



Appendix I-D: Evaluation Criteria for Selecting a Preferred Growth Alternative

This appendix includes a set of overarching goals and key measures used by the Growth Management Policy board to help with the selection of the preferred growth alternative.

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A. OVERVIEW OF THE EVALUATION CRITERIA

1. Purpose and Nature

The **purpose** of the evaluation criteria were to assess the alternatives studied in the Draft and Supplemental Draft Environmental Impact Statements in order to assist the Growth Management Policy board in their selection of a preferred growth alternative. The **nature** of the evaluation criteria was that of one tool among many (Additional information regarding the Board's approach to selecting a preferred growth alternative is shown in *Attachment 1* of this appendix). The evaluation criteria helped the Board to compare alternatives on a variety of measures and in relationship to a series of goals that the Board adopted to be advanced by the preferred growth alternative. Any ranking implied by the evaluation criteria was meant to inform the Board's decision, not drive or bind it.

2. Summary Description

The evaluation criteria contain four overarching goals as well as a series of 40-plus measures that fall within nine topic categories.

The Growth Management Policy Board identified the following four overarching goals that should be advanced by the preferred growth alternative:

- Promote an overall high quality of life.
- Create an efficient land use pattern for the provision of infrastructure, facilities, and services.
- Protect the natural environment.
- Enhance human potential and social justice.

In order to compare the alternatives to the four goals listed above, the Board adopted a series of measures under the following nine topic categories:

- Environmental quality.
- Health.
- Economic prosperity (the objectives of the *Regional Economic Strategy*).
- Land use.
- Transportation (the objectives of *Destination 2030*).
- Social justice & human potential.
- Maintaining rural character.
- Protecting resource lands.
- Efficiencies in the provision and use of infrastructure, public facilities, & services.

3. Revisions to Published Criteria in the Draft Environmental Impact Statement

In June 2006, shortly following the release of the Draft Environmental Impact Statement, Regional Council staff reassessed the published Evaluation Criteria and proposed to update the measures to better reflect the information contained in the document.

The Growth Management Policy Board worked through these revisions and suggested some additional changes. The changes are all reflected in this document. Where revisions have been made, the objective was *not* to change the intent of the measure, but rather to more clearly express the measure and its accompanying unit of measurement. All of the revisions to the published evaluation criteria, as well as the rationale for the revisions, are shown in *Attachment 2* of this appendix.

The majority of these changes were minor; however, one major change was to remove a quantitative scoring component that was included in the draft criteria published in the Draft Environmental Impact Statement. The rationale for not including a scoring was that the measures were not weighted and therefore assigning scoring would make all measures equal to one another. Second, scoring implied a level of precision that some Board members did not believe was useful. Last, scoring might require statistical analysis, for example on quantitative measures that were essentially tied, which again implied an inappropriate level of precision.



In response to Board members' concerns regarding scoring, the measures now rank only one alternative as having the best/highest relationship to the goal/measure. This alternative is identified using a check mark (☑). Where the analysis shows a second alternative being essentially tied as best, a second check mark is shown. If the analysis finds an alternative being close to the best, but of slightly lesser magnitude, a smaller check mark (☒) is shown. Where the analysis shows all the alternatives being similar or no conclusive determination is made (i.e., where a tradeoff exists that cannot easily be resolved based on either environmental or policy analysis), check marks are shown for all four of the alternatives.

4. Summary of Findings

Applying the evaluation criteria was, overall, a fairly straightforward technical process. The analysis, which is based upon information contained in the Draft and Supplemental Draft Environmental Impact Statements (with some supplementary analysis of the data), found no measures that defied explanation or were counter-intuitive.

While the Draft and Supplemental Draft Environmental Impact Statements acknowledges that tradeoffs exist among the alternatives, the application of the evaluation criteria found that some alternatives fare significantly better than others in terms of meeting the criteria.

For a few measures, the analysis found that growth distribution does not matter. However, for most of the measures, growth distribution does seem to matter, and the focused growth alternatives provided the most promising result.

The following table provides, in matrix format, a listing of all of the rankings discussed in the appendix. More detailed conclusions are provided in section C.

COMBINED LISTING OF EVALUATION CRITERIA RANKINGS

	VISION 2020 Update Alternatives				
	Preferred Growth	Growth Targets Ext.	Metropolitan Cities	Larger Cities	Smaller Cities
1. Environmental Quality					
1A. Imperviousness	☑				
1B. Wastewater Generation	☑	☑	☑	☑	☑
1C. Solid Waste Generation	☑	☑	☑	☑	☑
1D. Air Quality	☑			☑	
1E. Climate Change	☒		☑	☑	
1F. Noise	☑	☑	☑	☑	☑
1G. Water Quality and Hydrology	☑		☑	☑	
1H. Parks and Recreation				☑	
1I. Visual Quality and Aesthetic Resources	☑		☑	☑	
1J. Historic and Cultural Resources				☑	
1K. Ecosystem Health	☒		☑		



COMBINED LISTING OF EVALUATION CRITERIA RANKINGS

	VISION 2020 Update Alternatives				
	Preferred Growth	Growth Targets Ext.	Metropolitan Cities	Larger Cities	Smaller Cities
2. Health					
2A. Potential for Physical Activity			<input checked="" type="checkbox"/>		
2B. Proximity to Parks			<input checked="" type="checkbox"/>		
2C. Environmental Health					<input checked="" type="checkbox"/>
2D. Potential for Reducing Automobile Injuries	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Economic Prosperity					
3A. Access to Jobs - Transit Adjacency to Employment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3B. Geographic Relationship - Land Area with 20 Jobs Per Acre or Above	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
3C. Geographic Relationship - Proximity of People to Land Area with 20 Jobs Per Acre or Above	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
3D. Jobs/Housing Balance - Regional Share of Jobs in Everett, Tacoma, and Bremerton	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
3E. Jobs/Housing Balance - Regional Share of Population in Seattle and East King County Subarea			<input checked="" type="checkbox"/>		
4. Land Use (includes Maintaining Rural Character & Protecting Resource Lands)					
4A. Transit Adjacency to Population	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4B. Urban Areas - Amount of Population in Cities with Regional Growth Centers			<input checked="" type="checkbox"/>		
4C. Rural Area - Population Levels in Rural Area	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4D. Rural Area - Minimizing Potential for Conversion of Rural Land to Urban Land	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4E. Rural Area - Environmental Impacts in Rural Areas	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4F. Rural Area - Transportation Impacts in Rural Areas	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4G. Rural Areas - Maintenance of Rural Character	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4H. Resource Lands - Protection of Resource Lands	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4I. Overall Land Use Impacts	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



COMBINED LISTING OF EVALUATION CRITERIA RANKINGS

	VISION 2020 Update Alternatives				
	Preferred Growth	Growth Targets Ext.	Metropolitan Cities	Larger Cities	Smaller Cities
5. Transportation					
5A. Travel Distance	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
5B. Travel Time	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
5C. Daily Vehicle Miles Traveled	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
5D. Daily Vehicle Hours Traveled	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
5E. Daily Hours of Delay	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
5F. Work Trip Mode Split	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
5G. Household Access to Jobs - 10 Minute Walk (1/2 Mile)			<input checked="" type="checkbox"/>		
5H. Household Access to Jobs - 20 Minute Bike Ride (4 Miles)			<input checked="" type="checkbox"/>		
5I. Household Access to Jobs - 30 Minute Transit Ride	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
6. Efficiencies in the Provision and Use of Infrastructure, Public Facilities and Services					
6A. Public Services and Facilities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
6B. Water Supply	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
6C. Sanitary Sewer	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
6D. Overall Energy Use (Electric, Natural Gas, and Petroleum)				<input checked="" type="checkbox"/>	
7. Environmental Justice					
7A. Distribution of Employment Growth Compared to Locations of Environmental Justice Populations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
7B. Access to Transportation Services and Facilities	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
7C. Overall Judgment of Impact on EJ Populations	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

B. APPLICATION OF EVALUATION CRITERIA

This section applies the evaluation criteria, resulting in check marks () for the best/highest alternative(s). Given that there are more than 40 individual measures, each measure is described in summary fashion. The summary description includes the name of the measure, the unit of measurement (and data source, where applicable), the rationale for why the measure is meaningful, and a brief discussion describing the analysis and its identification of one alternative as the best/highest.

The rationale and discussion sections summarize either discrete elements, or the full analysis in one of the Draft and Supplemental Draft Environmental Impact Statement chapters. Neither the rationale or discussion sections are meant to be comprehensive or substitute for the documents.

For some measures, data that is contained in the Draft and Supplemental Draft Environmental Impact Statements need to be recalculated to match the measure. These calculations are shown in *Attachment 3* of this appendix.



1. Environmental Quality

This topic area has 12 measures: (a) imperviousness, (b) wastewater generation, (c) solid waste generation, (d) air quality, (e) climate change, (f) noise, (g) earth, (f) water/stormwater, (h) parks and recreation, (i) visual and aesthetic quality, (j) historic and cultural resources, and (k) ecosystem health.

