

Case Study Example of Plan Amendment Process

Plan Amendment Case Study Summary

The table below summarizes the use of the VMT/capita measure on case study locations evaluated earlier in this project. The example assessments consider if a proposed plan amendment would have had a “significant impact” based on the VMT/capita measures and therefore trigger further evaluation of the other mobility policy measures.

Measures:

VMT/Capita for home-based trips

VMT/Employee for commute trips to/from work

Target:

1. Increased development potential in a District¹ where forecast vmt/capita for home-based trips or vmt/employee for commute trips to/from work is lower than the region average.
or
2. Plan amendment area has lower forecast vmt/capita for home-based trips or lower vmt/capita for commute trips to/from work than the District¹ average (the output reviewed is dependent upon the predominant land use change proposed)

Plan Amendment	Within District with VMT/capita or VMT/employee lower than regional average? ¹	If yes, is there increased development potential?	Lower forecast VMT/capita for home-based trips?	Lower VMT/employee for commute trips to/from work?	Does the plan amendment have a significant impact?
02 – Portland Central City 2035 and MMA	Yes	Yes - no further reliability analysis needed	--	--	No
03 – Colwood Industrial District Plan Amendment	No	Not applicable	Not applicable	No	Yes – further assessment needed
05 – Rock Creek Mixed Employment District	No	Not applicable	Not applicable	No	Yes – further assessment needed
07 – Willamette Falls District Plan & Downtown District/ Multimodal Mixed-Use Area	Yes	Yes - no further reliability analysis needed	--	--	No
09 – Tigard Triangle District Plan	Yes	Yes - no further reliability analysis needed	--	--	No
12 – South Hillsboro Community Plan Development	No	Not applicable	No	Yes – not predominant land use change	Yes – further assessment needed

¹ Assumptions made about the District and Plan Amendment performance illustration purposes.

02 – Portland Central City 2035 and MMA (City of Portland)

Plan Amendment Type:

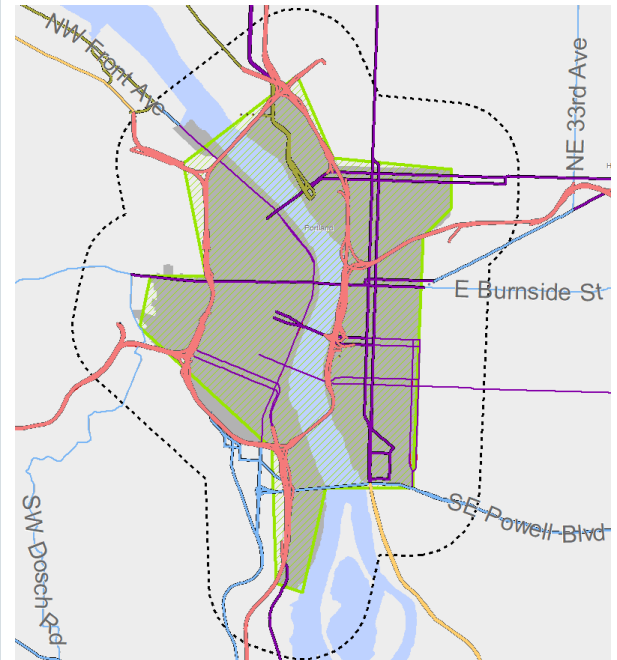
Legislative

Description:

In 2016, the City of Portland adopted an update to its comprehensive plan. Central City 2035 (CC35) was developed as the first amendment to the comprehensive plan. In adopting CC35 as an amendment, the City also designated the Central City as a Multimodal Mixed-Use Area (MMA), a designation provided for in the TPR. CC35 was adopted as a legislative amendment with ODOT concurrence, enabling the City to pursue more dense development in the Central City, served by a robust network of multimodal transportation options.

Plan Amendment Area:

- Within a 2040 Center
- Roadways include freeways, regional and community boulevards, and industrial streets



The following process would be completed under the draft policy. Answer the following questions for the forecast 20-year horizon of the proposed plan amendment.

Assessment Question	Draft Process	Example Response for Plan Amendment ¹
Step 1: Determine if There is Significant Impact (VMT/capita)		
Does the trip generation surpass the significant impact threshold?	<p>Use most recent ITE Trip Generation Manual to determine daily trips for “reasonable worst-case” of plan amendment compared to existing land use assumptions.</p> <p>Remaining needs/questions: Apply existing TPR thresholds or consider modified thresholds.</p>	Yes – Example assumes the trip generation surpasses the threshold

¹ The term “assumes” is used because a full analysis with values from the Metro model, trip generation, and before/after data could not be completed at this time.

Assessment Question	Draft Process	Example Response for Plan Amendment ¹
<p><i>Does the plan amendment:</i></p> <p><i>Increase development potential in a District² where forecast VMT/capita for home-based trips or VMT/employee for commute trips to/from work is lower than the region average.</i></p> <p><i>or</i></p> <p><i>Lower forecast VMT/capita for home-based trips or lower VMT/employee for commute trips to/from work for the District as compared to existing land use conditions (which output reviewed is dependent upon the predominant land use change proposed)</i></p>	<p>Use existing Metro model output (with existing land use assumptions) to review future year VMT/capita for home-based trips or VMT/employee for commute trips to/from work for both the District and region.</p> <p>Request new Metro model run for future year District outputs with the proposed plan amendment in place. Compare to existing land use conditions</p> <p>Remaining needs/questions: Districts to be determined. Guidance for determining “development potential”.</p>	<p>Located in a District where both are lower than the region average Yes – increased development potential for both residential and employment</p> <p>No need to review based on previous answer</p>
<p><i>Does the plan amendment have a significant impact?</i></p>	<p>Review previous step.</p>	<p><i>No – Do not need to complete additional assessments; however, this land use amendment was on such a large scale that updating the transportation system plan and applying the measures for system planning should be triggered (the transportation plan for the area was updated as part of this process). The policy needs to clarify the scale at which reviewing/updating the transportation system plan is triggered.</i></p>

03 – Colwood Industrial District (City of Portland)

Plan Amendment Type:

Quasi-judicial

Description:

This 2013 quasi-judicial plan amendment to the City of Portland Comprehensive Plan rezoned a 48-acre portion of the Colwood National Golf Course site near Portland International Airport. The Open Space designation and zoning was changed to Industrial Sanctuary designation and General Industrial zone. Under the proposed amendment, approximately 90 acres of the golf course site would retain the Open Space designation and zoning.

Plan Amendment Area:

- Not within a 2040 Center
- Roadways include industrial streets




The following process would be completed under the draft policy. Answer the following questions for the forecast 20-year horizon of the proposed plan amendment.

Assessment Question	Draft Process	Example Response for Plan Amendment ²
Step 1: Determine if There is Significant Impact (VMT/capita)		
<i>Does the trip generation surpass the significant impact threshold?</i>	Use most recent ITE Trip Generation Manual to determine daily trips for “reasonable worst-case” of plan amendment compared to existing land use assumptions. Remaining needs/questions: Apply existing TPR thresholds or consider modified thresholds.	Yes, example assumes the trip generation surpasses the threshold
<i>Does the plan amendment: Increase development potential in a District² where forecast VMT/capita for home-based trips or VMT/employee</i>	Use existing Metro model output (with existing land use assumptions) to review future year VMT/capita for home-based trips or VMT/employee for commute trips to/from work for both the District and region.	Not applicable

² The term “assumes” is used because a full analysis with values from the Metro model, trip generation, and before/after data could not be completed at this time.

