sources by 2035” and a commitment to a “carbon neutral economy by 2050”.
- **Pierce County** plans to reduce emissions 45% below 2015 levels by 2030.

Discussion – Tree Canopy and Landscaping

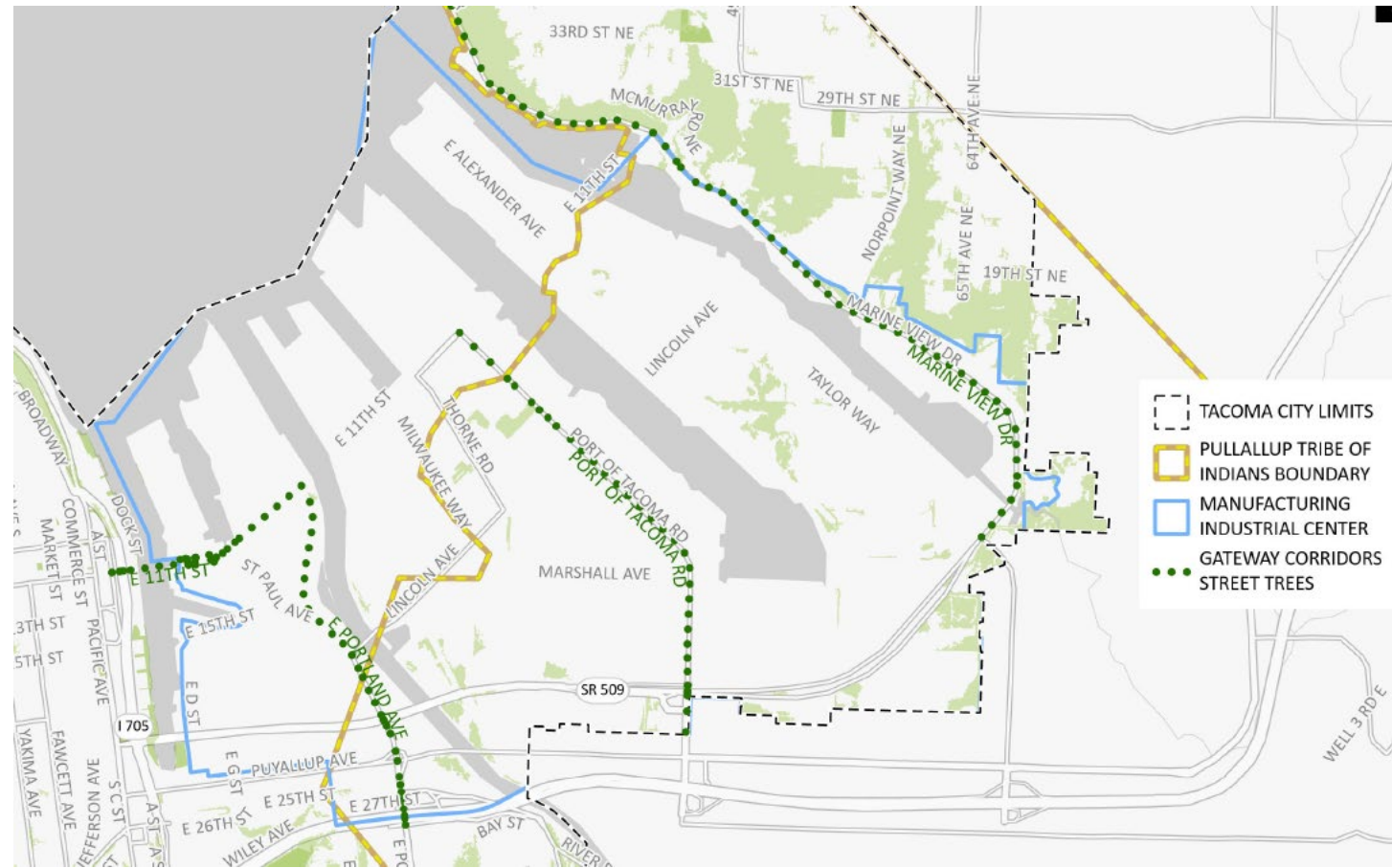
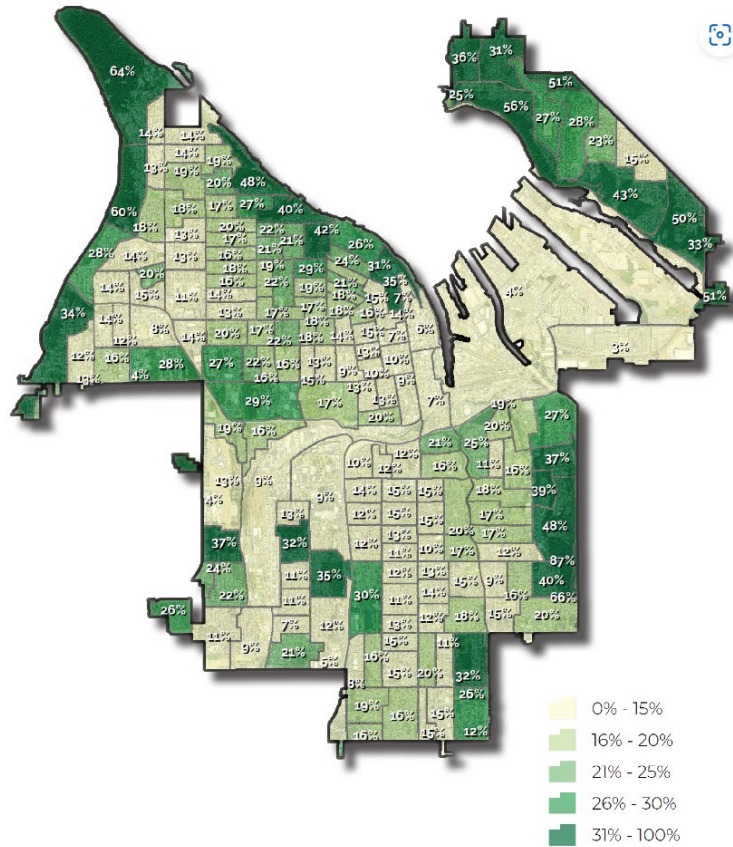
- What role can the Tideflats play in supporting overall Tree Canopy Goals (30x30)?
- What benefits are most important to you?
- What near term opportunities could we focus on?
- What issues or concerns should we consider in developing goals and standards?

