PSRC Regional Centers Market Study

Summary Report

August 2016

Prepared for:

Puget Sound Regional Council

ECONorthwest
ECONOMICS • FINANCE • PLANNING

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Acknowledgments

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ECONorthwest prepared this report for the Puget Sound Regional Council (PSRC). It received substantial assistance from Liz Underwood-Bultmann and Sara Maxana.

ECONorthwest is responsible for the content of this report. The staff at ECONorthwest prepared this report based on their general knowledge of regional centers in the central Puget Sound, and on information derived from government agencies, private statistical services, the reports of others, interviews of individuals, or other sources believed to be reliable. ECONorthwest has not independently verified the accuracy of all such information, and makes no representation regarding its accuracy or completeness. Any statements nonfactual in nature constitute the authors' current opinions, which may change as more information becomes available.

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1 Introduction

Background and Purpose

Regional Centers are at the heart of the central Puget Sound region's strategy for growth, VISION 2040. For over 20 years these urban places have played an integral role in shaping expectations about how the region will accommodate a growing population and support the economy and natural environment that sustains that population. And in accordance with the important position these places occupy in regional policy, no other places in the region have been more studied, reviewed, discussed, planned for, and redeveloped.

The Puget Sound region, like most metropolitan areas, is a complex set of inter-related systems: land markets, road and transit networks, watersheds, and labor markets. Describing precisely how and why these urban neighborhoods function to support the region's long-term goals requires insights into the nature of each of the related systems.

Over 20 years, the Puget Sound Regional Council (PSRC) has developed an extensive base of information about regional centers, and member jurisdictions have done the same for sub-regional centers and urban neighborhoods. At this point in time, PSRC is interested in better understanding how to continue to advance the development of centers going forward. Are there types of centers that perform different functions? Are there places that are not designated centers that are still critically important to the region's growth and development goals? Can policy be adopted that unlocks urban center potential? And what are the future market conditions that will determine how many centers can be supported and how quickly they can develop?

Recognizing the increasingly important role of centers within the region, PSRC formally designates regional growth centers as preferred locations for concentrated future growth in employment and population. The designation also helps to direct regional funding. In addition to the formally designated centers, there are locations with dense concentrations of housing and employment within the region that serve roles similar to existing regional growth centers. This report uses the term "urban centers" to refer to *both* designated regional growth centers and similar center-like places.

This Regional Center Market Study seeks to:

- Understand the process that drives market demand in centers.
- Understand how much growth policymakers should expect in urban centers in the future.
- Identify strategies to attract more growth to centers.
- Provide guidance on ways to evaluate local demand for individual centers as part of local and regional planning.

- Support a regional framework for the designation of centers, including the number, type, and location of centers, that is a good fit to existing and potential future market conditions.

PSRC also designates regional manufacturing/industrial centers, which, along with other industrial areas in the region, were the subject of the Industrial Lands Analysis (2015). This market study focuses on high-density areas with a mix of commercial and residential uses, such as regional growth centers.

1.1 Organization of this Report

This report summarizes the methods and key findings of the Regional Centers Market Study conducted by ECONorthwest for PSRC. It is organized into the following sections:

- **Section 2: Policy Importance of Centers** gives context on the history of centers in Central Puget Sound and why centers matter.
- **Section 3: Methods** briefly describes the study geography, approach, and analytical methods used for the study.
- **Section 4: Summary Findings** provides a high-level summary of the key findings of the research.
- **Section 5: Recommendations** presents a summary of recommendations for improving market strength in urban centers.
- **Section 6: Conclusions and Next Steps** provides implications and next steps for PSRC as it considers next steps for its Regional Centers Framework.

2 Policy Importance of Centers

History of Centers in Central Puget Sound

Urbanization, the shift of people and firms from rural to urban places, has transformed the Puget Sound region over the past century. Cities are where most jobs and people now reside, and an increasing number of people live in the densest places in those cities – urban centers. Within the Central Puget Sound region, centers such as the downtowns of Seattle, Bellevue, Tacoma, and Everett represent an outsized share of business activity and population. In the future, these areas are anticipated to be even more critical to the regional economy, with population and employment growth rates expected to exceed regional and national averages.

As the region's economy has evolved, so has the spatial distribution of firms and residents. When the economy of the region was comprised of a limited number of manufacturing and extractive industries (e.g. timber, shipping, aeronautics), these firms formed a relatively small number of dense urban and manufacturing clusters. In this environment, firms benefited from locating close to common suppliers and lower-cost transportation infrastructure. Urban development followed a concentric pattern, extending gradually outward from the region's central business areas with decreasing density of population and employment.

Prior to the turn of the twentieth century, the economy of the Central Puget Sound was concentrated in the port-towns of Seattle, Tacoma, and Everett. The region initially benefitted from a booming local timber industry, which lasted until the Panic of 1893. Later, the Klondike and Nome gold rushes of 1897 – 1909 provided major stimulus to population and employment growth in the area. During this period, shipping, textile, manufacturing, and lodging businesses grew to service the needs of individuals traveling to and from Alaska. Several significant companies were founded during this era including Nordstrom, Eddie Bauer, and United Parcel Service (UPS). Access to the Puget Sound and rail lines were the dominant determinant of center formation.

During and after World War II, Boeing was a major contributor to economic growth in the Central Puget Sound region. Aircraft assembly plants continue to be operated by Boeing out of Renton and Everett. In addition, at least six[1] regional growth centers continue to support Boeing-related manufacturing plants and corporate facilities. Boeing production involves high capital and transportation costs. Consequently, communities with ready access to the major transportation infrastructure and along existing supply lines capture growth from Boeing and other intermediate suppliers in the aerospace industry. During the post-war

[1] These include Everett, Renton, Auburn, Tukwila, Kent and South Lake Union with current or former Boeing facilities

years, the region relied heavily on Boeing's economic success to sustain growth in population and employment.

Over time, the economy of the Central Puget Sound has diversified. In the 1980s, Microsoft moved their headquarters to Bellevue and later to Redmond, establishing a major employment center on the eastside of Lake Washington. Since then, many major technology companies formed or have established a presence in the Central Puget Sound region including Amazon.com, RealNetworks, Expedia, Zillow, Tableau, Nintendo and T-Mobile. These firms are less reliant on transportation networks as an integral part of their business operations. In addition, due to their size, these firms can exert significant market power when setting the terms of labor agreement with their employees.

Hence, some technology firms have taken advantage of relatively abundant and lower priced land, creating concentrated skills clusters outside of the central business districts of the region. After a period of decline and consolidation, this sector now fosters significant growth in regional employment and population. Amazon, in particular, has been a major source of recent employment growth in the region. In 2010, the company moved their corporate headquarters to the South Lake Union neighborhood, with 11 buildings and more than 20,000 employees and growing.

Population density and land prices are strongly associated with proximity to downtown Seattle and other major job clusters in the region. Initially the region's population was distributed in a North-South pattern along waterways and rail facilities, from Everett to Tacoma. However, the completion of the interstate highway system and changing household preferences facilitated increased population growth in the region's suburbs. For instance, based upon data from the US Census from 1950 to 2010, population growth in areas outside of Seattle but within the Seattle MSA averaged 32% per decade. Within the City of Seattle, population growth averaged 8% per decade. This suburban population boom led to a more spatially diffuse population profile and facilitated the growth of many suburban centers outside Seattle boundaries.

Regional growth centers offer a diverse mix of natural, infrastructural, and human capital. Consequently, households sort themselves into communities based upon their preferences for urban amenities, subject to the costs of housing and transportation. For instance, dense urban areas such as Downtown Seattle, Capitol Hill, and Uptown tend to attract recent college graduates with small household sizes and high preferences for walkability and transit accessibility. In contrast, suburban centers such as Issaquah, Redmond, and University Place tend to attract larger family households with higher preferences for school quality and open space.

How Urban Centers Form

Urban centers arise when many firms and households benefit from locating close to some unique economic feature that improves their productivity or otherwise improves their wellbeing. In early stages of economic urbanization, these features were natural resources

and transportation opportunities (waterways, roads, etc.). As urban places develop, the range of amenities available to firms and households increases. For households, urban places offer access to a large pool of jobs, opportunities to buy products, and numerous social and cultural activities. Urban firms benefit from a large labor pool, transport hubs for moving goods, markets for selling their products, and proximity to other businesses that support their production.

Urban sites that are particularly well served by a wide array of features are highly desirable, leading to increased site value in real estate markets. This occurs as firms and households compete with each other for the most select sites, bidding up the rents at these locations. The firms and households that can take best advantage of the unique location will pay the highest costs for land. Firms and households trade lower transportation costs for higher land costs. Absent policy interventions, as land costs increase, the density of development (buildings) will also increase. But as urban places continue to grow and become more dense, they also experience increases in some transportation costs due to congestion. These congestion-related transportation costs include heavy road traffic, crowded buses and trains, and chaotic sidewalks.

In mature urban economies, like the Central Puget Sound region, each urban center provides a different mix of services to firms and households depending on its location and proximity to labor markets, transportation assets, unique environmental, cultural and economic resources, and other urban places. Yet in the midst of this diversity, some simple principles still hold – firms and households are making location choices by trading off land costs and transportation costs. Over time, preferences evolve in response to changes in technology (e.g. how people and goods move about; how businesses interact with customers, employees, and each other; and how land gets used to increase productive possibilities) that result in changes in land and transportation costs.

Many competing and non-mutually exclusive theories exist that explain why employment and population concentrate in some locations and not others. One theory holds that firms (and population by extension) tend to group in centers due to lower transportation costs for moving goods across space (Krugman 1991). Another suggests that centers form due to "labor pooling," or reductions in the cost of moving people across firms (Marshall 1890). A third set of theories suggests that centers create a pool of human capital that helps facilitate the spread of ideas and innovation (Jacobs 1969).

In the case of the Central Puget Sound, all of these theories may describe an economic reality that shapes the region. The transportation cost theory proposed by Krugman may help explain the growth of manufacturing-oriented centers such as Everett and Renton around Boeing. By contrast, the labor pooling and human capital theories may explain the growth of more diversified centers such as downtown Seattle or Bellevue.

According to the bid-rent theory developed by Von Thunen (1826), urban concentration results in higher land premiums for properties located within the central business district, or

center, and gradually diminish for properties located further and further from the urban core. Lower land prices for properties with poor access to the urban core are necessary to compensate residents and businesses for longer expected commute times and higher transportation costs.