Assessment Question	Draft Process	Example Response for Plan Amendment ²
<p><i>for commute trips to/from work is lower than the region average.</i></p> <p>or</p> <p><i>Lower forecast VMT/capita for home-based trips or lower VMT/employee for commute trips to/from work for the District as compared to existing land use conditions (output reviewed is dependent upon the predominant land use change proposed)</i></p> <p><i>Does the plan amendment have a significant impact?</i></p>	<p>Request new Metro model run for future year District outputs with the proposed plan amendment in place. Compare to existing land use conditions.</p> <p>Remaining needs/questions: <i>Districts to be determined.</i> <i>Guidance for determining “development potential”.</i></p>	<p>VMT/capita for home-based trips – Not applicable</p> <p>VMT/employee for commute trips to/from work – No, example assumes the District output increases</p>
	Review previous step.	Yes – further reliability measure assessment required
Step 2: Reliability Measure Assessment (Travel Speed)		
<p><i>Determine modal trips and determine the vehicular impact area.</i></p>	<p>Determine modal trips by applying the planned mode splits to the previously calculated vehicular trip generation. Assign the trips to the network and select analysis segments along a routing distance of 0.5 miles.</p> <p>Remaining needs/questions: <i>Guidance for agencies to develop and/or use planned mode splits. Apply RTP targets or refined targets from local TSPs, or other process?</i></p>	<p>Example assumes the planned non-vehicle mode split is 15%.</p> <p>Assumed RTP streets included in vehicular impact area: NE Cornfoot Rd, NE Alderwood Rd, NE 82nd Ave, and NE Columbia Blvd</p>
<p><i>What impacts does the plan amendment have on travel speed? Are mitigations needed to maintain performance or</i></p>	<p><i>Method 1: Request Metro’s TDM model output to review forecast year hourly travel speed for both current and proposed land use conditions.</i></p> <p><i>Method 2 (only applicable for a signalized corridor): Determine the analysis volumes, using Metro’s TDM model volume output to forecast to the future year.</i></p>	<p>Minor arterials outside of 2040 centers: Off-peak average speed of 15 mph (including signal delays) or higher up to speed limit for 20 hours per day</p>

Assessment Question	Draft Process	Example Response for Plan Amendment ²
avoid degradation?	<p>Use a deterministic model, such as Synchro, to analyze the key analysis hour(s) based on Table 2 of the draft policy.</p> <p>Remaining needs/questions: Guidance about which of the two methods to use under what conditions. Guidance about analysis segmentation based on the tools used. Verify the Metro model incorporates all financially constrained projects into the future year model, as applicable.</p>	<p>If segments of NE Alderwood Rd and NE Columbia Blvd do not meet the threshold:</p> <p>Yes – mitigations are needed if facilities are not complete.</p> 
Are the impacted roadway segments considered complete?	<p>Use the RTP system sizing policies to review each modeled roadway link against its RTP motor vehicle designation. The roadway is considered complete if it already meets the sizing policy maximums for:</p> <ul style="list-style-type: none"> • Number of through lanes • Presence and number of left turn lanes • Presence of right turn lanes <p>Remaining needs/questions: Guidance from Metro for interpreting the model inputs against the RTP system sizing policies.</p>	<p>If the segments of NE Alderwood Rd and NE Columbia Blvd are considered complete based on the RTP system sizing policies:</p> <p>Yes – the example assumes roadway segments are complete, but since not meeting the target, during Step 4, increased proportional share of the multimodal system is triggered for the impact area.</p>
Step 3: System Completeness Assessment (For all Modes and Including Freeway Queuing Analysis)		
Determine the modal impact areas.	<p>Assign the previously calculated modal trips to the network and select analysis segments along a routing distance of 0.25 to 0.5 miles, depending on mode.</p> <p>Remaining needs/questions: Guidance for agencies to develop and/or use planned mode splits. Apply RTP targets or refined targets from local TSPs, or other process?</p>	<p>Assumed RTP streets within 0.25-mile (non-vehicle) impact area: NE Cornfoot Rd and NE Alderwood Rd</p> <p>Assumed RTP streets within 0.5-mile (vehicle) impact area: NE Cornfoot Rd, NE Alderwood Rd, NE 82nd Ave, and NE Columbia Blvd</p>

Assessment Question	Draft Process	Example Response for Plan Amendment ²
		
Pedestrian Planned System <i>Should the planned system be updated based on the projected trip generation?</i>	<p>Review NCHRP 562 at any pedestrian crossings within the non-vehicle impact area based on the updated pedestrian volumes.</p> <p>Remaining needs/questions: Guidance on whether and how to include existing crossing or pedestrian volumes as part of the review of NCHRP 562.</p>	<p>If a planned marked crossing on NE Alderwood Rd would now support pedestrian trips over the NCHRP 562 threshold for a marked crossing, the mitigation should be updated to an enhanced pedestrian crossing. Example assumes an estimated cost of \$125,000.</p> <p>Yes – the planned pedestrian system should be updated. Move the new mitigation to Step 4.</p>
Pedestrian Unconstrained Needs <i>What are the gaps in the planned system within the impact area?</i>	<p>Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded pedestrian projects within the non-vehicle impact area.</p> <p>Remaining needs/questions: None</p>	<p>If there is a planned but unconstrained sidewalk project on NE Cornfoot Rd, the project should be included in the mitigation calculations. Example assumes a sidewalk extension project with an estimated cost of \$300,000.</p> <p>Yes – include planned but unconstrained projects in Step 4.</p>
Bicycle Planned System <i>Should the planned system be updated based on the projected trip generation?</i>	<p>Review TriMet Bicycle Parking Guidelines at any bus stops within the non-vehicle impact area based on the updated bicycle volumes.</p> <p>Remaining needs/questions: None</p>	<p>No bus stops within the impact area.</p> <p>No – Do not need to update the planned system.</p>
Bicycle Unconstrained Needs	<p>Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded bicycle projects within the non-vehicle impact area.</p>	<p>Example assumes no unconstrained projects identified.</p>

Assessment Question	Draft Process	Example Response for Plan Amendment ²
<i>What are the gaps in the planned system within the impact area?</i>	Remaining needs/questions: None	No – No projects to move forward.
Transit Planned System <i>Should the planned system be updated based on the projected trip generation?</i>	Review TriMet Bus Stop Guidelines at any bus stops within the non-vehicle impact area based on the updated transit trip volumes. Remaining needs/questions: None	No bus stops within the impact area. No – Do not need to update the planned system.
Transit Unconstrained Needs <i>What are the gaps in the planned system within the impact area?</i>	Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded transit projects within the non-vehicle impact area. Remaining needs/questions: None	Example assumes no unconstrained projects identified. No – No projects to move forward.
Vehicle Planned System <i>Should the planned system be updated based on the projected trip generation?</i>	Review queuing at any freeway ramp terminals within the vehicle impact area based on the updated vehicular volumes. Remaining needs/questions: None	No freeway ramp terminals to review within the impact area. No – Do not need to update the planned system.
<i>Hold for TSMO System</i>	TBD	TBD
Step 4: Determine System Completeness Assessment (For all Modes and Including Freeway Queuing Analysis)		
<i>What is the total cost of non-vehicle mitigations?</i>	Add mitigations from previous steps.	Non-vehicle mitigation total: \$425,000
<i>What is the total cost of vehicle mitigations?</i>		Vehicle mitigation total: \$0
<i>What is the forecasted number of daily non-vehicular trips for the plan amendment?</i>	See previous trip generation step.	Plan amendment additional non-vehicular daily trips: 320 Plan amendment additional vehicular daily trips: 1,810