Measure:	<u>1A. Imperviousness</u>				
Unit:	Amount of Land in Over 30% Imperviousness Category <i>(based on data derived from INDEX sketch planning tool)</i>				
Rationale:	A key indicator of the health of the region's water resources is the amount of impervious surface in each basin, or across the region as whole. The frequency and intensity of peak hydrological flows and the volume of stormwater runoff all increase when imperviousness increases. Higher levels of imperviousness are connected to elevated summer water temperatures and more polluted runoff entering streams and water bodies. When levels of impervious exceed threshold levels (often cited in the literature at about 30% or greater) impacts to environmental function increase.				
Discussion:	All of the alternatives increase the amount of land that falls into the over 30% imperviousness category. However, by focusing growth into the fewest places in the region (areas that are already urbanized), creating higher densities in these areas, and by creating mixed use areas (which are estimated to be more permeable than single purpose commercial districts), the Preferred Growth Alternative accommodates the growth with the least amount of land in the over 30% category (380 square miles) in 2040.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>				



Measure:	<u>1B. Wastewater Generation</u>				
Unit:	Gallons Per Year (based on INDEX data)				
Rationale:	The amount of wastewater generated from sewers is both an infrastructure and pollution issue (note: the distributional impacts on utilities in different types of areas in the region is addressed under topic area #6 - Infrastructure). During heavy periods of rain, wastewater conveyance systems (which in many locations are not separated from stormwater overflow systems) are impacted by stormwater and can overflow, causing a release of untreated sewage. Municipalities need to address these combined systems at great expense. Alternatives that limit wastewater generation, or create an economy of scale for creating parallel wastewater and stormwater systems) are desirable.				
Discussion:	The INDEX tool includes a standard population-based assumption regarding wastewater generation rates - regardless of the size of a housing unit, or whether the building type is single family or multifamily, or whether the location is urban or rural. As such, all of the alternatives perform at essentially identical levels in 2040 at the regional scale.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Measure:	<u>1C. Solid Waste Generation</u>				
Unit:	Pounds Per Year (based on INDEX data)				
Rationale:	Similar to wastewater, solid waste generation is an infrastructure, service provision, and pollution issue. However, given that most of the region's waste is transported to landfills outside of the area, it is predominantly a service provision issue. Alternatives that limit solid waste generation are desirable.				
Discussion:	Similar to wastewater, INDEX includes a standard population-based assumption regarding solid waste generation rates that are not sensitive to location, building type, or other factors. As such, all of the alternatives perform at essentially identical levels in 2040 at the regional scale.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Measure:	<u>1D. Air Quality</u>				
Unit:	Particulate Matter, Carbon Monoxide, Nitrogen Oxide Emissions <i>(based on PSRC's MOBILE 6.2 Air Quality Model data)</i>				
Rationale:	Air pollution comes from many different sources, including industry, transportation, construction, agriculture, and residential uses. It affects both human health and the natural environment. Air pollution trends in the region have generally followed national trends over the last 20 years and, due to technological improvements assumed over the forecast years, emissions factors are assumed to be lower in 2040 than today.				
Discussion:	While overall emissions are assumed to decline, the alternatives vary in the level of decline by 2040. Given some of the best transportation results, the Larger Cities Alternative is estimated to have the lowest levels of emissions (on a regionwide scale as opposed to a localized scale) of carbon monoxide, nitrogen oxide, and fine particulate matter. For coarser particulate matter, the alternative is comparable to some of the other alternatives. Overall, Larger Cities is the best for air quality.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
				<input checked="" type="checkbox"/>	

Measure:	<u>1E. Climate Change</u>				
Unit:	Carbon Dioxide Emissions <i>(based on PSRC's MOBILE 6.2 Air Quality Model data)</i>				
Rationale:	An emerging and consequential issue for our region's people, economy, natural systems, and infrastructure, climate change is affected by human activities. Rising temperatures will impact precipitation, alter forests and crop yields, affect species and the food chain, affect water levels and temperatures, and will affect the region's snow pack. The production of fewer carbon dioxide emissions is desirable.				
Discussion:	In the Puget Sound region, 50 percent of the emissions are attributable to transportation sources. Other sources include industry, agriculture, and landfills. The alternatives that focus growth (such as the Metropolitan Cities, Preferred Growth, and Larger Cities alternatives) and thereby decrease vehicle miles and hours traveled, and reduce estimated levels of delay, are anticipated to generate lower levels of greenhouse gases. The preferred growth alternative ranked in the middle of the alternatives – yet closer to the focused growth alternatives – producing somewhat more emissions than the Metropolitan Cities and Larger Cities alternatives, but less than either the Growth Targets Extended or Smaller Cities alternatives. These alternatives are therefore ranked as best.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<i>1F. Noise</i>				
Unit:	Overall judgment from analysis in chapter 5.14 of the DEIS				
Rationale:	Noise levels impact both wildlife and human health, interfering with thought, sleep and wildlife's reproductive success and likelihood of survival. Urbanization affects noise exposure through proximity (crowding, adjacency to noisy land uses, concentrated transportation activity) and through physical changes such as the replacement of vegetation with paved surfaces and buildings. Noise decreases with distance from the source, making mitigation and design important.				
Discussion:	<p>All of the alternatives increase human activity and development, and likely urbanization. More so, the alternatives vary in the distribution of growth in relation to areas already characterized by high levels of noise. Alternatives that focus growth expose more people to noise sources, whereas alternatives that disperse growth expose more parts of the region to higher noise levels. A clear tradeoff exists, but it is a judgment call as to which is the best alternative.</p> <p>If minimizing human exposure to sources creating higher noise levels is used as a proxy, the Smaller Cities alternative may be the best. If vehicle miles traveled is used as a proxy, the Larger Cities alternative is the best. If wildlife exposure to noise is used as a proxy, the Metropolitan Cities and Preferred Growth alternatives may be the best. If maintenance of noise levels in rural areas is used as a proxy, the focused growth alternatives (Metropolitan Cities, Preferred Growth, and Larger Cities) are the best. These tradeoffs are not readily comparable, and mitigation under the alternatives is likely to be different; therefore, all of the alternatives are ranked equally.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Measure:	<u>1G. Water Quality and Hydrology</u>				
Unit:	Overall judgment from analysis in chapter 5.6 of the DEIS				
Rationale:	Water resources are key elements of this region's setting - from its waterways to the Puget Sound to the region's signature species, the salmon. They affect the economy, human and species health, and the region's overall quality of life. Key issues are imperviousness (<i>addressed under measures 1A</i>) stormwater, impaired waters, and floodplains.				
Discussion:	<p>Water resources will be impacted to some degree under all of the alternatives through development and increased transportation and water withdrawals. Generally, rural and unincorporated urban growth areas have the most pristine existing resources and urban areas have the least. Overall, growth would be expected to cause the least amount of change in already urbanized areas and the most amount of change in outlying areas.</p> <p>Alternatives that focus growth (such as the Metropolitan Cities, Preferred Growth, and Larger Cities alternatives) into already urbanized areas, and reduce transportation impacts, have the potential to lessen impacts to regional waterways. Further, with significant focusing of growth, economies of scale may be created for actions to minimize impacts (such as using reclaimed water) and to improve currently degraded waterways.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>1H. Parks and Recreation</u>				
Unit:	Overall judgment from analysis in chapter 5.8 of the DEIS				
Rationale:	Park facilities are an important element of the region's natural systems and urban form. Key issues are sufficient amounts of parkland, access, maintenance and operation of existing parks, and purchase and development costs for new parks. Based on typical planning guidelines, the region currently has a sufficient amount of public parks, although differentiation exists at the county level.				
Discussion:	<p>Under all the alternatives, none of which assume new park facilities, the amount of parkland per resident, at the regional level, would fall just below established planning guideline minimums. With growth, there would be increased competition for limited facility space, conflicts between different types of uses, and potential for displacement of undeveloped open space.</p> <p>Focusing growth will put more strain on existing parks and in areas where land values and competition for buildable land is high; this will make park acquisition difficult. Dispersing growth will place many residents in areas with limited existing park facilities, likely requiring new parks to be developed; however, acquisition of parkland could be less challenging.</p> <p>A clear tradeoff exists, and to some extent it is a judgment call as to which is the best alternative. Falling in the middle of focused and dispersed growth is the Larger Cities alternative. Under this alternative, some pressure is taken off older urbanized jurisdictions; however they will need to maximize the efficiency of existing parks. Emerging larger and smaller suburban cities will likely need to develop new parks, but land prices will make acquisition more feasible. And, unincorporated urban and rural area growth is limited, which therefore limits the amount of new parks needed in those areas. For these reasons, the Larger Cities alternative is ranked as the best for this measure.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
				<input checked="" type="checkbox"/>	



Measure:	<u>1I. Visual Quality and Aesthetic Resources</u>				
Unit:	Overall judgment from analysis in chapter 5.12 of the DEIS				
Rationale:	The region is defined by its mountains, water, and abundant greenery, as well as the inherent aesthetic qualities characterized by visually diverse, stimulating views of rural landscapes, towns, cities, and prominent structures. These features are central to the region's economic success, livability, and residents' high quality of life. Maintaining these features, and actually using new growth as an opportunity to improve them, will be a key challenge in the face of growth.				
Discussion:	<p>All of the alternatives would require higher levels of development that could add, alter, or remove existing built and natural visual features in regional and local landscapes. The tools of local government (such as design, permitting, and infrastructure standards) provide an opportunity to ensure that future growth positively impacts visual and aesthetic quality. This is particularly true for urban areas, which are already developed and where design is already integrated into the development process. This is less true of development in areas characterized by open space and rural character, where more intractable issues such as loss of open space, views, forest land, farms, and the like are more apt to be adversely impacted.</p> <p>Alternatives that focus growth into already built-out areas (such as Metropolitan Cities, Preferred Growth, and Larger Cities), and thereby preserve a wider variety of landscape types, are likely to have a better chance of managing the impacts of development and potentially create visually appealing high density areas. For these reasons, the focused growth alternatives are ranked as the best for this measure.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Measure:	<u>1J. Historic and Cultural Resources</u>				
Unit:	Overall judgment from analysis in chapter 5.11 of the DEIS				
Rationale:	The central Puget Sound region has a long cultural history, beginning with indigenous peoples, who lived here in a rich ecosystem. The tools, structures, and record of their existence, and of the settlers who came after them, are the Puget Sound region's historic and cultural resources. These attributes are important to our regional character, which in part drives our economy and high quality of life.				
Discussion:	Pieces of the past are often lost as a result of growth, and the potential for loss exists under each of the alternatives. Alternatives that focus growth in or near older urban areas, waterways, and agricultural lands are more likely to have impacts because historic, cultural, and archeological properties are most commonly associated with these areas. The Larger Cities alternative is the best for these resources as it reduces some of growth pressure in older urban areas (where resources exist), as well as in rural areas, which contain more lightly developed waterways and are closer to agricultural lands.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
				<input checked="" type="checkbox"/>	