Why Urban Centers Matter

By definition land within urban centers is scarce and desirable. The overall economic possibilities of a metropolitan area are in no small degree dependent on having urban land put to the best productive use. Yet at any single point in time it is extremely challenging for a central planning process to determine which uses are the highest and best. Open markets for the purchase, development, and use of land provide one means of sorting out higher uses from lower uses. But these markets are complex, subject to distortions from other policies and tied to other markets where resources do not always flow freely. In such a setting, public policies will most usefully support general urban development while also minimizing any downsides to the concentration of development in urban places. The dominant negative consequences of urban development involve congestion associated with density, pollution of urban spaces from urban activities, and inefficient matching of labor and firms due to the displacement of urban land uses associated with the higher land prices manifest in urban centers.

Some recent research into the benefits of various types of urban spatial organization suggests that urban regions with many urban centers may be better off than regions where most development is concentrated in a single place. Large urban populations can lead to congestion and pollution costs, which can increase faster than population growth, while the unit costs of providing the infrastructure necessary to alleviate these problems decreases slower than population growth. However, this set of problems can be mitigated through distribution of multiple urban centers, allowing firms and households to more fully sort themselves across urban spaces[2].

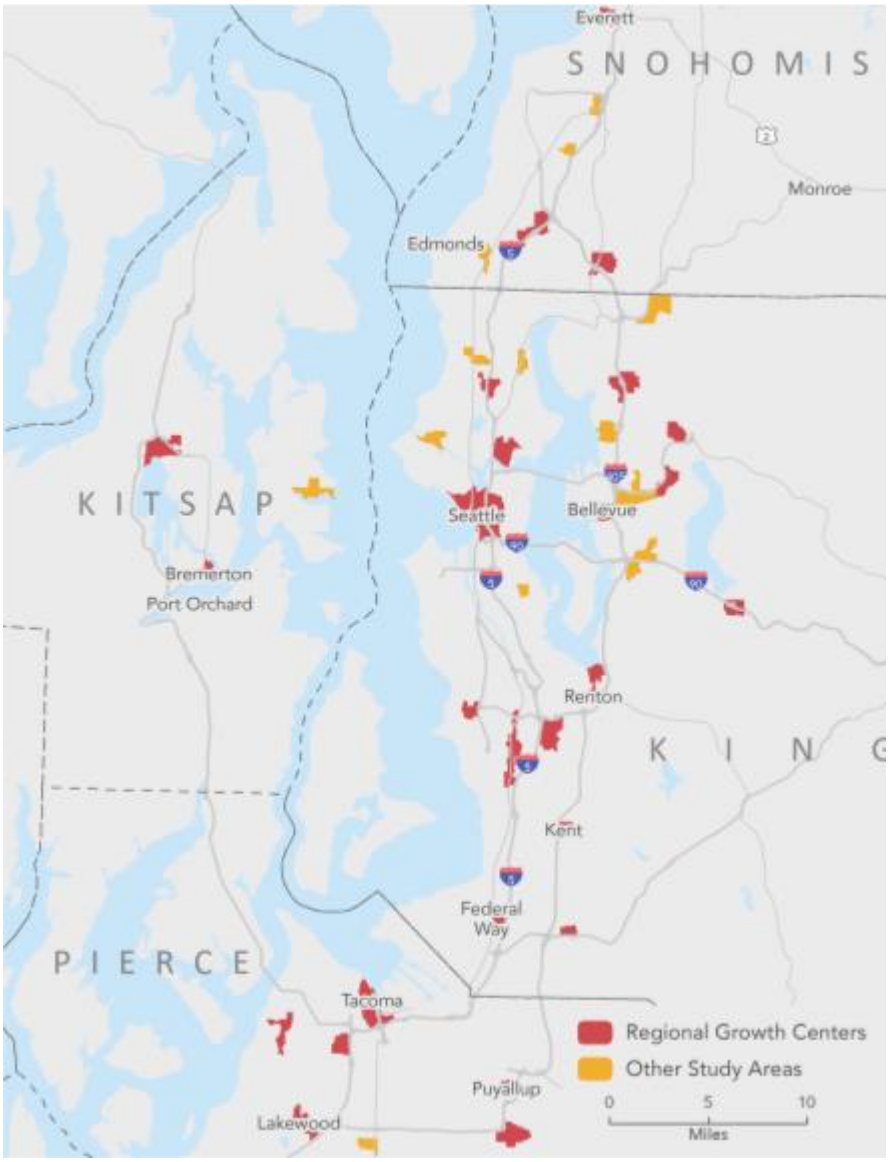
[2] *"How Congestion Shapes Cities: from Mobility Patterns to Scaling"; Rémi Louf & Marc Barthelemy

3 Methods

3.1 Study Geography

This report analyzed regional growth centers designated by PSRC as of 2015 (29 centers) and a set of 13 other study areas with center-like characteristics. These other study areas were selected in collaboration between ECONorthwest and PSRC, and they represent other types of dense urban places in the region. They are included in this analysis to provide additional context on market conditions beyond the designated regional centers. Collectively, these 42 study areas are referred to as "urban centers" throughout this report.

Exhibit 1. Locations of Urban Centers



3.2 Study Approach

Urban centers differ from each other in a number of important respects. Some have higher concentrations of jobs in specific industries, such as services (Redmond-Overlake, Bremerton) and retail (Puyallup South Hill, Tacoma Mall). Some centers are characterized by higher population density (First Hill/Capitol Hill), while others have higher employment density (Bellevue, South Lake Union). Many of these attributes are associated with economic growth over time. It would be inappropriate to base expectations for development in a suburban center, such as Lynnwood, on the experience of Downtown Seattle.

The ultimate goal of the study is to shed light on what is driving growth in urban centers and what that growth may look like in the future. Our approach sought to harness geographic and time series data on urban centers that included:

- Population growth
- Employment growth by industry
- Social and demographic characteristics
- Transportation accessibility and connectivity
- Built form characteristics (housing and commercial space)
- Land use and zoning capacity
- Regional transportation funding
- Preferences for housing, amenities, and travel
- Commercial rents and vacancies
- Home prices

In order to accomplish this task, the study embarked on five main analytic approaches.

- Develop a typology of urban centers
- Identify characteristics that predict center growth
- Analyze stated preferences of urban center residents
- Provide projections of future demand for urban centers
- Conduct interviews with real estate professionals

The methods for these analyses are described below.

Develop a Typology of Urban Centers

In order to properly assess the potential for future economic growth, it was important to construct typologies capable of representing the 42 urban centers. Based on an analysis of data on existing conditions and recent trends in centers, ECONorthwest grouped them into

three distinct types that reflect shared differences in 1) how fast they are growing; 2) the diversity and scale of their local economies; and, 3) the types of households that live there.[3]

Identify Characteristics that Predict Center Growth

Next, ECONorthwest conducted a regression analysis in order to identify the relationships between characteristics of urban centers and their subsequent economic performance. There are many potential factors that may contribute to economic growth, but this analysis focused attention on those characteristics with available data and the most plausible relationship to long-term growth potential. A time series linear regression approach was used to understand the impact of many variables (predictors) on a variable of interest, in this case, economic performance of centers. The estimated model was then used to provide estimates on the relative value and significance that each of these variables contributes to employment and population growth in centers.[4]

While ECONorthwest used the best data available, it was not possible to analytically assess all the variables that might influence household and employment growth. Factors for which data is limited—for example, CEO decisions—can have a significant influence on urban center growth. For further discussion of caveats and limitations, see section 4.7.

Analyze Stated Preferences of Urban Center Residents

In order to better understand resident preferences for locating within urban centers, ECONorthwest analyzed the results of the 2014 PSRC Regional Travel Survey. The PSRC Regional Travel Survey is a part of an ongoing effort by PSRC to study and analyze household location and travel decisions, and is distributed to a representative sample of residents located in the region, which includes King, Pierce, Snohomish, and Kitsap counties. Using location data provided in the survey, ECONorthwest sought to understand what types of households have location preferences for urban centers.

Provide Projections of Future Demand for Urban Centers

Based on the results of the previous steps, ECONorthwest built econometric models of employment and population growth in urban centers. These models were used to project employment and population in urban centers for the year 2040. These models assume that the economic performance for the broader Central Puget Sound region in 2040 will conform to the forecasts of PSRC's macroeconomic model (for employment) and by the Washington State Office of Financial Management (for population). The forecasts produced for this report are simulated under both moderate and high demand conditions. Differences in

[3] For more information about the typology development, see ECONorthwest's report *PSRC Regional Centers Evaluation: An Evaluation of Conditions and Economic Performance*.

[4] For more information about the regression analysis of factors that predict center growth, see ECONorthwest's report *PSRC Regional Centers Evaluation: An Evaluation of Conditions and Economic Performance*.

demand projected between these two scenarios are influenced by potential policy changes, demand conditions, as well as changes in macroeconomic conditions.[5]

Conduct Interviews with Real Estate Professionals

In order to contextualize the results of the technical analyses, ECONorthwest spoke with a variety of professionals involved in land development in the Central Puget Sound region. The individuals were selected to include a diverse perspective on the growth in different types of urban centers in the region. During each interview, ECONorthwest asked respondents for their reactions of the findings of the research, their perspectives on the challenges and opportunities facing urban centers, and their recommendations for supporting economic growth in urban centers.

[5] For more information about the forecasts of future demand, see ECONorthwest's report *PSRC Regional Centers Market Study: Future Centers Demand Forecast*.

4 Summary Findings

4.1 Economic Forces Driving Urban Growth

The Central Puget Sound is a diverse region with a mix of centers and central places, ranging from the central business district of downtown Seattle to other smaller city centers, suburban downtowns, employment concentrations, and retail areas. These areas differ with respect to the people and firms who choose to live there. These centers are a part of the regional economy, but also possess their own unique characteristics and growth patterns. In order to understand how centers are performing and how policy can support them, it is essential to understand the nature of their similarities and differences. The following section provides a brief summary of what is known about the forces that shape the growth of urban environments.

Urban Center Formation is the Result of Market Forces

Even though economic activities may be spatially concentrated because of natural landscapes, growth in urban centers is driven by fundamental economic mechanisms. These economic mechanisms are generally trade-offs between various forms of economies of scale and different types of mobility costs. These mechanisms are created through market interactions between firms, their consumers, and workers. **In other words, workers prefer to be close to their employers, and companies want to be close to their customers and markets.**

Firms and Workers are More Productive in Urban Centers

Economic studies have found that urban places are more economically productive. This general finding is based on three observations.