Assessment Question	Draft Process	Example Response for Plan Amendment ²
What is the forecasted number of daily non-vehicular trips for the plan amendment?		
What is the forecasted total of daily growth trips in the largest non-vehicle impact area? What number of trips are non-vehicular?	Request the total trips from the TAZs within the impact area for both the existing model year and future model year with the plan amendment.	Non-vehicle impact area daily background growth trips: 6,000 (900 non-vehicular)
What is the forecasted total of daily growth trips in the vehicle impact area? What number of trips are vehicular?	Determine the daily background growth trips within the area (future year daily trips minus existing year daily trips) Remaining needs/questions: None.	Vehicle impact area daily background growth trips: 10,000 (8,500 vehicular)
What is the proportional share percentage for non-vehicle mitigations?	Proportional share percentage for non-vehicle mitigations if travel speed targets are met is $\frac{\text{Plan amendment additional nonvehicular daily trips}}{\text{Impact area nonvehicular daily background growth trips}}$	Example assumes travel speed thresholds are not met.
What is the proportional share percentage for vehicle mitigations?	Proportional share percentage for non-vehicle mitigations if travel speed targets are not met but the vehicle system is complete is $\frac{\text{Plan amendment additional daily trips (all modes)}}{\text{Impact area nonvehicular daily background growth trips (not to exceed 100\%)}}$ Proportional share percentage if travel speed targets are not met and vehicle system is incomplete % of vehicle mitigations $\frac{\text{Plan amendment additional vehicular daily trips}}{\text{Impact area vehicular daily background growth trips}}$ + % of non-vehicle mitigations $\frac{\text{Plan amendment additional nonvehicular daily trips}}{\text{Impact area nonvehicular daily background growth trips}}$	Proportional share percentage for non-vehicle mitigations: $\frac{2,130}{900} > 100\%, \text{ use } 100\%$
What is the proportional share percentage for non-vehicle mitigations?	Proportional share percentage for non-vehicle mitigations if travel speed targets are not met but the vehicle system is complete is $\frac{\text{Plan amendment additional daily trips (all modes)}}{\text{Impact area nonvehicular daily background growth trips (not to exceed 100\%)}}$	Example assumes travel speed thresholds are not met.
What is the proportional share percentage for vehicle mitigations?	Proportional share percentage if travel speed targets are not met and vehicle system is incomplete % of vehicle mitigations $\frac{\text{Plan amendment additional vehicular daily trips}}{\text{Impact area vehicular daily background growth trips}}$ + % of non-vehicle mitigations $\frac{\text{Plan amendment additional nonvehicular daily trips}}{\text{Impact area nonvehicular daily background growth trips}}$	Proportional share percentage for non-vehicle mitigations: $\frac{2,130}{900} > 100\%, \text{ use } 100\%$
	Remaining needs/questions:	

Assessment Question	Draft Process	Example Response for Plan Amendment ²
	Procedure for proportional share when an increased multi-modal proportional share is triggered and the plan amendment daily trips exceed the multi-modal growth daily trips, resulting in a proportion over 100%.	
<p><i>What is the proportional share for non-vehicle mitigations?</i></p> <p><i>What is the proportional share for vehicle mitigations?</i></p>	Proportional share is the mitigation cost multiplied by the proportional share percentage.	<p>Proportional share for non-vehicle mitigations: $\\$425,000 * 100\% = \\$425,000$</p> <p>Total mitigation cost = \$425,000 Mitigation could be met via a fee in lieu or building a planned project of an equivalent cost within the vehicular impact area.</p>

05 – Rock Creek Mixed Employment District (City of Happy Valley)

Plan Amendment Type:

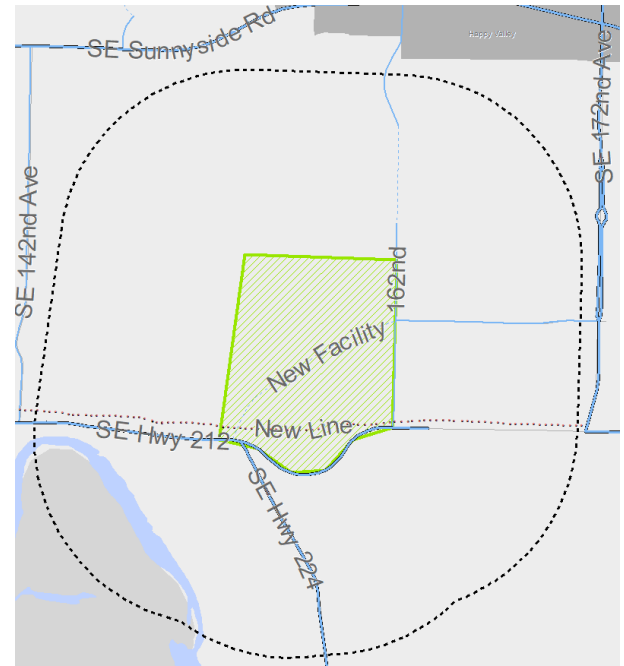
Legislative

Description:

The City of Happy Valley amended its comprehensive plan in 2008, creating the Rock Creek Mixed Employment (RCME) development district on land brought into the urban growth boundary in 2002. In 2011, the City conducted an Economic Opportunity Analysis (EOA) to adjust strategies for possible land uses in the area and modified the land use designation from Industrial Campus to Mixed Use Employment and Institutional and Public Use through a public planning process.

Plan Amendment Area:

- Not within a 2040 Center
- Roadways include regional and community streets and proposed freeway

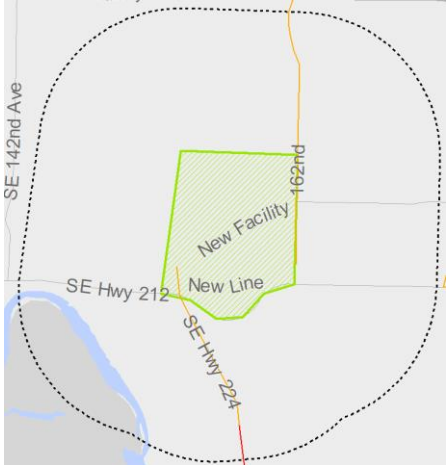


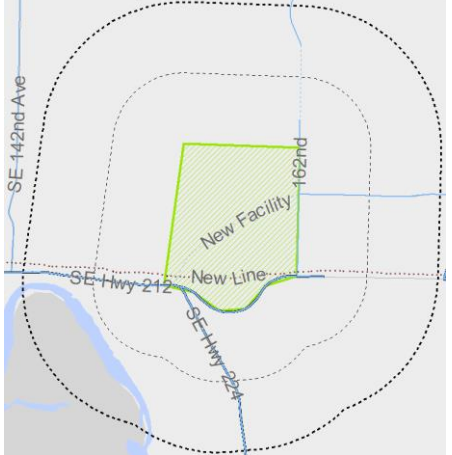
The following process would be completed under the draft policy. Answer the following questions for the forecast 20-year horizon of the proposed plan amendment.