Measure:	<u>1K. Ecosystem Health</u>				
Unit:	Overall judgment from chapter 5.5 of the DEIS				
Rationale:	Ecosystem health is a core value in the region - it is important to our economy and quality of life. When growth occurs, the majority of ecological damage occurs with habitat loss and the initial development actions, including clearing, grading, and the change in land surface. These initial actions have the most impact, meaning that new development has significantly higher potential impacts than redevelopment. Further, development in or near pristine areas has a far greater impact than development in already-developed areas. Also, new transportation networks built to serve new developments in outlying areas contribute significantly to the transformation of land and are a key factor in the fragmentation and isolation of habitat. Last, transportation-related pollutants are a primary source of damage to ecosystems, meaning alternatives with lower transportation system usage have fewer potential impacts.				
Discussion:	<p>All of the alternatives are likely to reduce habitats and impact ecosystem functions compared to today. However, the Metropolitan Cities alternative, because it concentrates growth into already developed areas, results in lowest risk to pristine lands and habitat areas through development and associated infrastructure-related impacts. The other focused growth alternatives (Preferred Growth and Larger Cities), by focusing growth into already urbanized areas and by creating a better jobs housing balance at the regional geography and county levels, reduce impacts to the ecosystem although at a lesser level.</p> <p>Further, concentrating growth has the potential to create economies of scale for mitigation strategies and/or for conservation actions by using less land and allowing more natural areas to be preserved.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



2. Health

This topic area has 4 measures: (a) potential for physical activity, (b) proximity to parks, (c) environmental health, and (d) potential for reducing automobile injuries.

Measure:	<u>2A. Potential for Physical Activity</u>				
Unit:	Percent of the region's population living in areas with more than 12 activity units per acre <i>(based on INDEX data - see Attachment 3 for more information)</i>				
Rationale:	Denser urban forms can promote higher rates of physical activity, which provides health benefits. Alternatives that focus growth have greater potential for creating a land use pattern that supports walking and biking.				
Discussion:	Using the INDEX grid-cell data, this measure calculates the amount of the region's population that will live in these denser areas in 2040. The Metropolitan Cities alternative has the highest percentage, although other alternatives are quite close. This alternative is selected as best/highest because it also uses the fewest number of acres to accommodate the highest amount of population, which implies potentially more dense mixed-use areas.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
			<input checked="" type="checkbox"/>		

Measure:	<u>2B. Proximity to Parks</u>				
Unit:	Population and Employment within ¼ mile of a locally-owned park <i>(based on INDEX data)</i>				
Rationale:	A subset of park planning, walking access to parks is an important component in assessing the sufficiency of local parks.				
Discussion:	Assuming no additional parkland is created than exists today the alternatives differ based upon the distribution of growth. The Metropolitan Cities alternative distributes the most growth to the older, more fully built-out cities in the region that currently have a greater supply of local parks.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
			<input checked="" type="checkbox"/>		



Measure:	<u>2C. Environmental Health</u>				
Unit:	Overall judgment from chapter 5.9 of the DEIS, assessing exposure to potentially hazardous materials.				
Rationale:	The location of concentrations of population and employment in relation to potentially hazardous materials is a topic of analysis required by the State Environmental Policy Act.				
Discussion:	Contaminated sites are most concentrated in established urban areas, meaning higher intensity urban development could increase human health impacts due to biological, chemical, and social factors. This includes greater numbers of people in areas with higher levels of air pollution, noise, and other forms of pollution. For this reason, the Smaller Cities alternative, which distributes significant shares of new growth to greenfield areas, is most likely to have the lowest potential for exposure, and therefore ranks best under this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
					<input checked="" type="checkbox"/>

Measure:	<u>2D. Potential for Reducing Automobile Injuries</u>				
Unit:	Projected Motor Vehicle Fatalities and Disabling Injury Collisions <i>(based on DEIS and WSDOT data - see Attachment 3 for more information)</i>				
Rationale:	Reducing motor vehicle fatalities and disabling injuries is one of the required considerations in federal transportation legislation.				
Discussion:	Using automobile vehicle miles traveled by facility type data from the Draft Environmental Impact Statement, and multiplying this by Washington State Department of Transportation Rate of Motor Vehicle Fatalities and Disabling Injury Collisions data (with separate multipliers for highways versus local arterials), the Metropolitan Cities, Larger Cities, and Preferred Growth alternatives have estimated rates of injuries that are lower than the dispersed growth alternatives..				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



3. Economic Prosperity (the objectives of the Regional Economic Strategy)

This topic area has 5 measures: (a) transit adjacency to employment, (b) land area with 20 jobs per acre or above, (c) proximity of people to land area with 20 jobs per acre or more, (d) regional share of jobs in Everett, Tacoma, and Bremerton, and (e) regional share of jobs in Seattle and East King County Subarea.

Measure:	<u>3A. Access to Jobs - Transit Adjacency to Employment</u>				
Unit:	Number of jobs within ¼ mile of a transit route (based on INDEX data - see Attachment 3 for more information)				
Rationale:	A subset of the transportation analysis, creating a land use pattern that allows workers to access their jobs via a short walk from a transit route is one component of a strong economy. Therefore, a higher percentage of jobs in the region with easy access to transit is desirable.				
Discussion:	The alternatives are assessed based upon future transit service, as defined in <i>Destination 2030</i> . Four alternatives, Preferred Growth, Growth Targets Extended, Metropolitan Cities, and Larger Cities, all distribute about 80 percent of the future employment growth to the metropolitan, core, and larger suburban cities, which have the majority of transit service. As such, all rate fairly similarly in terms of this measure, with the Preferred Growth Alternative having percentages similar to the Growth Targets Extended and Larger Cities alternatives (although differences exist in terms of population access - see Measure 4A).				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Measure:	<u>3B. Geographic Relationship - Land Area with 20 Jobs Per Acre or Above</u>				
Unit:	Percent of the region's jobs that are in areas with more than 20 jobs per acre (based on INDEX data - see Attachment 3 for more information)				
Rationale:	Dense concentrations of employment can create economies of scale that help a region's economy grow (this is one element of cluster employment). Further, concentrated employment has a secondary benefit of improving transportation access and logistics for workers, suppliers, and more.				
Discussion:	Similar to Measure 2B, this measure calculates the amount of the region's jobs which will be concentrated in denser areas in 2040. The Preferred Growth alternative has the highest percentage, with the highest densities, although Metropolitan Cities is close. These alternatives are selected as best/highest because while Preferred Growth has the highest percentage, Metropolitan Cities accommodates a comparable percentage of jobs in a smaller number of acres.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		



Measure:	<u>3C. Geographic Relationship - Proximity of People to Land Area with 20 Jobs per Acre or Above</u>				
Unit:	Population within 1/4 mile of areas with 20 jobs/acre or above (based on INDEX data - see Attachment 3 for more information)				
Rationale:	With concentrated employment (as described in Measure 3B), walking access to these areas is an important measure of creating a mixed-use regional form. Having the potential to walk to work has clear transportation benefits.				
Discussion:	The Larger Cities Alternative has the most amount of the region's population living close to denser employment areas. This is a factor of these areas being somewhat less dense than under Preferred Growth, but having more dense areas. As the measure is defined, the Larger Cities alternative is the best/highest, with Preferred Growth at a slightly lesser level.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

Measure:	<u>3D. Jobs/Housing Balance - Regional Share of Jobs in Everett, Tacoma, and Bremerton</u>				
Unit:	Percentage of new jobs (based on Definition of Alternatives data)				
Rationale:	Focusing job growth into the region's largest cities (<i>excluding</i> Seattle and Bellevue, which already have a significant share of employment) helps the region's overall economy and helps provide a better balance of jobs in cities with large amounts of housing. It also has potential to provide job opportunities to these cities, which have significant concentrations of very-low and low-income residents. Therefore, a higher share of regional jobs in metropolitan cities outside King County is desirable.				
Discussion:	The regional share of jobs in metropolitan cities outside of King County ranged from a low of 8% in the Smaller Cities alternative to a high of 13% in the Growth Targets Extended alternative. In the Preferred Growth alternative, at 13%, the share of jobs in Bremerton, Everett and Tacoma is the same as that of the Growth Targets Extended alternative, tying for the best.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			



Measure:	<u>3E. Jobs/Housing Balance - Regional Share of Population in Seattle and East King County Subarea</u>				
Unit:	Percentage of new population in this area (based on Definition of Alternatives data - see Attachment 3 for more information)				
Rationale:	<p>Creating a jobs housing balance, at appropriate scales, is an important planning goal. As identified in the analysis of alternatives, the relationship between the distribution of population and employment (whether co-located or separated) has a significant impact, particularly in relation to transportation results.</p> <p>Focusing population growth into these areas that have major employment centers has potential to improve transportation performance, and its related environmental impacts.</p>				
Discussion:	Based on the definition of alternatives, the Metropolitan Cities alternative puts the highest amounts of population growth into these cities and areas. Therefore, it ranks as the best/highest for this measure, with Larger Cities at a slightly lesser level.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Land Use (includes Maintaining Rural Character and Protecting Resource Lands topic areas)

This topic area has 9 measures: (a) transit adjacency to housing, (b) amount of population in cities with regional growth centers, (c) population levels in rural areas, (d) minimizing potential for conversion of rural land to urban land, (e) environmental impacts in rural areas, (f) transportation impacts in rural areas, (g) maintenance of rural character, (h) protection of resource lands, and (i) overall land use impacts.

