

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

This document consolidates changes discussed and recommended by TPAC to address public comments received on integration of green infrastructure and natural resources in the 2018 Regional Transportation Plan. The package of recommendations addresses seven topics.

The recommended changes in this document are included in Exhibit C to Ordinance No.18-1421 (dated October 5, 2018). If desired, JPACT may discuss the package of recommendations prior to acting on TPAC's overall recommendation to approve the 2018 RTP and strategies.

1. **Amend RTP Chapter 2 to add three new environmental objectives and one green infrastructure objective** to RTP Goal 6 (Healthy Environment) and RTP Goal 8 (Climate Leadership).

The draft objectives are consistent with existing regional policy expressed in the Metropolitan Greenspaces Master Plan, the Nature in Neighborhoods policy in the Regional Framework Plan, Title 3 (Water Quality and Flood Management) and Title 13 (Nature in Neighborhoods) of the Urban Growth Management Functional Plan and Title 1 (Transportation System Design) of the Regional Transportation Functional Plan. The objectives are also reflected in Exhibit B to Ordinance No. 18-1421.

Goal 6 (Healthy Environment) – new environmental objectives

Objective 6.3: Green Infrastructure: Integrate green infrastructure strategies in transportation planning and design to avoid, minimize and mitigate adverse environmental impacts.

Objective 6.4: Light pollution: Minimize unnecessary light pollution to avoid harm to human health, farms and wildlife, increase safety and improve visibility of the night sky.

Objective 6.5: Habitat Connectivity: Improve wildlife and habitat connectivity in transportation planning and design to avoid, minimize and mitigate barriers resulting from new and existing transportation infrastructure.”

Goal 8 (Climate Leadership) – new green infrastructure objective

“Objective 8.6: Green Infrastructure – Promote green infrastructure that benefits both climate and other environmental objectives, including improved stormwater management and wildlife habitat.”

(This change is included in Exhibit C, Comments #1 and #2)

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

2. **Amend the RTP glossary** to include the following terms and definitions: green infrastructure, mitigation and practicable.

"Green Infrastructure refers to a network of multi-functional green spaces and environmental features, both natural and engineered, that use or replicate natural systems to better manage stormwater, protect streams and enhance wildlife corridors—trees, soils, water and habitats. Examples include: permeable paving, vegetated swales, rain gardens, green streets, green roofs, green walls, urban forestry, street trees, parks, green corridors such as trails, and other low impact development practices

Mitigation refers to planning actions taken to avoid an impact altogether, to minimize the degree or magnitude of the impact, reduce the impact over time, rectify the impact, or compensate for the impact. Mitigation includes ¹:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

Practicable means available and capable of being done after taking into consideration cost, existing technology and logistics, in light of overall project purposes.² "

(This change is included in Exhibit C, Comment #26)

3. **Amend RTP Chapter 8, Section 8.2.2.8** (Complete Streets Program) to add the following language, "Metro staff will work with cities, counties, ODOT, TriMet, the Audubon Society of Portland, Metro Parks and Natural Areas department, members of the Regional Conservation Strategy working group, the Street Trust, Oregon Walks and other interested parties to review and update the design policy section of the RTP prior to completion of the next RTP update (due in 2023). The focus of this work will be to reflect updates to the regional design guidelines that will be finalized in 2019 and to better integrate green infrastructure and natural resource protection. This work will result in a set of recommended design policies for consideration by JPACT, MPAC and the Metro Council prior to inclusion in the RTP. "

This recommendation provides more time to meaningfully develop and review new design-related policies, pending completion of updates to the Designing Livable Streets guidelines.

(This change is included in Exhibit C, Comment #98)

¹ Definition from [40 CFR 1508.20](#)

² Definition from [23 CFR 777.2](#)

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

4. **Amend RTP Appendix F** to add a summary table of “Potential Mitigation Strategies by Resource Area,” complementing the more generalized description of potential mitigation strategies already in the draft RTP Appendix F (dated July 20, 2018). In addition, add the following language, “The transportation system planning process provides an opportunity to identify natural resources that could be affected by proposed projects and warrant special consideration during the more detailed project development process. While specific project designs and mitigation strategies are identified during the project development process, it is useful to identify potential impacts during the transportation system planning process to better scope project costs and to provide a general understanding of the overall potential impacts of projects in the plan on natural resources.”