Assessment Question	Draft Process	Example Response for Plan Amendment ³
Step 1: Determine if There is Significant Impact (VMT/capita)		
<i>Does the trip generation surpass the significant impact threshold?</i>	Use most recent ITE Trip Generation Manual to determine daily trips for “reasonable worst-case” of plan amendment compared to existing land use assumptions. Remaining needs/questions: Apply existing TPR thresholds or consider modified thresholds.	Yes, example assumes the trip generation surpasses the threshold
<i>Does the plan amendment: Increase development potential in a District² where forecast</i>	Use existing Metro model output (with existing land use assumptions) to review future year VMT/capita for home-based trips or VMT/employee for commute trips to/from work for both the District and region.	Not applicable

³ The term “assumes” is used because a full analysis with values from the Metro model, trip generation, and before/after data could not be completed at this time.

Assessment Question	Draft Process	Example Response for Plan Amendment ³
<p><i>VTM/capita for home-based trips or VMT/employee for commute trips to/from work is lower than the region average.</i></p> <p><i>or</i></p> <p><i>Lower forecast VMT/capita for home-based trips or lower VMT/employee for commute trips to/from work for the District as compared to existing land use conditions (which output reviewed is dependent upon the predominant land use change proposed)</i></p>	<p>Request new Metro model run for future year District outputs with the proposed plan amendment in place. Compare to existing land use conditions</p> <p>Remaining needs/questions: Districts to be determined. Guidance for determining “development potential”.</p>	<p>VTM/capita for home-based trips – Not applicable</p> <p>VTM/employee for commute trips to/from work – No, example assumes the District VMT/employee for commute trips to/from work increases</p>
Does the plan amendment have a significant impact?	Review previous step.	Yes – further reliability measure assessment required
Step 2: Reliability Measure Assessment (Travel Speed)		
Determine modal trips and determine the vehicular impact area.	<p>Determine modal trips by applying the planned mode splits to the previously calculations vehicular trip generation. Assign the trips to the network and select analysis segments along a routing distance of 0.5 miles.</p> <p>Remaining needs/questions: Guidance for agencies to develop and/or use planned mode splits. Apply RTP targets or refined targets from local TSPs, or other process?</p>	<p>Example assumes the planned non-vehicle mode split is 10%.</p> <p>Assumed RTP streets included in vehicular impact area: OR 224, old OR 212, new OR 212, new roadway extension of SE Rock Creek Blvd, and SE 162nd Avenue</p>
What impacts does the plan amendment have on travel speed? Are mitigations needed	Method 1: Request Metro’s TDM model output to review forecast year hourly travel speed for both current and proposed land use conditions.	Throughway (OR 212): at 45 mph or better during off-peak hours for 18 hours per day

Assessment Question	Draft Process	Example Response for Plan Amendment ³
to maintain performance or avoid degradation?	<p><i>Method 2 (only applicable for a signalized corridor): Determine the analysis volumes, using Metro's TDM model volume output to forecast to the future year. Use a deterministic model, such as Synchro, to analyze the key analysis hour(s) based on Table 2 of the draft policy.</i></p> <p>Remaining needs/questions: Guidance about which of the two methods to use under what conditions. Guidance about analysis segmentation based on the tools used. Verify the Metro model incorporates all financially constrained projects into the future year model, as applicable.</p>	<p>Arterials outside of 2040 centers: Off-peak average speed of 15 mph (including signal delays) or higher up to speed limit for 20 hours per day</p> <p>If the identified roadway segments within the vehicle impact area meet their respective thresholds:</p> <p>No – Do not need to complete additional assessment around travel speed mitigations</p> 
Step 3: System Completeness Assessment (For all Modes and Including Freeway Queuing Analysis)		
Determine the modal impact areas.	<p>Assign the previously calculated modal trips to the network and select analysis segments along a routing distance of 0.25 to 0.5 miles, depending on mode.</p> <p>Remaining needs/questions: Guidance for agencies to develop and/or use planned mode splits. Apply RTP targets or refined targets from local TSPs, or other process?</p>	<p>Assumed RTP streets within 0.25-mile (non-vehicle) impact area: OR 224, old OR 212, new OR 212, new roadway extension of SE Rock Creek Blvd, and SE 162nd Avenue</p> <p>Assumed RTP streets within 0.5-mile (vehicle) impact area: OR 224, old OR 212, new OR 212, new roadway extension of SE Rock Creek Blvd, and SE 162nd Avenue</p>

Assessment Question	Draft Process	Example Response for Plan Amendment ³
		
Pedestrian Planned System <i>Should the planned system be updated based on the projected trip generation?</i>	<p>Review NCHRP 562 at any pedestrian crossings within the non-vehicle impact area based on the updated pedestrian volumes.</p> <p>Remaining needs/questions: Guidance on whether and how to include existing crossing or pedestrian volumes as part of the review of NCHRP 562.</p>	<p>No existing or planned pedestrian crossings within the impact area.</p> <p>No – Do not need to update the planned system.</p>
Pedestrian Unconstrained Needs <i>What are the gaps in the planned system within the impact area?</i>	<p>Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded pedestrian projects within the non-vehicle impact area.</p> <p>Remaining needs/questions: None</p>	<p>Assume no unconstrained pedestrian-only projects identified. Assume new roadways to be included in the vehicle system review.</p> <p>No – No projects to move forward.</p>
Bicycle Planned System <i>Should the planned system be updated based on the projected trip generation?</i>	<p>Review TriMet Bicycle Parking Guidelines at any bus stops within the non-vehicle impact area based on the updated bicycle volumes.</p> <p>Remaining needs/questions: None</p>	<p>Assume the two bus stops at the OR 224/OR 212 intersection meet thresholds to install bike parking at an estimated cost of \$5,000 at each location.</p> <p>Yes – the planned bicycle system should be updated. Move the new mitigation to Step 4.</p>
Bicycle Unconstrained Needs <i>What are the gaps in the planned system within the impact area?</i>	<p>Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded bicycle projects within the non-vehicle impact area.</p> <p>Remaining needs/questions: None</p>	<p>If there is a planned but unconstrained eastbound bike lane project on SE Rock Creek Blvd, the project should be included in the mitigation calculations. Example assumes a bike lane project with an estimated cost of \$300,000.</p>

Assessment Question	Draft Process	Example Response for Plan Amendment ³
		Yes – include planned but unconstrained projects in Step 4.
Transit Planned System Should the planned system be updated based on the projected trip generation?	Review TriMet Bus Stop Guidelines at any bus stops within the non-vehicle impact area based on the updated transit trip volumes. Remaining needs/questions: None	Assume the northbound bus stop at the OR 224/OR 212 intersection meet thresholds to install a bus shelter with an estimated cost of \$50,000. Yes – the planned bicycle system should be updated. Move the new mitigation to Step 4.
Transit Unconstrained Needs What are the gaps in the planned system within the impact area?	Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded transit projects within the non-vehicle impact area. Remaining needs/questions: None	Assume no unconstrained projects identified. No – No projects to move forward.
Vehicle Planned System Should the planned system be updated based on the projected trip generation?	Review queuing at any freeway ramp terminals within the vehicle impact area based on the updated vehicular volumes. Remaining needs/questions: None	No freeway ramp terminals to review within the impact area. No – Do not need to update the planned system.
Hold for TSMO System	TBD	TBD
Step 4: Determine System Completeness Assessment (For all Modes and Including Freeway Queuing Analysis)		
What is the total cost of non-vehicle mitigations? What is the total cost of vehicle mitigations?	Add mitigations from previous steps.	Non-vehicle mitigation total: \$360,000 Vehicle mitigation total: \$0
What is the forecasted number of daily non-vehicular trips for	See previous trip generation step.	Plan amendment additional non-vehicular daily trips: 1,190 Plan amendment additional vehicular daily trips: 10,710