Measure:	<u>4A. Transit Adjacency to Population</u>				
Unit:	Amount of population within ¼ mile of transit routes (based on INDEX data - see Attachment 3 for more information)				
Rationale:	<p>Similar to Measure 3A, creating a land use pattern that allows residents to access transit via a short walk from their homes is one component of a complete land use pattern. Therefore, a higher percentage of the region's population with easy access to transit is desirable.</p>				
Discussion:	<p>The alternatives are assessed based upon future transit service, as defined in <i>Destination 2030</i>. Three alternatives, Metropolitan Cities, Preferred Growth, and Larger Cities, all distribute about 80 percent of the future population growth to the metropolitan, core, and larger suburban cities, which have the majority of transit service. The amount of population with easy access to transit under the Preferred Growth alternative falls in the middle of the range of the alternatives.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>4B. Urban Areas - Amount of Population in Cities with Regional Growth Centers</u>				
Unit:	Population (based on Definition of Alternatives data)				
Rationale:	Focusing growth into cities that have designated regional growth centers helps provide an efficient use of land in areas with substantial infrastructure and other investments, and helps to provide for the creation of pedestrian-friendly areas. This is also consistent with existing land use policies and the policy for investing regionally managed funds, which is for the development of regional centers and their connecting corridors.				
Discussion:	The Metropolitan Cities alternative, by definition, focuses the most amount of population growth into cities with regionally designated centers. As such, it has the best/highest rank on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
			<input checked="" type="checkbox"/>		

Measure:	<u>4C. Rural Area - Population Levels in Rural Area</u>				
Unit:	Population (based on Definition of Alternatives data)				
Rationale:	Limiting growth in the counties' rural areas continues existing land use policies and implements key provisions of the Growth Management Act. This strategy helps protect existing rural character, limits incompatible uses that may interfere with rural-based industries, and helps protect environmental functions and systems that are present in these less developed outlying areas. Therefore, a lower percentage of the region's total population within the rural area is desirable.				
Discussion:	The Metropolitan Cities and Larger Cities alternatives, by definition, distribute the smallest amounts of population growth into the region's rural areas. While at a higher level than these two alternative, the Preferred Growth alternative limits growth in the rural area at a level that is significantly less than the Growth Targets Extended and Smaller Cities alternatives.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>4D. Rural Area - Minimizing Potential for Conversion of Rural Land to Urban Land</u>				
Unit:	Population and employment within ¼ mile of the edge of the UGA (based on INDEX data - see Attachment 3 for more information)				
Rationale:	Beyond sheer population growth in the rural area, growth at the edge of the urban growth area can lead to the conversion of rural land to urban land, and thereby significantly change the character and impacts in these areas.				
Discussion:	The Metropolitan Cities, Larger Cities, and Preferred Growth alternatives distribute essentially equal amounts of population and employment growth into the region's rural areas (149,000 activity units as compared to 147,000). Proximity calculations (in DEIS - Chapter 5.2 - Land Use) show quite similar results for these three alternatives, however the Preferred Growth has over 50,000 more units in this area, and so receives a lesser ranking.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Measure:	<u>4E. Rural Area - Environmental Impacts in Rural Areas</u>				
Unit:	Qualitative discussion of imperviousness, wastewater generation, solid waste, significant habitats (based on multiple DEIS chapters)				
Rationale:	Rural areas have the region's most pristine lands, waterways, and habitats. Impacts in these areas, in general, are more significant than those in the urban, already-developed, portions of the region (see Measure 1K). Greater opportunity exists for protecting species and functions in these areas.				
Discussion:	<p>As noted in Measures 1B and 1C, wastewater and solid waste generation (based on INDEX data) track population growth. With the Metropolitan Cities and Larger Cities alternatives, growth in the rural area is more limited than the other alternatives, thereby minimizing impacts in these areas. Impervious surface is a major factor in ecosystem health, and, as noted under Measures 1A and 2E, impacts are particularly significant in currently less-developed areas. Last, the majority of the region's identified regionally significant habitat areas (outside of those in natural resource areas) are in the rural areas and the adjacent unincorporated urban growth areas.</p> <p>For these reasons, alternatives that minimize growth in or near the rural areas are anticipated to have fewer impacts, and therefore the Metropolitan Cities and Larger Cities alternatives rank best/highest on this measure. The Preferred Growth alternative assigns nearly equal amounts of growth overall as these two alternatives, with slightly more population and less employment. Overall, the Preferred Growth alternative is likely to similar impacts as the Metropolitan Cities and Larger Cities alternatives.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>4F. Rural Area - Transportation Impacts in Rural Areas</u>				
Unit:	Vehicle miles and hours traveled, and Hours of Delay in rural area (based on PSRC's Travel Demand Model data)				
Rationale:	Minimizing transportation impacts in the region's rural area is consistent with existing policy to limit growth in these areas, in part, to limit the need for additional infrastructure to serve growth (infrastructure to support rural growth is generally less cost-effective, and can induce additional growth).				
Discussion:	The Larger Cities alternative, which has some of the best overall transportation results at the regional level (see Measures under topic area 5. Transportation, below), also has the best results for the region's rural area. It has the lowest vehicle miles and hours traveled for both freeways and arterials (although Metropolitan Cities is quite similar). On hours of delay, however, the Larger Cities alternative has less delay on arterials and so ranks best on this measure. While the Preferred Growth alternative performs quite similarly on some transportation measures (such as freeway vehicle miles and hours traveled, and arterial miles traveled) as these two alternatives, it shows higher levels of delay on both freeways and arterials. However, on all three of these measures, the Preferred Growth Alternative performs better than the dispersed growth alternatives.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Measure:	<u>4G. Rural Areas - Maintenance of Rural Character</u>				
Unit:	Overall judgment from the visual quality and aesthetic resources (DEIS - chapter 5.12) and land use (DEIS - chapter 5.2) analysis in the DEIS related to rural areas				
Rationale:	While the character of the rural area varies across the region's counties, the predominant overall character is that of low-density residential areas separated by open space, with natural features being predominant of built features. Increases in density and in commercial uses (beyond natural resource-based industries that rely on the rural land base) will change the character of the area.				
Discussion:	As noted in Measure 1I, impacts of growth in areas characterized by open space and rural character are harder to mitigate given the intractable nature of issues such as loss of open space, views, forest land, farms. Alternatives that minimize rural area growth have the highest potential for maintaining rural character - this is particularly true for employment growth, which has the potential to change rural character, which is predominantly population based. At the same time, if the employment growth is compatible with rural character, it can be readily incorporated into the rural area with limited impact. While the Metropolitan Cities and Larger Cities alternatives have more employment growth than Preferred Growth, the overall levels of growth are nearly the same, and so all three alternatives rank as the best on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>4H. Resource Lands - Protection of Resource Lands</u>				
Unit:	Population and employment within ¼ mile of resource lands <i>(based on INDEX data - see Attachment 3 for more information)</i>				
Rationale:	Similar to Measure 4D, while no growth was assigned to the region's natural resource areas, growth near these areas can lead to the conversion of this land or to the location of incompatible residential or commercial uses near these areas. Therefore, a lower percentage of total regional population within close proximity to designated natural resource lands is desirable.				
Discussion:	The primary differences in the population and employment distribution in the Metropolitan Cities, Preferred Growth, and Larger Cities alternatives are in areas (mainly in urban areas) that are not contiguous to the region's natural resource lands. As such, they rank very similarly on this measure and are all identified as best/highest.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>4I. Overall Land Use Impacts</u>				
Unit:	Overall judgment from land use analysis in chapter 5.2 of the DEIS				
Rationale:	Land use is at the heart of the VISION 2020 update, with issues related to how and where growth should occur. The analysis the Draft Environmental Impact Statement primarily addresses and analyzes the issue of where growth should occur.				
Discussion:	<p>Many issues exist in assessing which alternative(s) best meets this measure.</p> <ul style="list-style-type: none"> • Focusing growth inside the urban growth area: As required by GMA and supported by the 1995 VISION update, alternatives that focus growth into the urban area, best address this issue. • Creating a differentiated urban form: Differentiation in land use types and forms provides choice, and is critical to creating a sense of place. • Allowing people to live closer to where they work if they choose to: This too creates choice, and offers transportation options and can reduce cost of living. • Protecting rural and natural resource lands from incompatible levels of growth: This protects the environment as well as resource-based economies. At the same time, it limits development opportunities for rural area property-owners. • Leveraging investments in regional and subregional centers creates efficiencies in the provision of infrastructure and investments: This can reduce the need to extend services to the outlying areas and make possible higher overall levels of service with the same amount of public funding. • Creating livable communities, even as existing neighborhoods change through infill development: This is critical to making the VISION work. As noted previously, mitigating the impacts of issues such as infill and density is more amenable to the tools of local government than mitigating impacts in outlying areas. <p>Based on these and other issues addressed in the Draft and Supplemental Draft Environmental Impact Statements, alternatives that co-locate population and employment (all alternatives besides Growth Targets Extended), focus growth inside the urban growth area (all alternatives do this to varying extents), and help to preserve choices throughout the region's jurisdictions, rank best overall for this measure for these issues. Taken together, the Preferred Growth, Metropolitan Cities and Larger Cities alternatives rank best/highest overall on this measure. To a lesser extent, the Growth Targets Extended alternative does well on a number of these measures as well.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



5. Transportation (the objectives of *Destination 2030*)

This topic area has 9 measures: (a) travel distances, (b) travel time, (c) vehicle miles traveled, (d) vehicle hours traveled, (e) hours of delay, (f) work trip mode split, (g) walk access to jobs, (h) bike access to jobs, and (i) transit access to jobs.