1. Productive activities tend to cluster and give areas some comparative advantage.
2. Urban centers typically command premiums for labor wages and land rents.
3. Although each urban center is different, they benefit from three forms of economies of scale:
    a. *First, a large market allows for a more efficient sharing of local infrastructure and facilities, a variety of intermediate input suppliers, or a pool of workers with similar skills.*
    b. *Second, a larger market also allows for a better matching between employers and employees, buyers and suppliers, or business partners. This better matching can take the form of improved chances of finding a suitable match, a higher quality of matches, or a combination of both.*

c. *Thirdly, a larger market can also facilitate learning, for instance by promoting the development and widespread adoption of new technologies and business practices.*[6]

However, this is not to say that all centers will ultimately look the same, these economic forces interact with the present economic, social, and environmental conditions to drive the differences in rates and types of population and employment growth.

4.2 Urban Center Typologies

Centers Vary by Size, Density, and Connectivity

Considering the number and variability of urban centers, this study used observed data on population, economic activity, and built form to group the 42 urban centers into three primary types. The resulting typology is useful to make sense of existing conditions, project future performance, and tailor policies and strategies to various centers across the region. The primary divisions between types of places are based upon economic scale. This study used a clustering analysis to group urban centers into 3 distinct types:

- **Mature Urban Centers**, like Downtown Seattle, South Lake Union, and Bellevue, are characterized by very large concentrations of both people and jobs. These high-density urban centers consistently outperform the region in terms of both population and employment growth. These places are the densest population and employment centers and have well diversified employment or employment in the strongest performing industry sectors.
- **Established Centers**, like Tacoma Downtown, Everett, and Renton, are smaller on average than the Mature Urban Centers, but are well established in the region. They are less dense and have less transit accessibility than Mature Urban Centers but also outperform the region in population growth and lag somewhat in employment growth.
- **Emerging Centers**, such as Issaquah, Silverdale, and Lynnwood, are smaller on average than both Mature Urban and Established Centers. These locations tend to be more recently developed and locate in suburban areas with relatively limited accessibility by public transit. Nevertheless, these areas have shown robust trends in job creation and population growth more in line with the regional average.

Exhibit 2 provides the results of the typology analysis.

[6] Duranton, Gilles and Diego Puga. 2004. Micro-foundations of urban agglomeration economies. In Vernon Henderson and Jacques-François Thisse (eds.) Handbook of Regional and Urban Economics, volume 4. Amsterdam: North-Holland, 2063–2117.

Exhibit 2: Typology of Urban Centers in the Central Puget Sound Region

Mature Urban Centers	Established Centers	Emerging Centers
Bellevue Downtown	Ballard*	Auburn
Seattle Downtown	Burien	BelRed*[7]
Seattle First Hill/Capitol Hill	Columbia City*	Bitter Lake*
Seattle South Lake Union	Kirkland Downtown*	Bothell Canyon Park
Seattle University Community	Everett	Bremerton
Seattle Uptown	Federal Way	Woodinville Downtown*
	Lake City*	Eastgate/Factoria*
	Mariner*	Edmonds-99 Corridor*
	Redmond Downtown	Everett Mall*
	Redmond-Overlake	Issaquah
	Renton	Kent
	Seattle Northgate	Kirkland Totem Lake
	Tacoma Downtown	Lakewood
		Lynnwood
		Parkland (PLU)*
		Puyallup Downtown
		Puyallup South Hill
		SeaTac
		Silverdale
		Tacoma Mall
		Tukwila
		University Place
		Winslow*

Urban Centers are Employment and Population Engines

Despite periodic declines in employment due to the 2002-2003 and 2007-2009 recessions, urban centers have reported substantial gains in employment from 2000 to 2014 (Exhibit 3), led primarily by growth in the services sector. Population growth has also been robust for urban centers generally and especially in Mature Urban and Established Centers.

Exhibit 3: Overall Employment and Population Change for Urban Centers

	Employment Change (2000 - 2014)		Population Change (2000 - 2015)	
Place	Nominal	Percentage	Nominal	Percentage
Emerging	12,191	7.3%	8,702	15.0%
Established	350	0.3%	18,864	39.6%
Mature Urban	13,080	4.3%	42,355	53.3%
Overall Region	112,574	6.8%	1,167,524	19.8%

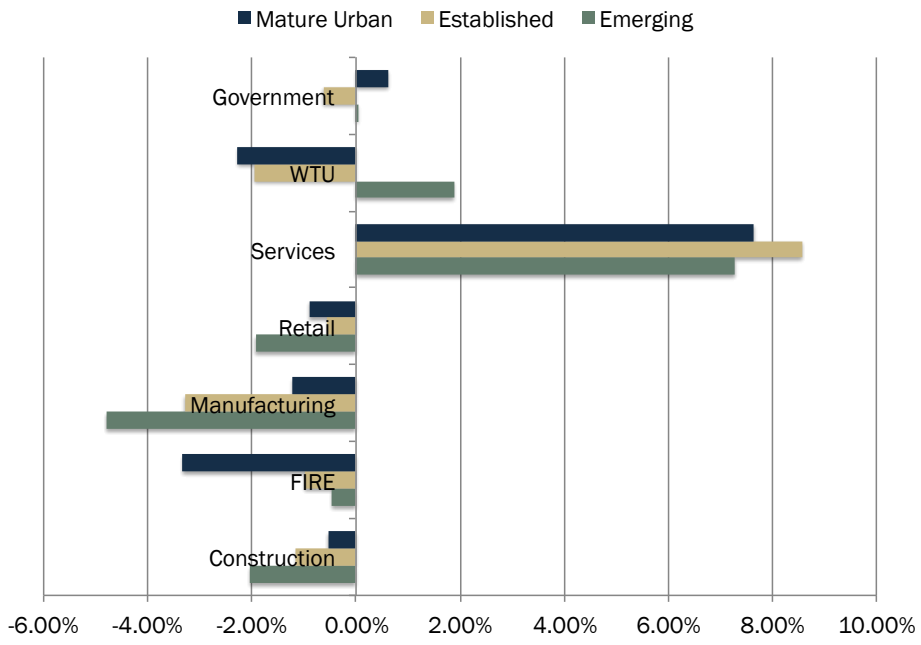
Employment in urban centers grew by 5% from 2000 to 2014. Urban centers account for only 0.58% of the land area but 35% of the region's jobs. Total employment grew from 608,000 in 2000 to 633,000 in 2014. Employment grew by 7.3% in Emerging Centers, 4.3% in Mature Urban Centers and 0.3% in Established Centers. This compares to an overall employment growth rate of 6.8% for the region.

[7] Asterisks denote urban centers that are not designated regional growth areas.

The urban center population increased by approximately 37% from 2000 to 2015. In 2000, the urban center population was approximately 185,000 and grew by 70,000 to 255,000 residents in 2015. The population growth rate in urban centers outstripped the region, which grew by 19.8% during the same period. Annual population growth rates are highest in Mature Urban and Established Centers, with significant acceleration in growth since 2013. Between 2000 and 2012, the average annual growth rate in Mature Urban Centers and Established Centers ranged from 1% to 2%. From 2013 to 2015, Mature Urban and Established Centers averaged annual population growth of 6.1% and 3.9% per year, respectively.

Recent employment growth in urban centers is concentrated almost exclusively in the services sector. The services sector grew by 8.1% from 2000 to 2014 in urban centers. Nearly every other sector of the urban center economy lost jobs during this period. These decreases in employment share represent a fundamental shift in the employment landscape of urban centers in the region. Urban centers in the region are becoming increasingly reliant on service-based employment and at an increasing rate over time. The shift in service based employment mimics broader economic trends at the region and national level. For instance, from 2000 to 2014, the services sector increased its share of employment by approximately 5.54% nationally.

Exhibit 4: Change in Employment Share by Industry from 2000 to 2014 for Urban Center Types



Source: PSRC Covered Employment Estimates for Urban Centers

All urban centers, and Mature Urban Centers in particular, have higher transit ridership than the overall region. Average peak ridership per acre is highest in Mature Urban Centers, with 1.33 riders per acre. Established Centers and Emerging Centers average 0.37

and 0.14 riders per acre, respectively, and the region averages 0.12 riders per acre within the urban growth area.

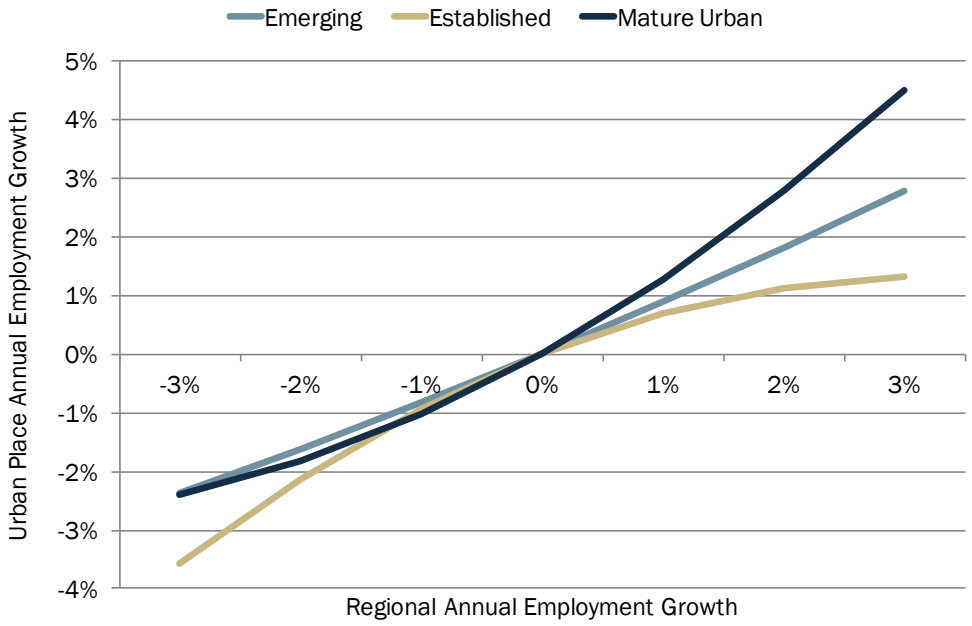
4.3 Indicators of urban center economic growth

Market Size Shapes Urban Growth

Market size is a key determinant of firm location. Generally, larger markets will increase the profitability of firms and this results in large markets getting larger as businesses locate to take advantage of these greater opportunities for profit. The analysis has discovered that these relationships are present in the Puget Sound region and highlight the importance of the how fast employment growth happens in a center relative to how consistent it is over time. Overall, the largest and densest urban centers have the most resilient and fast growing economies. Urban center growth is highly tethered to growth rates in the broader regional economy. As shown in Exhibit 5, when the regional annual growth averages 3% per year, Mature Urban Centers grow by 4.5%, Established Centers grow by 1.3% and Emerging Centers grow by 2.8%.