The potential mitigation strategies are drawn from various federal, state, regional and local resources, including the habitat-friendly development practices identified in Title 3 and Title 13 of the Metro Urban Growth Management Functional Plan, Metro’s design handbooks, including *Green streets: Innovative solutions for stormwater and stream crossings*, *Trees for green streets: An illustrated guide*, *Wildlife crossings: Providing safe passage for urban wildlife* and *Green Trails: Best practices for Environmentally friendly trails*, and the *Clean Water Services Low Impact Development Approaches Handbook*.

Specific mitigation strategies are developed as part of the environmental review and permitting process during project development activities. These strategies may be established in consultation with relevant federal, state and local agencies as well as interested parties responsible for, and interested in, environmental stewardship. Identification of potential transportation impacts during project development is done using Title 3 and Title 13 resource inventory data as a baseline, with acknowledgement that this data may be complemented with more current, jurisdictionally-adopted inventory data.

The project-level environmental review and permitting process is a separate and more detailed process than what is required for the RTP. This is because many regionally significant projects identified in the RTP are conceptual in nature, with exact alignment, design, and other project scope elements to be determined in the project development process. Further, for many projects, this process may not occur for years, or even decades. The specific types of environmental mitigation activities implemented are ultimately determined by the governing regulatory authority and are dependent upon the resource being impacted and the severity of that impact.

The following information identifies resource areas that should be considered during the planning process to identify potential natural resource impacts as well as potential mitigation strategies to be considered during the project development phase. Table 4, provided at the end of this section summarizes this information.”

The Table 4 referenced in the revised text would be added to the end of Appendix F.

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

Table 4. Potential mitigation strategies by environmental resource or mitigation area

Potential Mitigation Strategies	Environmental Resources and Mitigation Areas											
	Regional Conservation Strategy high value habitat	Wildlife corridors	Oregon white oak habitat	Vegetation and wildlife	Fisheries and fish bearing streams	Wetlands and waterways	Flood hazard areas/floodplains	Threatened and endangered species	Stormwater management	Soil erosion/ sediment control	Historic resources	Air pollutants, including greenhouse gases
Allow narrow street right-of-ways through stream corridors	•	•	•	•	•	•	•	•	•	•		
Create new wetland areas at ratios established by the permitting agency	•	•		•	•	•	•	•	•	•		
Restore or rehabilitate damaged wetlands and waterways	•	•		•	•	•	•	•	•	•		
Purchase wetland credit acres from an existing wetland mitigation bank within the same watershed	•	•		•	•	•	•	•	•	•		
Prevent sedimentation and erosion to the greatest extent possible	•			•	•	•	•	•	•	•		
Reduce habitat fragmentation and maintain wildlife travel routes and fish passage by strategic placement of projects	•	•	•	•	•	•	•	•				
Restore all fish and wildlife habitat to pre-construction condition and enhance if possible	•	•	•	•	•	•	•	•				
Screen sensitive habitats from transportation facility view and noise	•	•	•	•	•	•		•				
Enhance vegetation associated with wetlands and water courses for wildlife	•	•		•	•	•		•				

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

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Limit in-water construction to designated fisheries windows					•							
Limit fill within floodplains and effects to floodplain functions					•		•					
Carefully integrate fencing into the landscape to guide wildlife toward crossings under, over, or around transportation corridor ³	•	•		•				•				
Use bridge crossings rather than culverts wherever possible, unless a culvert would provide better wildlife passage in a given context	•	•			•			•				
If culverts are utilized, install slab, arch or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat	•	•			•			•				
Design stream crossings for fish passage with shelves and other design features to facilitate terrestrial wildlife passage	•	•		•				•				

³ Wildlife crossings: Providing safe passage for urban wildlife, Metro (2009).

