REGION 2050

Sustaining Quality of Life in the Southern Willamette Valley

June 16, 2005

TO: Regional Policy Advisory Board Members and Alternates

FROM: Tom Schwetz

SUBJECT: Evaluation of Fixed Transportation Network

Summary

This memo provides a summary of a technical analysis of the impacts of the three Region 2050 Alternative Growth Scenarios on a base network of transportation facilities and services. Following an overview of the general scale and impact of Region 2050 growth projections on the region's transportation system, an assessment of those impacts is provided, including general and scenario-specific impacts. If you have any questions, please contact Tom Schwetz (682-4044, tschwetz@lane.cog.or.us).

Introduction

Peter Schwartz, President of Global Business Network and one of the world's leading experts in scenario planning provides a useful thought for thinking about the future – '*it is more important to be imprecisely right than precisely wrong'*. This is valuable advice in the evaluation of transportation impacts stemming from 45 years of growth in the region. In this context, technical tools and techniques play a smaller role and our collective expertise and judgment as residents of the region play a much more important role in determining how to prepare for that growth.

A regional transportation system is made up of a variety of means of transportation, often operated by multiple jurisdictions. As well, the system impacts and is impacted by surrounding land uses. It has impacts on the environment and is a key factor in the growth of the region's economy. In addition there are issues of safety, equity, efficiency, and long-term sustainability.

These impacts are affected by the way in which public agencies choose to regulate and make investments in the operation, maintenance, preservation and modernization of the system. These public actions are largely geared toward an attempt to maximize the benefits of the transportation system while minimizing the negative impacts. These impacts and interrelationships make the evaluation of alternative future transportation system performance relatively complex.

Imagine trying to plan for the interchange of Beltline and I-5 in the late 50's and early 60's. We may have had the benefit of knowing that a major investment in infrastructure was about to made through the region, but we certainly could not have anticipated the tremendous impact that investment has ultimately had on the region. There were no plans in place suggesting the level

of growth around the interchange; indeed, the concept of 'freeway close' had yet to be invented. At that time we also had no sense of how costly future changes and additions to that interchange would be.

This example illustrates some of the risks inherent in planning for regional infrastructure even over a short period of time. The potential changes in technologies, social behavior, and public policy create uncertainty in any evaluation of alternative futures. To address this uncertainty, it is important to identify alternative solutions that are robust enough to be of use under multiple scenarios.

This memo provides a summary of what is the first step in evaluating the transportation impacts of the three alternative growth scenarios. It reviews the results of an assessment of those growth scenarios on a base or reference network of transportation facilities and services. This network draws on the existing Transportation System Plans and the MPO area's Regional Transportation Plan, incorporating the system improvements identified in those plans into the reference network.

Given the high level of uncertainty around a 45-year planning horizon, it is important to draw on other, similarly scoped efforts for any additional insights they might have, both on the next 45 years and the regional impacts of significant growth. This memo includes reference to insights from several efforts statewide and globally which might serve as a resource for the policy board's discussion.

At the Policy Board meeting, the information in this memo will be supplemented with preliminary modeling results. In addition, staff will seek Policy Board direction on the types of transportation improvements to include in the next application of the model to estimate transportation cost and capacity impacts of the scenarios.

Overview of Region 2050 Growth from the Transportation System Perspective – Framing the Issues

In beginning to assess the transportation impacts of the three alternative growth scenarios, it is useful to get a sense of the general scale and impact of that growth on the region's core transportation network. Figure 1 illustrates the broad implications and impacts of an additional 45 years of growth in the region:

- The metro area will continue to be the 'center of gravity' for the region (85,000 new people, 18,000 new jobs);
- The primary area of growth comes from south and southeast of the metro area (as many as 60,000 new people, 38,000 new jobs);
- Significant growth comes from west of the metro area (as many as 37,000 new people, 13,000 new jobs);
- Substantial growth comes from north of the metro area (as many as 12,000 new people, and 12,000 new jobs).

This growth represents over 225,000 additional daily trips, many of which will be using the core transportation system of the region. The core part of the region's transportation system is made

up of the state system and specific County roads that connect new growth areas to the metro area.