Mature Urban Centers are among the most significant economic engines in the Central Puget Sound. Many Fortune 500 companies reside in these urban centers, including Amazon, Starbucks, Microsoft, Paccar, and Expedia. In addition, the University of Washington is a major employer in the region. As a result, these urban centers respond to business conditions on a national and international level, reducing their exposure to local economic shocks (such as recessions). Established and Emerging Centers also generate economic activity on a significantly higher rate than the regional average. These urban centers are local economic centers with a high preponderance of small to mid-sized businesses. Hence, economic performance in these places tends to closely follow the region as a whole.

Exhibit 5: Impact of Regional Employment Growth on Urban Center Growth



Service Sector Oriented Centers Grow Faster

Centers with industries and firms oriented around large, global markets that produce goods and services for export (as opposed to those mainly for local consumption from households) drive growth in urban places. This is due to the high growth multiplier effect of basic sectors of the economy. These types of firms and sectors anchor the development of prosperous and competitive clusters of industries, and directly lead to larger and more diversified urban centers. The outcome is a "snowball effect" in which a growing number of firms and households want to concentrate in these places to benefit from a larger diversity of activities and better opportunities to be productive.

This study has identified that growth in the service sector tends to support future job creation. Jobs created in one year tend to manifest employment growth in future years. Furthermore, adding jobs in one sector can have multiplier effects that result in increasing employment around the economy, because growth in one sector of the economy tends to support employment in other industries through demand for intermediate goods and services and through the expenditure of new wages and income.

Employment in some sectors can have higher or lower impacts on other sectors depending upon the relative economic linkages in regional industries and the wages offered to employees. The services sector is the largest single industry in urban centers for the region with strong representation in the faster growing urban centers. Exhibit 6 shows the relative magnitude of employment multiplier effects for FIRE, retail, other, and government sectors relative to service sectors. The services sector has the highest multiplier effect. These results indicate how an increase in employment by one job in a particular sector supports future job creation, relative to the services sector. A value greater than one indicates a high multiplier

effect and a value less than one indicates a relatively smaller multiplier effect, relative to the services sector.

Exhibit 6: Employment Multiplier Relative to Service Industry

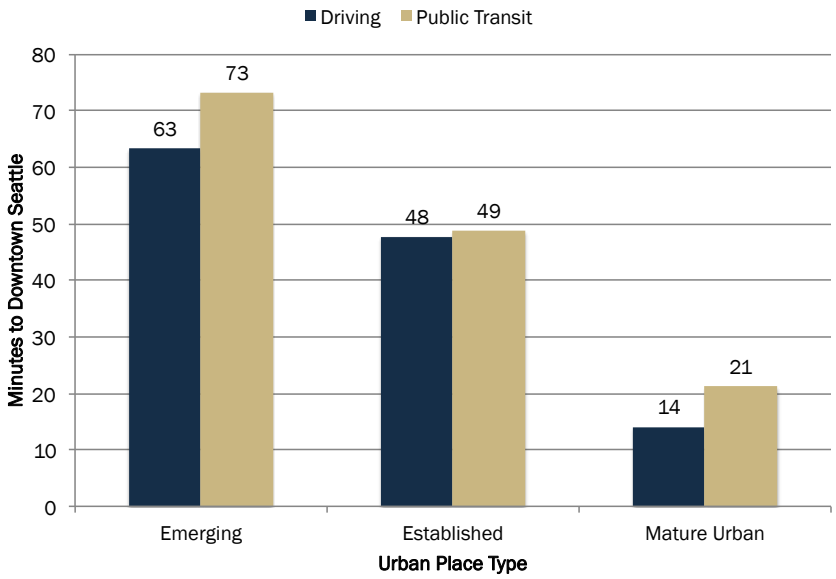
FIRE	Retail	Other	Government
0.88	1.00	0.96	0.94

Lower Relative Transportation Costs Facilitate Urban Center Growth

As transportation costs decrease, firms have an incentive to concentrate their production in each unit of land to better take advantage of cost savings (e.g. transportation is a cost that does not scale for firms). This creates a large incentive for firms to seek locations with the best access to the largest pool of potential customers and/or employees. As a hub that is well connected to many other urban places, downtown Seattle plays an important role in the economy of the region. For this reason, proximity to Seattle has historically been an important predictor of market-based development potential and economic performance. Communities located closer-in to Seattle offer their population better accessibility to jobs and markets. Businesses located in close proximity to Seattle also benefit from easy access to clients, intermediate suppliers, and major transportation infrastructure.

Exhibit 7 shows the average expected drive time and public transit time to downtown Seattle for Mature Urban, Established, and Emerging Centers in the region.

Exhibit 7: Minutes Commute to Downtown Seattle by Urban Center Type

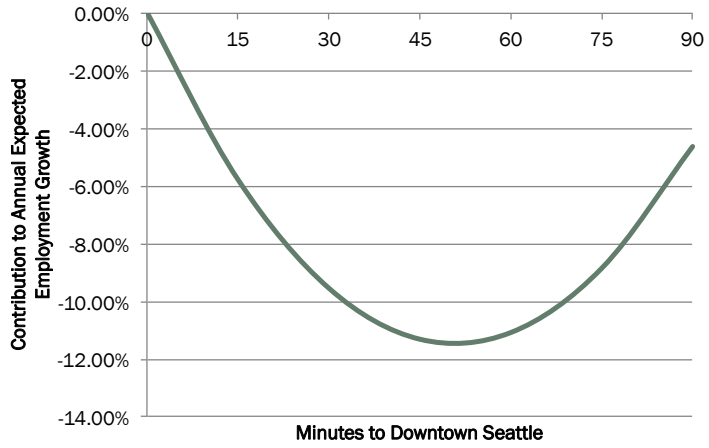


Mature Urban Centers tend to be close to Downtown Seattle, with an average drive time of approximately 14 minutes. The importance of this measure is not as an absolute measure of proximity to the most mature urban center in the region, but rather that it is a relative measure of how "connected" these places are to the central mass of the region's economy. The results are unsurprising given the heavy representation of Seattle-based centers in the

Mature Urban category. Established Centers are further from Seattle, with an average drive time of 48 minutes, and Emerging Centers are furthest from Seattle at approximately 63 minutes. Public transit times tend to be slightly longer on average than commute times by driving. However, the commute times by public transit are roughly comparable for Established Centers to the commute by driving.

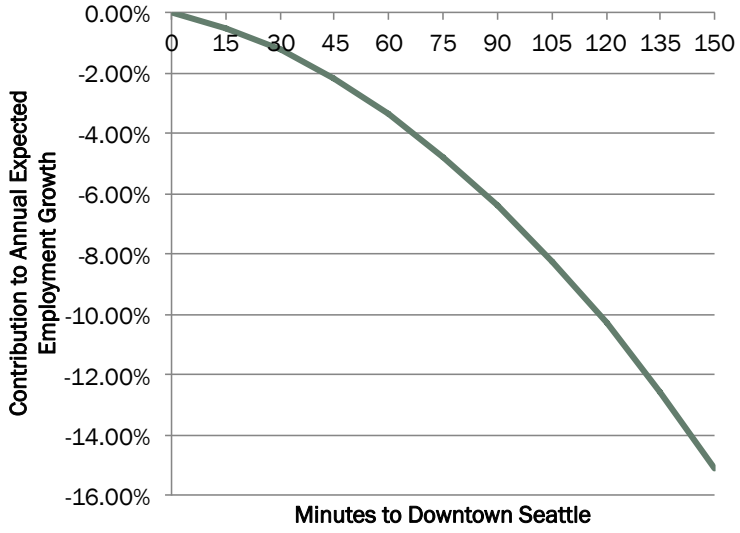
Transportation accessibility to downtown Seattle is also an important factor contributing to employment opportunities in urban centers. Urban centers located closest to downtown Seattle tend to report higher employment growth rate on average than places further away. Exhibit 8 shows the contribution of average drive time to downtown Seattle on urban center annual employment growth. On average, urban centers within approximately 45 minutes from downtown Seattle would statistically benefit from relative reductions in average drive time (e.g. their ability to travel faster in the future relative to regional travel times).

Exhibit 8: Impact of Increases in Morning Rush-Hour Drive Time to Downtown Seattle on Annual Employment Growth Rate



Urban centers with shorter commutes by public transit report higher average employment growth rates than those further away. Exhibit 9 displays the expected contribution that increases in commute times by public transit have on expected annual employment growth rates for urban centers. Unlike drive times, all urban centers will statistically benefit from reductions in average public transit commute times.

Exhibit 9: Impact of Increases in Public Transit Time to Downtown Seattle on Annual Employment Growth Rate



Sufficient Zoning Capacity Reduces Barriers to Job Creation

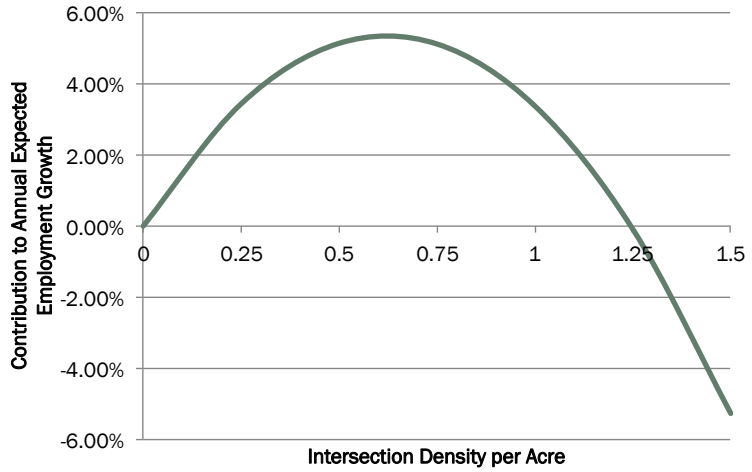
Future land use has a significant impact in determining which areas absorb the largest amount of future employment. Increasing the zoning capacity for future employment has a positive and significant impact on future employment. On average, a 10% increase in capacity for future jobs per acre can permanently add an additional 0.2% to yearly employment growth.