Assessment Question	Draft Process	Example Response for Plan Amendment ³
<p>the plan amendment?</p> <p>What is the forecasted number of daily non-vehicular trips for the plan amendment?</p>		
<p>What is the forecasted total of daily growth trips in the largest non-vehicle impact area? What number of trips are non-vehicular?</p> <p>What is the forecasted total of daily growth trips in the vehicle impact area? What number of trips are vehicular?</p>	<p>Request the total trips from the TAZs within the impact area for both the existing model year and future model year with the plan amendment.</p> <p>Determine the daily background growth trips within the area (future year daily trips minus existing year daily trips)</p> <p>Remaining needs/questions: None.</p>	<p>Non-vehicle impact area daily background growth trips: 23,800 (2,380 non-vehicular)</p> <p>Vehicle impact area daily background growth trips: 40,000 (36,000 vehicular)</p>
<p>What is the proportional share percentage for non-vehicle mitigations?</p> <p>What is the proportional share percentage for vehicle mitigations?</p>	<p>Proportional share percentage for non-vehicle mitigations if travel speed targets are met is</p> $\frac{\text{Plan amendment additional nonvehicular daily trips}}{\text{Impact area nonvehicular daily background growth trips}}$ <p>Proportional share percentage for non-vehicle mitigations if travel speed targets are not met but the vehicle system is complete is</p> $\frac{\text{Plan amendment additional daily trips (all modes)}}{\text{Impact area nonvehicular daily background growth trips (not to exceed 100%)}}$ <p>Proportional share percentage if travel speed targets are not met and vehicle system is incomplete</p> <p>% of vehicle mitigations</p> $\frac{\text{Plan amendment additional vehicular daily trips}}{\text{Impact area vehicular daily background growth trips}}$ <p>+</p> <p>% of non-vehicle mitigations</p> $\frac{\text{Plan amendment additional nonvehicular daily trips}}{\text{Impact area nonvehicular daily background growth trips}}$	<p>Example assumes travel speed thresholds are met.</p> <p>Proportional share percentage for non-vehicle mitigations:</p> $\frac{1,190}{2,380} = 50\%$

Assessment Question	Draft Process	Example Response for Plan Amendment ³
	<p>Remaining needs/questions:</p> <p>Procedure for proportional share when an increased multi-modal proportional share is triggered and the plan amendment daily trips exceed the multi-modal growth daily trips, resulting in a proportion over 100%.</p>	
<p><i>What is the proportional share for non-vehicle mitigations?</i></p> <p><i>What is the proportional share for vehicle mitigations?</i></p>	<p>Proportional share is the mitigation cost multiplied by the proportional share percentage.</p>	<p>Proportional share for non-vehicle mitigations: $\\$360,000 * 50\% = \\$180,000$</p> <p>Total mitigation cost = \$180,000 Mitigation can be met via a fee in lieu or building a planned project of an equivalent cost within the vehicular impact area.</p>

07 – Willamette Falls District Plan and Downtown District/MMA (City of Oregon City)

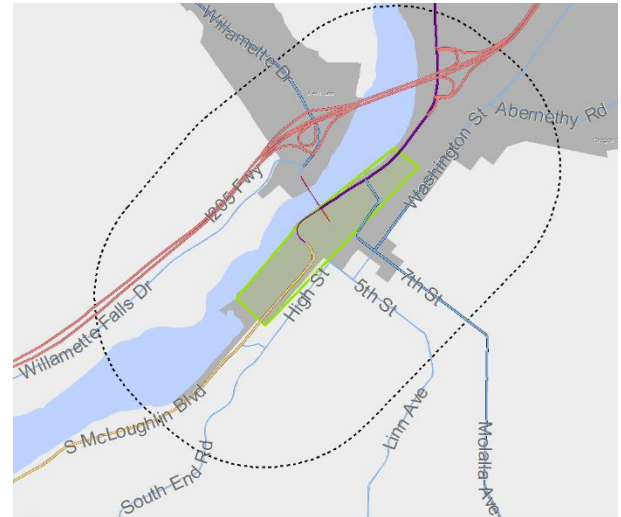
Plan Amendment Type:
Quasi-judicial

Description:

The result of a collaborative partnership between Oregon City, Clackamas County, Metro and the Governor’s Regional Solutions Team and a robust public process, adoption of the Willamette Falls Riverwalk Master Plan included a zone change and comprehensive plan map and text amendments for the site. The City’s action included designating the site a Multimodal Mixed-Use Area (MMA) to allow more intensive uses consistent with the master plan.

Plan Amendment Area:

- Within a 2040 Center
- Roadways include freeways, highways, regional and community boulevards, and regional and community streets



The following process would be completed under the draft policy. Answer the following questions for the forecast 20-year horizon of the proposed plan amendment.

Assessment Question	Draft Process	Example Response for Plan Amendment ⁴
Step 1: Determine if There is Significant Impact (VMT/capita)		
<i>Does the trip generation surpass the significant impact threshold?</i>	<p>Use most recent ITE Trip Generation Manual to determine daily trips for “reasonable worst-case” of plan amendment compared to existing land use assumptions.</p> <p>Remaining needs/questions: Apply existing TPR thresholds or consider modified thresholds.</p>	Yes – example assumes the trip generation surpasses the threshold
<i>Does the plan amendment:</i>		
<i>Increase development potential in a District² where forecast VMT/capita for home-based trips</i>	Use existing Metro model output (with existing land use assumptions) to review future year VMT/capita	Example assumes amendment is located in a District where both are lower than the region average

⁴ The term “assumes” is used because a full analysis with values from the Metro model, trip generation, and before/after data could not be completed at this time.

Assessment Question	Draft Process	Example Response for Plan Amendment ⁴
<p>or VMT/employee for commute trips to/from work is lower than the region average.</p> <p>or</p> <p>Lower forecast VMT/capita for home-based trips or lower VMT/employee for commute trips to/from work for the District as compared to existing land use conditions (which output reviewed is dependent upon the predominant land use change proposed)</p>	<p>for home-based trips or VMT/employee for commute trips to/from work for both the District and region.</p> <p>Request new Metro model run for future year District outputs with the proposed plan amendment in place. Compare to existing land use conditions</p> <p>Remaining needs/questions: Districts to be determined. Guidance for determining “development potential”.</p>	<p>Yes – increased development potential for employment</p> <p>No need to review based on previous answer</p>
<p>Does the plan amendment have a significant impact?</p>	<p>Review previous step.</p>	<p>No – Do not need to complete additional assessments; however, land use amendment was at a scale that warrants updating the transportation system plan and applying the measures for system planning. The policy needs to clarify the scale at which reviewing/updating the transportation system plan is triggered.</p>

09 – Tigard Triangle District Plan (City of Tigard)

Plan Amendment Type:

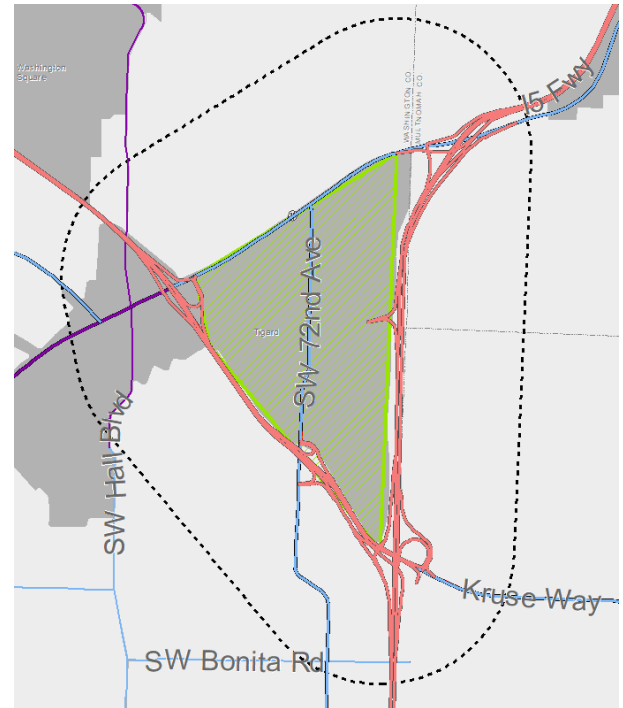
Legislative

Description:

In 2017, the City sought to amend current zoning to implement the Tigard Triangle District Plan. The proposed amendment changed zoning of some land within the district from Mixed-Use Employment (MUE) (which permits both commercial and multi-family residential development) and General Commercial (C-G) to a new Triangle Mixed-use Zone.