Based on forecasts of 2025 congestion levels, there are several parts of this core system that show heavy congestion by 2025, which represents the middle of the Region 2050 planning horizon.. For example, the table below provides the maximum level of congestion (as measured by the ratio of volume to capacity) along the various corridors and the resulting travel delay beyond the current mobility standard (level of service) for key corridors through the metro area for 2005 and 2025. These figures are from both the morning and evening peaks. The maximum volume to capacity along corridor indicates the worst point of congestion along the corridor during the peak periods. The vehicle hours of delay beyond the mobility standard represents the cumulative delay (both morning and evening peaks) beyond the delay that would be experienced along the corridor if traffic were at the level

2025 Congestion Summary for Key Corridors in MPO area (2025 RTP + Illustrative)

Cumulative Peak Periods of Travel (AM Pk 2-hrs + PM Pk 2-hrs: 6:30 - 8:30 am, 4:00 to 6:00 pm)

	2002		2025	
	Maximum Volume/Capacity along Corridor	**Vehicle Hrs of Delay beyond Mobility Standard**	**Maximum Volume/Capacity along Corridor**	**Vehicle Hrs of Delay beyond Mobility Standard**
I-5 Northbound	.75	1.6	.87	134.3
I-5 Southbound	.86	23.8	1.01	231.1
Beltline Eastbound	.92	48.1	1.01	163.9
Beltline Westbound	1.01	59.7	1.09	217.2
I-105 Eastbound				
I-105 Westbound				
Hwy 99				
Hwy 99				

These figures represent the cumulative values for peak morning and evening traffic periods. The maximum volume to capacity along a corridor is an indicator of congestion. For example, .75 implies that the traffic volume is approaching 75% of the capacity.

The vehicle hours of delay beyond the mobility standard is an indicator of excess delay. In other words, a value of zero here would indicate that the facility is operating at the required mobility standard, experiencing the normal delay associated with that level of traffic. Anything greater than zero is a measure of "excess" delay on a daily basis.

Planned capital improvements out to 2025 are expected to cost over $1.1 billion (in 2005 dollars). Additional projects identified in the MPO area's Illustrative List (projects for which funding is not expected before 2025) approach another $0.5 billion. While additional analysis will provide a much more refined estimate, it is not unreasonable to assume that - a) capacity

additions to the core system from this point on will be more costly than they have been to date, and b) an additional 25 years of growth beyond 2025 (out to 2050) could add $2-4 billion; for a total of $3-5 billion between 2005 and 2050.

Of course, this does not account for the ongoing maintenance and operations of the system's facilities and services. Based on experience in the MPO area, these costs can represent roughly 1.5 to 2 times the capital costs or approximately $10 billion over the next 45 years.

Certain growth strategies can require less capital and operating costs than others. However, it is not expected that the differences will be significant enough to remove transportation finance as one of the most important issues facing the region.

The issue of transportation finance is not limited to this region. With the scale of issues facing this region and the rest of the state, there is a need to consider reinventing (or at least to renovating) the process by which we plan, develop, finance, and manage our transportation system in order to facilitate achieving both the existing plans and programs and the goals of the region 2050 process.

Summary of Evaluation Findings

The initial evaluation of transportation impacts and opportunities for the three scenarios is primarily qualitative. Projection of existing trends and policies, anticipated completion of planned transportation improvements between now and 2025, and input from key technical staff in the region will be used to draw initial, high-level conclusions about likely transportation conditions in 2050, regardless of the growth scenario, and likely differences under each scenario.

For this initial evaluation the metropolitan area travel model may be used for some preliminary projections of traffic flow on major facilities. A regional model is currently being developed that will be helpful in analyzing impacts of the three scenarios and modeling the preferred scenario later.

Initial assessment of 2050 transportation for all scenarios

The following preliminary conclusions can be stated for a generalized future under any of the three scenarios:

- All three scenarios add substantial growth within the Eugene-Springfield metro area UGB, and in surrounding areas—in the form of rural population growth, separate growth centers or new additions to the metro area UGB. All three scenarios would greatly increase travel demand between the metro area and outlying areas, compared to today and compared to the 2025 forecast in the metro computer model.

- Based on modeling for the 2025 horizon year of the metro area's Regional Transportation Plan (RTP) and Lane County Transportation System Plan (TSP), even if all proposed projects are built we can expect significant congestion on the major roadway system. Key facilities with major traffic increases would include Interstate 5 through the metro

area (from Goshen to Coburg), Beltline Highway, and Interstate 105/OR 126 (the Eugene-Springfield Highway).