Measure:	<u>5A. Travel Distance</u>				
Unit:	Average trip distances at regional level <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	Improving travel results, on measures ranging from travel distance, vehicle hours traveled, delay, and so on, has the potential to help extend the life of infrastructure (and defer the need for new infrastructure), and it has social, environmental, and economic benefits. For measures 5A to 5F, the production of fewer miles, minutes/hours, delay, and single-occupant vehicle trips are desirable.				
Discussion:	For travel distance, the Metropolitan Cities and Larger Cities alternatives have the lowest results for both work and non-work trips, indicating the best rank on this measure. To a lesser extent than these alternatives, but at levels much better than the dispersed growth alternatives, the Preferred Growth alternative performs well on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Measure:	<u>5B. Travel Time</u>				
Unit:	Average trip times at regional level <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	See rationale for Measure 5A.				
Discussion:	For travel times, the Metropolitan Cities and Larger Cities alternatives have the lowest results for both work and non-work trips, indicating the best rank on this measure. While not directly reflected in the ranking, data for Metropolitan Cities estimate the highest average speeds of all of the alternatives. To a lesser extent than these alternatives, but at levels much better than the dispersed growth alternatives, the Preferred Growth alternative performs well on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>5C. Daily Vehicle Miles Traveled</u>				
Unit:	Aggregate miles traveled at regional level <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	See rationale for Measure 5A.				
Discussion:	For vehicle miles traveled, the alternatives are analyzed for both freeways and arterials. For freeways, the Larger Cities and Smaller Cities alternatives have the lowest results. For arterials, the Metropolitan Cities and Larger Cities alternatives have the lowest results. The preliminary Preferred Growth Alternative performed similarly to the Metropolitan Cities alternative, at the lower (i.e. better) end of the range. Overall, the Larger Cities alternative receives the best rank on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Measure:	<u>5D. Daily Vehicle Hours Traveled</u>				
Unit:	Aggregate hours of vehicle operation at regional level <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	See rationale for Measure 5A.				
Discussion:	The results for hours traveled, for both freeways and arterials, are similar to miles traveled (see Measure 5C). The preliminary Preferred Growth Alternative performed similarly to the Metropolitan Cities alternative, at the lower (i.e. better) end of the range. Overall, the Larger Cities alternative receives the best rank on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Measure:	<u>5E. Daily Hours of Delay</u>				
Unit:	Aggregate hours of delay at regional level <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	See rationale for Measure 5A.				
Discussion:	Demonstrating the relationship between hours and miles traveled, the result for daily hours of delay, for both freeways and arterials, is the same as for miles and hours traveled. The preliminary Preferred Growth Alternative performed similarly to the Metropolitan Cities alternative, at the lower (i.e. better) end of the range. Overall, the Larger Cities alternative receives the best rank on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>5F. Work Trip Mode Split</u>				
Unit:	Percent of work trips in single-occupant vehicles at regional level <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	See rationale for Measure 5A. Further, shifting trips from single-occupancy vehicle to higher-occupancy vehicle, transit, or nonmotorized modes, helps maximize the efficient use of existing infrastructure.				
Discussion:	By focusing growth in cities that have higher levels of planned transit service (see Measures 3A and 4A), the Metropolitan Cities alternative achieves the lowest share of single-occupant vehicles and therefore the best rank on this measure. For this measure, because of the focusing of growth into metropolitan and core cities (which have higher levels of planned transit service), the Preferred Growth alternative ranks second best, just above the Metropolitan Cities alternative. While not directly reflected in the ranking, non-work trips data estimates that the Metropolitan Cities alternative also has the lowest single-occupancy vehicle mode split.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		

Measure:	<u>5G. Household Access to Jobs - 10 Minute Walk (1/2 Mile)</u>				
Unit:	Households <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	This is a measure of proximity between population and employment for an average household. This measure expresses what percentage of regional employment is within a 10-minute walk of the average household.				
Discussion:	Reflecting the co-location and focus of population and employment into fewer areas, the Metropolitan Cities alternative results in the highest amount of estimated regional employment proximate to an average household.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
			<input checked="" type="checkbox"/>		

Measure:	<u>5H. Household Access to Jobs - 20 Minute Bike Ride (4 Miles)</u>				
Unit:	Households <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	See rationale for Measure 5G. This measures the percentage of regional employment within a 20-minute bike ride of the average household.				
Discussion:	See discussion for Measure 5G.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
			<input checked="" type="checkbox"/>		



Measure:	<u>5I. Household Access to Jobs - 30 Minute Transit Ride</u>				
Unit:	Households <i>(based on PSRC's Travel Demand Model data)</i>				
Rationale:	See rationale for Measure 5G. This measures the percentage of regional employment within a 30-minute transit ride of the average household.				
Discussion:	Similar to measures 5G and 5H above, the co-location and focus of population and employment into fewer areas under the Metropolitan Cities alternative results in high amounts of estimated regional employment proximate to an average household. At the same time, the Preferred Growth alternative results in a similar performance when the travelshed increases to the 30-minute transit ride area. While not at the level of Metropolitan Cities, performance under the Preferred Growth alternative is quite a bit higher than the other alternatives.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		



6. Efficiencies in the Provision and Use of Infrastructure, Public Facilities, and Services

This topic area has 4 measures: (a) cost and impacts of public services and utilities, (b) water supply, (c) sanitary sewer, and (d) energy use.

Measure:	<u>6.A, Public Services and Facilities</u>				
Unit:	Overall judgment from analysis in chapter 5.7 of the DEIS				
Rationale:	<p>A cornerstone of planning under the state's Growth Management Act is growing in a manner that allows for the efficient use and provision of public services and facilities. Growth usually means increased demand, regardless of the distribution; however, the effects on service levels and costs of service are based primarily on population growth (more than employment growth), proximity to existing services and facilities, the overall ability of these services to expand, and will therefore vary by county and service area under each of the alternatives.</p> <p>For public services (such as police or fire), cost is a primary issue. For capital facilities (such as schools or jails), cost and environmental impacts are primary issues. On the cost side, the impact relates to the ability of service and facility providers to provide additional infrastructure, and at which locations. On the environmental impacts side, the impact relates to maximizing existing facilities, minimizing demand for new facilities, and addressing site-specific issues that are beyond the scope of the VISION alternatives to analyze.</p>				
Discussion:	<p>While all jurisdictions are currently planning for growth in services and capital facilities, the alternatives consider a longer timeframe and therefore more growth. Also, the alternatives consider growth in locations different than under currently adopted plans.</p> <ul style="list-style-type: none"> • Related to cost, economies of scale for investments exist for most service areas. In general, larger systems and facilities have advantages of efficiency and associated ability to efficiently increase the size of their operations. Those jurisdictions and areas that are already planning for major growth in demand (jurisdictions which receive higher shares of growth under the Growth Targets Extended, Preferred Growth, or Metropolitan Cities alternatives) will be less impacted (and may have greater options for alternative approaches) than areas planning for a more limited amount of growth. • Related to environmental impacts, alternatives (such as Metropolitan Cities, Preferred Growth, and Larger Cities) that increase demand closer to existing facilities are likely to present more opportunities for redevelopment and retrofitting of older, less efficient or environmentally friendly systems, and have fewer impacts than those alternatives (such as Growth Targets Extended and Smaller Cities) that place growth farther from existing facilities, requiring additional land development for infrastructure in these areas and limiting resources for retrofitting older systems. <p>For these reasons, the Metropolitan Cities alternative is likely to have the least environmental impact and be able to be served with lesser costs. The Preferred Growth, Growth Targets Extended and the Larger Cities alternatives have positive aspects related to this measure as well, related to spreading costs over a larger number of jurisdictions.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<i>6B. Water Supply</i>				
Unit:	Overall judgment from analysis in chapter 5.7 of the DEIS				
Rationale:	A subset of Measure 6A, larger systems have advantages of efficiency and associated ability and resources to increase the size of operations (although growth in these areas could require retrofits and expansions of service/facilities). Impacts could be more severe in areas not currently planning for major increases, as water rights processes are complex and extensions are costly. Under all alternatives, current water capacity may not be sufficient and could require upgrades to some systems, perhaps by 2020. Securing additional supply (such as through new sources, interconnections between systems, conservation) is a key challenge for local governments.				
Discussion:	Alternatives that focus growth in metropolitan cities and core suburban cities (such as under the Preferred Growth, Growth Targets Extended, Metropolitan Cities, and Larger Cities alternatives) are likely to be more successful at securing water supply (for example, through greater leveraging or purchasing power), or implementing alternative approaches, than under the Smaller Cities alternative. If growth is shifted from metropolitan cities (such as under the Larger Cities alternative), any excess water supply these cities have can potentially be diverted to the larger suburban cities. Alternatives that focus growth into the urban area, where sewer systems exist, are likely to have fewer impacts on aquifers recharge areas, wells, and rivers - all of which have varying impacts on water supply. For these reasons, the Metropolitan Cities, Preferred Growth, and Larger Cities alternatives are ranked best on this measure.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	



Measure:	<u>6C. Sanitary Sewer</u>				
Unit:	Overall judgment from analysis in chapter 5.7 of the DEIS				
Rationale:	A subset of Measure 6A, larger sewer systems and facilities, in general have advantages of efficiency and associated ability and resources to increase the size of operations. In all jurisdictions that are the focus of the alternative's growth, finding sites for new treatment facilities will likely be difficult. Importantly, growth in the region's rural area will need to be served by septic systems, as sewer facilities are not legal, except in very limited circumstances.				
Discussion:	Under all alternatives, current sewer capacity is not sufficient and would likely require system upgrades and expansions. The Metropolitan Cities and Preferred Growth alternatives focus growth into metropolitan cities and core suburban cities and then the larger suburban cities. The extension of current plans from 2022/2025 to 2040 is likely to require some revisiting of existing sewer plans; however, sewer providers in these areas are larger, and many are already planning for significant additional growth, making additional growth allocation beyond current plans the least impactful. Additionally, the retrofitting of older sewer systems, such as a combined sewer-stormwater system, could carry additional environmental benefits as the phasing-out of older technology becomes more feasible with increased resources and redevelopment opportunities.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		



Measure:	<i>6D. Overall Energy Use (Electric, Natural Gas, and Petroleum)</i>				
Unit:	Overall judgment from analysis in chapter 5.10 of the DEIS				
Rationale:	Minimizing the region's use of energy will reduce environmental impacts and the need for new facilities. Effects on the amount of energy used are based primarily on population, and will therefore vary by county and service area for each alternative (meaning, localized differences). This may result in the need to extend facilities into currently underserved areas if significant amounts of growth are distributed to these areas.				
Discussion:	<p>The population and employment growth in all alternatives will increase overall regional energy consumption compared to today, with more concentrated growth having potential to somewhat reduce consumption levels (for example, through efficiencies gained through a shared-wall effect as well as smaller unit and lot sizes in multifamily buildings). Under all the alternatives, more energy sources and expanded energy delivery systems will likely be needed.</p> <p>For electricity and natural gas, the alternatives are relatively similar in terms of how much increase in consumption is estimated at the regional level. However, alternatives that increase demand in core areas (as opposed to outlying areas) are more likely to be served with upgrades and retrofits, rather than extensions of infrastructure to outlying areas. Differentiation also exists among the alternatives for petroleum energy use, primarily having to do with amount of vehicle miles traveled and hours of delay. For this reason, the Larger Cities alternative, which has the lowest transportation results, has the best rank on this measure.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
				<input checked="" type="checkbox"/>	



7. Environmental Justice

This topic area has 3 measures: (a) relative distribution of jobs, (b) access to transportation services and facilities, and (c) overall judgment.