Plan Amendment Area:

- Within a 2040 Center
- Roadways include freeways, regional and community boulevards, and regional streets



The following process would be completed under the draft policy. Answer the following questions for the forecast 20-year horizon of the proposed plan amendment.

Assessment Question	Draft Process	Example Response for Plan Amendment ⁵
Step 1: Determine if There is Significant Impact (VMT/capita)		
<i>Does the trip generation surpass the significant impact threshold?</i>	<p>Use most recent ITE Trip Generation Manual to determine daily trips for “reasonable worst-case” of plan amendment compared to existing land use assumptions.</p> <p>Remaining needs/questions: Apply existing TPR thresholds or consider modified thresholds.</p>	Yes – Example assumes the trip generation surpasses the threshold
<i>Does the plan amendment:</i> <i>Increase development potential in a District² where forecast VMT/capita for home-based trips or VMT/employee for commute</i>	Use existing Metro model output (with existing land use assumptions) to review future year VMT/capita for home-based trips or VMT/employee for commute trips	<p>Located in a District where both are lower than the region average</p> <p>Yes – increased development potential for both residential and employment</p>

⁵ The term “assumes” is used because a full analysis with values from the Metro model, trip generation, and before/after data could not be completed at this time.

Assessment Question	Draft Process	Example Response for Plan Amendment ⁵
trips to/from work is lower than the region average. or Lower forecast VMT/capita for home-based trips or lower VMT/employee for commute trips to/from work for the District as compared to existing land use conditions (which output reviewed is dependent upon the predominant land use change proposed)	to/from work for both the District and region. Request new Metro model run for future year District outputs with the proposed plan amendment in place. Compare to existing land use conditions Remaining needs/questions: Districts to be determined. Guidance for determining “development potential”.	No need to review based on previous answer
Does the plan amendment have a significant impact?	Review previous step.	No – Do not need to complete additional assessments

12 – South Hillsboro Community Plan Development (City of Hillsboro)

Plan Amendment Type:

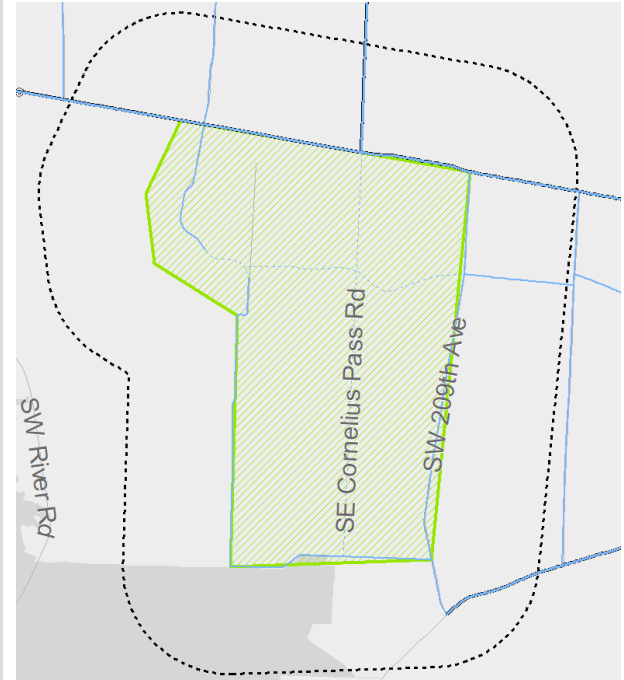
Quasi-judicial

Description:

The City of Hillsboro developed the South Hillsboro Community Plan in 2015 as an appendix to its comprehensive plan. This action was based in part on the outcomes of the Tualatin Valley Highway Corridor Plan, which was adopted in 2013 after a collaborative planning effort that included ODOT, Washington County, and other regional partners. The plan area covers approximately 1,400 acres of developed and undeveloped land.

Plan Amendment Area:

- Not within a 2040 Center
- Roadways include regional and community streets (existing and proposed)

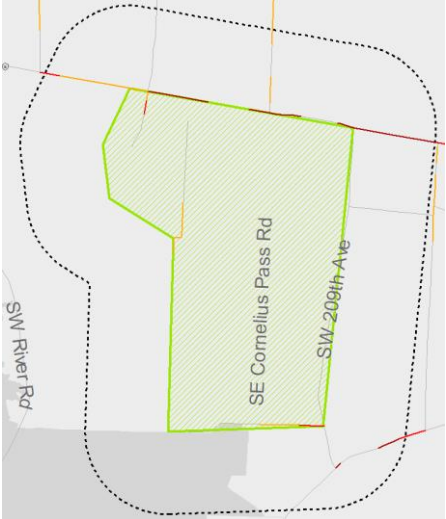



The following process would be completed under the draft policy. Answer the following questions for the forecast 20-year horizon of the proposed plan amendment.

Assessment Question	Draft Process	Example Response for Plan Amendment ⁶
Step 1: Determine if There is Significant Impact (VMT/capita)		
<i>Does the trip generation surpass the significant impact threshold?</i>	<p>Use most recent ITE Trip Generation Manual to determine daily trips for “reasonable worst-case” of plan amendment compared to existing land use assumptions.</p> <p>Remaining needs/questions: Apply existing TPR thresholds or consider modified thresholds.</p>	Yes, example assumes the trip generation surpasses the threshold
<i>Does the plan amendment:</i> <i>Increase development potential in a District² where forecast VMT/capita for</i>	Use existing Metro model output (with existing land use assumptions) to review future year VMT/capita for home-based trips or VMT/employee for commute trips to/from work for both the District and region.	Not applicable

⁶ The term “assumes” is used because a full analysis with values from the Metro model, trip generation, and before/after data could not be completed at this time.