- Additional capacity increases will be needed by 2050, and to some extent could be considered feasible, primarily on Interstate 5 and other freeways (Beltline, E-S Highway), and to a lesser extent on non-freeway state highways. Along with added travel lanes it would be essential to make improvements at major interchanges and implement aggressive access management strategies at many locations. No major new roadways should be anticipated beyond those in adopted plans.

- Freight movement by truck will also encounter much greater congestion on the region's highways than today. Of special concern is Interstate 5, as the primary north-south artery for truck movement not only within the region and the state, but for nearly all truck travel up and down the west coast. Other highways used heavily for a combination of commute trips, regional business travel and longer truck trips include the Eugene-Springfield Highway (105/126) and Beltline Highway.

- Within the 2050 time frame, freight movement could take advantage of the opportunities afforded by rail lines serving not only the Eugene-Springfield metro area but many of the outlying cities as well, including Oakridge, Junction City, Cottage Grove and Creswell.

- Potential increases in the use of transit, telecommuting, more local trips by bike and pedestrian modes, etc. could be expected to address a portion of forecasted congestion. More widespread deployment of operational improvements such as Intelligent Transportation Systems (ITS) strategies and instant information for travelers will also play an important role.

- Policy-level decisions will need to consider (a) what level of congestion is acceptable, on various facilities and corridors, and (b) who should pay for increased costs of accommodating growth in the region.

Probable differences in impacts and opportunities for each scenario

Each of the three scenarios would impact the region's transportation system in somewhat different ways, and would also provide a mix of opportunities for addressing some of the impacts. In the absence of quantitative model output the following points summarize the likely impacts and potential opportunities of each scenario:

<u>Compact Growth Scenario</u>

- The Compact Growth scenario continues to add the largest share of population and employment growth to the Eugene-Springfield metro area. This implies greater infill and density within the two cities, as well as significant growth beyond the current UGB. Addition of the LCC Basin and Goshen, as well as Alvadore and Pleasant Hill to the metro UGB will create large transportation impacts on corridors connecting these areas

with southeast Eugene and Springfield (I-5 south, 30th Avenue, Jasper Road and Extension), and northwest Eugene (Highway 99 North, Beltline, Clear Lake Road.)

- On the positive side, the Compact scenario provides the best opportunity for increased use of transit and other non-auto modes, because it continues and increases the concentration of population and employment in existing centers. The regional transit system, including BRT as well as conventional routes, functions most efficiently with higher densities and employment concentrations.
- Opportunities for walk and bike trips are also good in the compact scenario, if jobs do not become too widely dispersed within the metro area and housing choices are provided in a variety of areas that are either mixed-use in nature or within reasonable proximity to employment and shopping areas.

- In some respects the compact scenario also makes more efficient use of planned improvements to the regional highway system, e.g. capacity improvements on I-5, Beltline and I-105, possibly achieving a greater "bang for the buck" than a more dispersed scenario.

Satellite Communities Growth Scenario

- The Satellite scenario adds large population increments both north and south of the metro area, as well as substantial growth to the west, in the Veneta and Alvadore areas. This would create larger travel increases in the I-5 corridor and the northwest Eugene area than the compact scenario. This scenario assumes larger job concentrations outside the metro area, within the satellite communities, than the other two scenarios.

- Large growth in jobs in the satellite communities would be likely to add greatly to travel demand in both directions between these communities and the metro area, as well as travel between pairs of small cities—for example, more commute trips from Veneta to Creswell, and from Pleasant Hill to Junction City. These kinds of commute trips could be expected to impact the regional roadway system more heavily because they are longer on average, and they add more trips to the state highway system as it enters or passes through the Eugene-Springfield metro area.

- On the other hand, the Satellite scenario could help disperse the concentrations of congested portions of highway, especially along key routes like I-5. Compared to the Compact scenario, this scenario might require a lesser degree of capacity improvements to centralized portions of I-5, Beltline and I-105, though it might require more capacity on outlying areas of I-5 (such as Goshen to Cottage Grove), or on other routes like Highway 99 (Beltline to Junction City) or 126 west (Eugene to Veneta).

- The Satellite scenario could also provide greater opportunities for more people to live, work and/or do their shopping and other activities within a single community, or by making some of their trips to a neighboring town (e.g. live in Pleasant Hill, work and buy groceries in Creswell). This could lead to an increase in bike and walking trips for work

as well as other trip purposes, and to shorter auto trips and therefore reduced vehicle miles of travel, compared to the other scenarios.