Measure:	<u><i>7A. Distribution of Employment Growth Compared to Locations of Environmental Justice Populations</i></u>				
Unit:	Employment near areas with greater than average concentration of environmental justice populations <i>(based on INDEX data - see Attachment 3 for more information)</i>				
Rationale:	While minority and low-income populations are found throughout the region, some historic concentrations exist in older urban areas. An overall assessment (see Measure 7C) is that minority and/or low-income populations benefit the most from alternatives that direct new growth into areas that are closer to major employment centers and are better served by transit. Alternatives that focus employment growth near minority and/or low-income populations have a higher potential for providing job opportunities, and therefore alternatives that focus a higher level of employment growth within these areas is desirable.				
Discussion:	The Metropolitan Cities alternative focuses the most amount of employment growth into areas with higher concentrations of minority and/or low-income populations, and the Growth Targets Extended alternative focuses the second largest amount. The Preferred Growth alternative was in the middle of the range (just a bit higher than the Larger Cities alternative) in terms of additional jobs in these areas, but at a different scale than the two ranked alternatives.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		



Measure:	<u>7B. Access to Transportation Services and Facilities</u>				
Unit:	Amount of population and employment within 1/4 mile of transit routes in areas with greater than average concentration of environmental justice populations (<i>based on INDEX data - see Attachment 3 for more information</i>)				
Rationale:	Sufficient and accessible transit, in order to access employment and services, is a key issue for low-income populations. Comparing the amount of access for both population and for employment gives a fuller understanding of the potential ability to commute to work via transit. Close transit access for residential population and for employment within areas with higher than average regional concentrations of low income and/or minority populations is desirable.				
Discussion:	By focusing growth in older urban areas, which have both higher concentrations of minority and low-income populations, as well as higher levels of planned transit service, the Preferred Growth and Metropolitan Cities alternatives have the highest percentages of both population and employment access to transit routes. Having the highest percentages is particularly true on the population side, but also, to a lesser extent, on the employment side.				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		



Measure:	<u>7C. Overall Judgment of Impact on EJ Populations</u>				
Unit:	Overall judgment from environmental justice analysis in chapter 6 of the DEIS				
Rationale:	<p>Nationally and regionally, higher levels of growth in minority and/or low-income populations are predicted in proportion to the general population. Metropolitan planning organizations are required to assess whether actions will have disproportionate impacts on minority and/or low-income populations in the region.</p> <p>Focus groups conducted in 2005 identified affordable housing and the availability of sufficient transit to access employment and services as the most important issues for minority and/or low-income populations.</p>				
Discussion:	<p>None of the alternatives is anticipated to result in disproportionately high and adverse effects on minority and/or low-income populations, although the alternatives may vary in the intensity of growth-related impacts that could occur in localized areas.</p> <ul style="list-style-type: none"> • Alternatives (such as Metropolitan Cities, Preferred Growth, and to a lesser extent Larger Cities) that concentrate growth in metropolitan cities and core suburban cities are likely to have higher potential positive and adverse impacts. Impacts include displacement, different housing and potential transportation costs, to better access to employment and services using transit. • Alternatives (such as Smaller Cities and to a lesser extent Growth Targets Extended) that disperse growth throughout the region, and farther away from areas that have traditionally had the highest concentrations of minority and/or low-income populations are likely to have fewer impacts. For example, while there could be less pressure for displacement, there could also be less access to jobs and services using transit. <p>An overall assessment is that minority and/or low-income populations benefit the most from alternatives that direct new growth into areas that are closer to major employment centers and are better served by transit. Although there are tradeoffs with each, the Metropolitan Cities, Preferred Growth, and Larger Cities alternatives could be the alternative most likely to improve access to employment, services, and transit — the most important issues for minority and low-income populations — although it could also require jurisdictions to provide for more affordable housing and an effective level of public services.</p>				
Ranking:	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

C. CONCLUSIONS

The following text provides conclusions regarding the relationship of the alternatives to the measures, as summarized by topic area.

1. Environmental Quality. Encompassing the overarching goal to "Protect the natural environment," the focused growth alternatives (Metropolitan Cities, Preferred Growth, and Larger Cities) demonstrate fewer environmental impacts regionwide. These alternatives, which have the same amount of growth within the urban growth area (although the Larger Cities alternative shifts some growth from the metropolitan cities to the larger suburban cities and Preferred Growth shifts some of the larger city growth to outlying areas) present discrete policy options for accommodating future growth in a



manner that lessens environmental impacts. Overall, these alternatives demonstrate fewer environmental impacts region-wide than more dispersed growth alternatives.

2. Health. Addressing parts of the overarching goals to "Promote an overall high quality of life" and "Enhance human potential and social justice," the Metropolitan Cities alternative most often receives a best/highest ranking. However, issues related to the potential for exposure to hazardous materials, as well as other sources of pollution from urban activities, will require mitigation. This may take the form of brownfields and greyfields cleanup, or other approaches to mitigate the negative aspects of focusing growth into areas where hazards have existed and may continue to contribute to air, soil, and water pollution.
3. Economic Prosperity. Also addressing aspects of the overarching goals to "Promote an overall high quality of life" and "Enhance human potential and social justice," a wider array of alternatives receives best/highest rankings. While the Metropolitan Cities alternative most often receives this ranking, the Preferred Growth and Larger Cities alternatives also present strong policy options for accommodating growth while promoting economic prosperity. At a slightly lesser level, Growth Targets Extended presents positive attributes for economic prosperity, however on fewer measures.
4. Land Use (includes Maintaining Rural Character & Protecting Resource Lands). Addressing aspects of the two overarching goals to "Create an efficient land use pattern for the provision of infrastructure, facilities, and services" and "Protect the natural environment," the focused growth alternatives (Metropolitan Cities, Preferred Growth, and Larger Cities) present different policy options that are estimated to have similar impacts related to land use. This is estimated to be true in all three land use categories under the state Growth Management Act (urban, rural, and resource).

From a land use perspective, the differences between these alternatives are distinguished more so by local jurisdiction interest in accommodating growth - whether it will be stronger in metropolitan cities or larger suburban cities - as the alternatives assume similar amounts of growth in core suburban cities.

5. Transportation. Addressing aspects of the overarching goal to "Create an efficient land use pattern for the provision of infrastructure, facilities, and services," the Metropolitan Cities and Larger Cities alternatives, and to a lesser extent the Preferred Growth alternative, demonstrate some of the best performance results. On issues related to *use* of the system (miles and hours traveled, delay, travel times and distances), the Larger Cities alternative's slightly higher levels of dispersion (and better balance between jobs and housing) among cities within the urban growth area create better performance, with Metropolitan Cities and Preferred Growth at lesser levels of performance. This is a function, in part, of moving more jobs to areas that currently have higher levels of population (e.g., meaning the impact comes from the existing large base of population in these areas, not just from new growth), creating more "centers of activity" to which trip destinations are attracted. On issues related to *modes* and *access* (mode split, household access by different modes), the Metropolitan Cities and Preferred Growth alternative's slightly higher levels of focusing within the urban growth area creates better performance. This too is, in part, a function of assigning future growth to areas that have higher levels of planned transit service and putting more jobs and population in closer proximity. While on most measures the Preferred Growth alternative ranks in the middle of the range, overall it performed closer to the focused, rather than the dispersed, growth alternatives. Many of the performance issues are tractable and will be more fully addressed with project and program specific mitigations analyzed, as part of the update of *Destination 2030*.
6. Efficiencies in the Provision and Use of Infrastructure, Public Facilities and Services. Encompassing most of the overarching goal to "Create an efficient land use pattern for the provision of infrastructure, facilities, and services," the focused growth alternatives result in the least overall estimated impact on, and from, these facilities. This is true in terms of cost, minimizing the environmental impacts from extensions of facilities, and creating the potential for alternative means of providing supply. At a conceptual level, the Metropolitan Cities, Preferred Growth, and Larger Cities alternatives provide reasonable policy choices for accommodating growth.

Interestingly, the analysis does not make a clear case that focused growth will lessen demand; however, it does make the case that providers are, and will be, better able to accommodate the



demand if it occurs in the more urbanized portions of the region. More than in many other topic areas, site-specific issues and mitigations will be paramount drivers of how supply and demand for infrastructure, facilities and services are addressed.

7. Environmental Justice. Addressing aspects of the two overarching goals to "Promote an overall high quality of life" and "Enhance human potential and social justice," the analysis finds that the Metropolitan Cities and Preferred Growth alternatives (and to a lesser extent the Larger Cities alternative) have the least impact, and the most potential benefits, for minority and low-income populations. While the issues for the different environmental justice-defined groups (low-income and minority) may be different, areas within which high concentrations of these residents live fare best under the focused growth alternatives. This is particularly true in relationship to focusing employment growth and thereby creating potential for greater employment in these areas and for these residents. And, when carefully mitigated to address issues such as gentrification, displacement, and affordability, focusing population growth can provide benefits as well.