Not all urban centers will benefit equally from increasing zoning capacity, but these results suggest that zoning restrictions can act as a significant barrier to job creation in areas with limited future potential for commercial office space. Adjusting current zoning requirements to allow additional job capacity will help relieve supply constraints and spur the creation of lower cost commercial office space.

Walkability Contributes to Employment Growth

Intersection density is a measure of the number of intersections per acre and was used in this analysis as a proxy for urban form. Intersection density has a significant but non-linear impact on urban center growth rate. For instance, urban centers with intersection density of approximately 0.25 per acre can expect annual employment growth rates of approximately 3.45% larger than those with zero intersections per acre. For intersection density in the range of 0 to 0.5, increases in intersection density are associated with positive increases in employment growth.

Exhibit 10: Impact of Increases in Intersection Density on Annual Employment Growth Rate



In this range, higher levels of intersection density are most likely associated with improvements in walkability and accessibility, which act as an attractant to future employment. However for intersection density above approximately 0.5 intersections per acre, increases in intersection density are associated with decreases in employment growth. Very high levels of intersection density may constrain employment growth due to development constraints from the amount of space taken up by right of ways and higher cost of construction.

4.4 Indicators of urban center population growth

Local Employment Growth Leads to Population Growth

Recent growth in employment within an urban center has a statistically significant relationship with increases in future population growth. Increasing employment by 10 jobs per acre is expected to increase population by 0.2 residents per acre the following year. For instance, an increase in employment by 0.2 individuals per acre would translate into a nominal increase of 47 residents for Auburn in 2014, a 4.9% population increase.

Permitted Units Signal Future Population Growth

Permit activity is a strong signal for future growth. Permitting an additional 100 units per acre is expected to increase population by 0.05 residents per acre the following year. As an example, with 100 units being added over a three-year period, the population of Kirkland Totem Lake could increase by as much as 2.6%, or a nominal increase of 130 residents. These results conform to the expectation that increases in the supply of available housing will tend to increase future population growth.

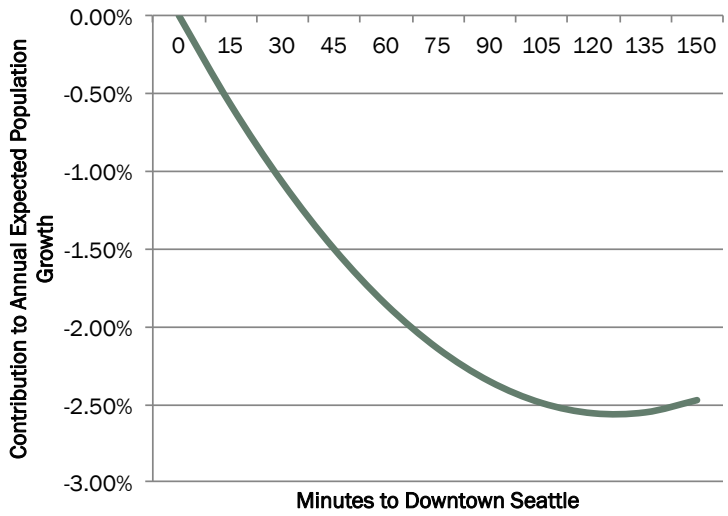
Increasing development capacity can reduce barriers to population growth

Adding future housing capacity was associated with accelerated population growth. An increase in future housing capacity by 10% was associated with an in increased population growth by 0.5% per year, on average.

Public Transit Access to Seattle Supports Population Growth

Decreases in commute time to downtown Seattle were associated with higher population growth rates. For instance, Tacoma Downtown has an expected rush-hour transit time of approximately 64 minutes to downtown Seattle. Analysis of the relationship between transit commute times and population growth indicate that decreasing this commute by 15 minutes could modestly increase annual population growth for this urban center by 0.3% per year, or 43 residents per year based upon 2014 population figures. The models produce specific estimates for the relationship between accessibility and growth but the important finding is that there is a statistically verified but modest relationship. Accessibility can be improved in a large number of ways that may produce greater of lesser results than predicted by a model.

Exhibit 11: Impact of Increases in Public Transit Time to Downtown Seattle on Annual Population Growth Rate



4.5 Housing Preferences for Urban Centers

Urban Center Households Are Smaller and Younger

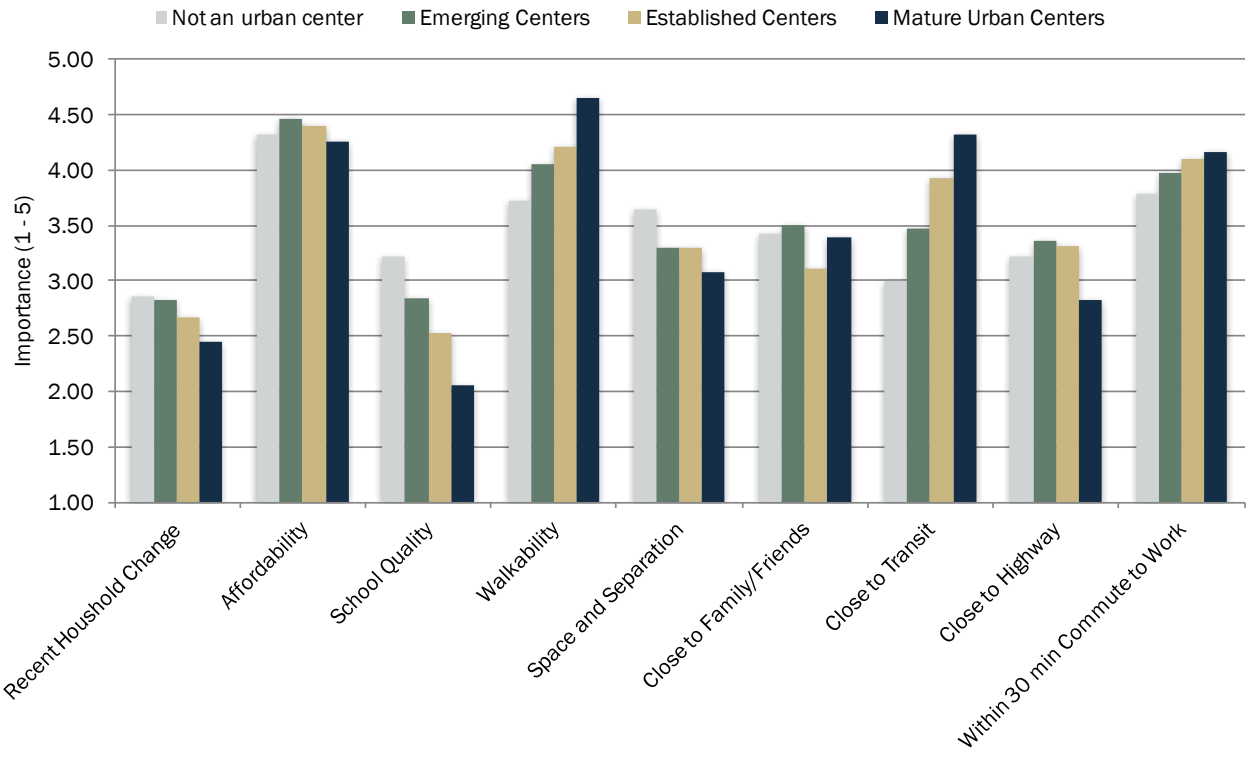
Households in urban centers tend to be smaller and younger than households in the non-urban centers in the region. The average household size for Mature Urban, Established, and Emerging Center households is 1.4, 1.9 and 2.1, respectively. Excluding urban centers, the average household size is 2.5 in the rest of the urban growth area. On average, urban centers have a substantially higher share of residents between the ages of 20 – 40 than non-urban centers. Residents of urban centers tend to have fewer children and lower household

incomes than residents of non-urban centers, although individual urban centers attract different demographic populations.

Residents of Urban Centers Have Different Preferences

Urban center residents ranked walkability, transit accessibility, and being within a 30-minute walk to work as being more important to their current location decision than non-urban center residents. By contrast, non-urban center households ranked school quality and maintaining space and separation as significantly more important to their location decision.

Exhibit 12: Importance of Factors to Household Location Decisions by Urban Center Type



Source: ECONorthwest, PSRC

4.6 Demand for Urban Center Growth

Urban Center Employment Growth

Urban Centers differ from each other with respect to 1) how fast they have grown; 2) the diversity and scale of their local economies; and, 3) the types of households that live there. Respecting the diversity of center types, this study has produced estimates of future urban center population and employment growth. Forecasting models were estimated from historical data about economic performance from the period 2000 to 2015, and assume future anticipated growth rates in the central Puget Sound region as a whole. Future urban center demand is forecasted under a moderate demand and a high demand scenario. The