- For the transit system, the Satellite scenario presents a mixed outcome: while the growth in population and jobs in outlying communities in this scenario could help support a better level of transit to those communities (more frequent service, faster travel times, etc.) this scenario would also cause the transit mileage driven to lengthen, compared to the Compact scenario. In other words, there would be increased justification for better service to satellite cities, but the overall performance of the regional transit system would be less cost-effective.

Rural Growth Scenario

- The Rural growth scenario would emphasize commuting to the metro area from bedroom areas; most jobs would still be located in the metro area but the population commuting to those jobs would be more dispersed than in the other two scenarios. The effect of this on the regional major roadway system would be complex: there might be a result of less overall "stress" on the major road system due to less concentrated travel patterns, but another outcome would be greater overall reliance on auto travel for all types of trips, compared to the other scenarios.

- Transit would not be able to economically serve the dispersed residential pattern, and bike and walk distances would increase on average, compared to the Compact or Satellite scenarios.

- Some county roads would have substantial increases in traffic in the Rural scenario. This would have mixed results in terms of impact. For example, most rural collector routes leading into and out of the metro area are in good condition and have some reserve capacity to handle additional trips. On the other hand, in many cases the geometric design and frequent access points (residential driveways) on these types of roads do not lend themselves to large volume increases, without raising concerns about safety and reduced level-of-service performance. Also, most of the county roads leading into the metro area connect with the state highway system or other major urban facilities, where congestion will be much worse than today under any of the growth scenarios.

The attached Table 1, Preliminary Assessment of Transportation Impacts of 2050 Growth Scenarios, provides an initial comparison of the three scenarios and the outlook for all scenarios with regard to seven key evaluation criteria: Accessibility/mobility; economic vitality; effectiveness/efficiency; equity; public support/financial feasibility; reliability/responsiveness; and safety.

Findings from Other Efforts

As indicated above, when attempting to plan 45 years out in to the future in a regional context, it is valuable to be able to draw on the insights of other similar efforts. Three such efforts are summarized in Appendix A – 2 statewide efforts from Oregon, and a study of global mobility. The two Oregon studies include the Willamette Valley Transportation Futures project conducted in 1999, and the Oregon Transportation Plan Update currently underway. The third sudy referenced is one recently completed by the World Business Council on Sustainable Development (WBCSD). This study represents a multi year analysis (Mobility 2030: Meeting the Challenges to Sustainability) looking at global mobility and its sustainability. (http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=NjA5NA)

Conclusions

Additional analysis, supported by computer model results, will be needed in order to further differentiate among the impacts of the three alternative growth scenarios for 2050. For now, the following conclusions appear reasonable:

1. Regardless of the scenario, substantial population and employment growth in the Eugene-Springfield will result in large congestion increases on the major roadway system. In other words, travel conditions in 2050 are going to be impacted more by the sheer size of anticipated growth in the region, more than by where the growth occurs.

2. Perhaps more important than the congestion issues, how we pay for future improvements and continued maintenance and operation of the region's transportation system may need significant restructuring to sustain the increase in population and employment by 2050.

3. Nevertheless, choices about the location and type of growth will have positive and negative influences on mobility and accessibility in the region. It is important to make informed choices around the priorities the region makes for investment of scarce resources in order to minimize adverse impacts and maximize future opportunities for addressing those impacts.

4. What is true for the current planning horizon year of 2025 will also apply to the less predictable future out to 2050 and beyond:
    - Travel will be more congested regardless of what else we do
    - Capacity improvements will be needed on the highest-priority segments of our regional roadway network, to achieve any reasonable standard of mobility and accessibility
    - At the same time, increased use of non-capital construction strategies will also be needed, to preserve existing and new capacity into the future
        - These strategies include improved facilities and more service on the transit system, additional bicycle and pedestrian facilities, and education and incentives to increase use of these non-auto modes
    - Equally important strategies will be needed in the areas of operations and access management for major roadways, and communication with the traveling public on a constant basis to help people make the best possible travel choices

5. An important policy question to be discussed has to do with what represents an acceptable level of mobility or accessibility, for the system as a whole and for unique or specific elements of the system (for example, the degree of congestion on Interstate 5 at peak periods, or a definition of adequate response times for emergency vehicles);

6. One of the primary conclusions of the World Business Council on Sustainable Development's Mobility 2030 project referenced above is that Institutional Capability is an overarching challenge, one that cuts across mode, sector, or region globally. The 'Mobility 2030' report captures the challenges for our institutional capabilities as follows:

> "Achieving sustainable mobility is almost certain to require changes in personal and goods transport systems and in how society uses them. The size and type of changes that may be needed may put great pressure on some societies' political, cultural, and economic institutions." (pg 146)

It will be important that the transportation strategies that come out of the Region 2050 process include important elements of public outreach, partnerships, as well as providing details on where we should strategically focus our coordination, communication, and cooperation efforts.