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

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Include appropriate wildlife crossings	•	•	•	•	•							
Extend vegetative cover through the wildlife crossing in the migratory route, along with areas for wildlife to shelter	•	•	•	•		•		•				
Use native trees and plants when replanting or adding vegetation	•	•	•	•		•	•			•		
Minimize light pollution by following dark sky best practices ⁴	•	•	•	•	•	•		•				
Preserve and maintain existing trees and tree canopy coverage, and plant trees, where appropriate, to maximize future tree canopy coverage	•	•	•	•		•	•		•	•		•
Document historic assets and use context-sensitive design of new or renovated infrastructure to complement existing streetscape or architectural features											•	

(This change is included in Exhibit C, Comment #98)

⁴ Best practices can be accessed here:
<https://www.nps.gov/subjects/nightskies/practices.htm>

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

5. **Amend RTP Chapter 3, Section 3.3.4** to add a table providing examples of how green infrastructure can help achieve regional goals.

New Table: Examples of How Green Infrastructure Can Help Achieve RTP Goals

<u>RTP Goal</u>	<u>Examples of how green infrastructure can help achieve RTP goals</u>
<u>Vibrant Communities</u>	<u>Green infrastructure, including trails, parks, street trees, vegetation, and bioswales, contribute to community beautification and public health by connecting people with nature in their daily lives.</u>
<u>Shared Prosperity</u>	<u>Green infrastructure can promote economic growth as a valued public amenity, create construction and maintenance jobs, add to property value, support walkable and bikeable communities, businesses and commercial districts, and lower the costs associated with climate change.</u>
<u>Transportation Choices</u>	<u>Green streets can promote active travel and access to transit by providing enjoyable routes that are shaded and buffered from traffic.</u>
<u>Reliability and Efficiency</u>	<u>Green infrastructure treatments, such as access management and medians with bioswales, can be designed to support reliability and efficiency by reducing crashes and conflicting movements.</u>
<u>Safety and Security</u>	<u>Street trees and other green infrastructure can help calm traffic to desired speeds, provide welcoming places that increase security, and improve resiliency and reduce impacts of major storm events.</u>
<u>Healthy Environment</u>	<u>Green infrastructure can enhance and protect the natural environment by supporting clean air and water, filtering stormwater runoff, reducing erosion, protecting, creating and connecting habitat for birds, fish and other wildlife.</u>
<u>Healthy People</u>	<u>Green infrastructure can reduce water, air, noise and light pollution, encourage active lifestyles and link people to trails, parks and nature that enhance human health and well-being.</u>
<u>Climate Leadership</u>	<u>Trees and green infrastructure can support climate adaptation by cooling streets, parking lots and buildings, better managing stormwater and reducing the urban heat island effect. Trees and vegetation can be managed to sequester greenhouse gases to help mitigate climate change.</u>
<u>Equitable Transportation</u>	<u>Clean air and water and access to nature can be improved and habitat can be preserved and enhanced when green infrastructure is provided in historically marginalized communities.</u>
<u>Fiscal Stewardship</u>	<u>Protecting the environment and natural resources today can save money for the future.</u>
<u>Transparency and Accountability</u>	<u>All stakeholders can be represented, including those that cannot speak for themselves – wildlife and the natural environment. Performance-based planning includes considering environmental effects throughout the planning process.</u>

(This change is included in Exhibit C, Comment #102)

TPAC recommendation to JPACT on Discussion Item #1
Integration of green infrastructure and natural resources in the 2018 RTP

6. **Amend RTP Chapter 3, Section 3.3.4** to summarize potential impacts of transportation on resources and potential strategies to avoid, minimize or mitigate potential impacts; add language to the effect of “Identification of potential transportation impacts during project development is done using Title 3 and Title 13 resource inventory data as a baseline, with acknowledgement these inventories may be complemented with other publicly-adopted inventories;” add examples potential mitigation strategies by resource area; and add a sentence referencing Appendix F as a source for more information on potential mitigation strategies.

(This change is included in Exhibit C, Comment #102)