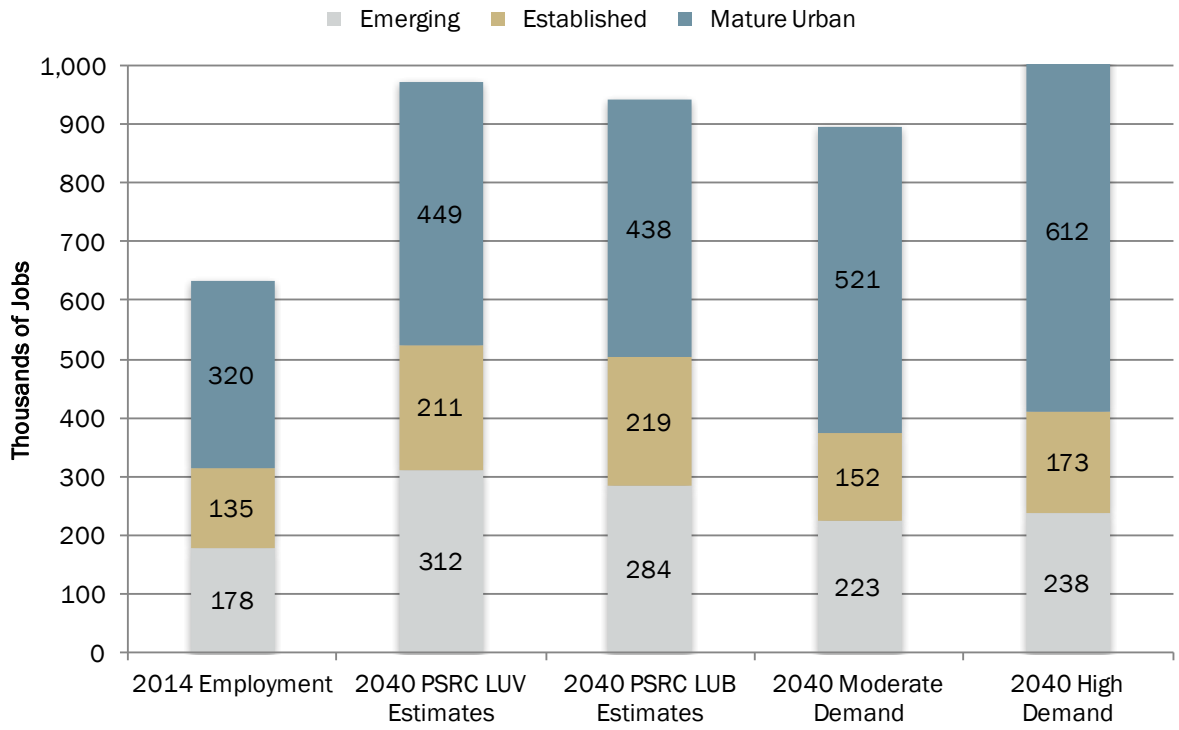
purpose of this analysis is to develop a range of predictions for the economy and demography of urban centers through 2040.

The two growth scenarios modeled for this analysis differ with respect to the relative "connectivity", or accessibility, of each center to the region's primary centers of economic activity. For the high demand scenario, this involves a 10% decrease in the average driving and transit commute times to central places (Seattle, Everett and Tacoma) from the baseline conditions as represented in the forecast model. It is important to keep in mind that this measure is actually a measure of relative improvement in accessibility to the region's primary centers of economic activity. Such improvements could be accomplished through strategic investments in road system performance, expanded public transit service and frequency, or could represent any of a variety of other means (i.e. information technology) of reducing the effective distances to these places.

Centers will grow faster than the region

Between 2014 and 2040, overall employment for urban centers is expected to grow by 42% for the moderate demand scenario and 62% in the high demand scenario. These results compare to an overall expected employment growth rate of 41% for the Central Puget Sound region under the PSRC macroeconomic forecast for 2040. Hence, urban centers are expected to add more jobs, on average, than non-urban areas of the region in the high demand scenario and keep pace with broader regional growth in the moderate demand scenario. In the moderate to high demand scenarios, urban centers are expected to capture between 33% to 49% of all new jobs created in the region by 2040. These estimates are in line with recent trends in job growth in the period 2010 to 2014, when urban centers captured approximately 32% of regional job growth. Exhibit 13Exhibit 15 displays the breakdown of employment by urban center type for 2014 as well as the 2040 PSRC Land Use Vision (LUV), Land Use Baseline (LUB), moderate and high demand scenarios.

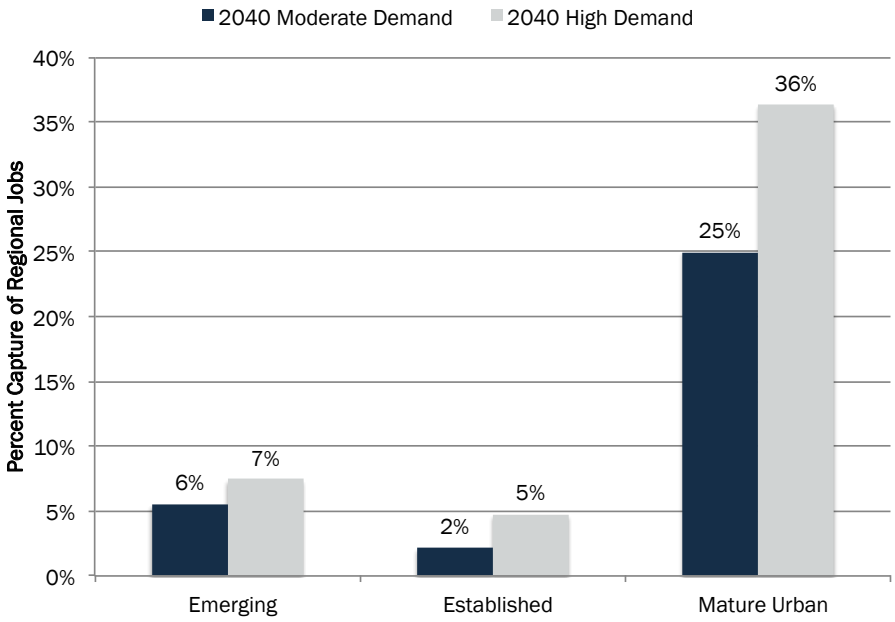
Exhibit 13: Forecasted Total Employment for Urban Center Types



Mature Urban Centers Will Grow Fastest

With respect to the types of urban centers analyzed in this study, the distribution of employment growth also mirrors past trends; existing job centers continue to capture employment gains. From 2015 to 2040, the region's most established centers, labeled Mature Urban Centers in this report, are projected to capture the largest share of new jobs with 25% to 36%. The other urban center types in the analysis, Established and Emerging Centers, are estimated to capture 2% to 5% and 6% to 7%, respectively.

Exhibit 14: Percent of Regional Job Increases Captured by Urban Centers



Urban Center Population Growth

This report assesses future urban center population potential by analyzing present-day preferences. Residents of urban centers consistently ranked walkability, transit accessibility, and being within a 30-minute commute to work as important factors in choosing where to live. Moderate and high demand scenarios are modeled based on anticipated changes in the preference for transit oriented and walkable communities. The moderate demand scenario corresponds to a business as usual population growth trajectory, whereas, the high demand scenario assumes substantial changes in population locational choice preferences favoring the denser and more accessible environments of urban centers.

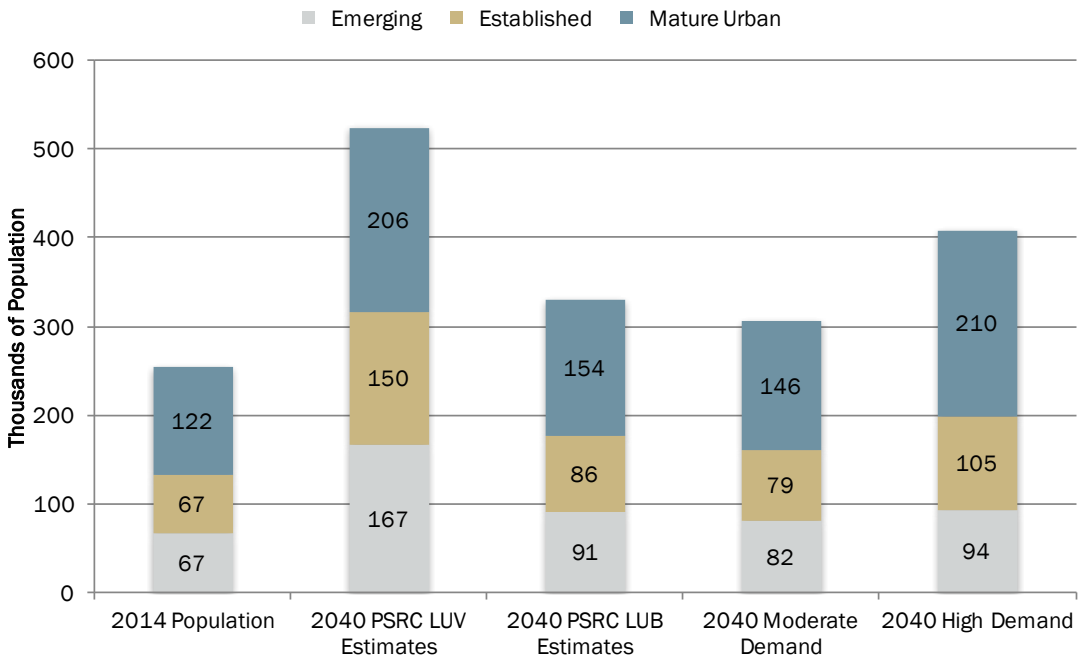
- In the moderate demand scenario, future population and demographic profile assumes that preferences for walkability, transit accessibility and being within a 30-minute commute remain unchanged from their 2014 level.
- In the high demand scenario, future population assumes that these respective preferences increase by 10% on average.

Urban Centers will Accommodate Significant Population Growth

Population growth is likely to be robust in both urban center and the broader Central Puget Sound. As a percent of regional growth, urban centers are expected to capture 6% to 17% of all new population being added to the Central Puget Sound. This figure compares to a population capture rate of 11% for urban centers between 2010 and 2015. For the region overall, OFM projects an expected increase in population of about 24% between 2015 and 2040, from approximately 3.9 million in 2015 to 4.8 million in 2040.

The results of the analysis suggest slightly lower urban center population growth in the moderate demand scenario and higher average population growth in the high demand scenario compared to the region overall. Population growth of approximately 20% in the moderate demand scenario and growth of 60% in the high demand scenario is forecasted. Exhibit 15 displays the breakdown of population by urban center type for the 2015 population as well as the 2040 PSRC LUV, LUB, moderate and high demand scenarios.