With the scale of issues facing this region and the rest of the state, there is a need to consider reinventing (or at least to renovating) the process by which we plan, develop, finance, and manage our transportation system in order to facilitate achieving both the existing plans and programs and the goals of the region 2050 process.

Coordination, communication and cooperation are actions that affect our collective institutional capability to address the challenges we face in sustaining the growth forecast for the region by 2050. It is our institutional capability that will determine the pace and direction of change in the region's transportation system. Specific actions should address the following:

- the level of commitment of the time and effort that will be required to reach consensus necessary to implement various elements of the plan;
- how to encourage and increase the level of voluntary collaboration across stakeholders;
- the public sector's ability to formulate the long-term approaches and make the long-term commitments that will be needed to implement the plan;
- the public sector's ability to prioritize actions, be aggressive in implementation, and build credibility in public-sector commitments;
- how to have the conversation about apportioning responsibility and cost for the system among the stakeholders.

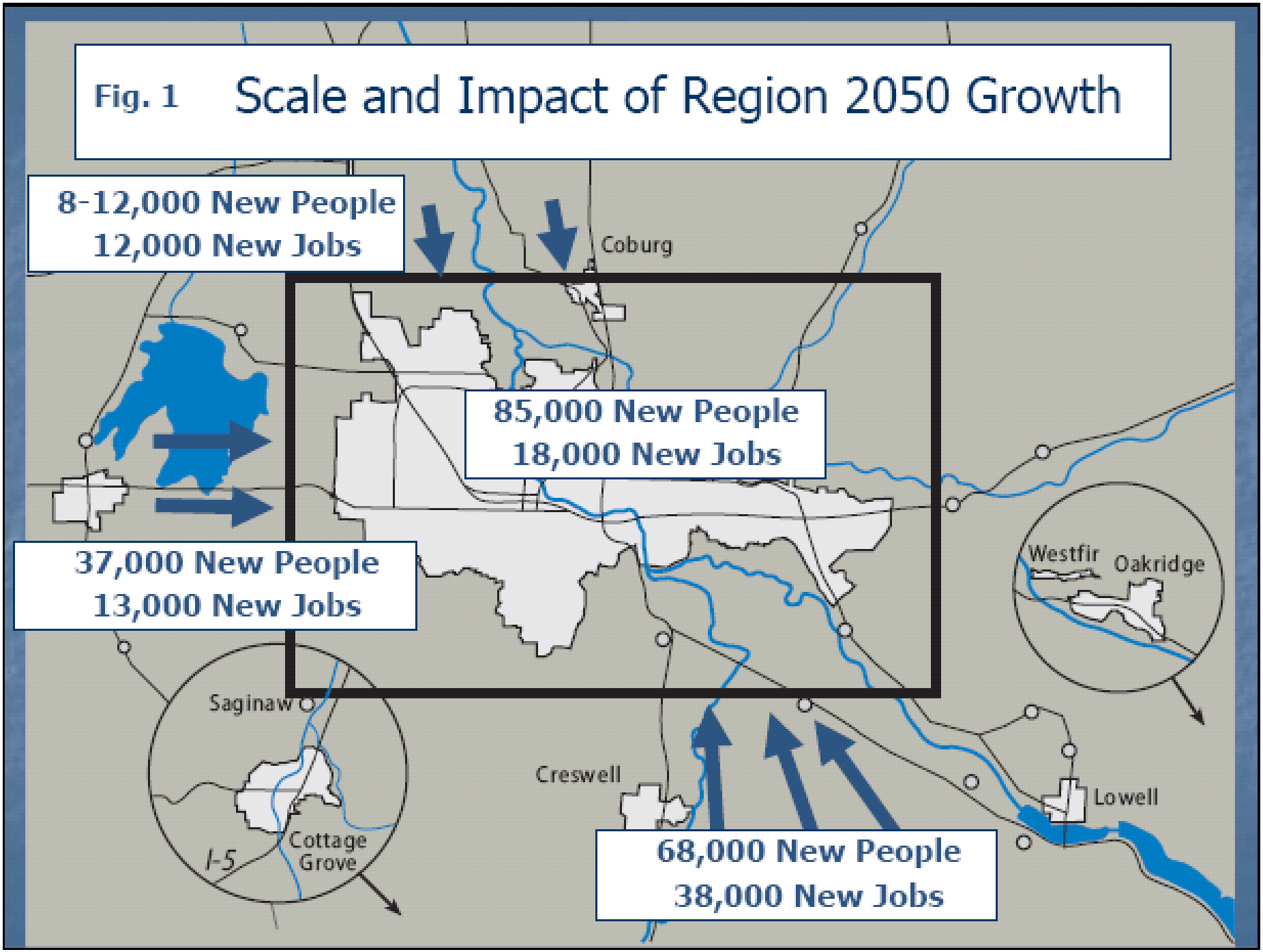
Fig. 1 Scale and Impact of Region 2050 Growth
8-12,000 New People
12,000 New Jobs
Coburg
85,000 New People
18,000 New Jobs
37,000 New People
13,000 New Jobs
Westfir
Oakridge
Saginaw
Creswell
Lowell
I-5
Cottage Grove
68,000 New People
38,000 New Jobs