Assessment Question	Draft Process	Example Response for Plan Amendment ⁶
<p><i>home-based trips or VMT/employee for commute trips to/from work is lower than the region average.</i></p> <p><i>or</i></p> <p><i>Lower forecast VMT/capita for home-based trips or lower VMT/employee for commute trips to/from work for the District as compared to existing land use conditions (which output reviewed is dependent upon the predominant land use change proposed)</i></p>	<p>Request new Metro model run for future year District outputs with the proposed plan amendment in place. Compare to existing land use conditions</p> <p>Remaining needs/questions: Districts to be determined. Guidance for determining “development potential”.</p>	<p>VMT/capita for home-based trips – No, example assumes the District output increases</p> <p>VMT/employee for commute trips to/from work – Yes, but employment is not the predominant land use change impact</p>
<p><i>Does the plan amendment have a significant impact?</i></p>	<p>Review previous step.</p>	<p>Yes – further reliability measure assessment required</p>
Step 2: Reliability Measure Assessment (Travel Speed)		
<p><i>Determine modal trips and determine the vehicular impact area.</i></p>	<p>Determine modal trips by applying the planned mode splits to the previously calculations vehicular trip generation. Assign the trips to the network and select analysis segments along a routing distance of 0.5 miles.</p> <p>Remaining needs/questions: Guidance for agencies to develop and/or use planned mode splits. Apply RTP targets or refined targets from local TSPs, or other process?</p>	<p>Example assumes the planned non-vehicle mode split is 20%.</p> <p>Assumed RTP streets included in vehicular impact area: OR 8 (TV Highway), SE Cornelius Pass Rd, new roadway extension of SE Cornelius Pass Rd, SE Century Blvd, new roadway extension of SE Century Blvd, SW 209th Ave, SW Kinnaman Rd, new roadway extension of SW 209th Ave, SW Kinnaman Rd, SW Rosedale Rd, and SW Farmington Rd</p>
<p><i>What impacts does the plan amendment have on travel speed? Are</i></p>	<p><i>Method 1: Request Metro’s TDM model output to review forecast year hourly travel speed for both current and proposed land use conditions.</i></p>	<p>Arterials outside of 2040 centers: Off-peak average speed of 15 mph (including signal delays) or higher</p>

Assessment Question	Draft Process	Example Response for Plan Amendment ⁶
mitigations needed to maintain performance or avoid degradation?	<p><i>Method 2 (only applicable for a signalized corridor): Determine the analysis volumes, using Metro's TDM model volume output to forecast to the future year. Use a deterministic model, such as Synchro, to analyze the key analysis hour(s) based on Table 2 of the draft policy.</i></p> <p>Remaining needs/questions: Guidance about which of the two methods to use under what conditions. Guidance about analysis segmentation based on the tools used. Verify with Metro that the Metro model incorporates all financially constrained projects into the future year model, as applicable.</p>	<p>up to speed limit for 20 hours per day</p> <p>If segments of OR 8 do not meet the threshold:</p> <p>Yes – mitigations are needed if facility is not complete</p> 
Are the impacted roadway segments considered complete?	<p><i>Use the RTP system sizing policies to review each modeled roadway link against its RTP motor vehicle designation. The roadway is considered complete if it already meets the sizing policy maximums for:</i></p> <ul style="list-style-type: none"> • Number of through lanes • Presence and number of left turn lanes • Presence of right turn lanes <p>Remaining needs/questions: Guidance from Metro for interpreting the model inputs against the RTP system sizing policies.</p>	<p>If the identified segments of OR 8 are not considered complete based on the RTP system sizing policies:</p> <p>No – the roadway segments are not complete</p> <p>Example assumed an estimated cost of \$300,000 to install a right-turn lane on OR 8 to “complete” the roadway.</p>
Step 3: System Completeness Assessment (For all Modes and Including Freeway Queuing Analysis)		
Determine the modal impact areas.	Assign the previously calculated modal trips to the network and select analysis segments along a routing distance of 0.25 to 0.5 miles, depending on mode.	Assumed RTP streets within 0.25-mile (non-vehicle) impact area: OR 8 (TV Highway), SE Cornelius Pass Rd, new roadway extension of SE Cornelius Pass Rd, SE Century Blvd, new roadway extension of SE

Assessment Question	Draft Process	Example Response for Plan Amendment ⁶
	<p>Remaining needs/questions:</p> <p>Guidance for agencies to develop and/or use planned mode splits. Apply RTP targets or refined targets from local TSPs, or other process?</p>	<p>Century Blvd, SW 209th Ave, SW Kinnaman Rd, new roadway extension of SW 209th Ave, SW Kinnaman Rd, and SW Rosedale Rd</p> <p>Assumed RTP streets within 0.5-mile (vehicle) impact area: OR 8 (TV Highway), SE Cornelius Pass Rd, new roadway extension of SE Cornelius Pass Rd, SE Century Blvd, new roadway extension of SE Century Blvd, SW 209th Ave, SW Kinnaman Rd, new roadway extension of SW 209th Ave, SW Kinnaman Rd, SW Rosedale Rd, and SW Farmington Rd</p> 
<p>Pedestrian Planned System</p> <p><i>Should the planned system be updated based on the projected trip generation?</i></p>	<p>Review NCHRP 562 at any pedestrian crossings within the non-vehicle impact area based on the updated pedestrian volumes.</p> <p>Remaining needs/questions:</p> <p>Guidance on whether and how to include existing crossing or pedestrian volumes as part of the review of NCHRP 562.</p>	<p>Example assumes no increased needs found for the existing and planned pedestrians crossings within the impact area.</p> <p>No – Do not need to update the planned system.</p>
<p>Pedestrian Unconstrained Needs</p> <p><i>What are the gaps in the planned system within the impact area?</i></p>	<p>Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded pedestrian projects within the non-vehicle impact area.</p> <p>Remaining needs/questions:</p> <p>None</p>	<p>If there is a planned but unconstrained multi-use path project along OR 8, the project should be included in the mitigation calculations. Assumed a multi-use path project with an estimated cost of \$800,000.</p>

Assessment Question	Draft Process	Example Response for Plan Amendment ⁶
		Yes – include planned but unconstrained projects in Step 4.
Bicycle Planned System Should the planned system be updated based on the projected trip generation?	Review TriMet Bicycle Parking Guidelines at any bus stops within the non-vehicle impact area based on the updated bicycle volumes. Remaining needs/questions: None	Assumed no increased bicycle parking needs found for the bus stops within the impact area. No – Do not need to update the planned system.
Bicycle Unconstrained Needs What are the gaps in the planned system within the impact area?	Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded bicycle projects within the non-vehicle impact area. Remaining needs/questions: None	Assume no unconstrained projects identified. No – No projects to move forward.
Transit Planned System Should the planned system be updated based on the projected trip generation?	Review TriMet Bus Stop Guidelines at any bus stops within the non-vehicle impact area based on the updated transit trip volumes. Remaining needs/questions: None	No bus stops within the impact area. No – Do not need to update the planned system.
Transit Unconstrained Needs What are the gaps in the planned system within the impact area?	Review the unconstrained project list from the local TSP and/or regional RTP to determine unfunded transit projects within the non-vehicle impact area. Remaining needs/questions: None	If there is a planned but unconstrained lighting project in support of the bus stops on OR 8, the project should be included in the mitigation calculations. Example assumes a lighting project with an estimated cost of \$300,000. Yes – include planned but unconstrained projects in Step 4.
Vehicle Planned System Should the planned system be updated based on the projected trip generation?	Review queuing at any freeway ramp terminals within the vehicle impact area based on the updated vehicular volumes. Remaining needs/questions: None	No freeway ramp terminals to review within the impact area. No – Do not need to update the planned system.