Exhibit 15: Forecasted 2040 Population by Urban Center Type

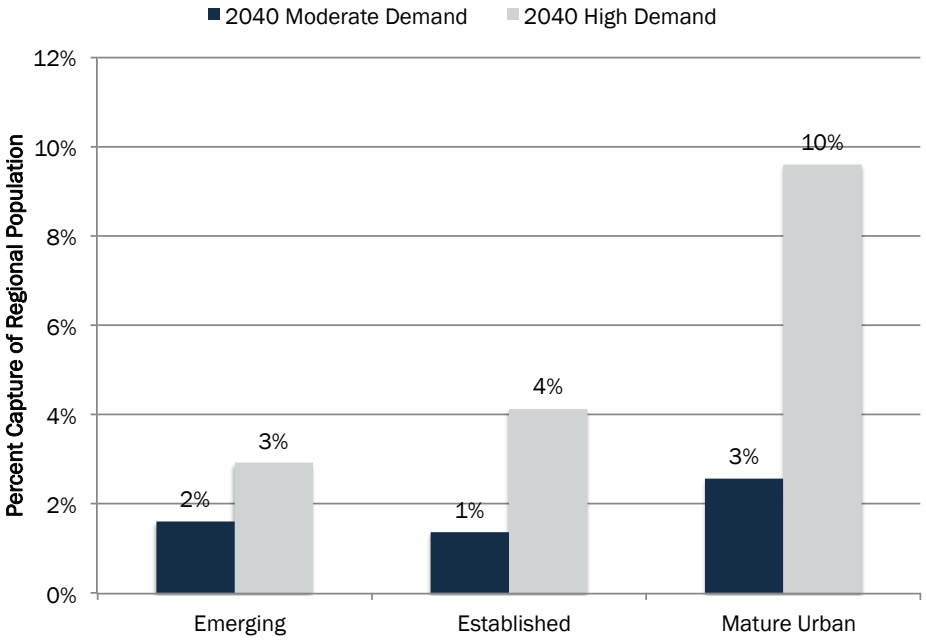


Mature Urban Centers Will Add the Most New Population

Mature Urban Centers are predicted to add the most new population, with 3% to 10% of regional growth followed by Established Centers with 1% to 4% and Emerging Centers with 2% to 3%. The larger expected population capture rate of Mature Urban Centers in the high demand scenario corresponds to the greater availability of urban oriented amenities in these locations. The expected percent of regional growth urban centers can expect to capture for each scenario is displayed in Exhibit 15.

The higher average increases in population for Mature Urban and Established centers in the high demand scenario are due primarily to the greater availability of urban-oriented amenities, such as walkable neighborhoods as well as accessibility to transit and jobs. Assuming that preferences for urban oriented amenities are likely to increase above 2014 levels by 2040, increased investments in transportation infrastructure, sidewalks for walkability and higher capacity roads to reduce commute times will generally encourage higher density population in urban centers, particularly in Established and Emerging Centers.

Exhibit 16: Percent of Regional Population Growth Captured by Urban Center Types by Scenario



4.7 Limitations and Caveats

This study used data analysis and modeling in order to understand how urban centers are growing, what is driving that growth, and what are the characteristics of the growth occurring. The finding from ECONorthwest's analyses and modeling fit with broader economic theory related to urban growth and development.

However, there are several important limitations and caveats that should be acknowledged. The data available for these analyses are not perfect. While ECONorthwest used the best data available, better data with more specific sector breakdowns, more geographic detail, and/or data over a longer period of time, would enable more detailed and nuanced findings than the analyses currently provides. In some places, intuitive characteristics like rents, vacancies, or transportation funding failed to produce meaningful results. This is not to say that these factors do not matter; they do. Given the data available, it is difficult to assess these variables analytically.

As a result, the parameters estimated in the employment and population models identify correlations in the data rather than causal relationships. The scenarios presented are intended to illustrate a set of possible trajectories and outcomes for urban centers; they are not intended to predict precise outcomes. The results do reveal insights of what policy, planning, and investment decisions are important for supporting growth of urban centers into the future.

In addition, while ECONorthwest grouped urban centers into three typologies in order to simplify the analysis, it is important to acknowledge the variability between individual

centers. While there are common trends, each urban center is a unique place and will have a distinct trajectory.

5 Recommendations

This section presents ECONorthwest's recommendations for supporting employment and population growth in urban centers.[8] These recommendations draw from and build upon the results of ECONorthwest's analyses of past indicators of economic performance and future growth in urban centers, as well as interviews with developers. The recommendations are intended to be broadly applicable and scalable for each types of urban center. However, the most appropriate recommendations and specific strategies will vary depending on the urban center. For example, the recommendations to improve the market strength of Downtown Seattle may not apply to smaller regional centers. As a result, the recommendations outline the key policy areas and actions that ECONorthwest's analysis has shown to be important in supporting growth in urban centers. More specific policies and strategies will require focused planning and evaluation in the context of the urban center being evaluated.

Recommendations are organized into four sections:

- Support Economic Base and Job Growth
- Increase Employment and Housing Capacity in Some Urban Centers
- Improve Relative Accessibility Between Urban Centers
- Improve Amenities in Urban Centers

Recommendation: Support Economic Base and Job Growth

Urban economies are shaped by their histories. New jobs tend to locate near already established job centers. Urban centers will want to build on their existing base of jobs. The clearest path to future job growth is to identify local market strengths and amplify those strengths in order to foster further job development opportunities. At the same time, centers will benefit from diversifying their economic base and seeking job growth in sectors of the economy that are growing and dynamic. Adding jobs in one sector can have multiplier effects that result in increasing employment in other sectors. This is because employment growth in one sector of the economy tends to support employment in other industries through the supply chain and through the expenditure of new wages and income.

Often job retention is the best economic development strategy, and related to job retention is a process that identifies the conditions that have led to the existing base of jobs that are located within an urban center. Building on these local advantages can support the base of

[8] More detailed recommendations—including a brief summary of supporting data, implications for different types of centers, and a longer list of potential implementation strategies—are provided in a separate report to PSRC, "Recommendations to Improve Market Strength in Urban Centers." This section summarizes that report.

jobs and facilitate further development in sectors of the economy that are already proven performers.

However, urban centers are also dynamic environments for technology firms and startups. These companies tend to hire at a faster pace relative to the region. In the long run, the regional economy needs more startups that make the leap to high-growth success because of the key roles they play in creating new jobs and propelling technological innovation.

Potential strategies for supporting urban centers' economic bases and job growth include:

- Develop a range of financial incentives and business support activities to support local area business growth.
- Streamline zoning approval processes and offer clear guidelines.
- Identify how and where governmental, medical, and educational institutions can be integrated into urban centers.

Recommendation: Increase Employment and Residential Capacity in Some Urban Centers

Businesses' and households' locational decisions are informed by availability of space that fits their needs. Limited supply of suitable commercial space can constrict employment growth in urban centers that otherwise might add more jobs. Similarly, limited supply of suitable housing can constrict housing growth in urban centers that otherwise might add more people. ECONorthwest's analysis suggests that some centers may be constrained in accommodating potential market demand for employment and/or housing by existing zoning that restricts the uses or densities needed or preferred by the market. This can be a development barrier that many jurisdictions can remove.

The implications of this will vary by center type and market conditions. Not all urban centers will benefit from adjusting zoning policies to expand future employment and/or household capacity. However, a tight supply of employment or residential capacity (defined as additional square footage that could be added under current zoning) will matter the most in locations that have experienced moderate employment or residential growth, indicating market demand. Mature Urban and Established Centers may have built environments that are relatively more constrained by development regulations and in terms of the available supply of vacant or under-developed land. Some urban centers with consistently high demand for employment and/or housing and relatively constrained regulatory and development environments should consider adjusting zoning and land development policies to accommodate more growth.

Potential strategies for increasing employment and residential capacity include:

- Upzone to create more capacity in high growth areas.
- Allow land use flexibility so that land can accommodate multiple uses and respond to market trends.

- Right-size the amount of parking required for residential and commercial uses.

Recommendation: Improve Relative Accessibility Between Urban Centers

In theory, as transportation costs decrease, firms have an incentive to concentrate their production in each unit of land to better take advantage of cost savings (e.g. transportation is a cost that does not scale for firms). This creates a large incentive for firms to seek locations with the best access to the largest pool of potential customers and/or employees.

ECONorthwest's analysis of past employment growth used average morning commute time from an urban center to one of the traditional downtown CBDs as a relative measure of accessibility. However, any investment that improves travel time, costs, or the perception of the accessibility of a center relative to travel to non-center places could result in the same gains to employment that are evident in the analysis of historical data.

Each urban center will have unique accessibility and transportation needs. For more mature and densely developed urban centers that also occupy a sizable area of urban land, very localized accessibility will play an increasingly important role in fostering the economic exchanges that drive those economies. For more emerging urban places that are smaller in land area and spaced further apart from each other, the connection between centers and to the residential neighborhoods that surround these centers will continue to determine job and market accessibility.

Potential strategies for increasing relative accessibility include:

- Make strategic investments in road capacity and performance management.
- Add or improve high capacity transit services and frequent bus transit services.
- Install dedicated bike lanes and priority treatments.
- Implement urban streetscape investments to improve the quality of the pedestrian experience.

Recommendation: Improve Amenities in Urban Centers

Households choose where to live in part based upon their preferences for urban amenities, subject to the costs of housing and transportation. The implication of ECONorthwest's analysis is that centers in general could potentially capture more residential growth by improving walkability, increasing transit options, and attracting employment and/or providing better connectivity to other employment centers. And, if in the future, more people prefer the amenities that are provided in centers—such as walkability—then residential growth in centers will likely increase.

However, the importance of different amenities does vary by the type of urban center. For example, Mature Urban Centers should focus on improving school quality and housing affordability. These centers rank very high in terms of walkability, transit accessibility, and

being within a 30 minute commute to work. However, these centers rank low in providing good school quality and affordable housing. Established and Emerging Centers could capture more population growth by improving walkability, and Emerging Centers would benefit from improving transit level of service to support population growth.

That said, there is value in urban centers as unique places with distinct mixes of amenities. This diversity allows households to sort themselves according to which location can best accommodate their preferences.

Potential strategies for improving urban amenities include:

- Make infrastructure improvements, including eliminating sidewalk gaps, installing buffers and curb extensions, and streetscaping.
- In urban centers with large block sizes, consider promoting walkability through mid-block crossings and subdividing superblocks.
- Improve and add schools in urban centers.
- Implement right-sized parking solutions to reduce the cost of new residential development.
- Provide incentives and subsidies for income-qualified housing.
- Invest in open spaces and parks that provide greenspace, opportunities for recreation, and interesting public spaces.

6 Conclusions and Next Steps

6.1 Why an Urban Centers Program is Important

The development of urban centers is a natural response to the benefits enjoyed by firms and households from locating close to unique features of the natural environment and to the social structures that form in these locations. Features of the landscape that give rise to urban density include those that facilitate the movement of people and goods, an abundance of resources used in producing goods and services, and amenities that draw people together in social exchange. The local economic history shapes the future sectoral and spatial pattern of job development. And, to a large extent the location of jobs precedes, or leads, the spatial distribution of population over time.