Table 1 – Preliminary Assessment Transportation Impacts of Region 2050 Growth Scenarios

Evaluation Criteria	All Scenarios	Compact Growth	Satellite Communities	Rural Growth
Accessibility/ Mobility --Auto --Transit --Bike/ped	**Auto:** congestion increases on major roadway system, especially I-5, I-105, 126, Beltline. Major improvements needed plus operational strategies. **Transit:** impacted by congestion except for dedicated lanes/facilities. **Bike/ped:** longer average trips. Bike lanes and off-street paths very important.	**Auto:** large congestion increases on key metro facilities, e.g. I-5 and 105, Beltline, E-S Highway. Some improvements likely; greater reliance on operations, access management. **Transit:** BRT very important for exclusive lanes/facilities. **Bike/ped:** greater use of existing facilities, especially off-street.	**Auto:** similar to Compact, but more growth on I-5 south, Hwy 99 north, 126 west. Some improvements likely; greater reliance on operations, access management. **Transit:** large increase in service to outlying cities, BRT in metro area. **Bike/ped:** potential for increase in small cities.	**Auto:** similar to Compact but somewhat more dispersal of trips, less stress on central metro highways. **Transit:** BRT important in metro area; rural growth too dispersed to serve well. **Bike/ped:** ok in metro area, but less overall use due to dispersed population, long trips.
Economic Vitality	Truck movements greatly impacted by worsening congestion. Operational systems and capacity improvements needed in key locations. Need to focus on I-5 for truck mobility.	Congestion on metro area major highways likely to have biggest impact on trucks. Improvements and management strategies needed for key routes, e.g. I-5, 105/126, Beltline.	Similar to Compact, but also greater need for improvements and operations on I-5 north and south of metro area, Hwy 99, 126 west.	Most jobs still in metro area so impacts on trucks likely to be very similar to Compact scenario.
Effectiveness/ Efficiency	Average travel times increase, much more time wasted in congestion. Major impacts on transit, freight movement.	Concentration of jobs, population in metro area likely to result in greatest congestion, but also can help cost-effectiveness of auto and transit modes.	Could result in shorter trips and more use of alternative modes in small cities, but also greater cost for transit service to serve satellite areas.	Most auto-dependent scenario, highest VMT. Strong centralized travel pattern to jobs in core cities, but lower densities outside metro area lead to costlier transit service.
Equity	Travel costs likely to increase in general across all segments of community; disproportionate costs possibly borne by low-income segments.	Congestion could impact certain groups more, e.g. lower-income, but concentration of population and jobs would provide largest range of travel choices.	Travel patterns more spread out than in Compact scenario, could impact some groups more than others; likely increase in travel choices within small cities.	Greater auto dependence for non-metro population could cause inequities. Greater use of county roads could help spread the travel demand over more routes.
Public Support, Financial Feasibility	Public tolerance for increased congestion will be pitted against willingness to pay for improvements--could increase desire to "let the other guy pay."	This scenario may rely more than others on shifts in travel behavior,but this scenario would be best equipped to provide travel options, education, incentives, affordable transit, etc.	Population in Satellite cities likely to add support for some major roadway improvements; could also lead to greater competition between metro area and small cities.	Continues and strengthens historic pattern of centralized jobs and bedroom rural areas, thereby continuing rural-urban rivalry and competition for resources.
Reliable/ Responsive	Reliability of travel will suffer for all modes except bike/ped. Tools such as Intelligent Transportation Systems (ITS) and on-demand traveller information would need greater use.	Greater levels of congestion will severely impact overall reliability; however, range of "tools" to address congestion may be best in this scenario.	Commutes between Satellite cities and metro area, and between the small cities, likely to be least reliable. Potential for high reliability, improved travel within the Satellites.	More reliance on auto travel and on county roads would produce mixed results. Travel likely to be fairly reliable in rural areas, then break down at edge of metro area.
Safety	Increased densities and congestion would create challenges for travel safety, across all modes.	Maintaining and enhancing travel safety likely to require continuation of past techniques: "engineering, education, enforcement."	Similar to Compact, but also added challenges on state highways connecting to metro area, and within Satellite cities.	Similar to Compact, but added travel on rural county collector roads would present additional challenges in some areas.
Sustainable	Additional land devoted to transportation facilities will be minor in comparison with overall growth. Fuel consumption and air quality will correlate closely with extent of congested travel.	Continues emphasis on more efficient use of existing major roadways, greater use of transit, bike and pedestrian modes. Congestion "hot spots" likely on metro area highways.	Satellite growth could reduce air quality "hot spots" in congested areas. However, it could also bring higher air pollution levels to other areas such as highway interchanges in small cities.	Combination of more jobs in metro area and increase in rural "bedroom" population could add to congestion on major metro roadways, leading to air quality problems.