Assessment Question	Draft Process	Example Response for Plan Amendment ⁶
<i>Hold for TSMO System</i>	TBD	TBD
Step 4: Determine System Completeness Assessment (For all Modes and Including Freeway Queuing Analysis)		
<i>What is the total cost of non-vehicle mitigations?</i> <i>What is the total cost of vehicle mitigations?</i>	Add mitigations from previous steps.	Non-vehicle mitigation total: \$1,100,000 Vehicle mitigation total: \$300,000
<i>What is the forecasted number of daily non-vehicular trips for the plan amendment?</i> <i>What is the forecasted number of daily non-vehicular trips for the plan amendment?</i>	See previous trip generation step.	Plan amendment additional non-vehicular daily trips: 16,210 Plan amendment additional vehicular daily trips: 64,860
<i>What is the forecasted total of daily growth trips in the largest non-vehicle impact area? What number of trips are non-vehicular?</i> <i>What is the forecasted total of daily growth trips in the vehicle impact area? What number of trips are vehicular?</i>	Request the total trips from the TAZs within the impact area for both the existing model year and future model year with the plan amendment. Determine the daily background growth trips within the area (future year daily trips minus existing year daily trips) Remaining needs/questions: None.	Non-vehicle impact area daily background growth trips: 105,000 (21,000 non-vehicular) Vehicle impact area daily background growth trips: 150,000 (120,000 vehicular)
<i>What is the proportional share percentage for non-vehicle mitigations?</i>	Proportional share percentage for non-vehicle mitigations if travel speed targets are met is $\frac{\text{Plan amendment additional nonvehicular daily trips}}{\text{Impact area nonvehicular daily background growth trips}}$	Example assumes travel speed thresholds are not met and vehicle system is incomplete. Proportional share percentage for non-vehicle mitigations:

Assessment Question	Draft Process	Example Response for Plan Amendment ⁶
What is the proportional share percentage for vehicle mitigations?	<p>Proportional share percentage for non-vehicle mitigations if travel speed targets are not met but the vehicle system is complete is</p> $\frac{\text{Plan amendment additional daily trips (all modes)}}{\text{Impact area nonvehicular daily background growth trips (not to exceed 100%)}}$ <p>Proportional share percentage if travel speed targets are not met and vehicle system is incomplete</p> <p>% of vehicle mitigations</p> $\frac{\text{Plan amendment additional vehicular daily trips}}{\text{Impact area vehicular daily background growth trips}}$ <p>+</p> <p>% of non-vehicle mitigations</p> $\frac{\text{Plan amendment additional nonvehicular daily trips}}{\text{Impact area nonvehicular daily background growth trips}}$ <p>Remaining needs/questions: Procedure for proportional share when an increased multi-modal proportional share is triggered and the plan amendment daily trips exceed the multi-modal growth daily trips, resulting in a proportion over 100%.</p>	$\frac{16,210}{21,000} = 77\%$ <p>Proportional share percentage for vehicle mitigations:</p> $\frac{64,840}{120,000} = 54\%$
<p>What is the proportional share for non-vehicle mitigations?</p> <p>What is the proportional share for vehicle mitigations?</p>	<p>Proportional share is the mitigation cost multiplied by the proportional share percentage.</p>	<p>Proportional share for non-vehicle mitigations: \$1,100,000 * 77% = \$849,000</p> <p>Proportional share for vehicle mitigations: \$300,000 * 54% = \$162,000</p> <p>Total mitigation cost = \$1,011,000 Mitigation can be met via a fee in lieu or building a planned project of an equivalent cost within the vehicular impact area.</p>

Example travel speed output from the Metro travel demand model:

Travel Speed																			
	OBJECTID *	Shape *	ID	INODE	JNODE	LENGTH	LANES	DATA1	DATA3	F_spd00	F_spd01	F_spd02	F_spd03	F_spd04	F_spd05	F_spd06	F_spd07	F_spd08	F_spd09
	14612	Polyline	54965-57082	54965	57082	0.073	2.5	45	1800	41	41	41	41	41	40	39	39	39	39
	14613	Polyline	54965-54964	54965	54964	0.102	3.5	45	1800	42	42	42	42	42	41	19	17	22	32
	14617	Polyline	54967-80332	54967	80332	0.145	2.5	35	1800	34	34	34	34	34	33	32	32	32	32
	14619	Polyline	54967-80021	54967	80021	0.085	2.5	35	1800	35	35	35	35	34	34	33	33	33	33
	14620	Polyline	54968-80332	54968	80332	0.175	2.5	35	1800	34	34	34	34	34	33	33	32	33	33
	14621	Polyline	54968-52812	54968	52812	0.074	3.5	25	900	24	24	24	24	24	24	24	23	24	24
	14622	Polyline	54968-54845	54968	54845	0.06	1.5	45	500	45	45	45	45	45	45	44	44	44	44
	14623	Polyline	54968-58709	54968	58709	0.404	2.5	35	1800	35	35	35	35	35	34	34	33	34	34
	14629	Polyline	54970-60162	54970	60162	0.361	2.5	45	1800	44	44	44	44	43	41	41	40	39	36
	14630	Polyline	54970-57717	54970	57717	0.32	2.5	45	1800	44	44	44	43	43	38	29	28	29	33
	14631	Polyline	54971-59752	54971	59752	0.051	3.5	35	900	32	32	32	32	31	31	15	11	18	30
	14632	Polyline	54971-80002	54971	80002	0.14	1.5	35	900	35	35	35	35	35	35	34	34	34	34
	14633	Polyline	54972-52538	54972	52538	0.607	1	35	700	35	35	35	35	35	35	35	35	35	35
	14634	Polyline	54972-66868	54972	66868	0.335	1	45	700	45	45	45	45	45	45	41	40	42	44
	14639	Polyline	54975-54905	54975	54905	0.176	1.5	40	900	39	39	39	39	38	37	35	33	36	37
	14640	Polyline	54975-57420	54975	57420	0.714	1.5	40	900	40	40	40	40	40	39	39	38	38	38
	14642	Polyline	54976-58912	54976	58912	0.236	2.5	45	1800	45	45	45	45	45	44	43	43	42	43
	14643	Polyline	54976-55028	54976	55028	0.288	1	40	900	40	40	40	40	39	38	32	29	34	36
	14644	Polyline	54976-58623	54976	58623	0.058	2.5	45	2000	45	45	45	45	45	45	45	45	45	44
	14645	Polyline	54978-54084	54978	54084	0.023	3.5	35	1800	28	28	28	28	28	28	28	27	28	28
	14646	Polyline	54978-54061	54978	54061	0.095	2.5	35	1800	33	33	33	33	33	32	31	31	31	32
	14661	Polyline	54987-53683	54987	53683	0.707	2	45	2400	44	44	44	44	44	44	42	41	42	42
	14662	Polyline	54987-59215	54987	59215	0.209	2	45	2400	43	43	43	44	43	43	43	43	42	42
	14663	Polyline	54988-55845	54988	55845	0.629	3	55	6000	55	55	55	55	54	53	47	46	48	50
	14664	Polyline	54989-53866	54989	53866	0.31	1.5	35	1200	34	34	34	34	34	33	29	25	29	31
	14665	Polyline	54989-67349	54989	67349	0.242	1.5	35	1200	35	35	35	35	34	31	21	20	24	28

Example travel speed output from Synchro:

Arterial Level of Service: EB OR 214

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
I-5 Northbound Ramp	III	35	18.4	15.0	33.4	0.14	15.5	D
Evergreen Rd	III	35	21.7	43.1	64.8	0.17	9.4	F
Oregon Way	III	35	15.5	6.9	22.4	0.12	18.5	C
Settlemyer Ave	III	35	71.5	92.3	163.8	0.70	15.3	D
5th St	III	35	32.4	12.4	44.8	0.27	21.7	C
OR 99E	III	35	119.4	91.7	211.1	1.16	19.8	C
Total	III		278.9	261.4	540.3	2.55	17.0	D