As the region looks forward and plans for growth out to the year 2040, a number of variations of a focused growth approach hold promise. As compared against the 40-plus measures in the evaluation criteria, both the Metropolitan Cities and Preferred Growth alternatives, and to a lesser extent the Larger Cities alternative are the most promising.

D. ATTACHMENTS

The following appendices are provided to support the analysis and presentation of the evaluation criteria:

- 1: Information on Approach to Selecting a Preferred Growth Alternative.
- 2: Comprehensive Listing of Revisions to Published Evaluation Criteria.
- 3: Data to Support Evaluation Criteria Measures.



Appendix I.D - Attachment 1: Information on Approach to Selecting a Preferred Growth Alternative

The following steps list, in summary fashion, the process that the Growth Management Policy Board is following to select a preferred growth alternative.

- STEP 1: Agree to scale of preferred growth alternative
- Regional Geographies - By region
 - Regional Geographies - By county, with explanation
- STEP 2: Understand scale of alternatives studied in the Draft Environmental Impact Statement
- Distribution of regional geographies at county level
 - County level population and employment
- STEP 3: Understand impacts of alternatives studied in the Draft Environmental Impact Statement
- Environmental impacts
 - Evaluation criteria
 - Action on Framework
 - Action on Criteria
 - Publish Framework in Draft Environmental Impact Statement
 - Apply Criteria
 - Develop recommendations for preferred growth alternative selection
- STEP 4: Review citizen comments and assess meaning for preferred growth alternative
- STEP 5: Establish county control totals (population and employment) for preferred growth alternative
- Consider Washington State Office of Financial Management's Population Forecasts, and Regional Council's Population and Employment Small Area Forecasts
- STEP 6: Work through county level population and employment distribution for preferred growth alternative – with county level explanations
- STEP 7: Compare preferred growth alternative distribution to small area forecasts
- STEP 8: Model preferred growth alternative and compare preliminary analysis of impacts to Draft Environmental Impact Statement alternatives
- STEP 9: Select preferred growth alternative



Appendix I.D - Attachment 2: Comprehensive Listing of Revisions to Evaluation Criteria Published in the Draft Environmental Impact Statement

As noted previously, following the release of the Draft Environmental Impact Statement, Regional Council staff reassessed the published Evaluation Criteria and proposed updates to better reflect the information contained in the document. During the process of fully applying the published evaluation criteria, a number of additional revisions have been made.

No changes were proposed to either the overarching goals or the topic area components of the criteria. Changes were proposed both for the measures (with some additions, revisions, and deletions), and changes made to the unit of measurement. Two global changes were to assign numbers to the topic areas and measures, and to change the term subject to measure and the term unit of measure to unit.

All of the revisions to the evaluation criteria published in the Draft Environmental Impact Statement, as well as the rationale for the revision, are shown in the table below. Note that when there are no changes to the measure and the unit, these measures are *not* shown.

Published Criteria	Revised Criteria	Rationale for Revisions
Environmental Quality Measures: One deletion, changes to the units, and the inclusion of measure from another topic area.		
Measure: <u>Nonpoint Pollution (INDEX)</u> Unit: Average annual kilograms per acre	Deleted	This data source was not used in the DEIS as its basis included assumptions that relied on other INDEX data sources (stormwater and impervious percentages) that were not reliable.
Measure: <u>Imperviousness</u> Unit: INDEX Impervious land	Measure: <u>1A. Imperviousness</u> Unit: Amount of Land in Over 30% Imperviousness Category	Unit changed to reflect unit of measure from DEIS.
Measure: <u>Air quality</u> Unit: Particulate matter, carbon monoxide, nitrous oxide	Measure: <u>1D. Air Quality</u> Unit: Particulate Matter, Carbon Monoxide, Nitrogen Oxide Emissions	Technical correction. Change in unit from nitrous oxide to nitrogen oxide.
Measure: <u>Water / Stormwater</u> Unit: Overall judgment from water quality and hydrology analysis chapters 5.6 of the DEIS	Measure: <u>1G. Water Quality and Hydrology</u> Unit: Overall judgment from water quality and hydrology analysis chapters 5.6 of the DEIS	Change in name of measure to better match content in DEIS chapter.
Measure: <u>Air and water pollutants</u> Unit: Overall judgment from air quality and ecosystems analysis in chapters 5.4 and 5.5 of the DEIS (MOVED FROM HEALTH MEASURES)	Measure: <u>1K. Ecosystem Health</u> Unit: Overall judgment from chapter 5.5 of the DEIS	Moved from Health Measure to Environment Measure. Changed name of measure and unit to remove duplication with measure 1D and 1E, which measure air quality and climate change. Revised measure and unit better reflect data in DEIS. DEIS analysis does not address exposure to polluted water bodies, which is the health issue. Water pollutants are addressed in previous section as an environmental measure.



Published Criteria	Revised Criteria	Rationale for Revisions
Health Measures: Reordered the measures. Added one measure. Changes to units.		
Measure: <u>Potential for physical activity</u> Unit: Acres with more than 12 activity units per acre	Measure: <u>2A. Potential for Physical Activity</u> Unit: Percent of the region's population living in areas with more than 12 activity units per acre	Changes to unit to better reflect purpose of measure - how many people live in these areas rather than how much land is in these areas. Based on comments from GMPB.
N/A	Measure: <u>2B. Proximity to Parks</u> Unit: Population and Employment within ¼ mile of a locally-owned park	New Measure. Criteria enhanced by bringing in additional data from DEIS.
Measure: <u>Environmental health</u> Unit: Overall judgment from ecosystems and environmental health analysis in chapters 5.5 and 5.9 of the DEIS	Measure: <u>2C. Environmental Health</u> Unit: Overall judgment from chapter 5.9 of the DEIS, assessing exposure to potentially hazardous materials.	Overall judgment of ecosystems (DEIS - chapter 5.5) separated into stand-alone measure (1K). Unit clarified to reflect narrower focus of content in DEIS chapter.
Measure: <u>Potential for reducing automobile injuries</u> Unit: Automobile vehicle miles traveled	Measure: <u>2D. Potential for Reducing Automobile Injuries</u> Unit: Projected Motor Vehicle Fatalities and Disabling Injury Collisions	Unit changed to better reflect calculated data that uses accidents rates for different facility types, and multiplies this by vehicle miles traveled.
Economic Prosperity Measures: Deleted two measures. Changes to units.		
Measure: <u>Access to Jobs - Transit adjacency to employment</u> Unit: Number of jobs within ½ mile of a transit line	Measure: <u>3A. Access to Jobs - Transit Adjacency to Employment</u> Unit: Number of jobs within ¼ mile of a transit route	Change from 1/2 mile to 1/4 radius in unit to match data in DEIS. Also, 1/4 mile is the more typical calculation of distance to transit.
Measure: <u>Access to Jobs - Travel time between selected links</u> Unit: Minutes	Deleted.	Travel time between selected links data was not published in DEIS. Also data is better reflected in more aggregate level analysis rather than link specific analysis, given the definition of the alternatives is to larger areas.
Measure: <u>Access to Jobs for lower income workers</u> Unit: Overall judgment from environmental justice analysis in chapter 6of the DEIS	Deleted.	Duplicates existing measures under Environmental Justice (7B and 7C).
Measure: <u>Geographic relationship between households and jobs - Land area with 20 jobs per acre and above</u> Unit: Acres	Measure: <u>3B. Geographic Relationship - Land Area with 20 Jobs Per Acre or Above</u> Unit: Percent of the region's jobs that are in areas with more than 20 jobs per acre	Unit changed to better reflect purpose of measure - how many jobs are in these areas rather than how much land is in these areas.



Published Criteria	Revised Criteria	Rationale for Revisions
Measure: <u>Geographic relationship between households and jobs - Proximity of people to land area with 20 jobs per acre and above</u> Unit: Residents	Measure: <u>3C. Geographic Relationship - Proximity of People to Land Area with 20 Jobs per Acre or Above</u> Unit: Population within 1/4 mile of areas with 20 jobs/acre or above	Adds more definition to unit - adding the 1/4-mile buffer to the definition of the unit.
Measure: <u>Jobs/housing balance - Regional share of jobs in Everett, Tacoma, and Bremerton areas</u> Unit: Jobs	Measure: <u>3D. Jobs/Housing Balance - Regional Share of Jobs in Everett, Tacoma, and Bremerton</u> Unit: Percentage of new jobs	Add more definition to unit – defined as percentage of jobs, rather than just jobs.
Measure: <u>Jobs/housing balance - Regional share of housing in Seattle and east King County subarea</u> Unit: Housing	Measure: <u>3E. Jobs/Housing Balance - Regional Share of Population in Seattle and East King County Subarea</u> Unit: Percentage of new population	Changes unit from housing to population, as housing is not explicitly defined in the definition of alternatives nor is it explicitly addressed in the DEIS. Also adds more definition to unit – defined as percentage of population, rather than just population.
Land Use Measures: Deleted two measures. Added three measures. Changes to units.		
Measure: <u>Urban areas – Land at 7 units per acre or higher</u> Unit: Acres	Deleted.	Deleted because of board members' concern that this could be misunderstood as setting a minimum density standard.
Measure: <u>Urban areas - Amenities adjacency (INDEX)</u> Unit: Percent of population within ¼ mile of defined amenities	Deleted.	Deleted because the INDEX list of amenities was significantly incomplete.
N/A	Measure: <u>4D. Rural Area - Minimizing Potential for Conversion of Rural Land to Urban Land</u> Unit: Population and employment within ¼ mile of the edge of the UGA	New measure. Criteria enhanced by bringing in additional data from DEIS.
Measure: <u>Rural areas - Environmental impacts in rural area</u> Unit: Imperviousness, wastewater generation, solid waste	Measure: <u>4E. Rural Area - Environmental Impacts in Rural Areas</u> Unit: Qualitative discussion of imperviousness, wastewater generation, solid waste, significant habitats	Unit refined to more clearly state that this was based on a qualitative, rather than quantitative analysis.
Measure: <u>Rural areas - Transportation impacts in rural area</u> Unit: Travel time between selected links	Measure: <u>4F. Rural Area - Transportation Impacts in Rural Areas</u> Unit: Vehicle miles and hours traveled, and Hours of Delay in rural area	Change to unit. Travel time between selected links data was not published in DEIS. Also data is better reflected in more aggregate level analysis rather than link specific analysis, given the definition of the alternatives is to larger areas.