Appendix A – Findings from Other Long-Range Regional Planning Efforts

I. Findings from the Willamette Valley Transportation Futures Project

1. Whatever we do, 50% population growth will result in increased congestion levels
    - policy-wise we can have an effect on just how crowded our highways will become

2. Combination of compact development, increased transit service, additional highway lanes, and higher driving costs (tolling) reduces congestion (in the Willamette Valley) by half.
    - more effective than any single approach

3. Pricing options increase transit ridership.

4. Increasing transit frequency and coverage (convenience) increases ridership.

5. Combination of strategies (see 2) provides the greatest benefit for truck freight mobility.

6. Congestion impacts truck freight to a much higher extent than passenger travel.

7. Expanding public transit concentrates jobs in major urban centers, while pulling population to outlying cities.

8. Expanding highways draws both people and jobs to outlying cities.

II. Findings from the Oregon Transportation Plan Update

1. Higher fuel prices:
    a) lead to a decline in VMT
    b) causes the economy to grow more slowly
    c) increases the likelihood of economic activity concentrating in existing urban areas
    d) affects other modes including freight (e.g. air, rail, and transit)

2. 40% decline in purchasing power by 2030 with flat revenue assumption

3. Focusing on operations has tremendous potential:
    - reductions in travel time and costs
    - future development more compact
    - economy grows as fast as “major improvements” scenario
    - existing ITS (Fwy Mgmt) saves 10% in Portland

4. Major improvements
    - connections to commercial centers important

5. Pricing (modeled I-5 tolls between Portland and Eugene)
    - maintains capacity
    - concentrated land use and economic activities
    - more beneficial to region and state than rising fuel costs (toll revenues get spent in state)
    - smaller urban areas (Portland on down) tolled facilities typically don't cover both operating and capital costs

III. Themes that emerged from the projections of Mobility 2030 indicators (World Business Council on Sustainable Development)

A. Personal and goods transport will grow rapidly
B. Trends in access to personal mobility will be mixed
C. Increasing goods mobility will enable consumers to obtain a greater quantity and variety of goods at lower cost
D. Emissions of transport-related greenhouse gases (GHGs) will grow, especially in developing countries
E. Emissions of transport-related "conventional" pollutants will decline sharply across the developed world
F. In the developing world, trends in emissions of "conventional" pollutants will be mixed
G. Road-related death and serious injury rates are declining in the developed world. In lower income countries where transport growth is relatively rapid, road-related deaths and injuries may rise
H. Congestion may worsen in many urbanized areas of the developed and developing world
I. Transport-related security will continue to be a serious concern
J. Transport-related noise will not decrease
K. The transport sector's resource "footprint" will grow as its use of material, land and energy increase