Potential Benefits

- **Environment and Climate.** Tackle urban environmental challenges such as stormwater management, flooding, pollution reduction, and climate resiliency. Offer cooling benefits that can help mitigate extreme temperature increases in urban areas. Naturally filter the air of particulate matter and other air pollutants.
- **Improved Human Health Outcomes.** Supports the health and well-being of the people that live in cities by enhancing immune function, offering stress reduction benefits, improving mental and cognitive health and performance, enhancing opportunities for social connection, encouraging active modes of transportation, and inspiring active lifestyles.
- **Economy.** Stimulate local economic growth by making businesses and spaces more appealing.
- **Environmental Equity.** Low-income neighborhoods and communities of color face disproportionate impacts of lack of tree canopy. Tree canopy offers a vital buffer against pollution and other environmental stressors. Urban communities experiencing the highest levels of exposure to unhealthy conditions frequently also have the lowest levels of access to nearby nature.
- **Aesthetic.** Can help establish transitions between areas of different land use intensity, mitigating visual impacts of development scale or activity types commonly associated with industrial activity; can break monotonous environment; support attractiveness for walking/biking.

Existing Conditions

Tacoma's 2017 Canopy Cover Distribution



Examples: Street Trees and Stormwater



Examples: Street Trees and Buffer Restoration



Examples: Parking Lot Landscaping



Examples: Buffer/ Land Use Transitions



Example: Critical Area Restoration and Preservation



Discussion – Tree Canopy and Landscaping

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- What benefits are most important to you?
- What near term opportunities could we focus on?
- What issues or concerns should we consider in developing goals and standards?