Published Criteria	Revised Criteria	Rationale for Revisions
N/A	Measure: <u>4G. Rural Areas - Maintenance of Rural Character</u> Unit: Overall judgment from the visual quality and aesthetic resources (chapter 5.12) and land use (chapter 5.2) analysis in the DEIS related to rural areas	New measure. Criteria enhanced by assessing these elements that are present in these two chapters in the DEIS.
N/A	Measure: <u>4H. Resource Lands - Protection of Resource Lands</u> Unit: Population and employment within ¼ mile of resource lands	New measure. Criteria enhanced by bringing in additional data from DEIS.
Transportation Measures: Changes to measures and units.		
Measure: <u>Travel time between selected links</u> Unit: Aggregate hours	Measure: <u>5A. Travel Distance</u> Unit: Average trip distances at regional level	Measure and unit changed to better reflect data in DEIS. Also, travel time between selected links data was not published in the DEIS.
Measure: <u>Average trip length</u> Unit: Minutes	Measure: <u>5B. Travel Time</u> Unit: Average trip times at regional level	Measure and unit changed to better reflect data in DEIS.
<i>Percent of households with access to jobs and selected activities</i>	These three measures (5G – 5I) change the access to jobs and selected activities to access to jobs.	As noted under Land Use, the INDEX list of amenities was significantly incomplete and therefore the measures were changed.
Infrastructure, Public Facilities, and Services Measures: Minor technical changes to names of measures to better match DEIS. One measure deleted.		
Measure: <u>Electrical Power</u> Unit: Overall judgment from chapter 5.7 of the DEIS	Deleted.	This was duplicative of the analysis conducted as part of measure 6D.
Measure: <u>Relative cost to provide infrastructure, public facilities, and services</u> Unit: Overall judgment from analysis in appendix E.14 (cost of sprawl appendix) of the DEIS	Deleted.	This analysis is embedded in the other measures regarding Infrastructure and was therefore duplicative.
Environmental Justice Measures: One measure deleted. Changes to measures and units.		
Measure: <u>Access to jobs for lower income workers</u> Unit: Jobs within 1 mile of high-poverty census block groups	Measure: <u>7A. Distribution of Employment Growth Compared to Locations of Environmental Justice Populations</u> Unit: Employment near areas with greater than average concentration of environmental justice populations	Measure and unit changed to better reflect this type of information that was contained in DEIS. Expanded to jobs near these populations, rather than just within these areas. This change better reflects access to jobs.



Published Criteria	Revised Criteria	Rationale for Revisions
Measure: <u>Overall relative distribution of population and employment compared to locations of EJ population</u> Unit: Overall judgment from environmental justice analysis in chapter 6 of the DEIS	Deleted.	Duplicative to following measure assessing overall judgment.
Measure: <u>Access to transportation services and facilities for EJ populations</u> Unit: Travel time on selected links	Measure: <u>7B. Access to Transportation Services and Facilities</u> Unit: Amount of population and employment within 1/4 mile of transit routes in areas with greater than average concentration of environmental justice populations.	Travel time between selected links data was not published in the DEIS. Unit changed to better reflect data in DEIS.



Appendix I.D - Attachment 3: Data to Support Evaluation Criteria Measures

As noted previously, for some measures, data that is contained in the Draft and Supplemental Draft Environmental Impact Statements were recalculated to match the evaluation criteria measures. These data are shown below. Several are based on the INDEX grid-cell data, which is the basis for the painting of the Draft and Supplemental Draft Environmental Impact Statement alternatives.

Measure 2A. Potential for Physical Activity

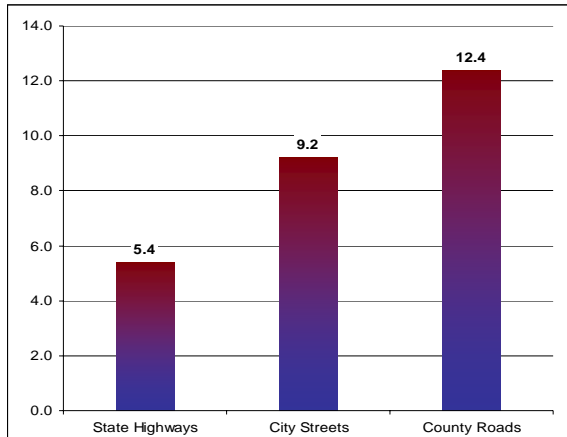
Based on INDEX grid-cell data, the following summarizes the data used for this measure.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Area over 12 activity units/acre (acres)	140,700	170,300	136,300	144,600	182,700
• Total population within this area	2,748,800	2,665,800	2,832,500	2,816,700	2,724,000
• Population density per acre in area	20	16	21	19	15
• Percent of region's total population	55%	53%	57%	56%	55%

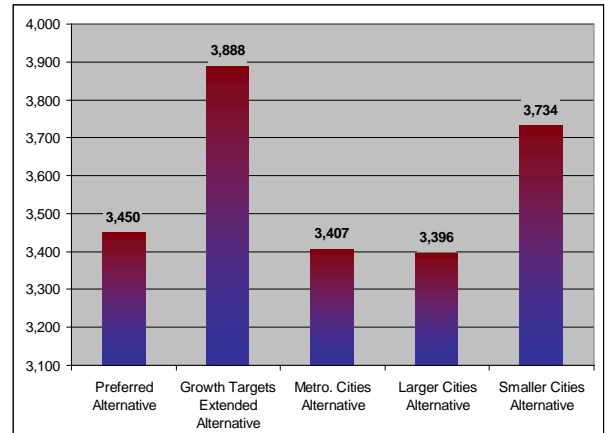
Measure 2D. Potential for Reducing Automobile Injuries

This measure is calculated by multiplying the vehicle miles traveled by facility type (data found in DEIS - Chapter 5.3 - Transportation) against the Washington State Department of Transportation Rate of Motor Vehicle Fatalities and Disabling Injury Collisions data. This multiplication is used to project the number of collisions.

Rate of Motor Vehicle Fatalities and Disabling Injury Collisions by Roadway Type in Washington State, Per 100 Million VMT, 2002



Projected Motor Vehicle Fatalities and Disabling Injury Collisions by alternative (estimated)



Measure 3A - Access to Jobs - Transit Adjacency to Employment

Based on INDEX grid-cell data, the following table separates employment from population access (which are combined in DEIS - Chapter 5.3 - Transportation) in the document.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Employment adjacent to transit	2,632,900	2,675,700	2,751,100	2,699,600	2,538,600
Percent employment adjacent to transit	86%	87%	90%	88%	83%



Measure 3B. Land Area with 20 Jobs per Acre or Above

Based on INDEX grid-cell data, the following summarizes the data used for this measure.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Area over 20 jobs /acre	41,652	39,661	37,626	39,386	40,546
• Total jobs within this area	2,748,809	2,050,756	2,173,091	2,130,891	2,049,591
• Job density per acre within this area	55	52	58	54	51
• Percent of region's total jobs in area	75%	67%	71%	69%	67%

Measure 3C. Proximity of People to Land Area with 20 Jobs per Acre or Above

Based on INDEX grid-cell data, the following summarizes the data used for this measure.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Area within 1/4 mile of 20 jobs/acre areas	259,633	277,052	254,672	267,768	316,118
• Total population within this area	2,529,318	2,294,894	2,148,638	2,643,673	2,273,342
• Population density within this area	10	8	8	10	7

Measure 3E. Jobs/Housing Balance - Regional Share of Population in Seattle and East King County Subarea

Based on the Definition of Alternatives and INDEX grid-cell data, the following summarizes the data used for this measure.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Total population within this area	1,366,886	1,358,468	1,572,709	1,451,637	1,198,587
Percent of region's population	27%	27%	32%	29%	24%

Measure 4A. Transit Adjacency to Population

Based on INDEX grid-cell data, the following table separates employment access from population access (which are combined in DEIS - Chapter 5.3 - Transportation).

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Population within 1/4 mile of transit	3,499,200	3,334,000	3,705,800	3,606,800	3,218,000
Percent of population adjacent to transit	70%	67%	74%	72%	65%

Measure 4D. Rural Area - Minimizing Potential for Conversion of Rural Land to Urban Land

Based on INDEX grid-cell data, the following summarizes the data used for this measure.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Population within 1/4 mile of the edge of UGA	678,700	722,500	627,800	652,200	1,027,700



Measure 4H. Resource Lands - Protection of Resource Lands

Based on INDEX grid-cell data, the following summarizes the data used for this measure.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Population within 1/4 mile of natural resource areas	258,200	302,600	254,400	262,000	348,000

Measure 7A. Distribution of Employment Growth Compared to Locations of Environmental Justice Populations

Based on INDEX grid-cell data, the following summarizes the data used for this measure.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Employment growth in areas with higher than average concentrations of environmental justice populations	687,800	749,541	820,996	680,880	530,518

Measure 7B. Access to Transportation Services and Facilities

Based on INDEX grid-cell data, the following summarizes the data used for this measure. Amount of population and employment within 1/4 mile of transit routes in areas with greater than average concentration of environmental justice populations.

	Preferred Growth	Growth Targets Extended	Metropolitan Cities	Larger Cities	Smaller Cities
Total population within this area	2,143,600	1,820,664	2,265,973	2,035,877	1,656,593
Percent adjacent to transit	84%	77%	84%	81%	75%
Total jobs within this area	1,775,600	1,732,500	1,842,420	1,691,470	1,506,343
Percent adjacent to transit	93%	88%	91%	89%	86%



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