Urban regions are appropriately interested in the spatial distribution of activities that constitute the regional economy. Urban places are more or less economically productive depending on the efficient organization of inputs into the productive process. This efficient organization in turn relates to the spatial arrangement of the primary building blocks of the economy: firms, labor, capital, raw materials, and markets. And as a result, transportation sites are the intersection of economic production.

Firms and households compete for productive urban sites (land), naturally sorting themselves across space in a manner that takes best advantage of particular inputs into economic and social activities. Some urban centers will accommodate a larger share of economic activities than others, resulting in spatial inequalities, or centers of urban density. As more activities are concentrated in densely developed locations productivity with respect to land increases. This can lead to reductions in certain costs, such as transportation and some environmental costs. But density can also be associated with increases in other costs in the form of congestion on networks (like transportation), land prices, and exposure to certain pollutants. If such costs did not occur, and if no other factors created irregularities in land markets then there would be sufficient incentives for firms and households to sort themselves across the urban landscape in a manner that leads to highly productive and socially beneficial results.

In practice, these ideal conditions are rarely in place. Urban planners strive to set in motion policies and practices that advance socially desirable outcomes through the better use and development of urban land. The Puget Sound Regional Council advances urban center development through a range of planning program elements and through guiding strategic investments in transportation infrastructure and services in urban places. This study examines the characteristics and function of urban centers in the central Puget Sound region with an interest in identifying how PSRC might modify or augment the programs it manages.

6.2 Conclusions from Analysis of Centers

Center Typology

This study used data on population, economic activity, and built form to group the 42 urban centers into three primary types. The resulting typology is useful for making sense of existing conditions, projecting future performance, and tailoring policies and strategies to various centers across the region. The urban center typology includes 3 distinct types:

- Mature Urban Centers. These high-density urban centers consistently outperform the region in terms of both population and employment growth. These places are the densest population and employment centers and have well diversified employment or employment in the strongest performing industry sectors.

- Established Centers. These centers are less dense and have less transit accessibility than Mature Urban Centers but also outperform the region in population growth while exhibiting somewhat weaker employment growth.

- Emerging Centers. These locations tend to be more recently developed and located in suburban areas with relatively limited accessibility by public transit. These areas have shown robust trends in job creation and population growth more in line with the regional average.

Urban Centers are Employment and Population Engines

- Despite periodic declines in employment due to the 2002-2003 and 2007-2009 recessions, urban centers have reported substantial gains in employment from 2000 to 2014. Population growth has also been robust for urban centers generally and especially in Mature Urban and Established Centers.
- Market size is a key determinant of firm location. Generally, larger markets will increase the profitability of firms and this results in large markets getting larger as businesses locate to take advantage of these greater opportunities for profit.
- Centers with industries and firms oriented around large, global markets that produce goods and services for export (as opposed to those mainly for local consumption from households) drive growth in urban places.

Lower Transportation Costs, Zoned Capacity and Walkability Facilitate Urban Center Job Growth

- As transportation costs decrease, firms have an incentive to concentrate their production in each unit of land to better take advantage of cost savings. This creates a large incentive for firms to seek locations with the best access to the largest pool of potential customers and/or employees

- Future land use has a significant impact in determining which areas absorb the largest amount of future employment. Higher zoned capacity for future employment has a positive and significant impact on future employment.
- Increased intersection density in urban centers is associated with increased employment growth, but only up to a point. For intersection densities in the range of 0 to 0.5 per acre, increases in intersection density are associated with positive increases in employment growth.

Local Employment Growth, Housing Capacity and Transit Access Lead to Population Growth

- Recent growth in employment within an urban center has a statistically significant relationship with increases in future population growth. Increasing employment by 10 jobs per acre is expected to increase population by 0.2 residents per acre the following year.
- Permit activity is a strong signal for future growth. Permitting an additional 100 units per acre is expected to increase population by 0.05 residents per acre the following year.
- Decreases in commute time to downtown Seattle were associated with higher population growth rates.

Urban Center Households Are Smaller, Younger and Have Different Preferences

- Households in urban centers tend to be smaller and younger than households in the non-urban centers in the region. Urban centers have a substantially higher share of residents between the ages of 20 – 40 than non-urban centers. Residents of urban centers tend to have fewer children and lower household incomes than residents of non-urban centers.
- Urban center residents ranked walkability, transit accessibility, and being within a 30-minute walk to work as being more important to their current location decision than non-urban center residents.

Job Growth in Urban Centers Will Outpace the Region

- Between 2014 and 2040, overall employment for urban centers is expected to grow between 42% and 62%. This compares to an overall expected employment growth rate of 41% for the Central Puget Sound region as a whole.
- The region's most established centers, Mature Urban Centers, are projected to capture the largest share of new jobs with 25% to 36%.

Urban Centers will Accommodate Significant Population Growth

- As a percent of regional growth, urban centers are expected to capture between 6% to 17% of all new population being added to the Central Puget Sound.

- Mature Urban Centers are predicted to add the most new population, with between 3% to 10% of regional growth.

6.3 Thoughts on Managing the Centers Program

The management of an urban centers program involves the development of regional policies and initiatives designed to foster development within centers that advance regional growth objectives. Urban centers are also supported by transportation investments that connect centers to each other and other parts of the region. A range of questions arises about the scale of the centers program since public resources that can be dedicated to advancing centers growth are necessarily limited.

These questions include: How many centers can the region support? What types of centers should be promoted? Where should centers be located? What should centers do to advance their own development? What investments will help foster centers' growth necessary for their success? This report suggests some ways to answer some of these questions, while for other questions there is no definitive empirical evidence supporting conclusive answers.

Number and Size of Urban Centers

The number, size, location, and function of centers are inter-related factors. A single region might support more, but smaller, urban centers or fewer, but larger, urban centers. There is, however, evidence that the overall regional urban structure can influence the total growth opportunity for the regional economy. In general, for any given population, the emergence of multiple urban centers will result in better economic outcomes (related to incomes, congestion, energy requirements, and pollution) as compared with a single very large urban center[9]. At the same time not all urban land can or should be developed at the same intensity. By definition, centers are places with higher concentrations of activities; too many urban centers can dilute the intensity of activities that creates unique economic opportunities. While this does not suggest a specific optimal number of urban centers within the central Puget Sound region, it does give support for the continued development of multiple urban places.

Commute patterns in the central Puget Sound region appear to support this general understanding as well. Examining data from the Longitudinal Employer-Household Dynamics (LEHD)[10] program confirms that average commute distances for jobs and employees located within Mature Centers are longer than the regional average, while average commutes associated with Established and Emerging Centers are shorter than the regional average. And over the last decade the average commute distances for jobs and employees in Established Centers have actually decreased. And the total share of regional

[9] http://www.nature.com/articles/srep05561 "How congestion shapes cities: from mobility patterns to scaling". Rémi Louf & Marc Barthelemy

[10] http://lehd.ces.census.gov/

commutes associated with Established Centers has increased over this time period. The role of smaller urban centers appears to be critical to maintaining urban quality of life and environment as the region grows larger and becomes more densely developed.

Location and Type of Urban Centers

The mixture of types of urban centers also seems to be an important feature of the urban environment. Firms and households sort themselves over space according to preferences, and in order to address their unique needs. Having a mix of urban places allows this sorting process to proceed in an efficient manner (at least its gives households more choices). This report developed a typology of urban centers that is a reasonable starting point for monitoring, understanding and supporting urban development. The typology should be refined over time and as part applying the typology to the urban center programs.

Transportation connections between centers are important, and having urban centers located close to each other, or connected by high quality transportation, is a benefit. Currently, most regional urban centers are located along primary transportation facilities (I-5, I-405, I-90, SR167, ferry routes, and primary transit routes). Again, looking at commuting patterns we find that nearly 1 in 10 jobs located in a center is held by an employee living in one of the other urban centers. And nearly 1 in 2 employees living in an urban center have a job that is located in one of the many other urban centers. In contrast, less than 2% of jobs located in urban centers are held by employees also living in that same urban center. This share has declined slightly over the last decade even as the share of total regional jobs and employees within urban centers has been on the increase.

Support Urban Centers Development Through Improved Accessibility

Programs that seek to lower the relative costs of accessing centers and connecting centers together will continue to be an effective strategy for promoting urban center development. Lower transportation costs result in growth in urban places. Lower transport costs make firms more sensitive to minor differences between locations. As a result, small local difference in non-transportation factors of production can have a bigger impact on location decisions and foster more concentration of jobs and households. The inverse can also be true, higher transportation/mobility costs would promote the dispersion of growth.

At the same time there is a natural sorting of activities across centers that lower transportation costs can facilitate. Urban centers are not all the same, and relate to regional economy in their own and unique ways. A one-size-fits-all center strategy would not respond to the individual characteristics of existing centers and the variety of factors that cause centers to grow. A central takeaway from this work is that one single perspective, understanding, and expectation for urban centers is not warranted. Centers are distributed very unequally across the region that vary with time and place. Furthermore, there are large and small centers with very different combinations of firms and households. Center deployment tools need to address the specific needs of each center.

Urban Centers Should Assess Development Capacity

The ECONorthwest analysis, and interviews with developers, brings forward a defining feature of urban centers – land in these places is scarce. This scarcity is a major impediment to land development while also creating social impacts in housing affordability and more limited access to economic opportunities. Beyond the simple scarcity of developable land, the scarcity issue is best expressed in the notion that not all land is created equal. Some urban centers have high concentrations of economic activity and heavily built-out urban development sites. Some urban centers offer greater mobility and connectivity. Some urban centers are imbued with better public realm amenities and public services. While these differences are relative and lead to the natural sorting of development opportunities across the region, it is likely that absolute improvements in these dimensions will improve the overall growth prospects for centers. In terms of individual centers, the identification of the relevant scarcity conditions, whether they relate to key employment sectors, land capacity, transportation infrastructure, etc., is essential in directing actions and incentives.

Closing Remarks

Understanding regional and urban growth is crucial for improving the knowledge of how modern economies do or may develop. The main thrust of this study is that a few basic ideas and concepts lie at the foundations of why urban centers form and grow. Of these, the decisions of firms and households are the main drivers that frame the market opportunities for land development. However, the scarcity of well-conditioned land (i.e. rich in transportation and mobility access, public amenities, etc.) means public policy has an important role to play in ensuring the optimal, yet different, economic performance of urban centers going forward.