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TO: City of Spokane
FROM: ECONorthwest
SUBJECT: HOUSING NEEDS ASSESSMENT METHODS MEMO

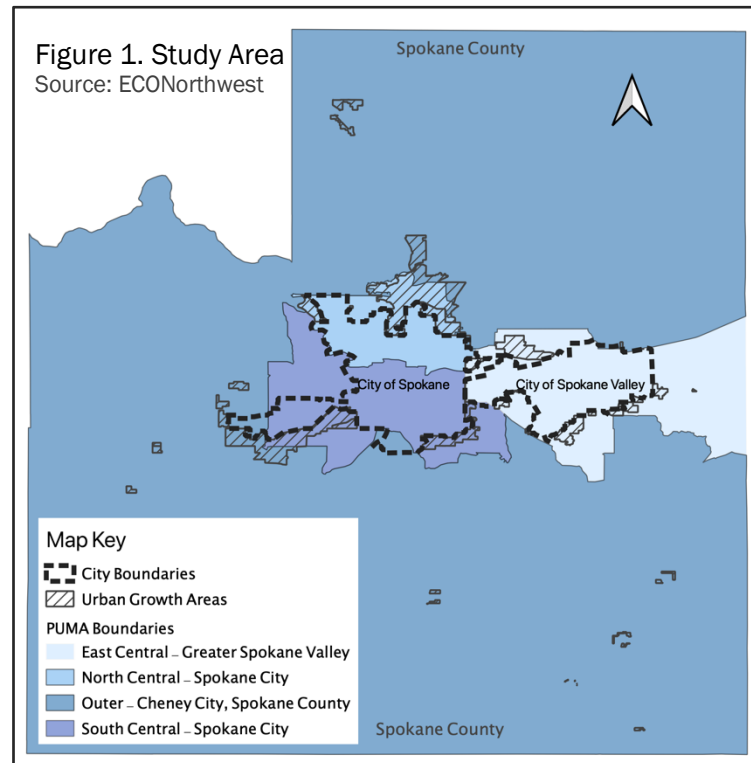
Background and Purpose

Two cities in Spokane County, Washington—the City of Spokane Valley and the City of Spokane—gained funding through the Washington State Department of Commerce HB 1923 grant to develop housing action plans. These housing action plans include a housing needs assessment, results from public engagement, analysis of key policy options, and recommendations for housing strategies to meet housing needs now and into the future up until 2037.

An initial step in the housing action plan development process is to analyze the best available data that helps define the range of unmet housing needs and the depth of housing affordability needs. This analysis should answer questions about the availability of different housing, who lives and works in the different cities, and what range of housing is needed to meet pent up demand into the future. Housing analysis is an important exercise since housing needs tend to continually evolve based on changes in the broader economy, local demographics, and regulatory environment.

The housing needs assessments (Task 3) for the Cities of Spokane Valley and Spokane provide an analysis of the housing supply, demand, and needs in each city and housing trends associated with Spokane County. Overall, assessments on housing needs help inform strategies to meet these needs.

The results of the housing context assessment were shared with each city via a “fact packet” containing data and analysis surrounding their existing housing stock and future housing needs. This memorandum accompanies these results to provide additional information on data sources and analysis methods.



Defining the Study Area

The Housing Needs Assessment focuses on the Cities of Spokane and Spokane Valley and provides key findings associated the broader, Spokane County context. The results compare the City of Spokane Valley with Spokane County and the City of Spokane to provide a more complete picture of the county-wide housing landscape while also offering insights on localized versus regional trends, and a more nuanced view of housing market dynamics.

Most of the findings associated with the demographic trends were described using the U.S. Census Bureau's Public Use Micro Sample (PUMS) data from 2012 through 2018. As shown in the above study area map, the PUMS data findings are provided in specific geographic areas. Public Use Microdata Areas are statistical geographic areas defined for the dissemination of Public Use Microdata Sample (PUMS) data. The Spokane Valley demographic trends are mostly based on values within the East Central- Greater Spokane Valley PUMA (5310503) while the City of Spokane demographic trends mostly are based on the combination of the following PUMAs: North Central - Spokane City PUM (5310501) and South Central – Spokane City North PUMA (5310502). Most of the Spokane County demographic trends are based on the combination of the following PUMAs which cover the entire area of Spokane County: 5310501, 5310502, 5310503, and 5310504.

Data Sources

ECONorthwest primarily relied on 2019 data from the Washington Office of Financial Management (OFM) to evaluate housing and demographic trends. Where OFM data was unavailable ECONorthwest relied on the U.S. Census Bureau's Public Use Micro Sample (PUMS) data from 2012 and 2018.

The PUMS Census data provided several advantages for the analysis of demographic trends. The PUMS dataset provides more detailed information on housing characteristics (at the household level) and this helped ECONorthwest conduct analyses that would otherwise be unfeasible with other datasets that are aggregated such as the 5-year American Community Survey (ACS) data. With the PUMS data, ECONorthwest was able to create "cross-tabs" that look at the relationship between multiple housing characteristics. The analysis summarizing community and household demographic trends primarily relied on the ACS PUMS 1-Year Data for 2012 and 2018 (source link: <https://www.census.gov/programs-surveys/acs/data/pums.html>).

In addition to using OFM data on housing trends and existing housing types by size, we supplemented this analysis with Spokane County Assessor data. For housing market data on rents and sales prices, we relied on data from the Spokane County Assessor (retrieved in 2020) and CoStar (retrieved in 2020). CoStar is a proprietary data source commonly used for market analysis in the real estate industry. In addition, we used the county assessor data to describe housing types, ages, and housing density. The Spokane County Assessor Data includes parcel (housing lot) level information which is very fine-grained and detailed. This dataset, offered in

a Geographic Information System format, needed to map trends, shows parcel specific information on the home type, home sales, home value, and use.

For the housing demand analysis, we relied on the population projections forecasted for the 2037 forecast year which are provided in Volume V, Appendix E Population Projections City of Spokane Comprehensive Plan. The projections are based on the OFM medium series forecast for 2037 and applies the historic growth rate from 2003 through 2015 to forecast the future population of the cities and the unincorporated urban growth area.

The employment trends analysis was based on several different datasets. The Longitudinal Employer-Household Dynamics (LEHD) program at the US Census Bureau provides data describing statistics on employment, earnings, and job flows.

Analysis Methods

Total Housing Units Needed

ECONorthwest calculated future housing needs as the current underproduction of housing plus the future needs based on 2037 household projections. Without accounting for past and current underproduction, development targets focused solely on future housing needs will continue to underproduce relative to the actual need.

Figure 2. Total Needed Housing Units



Current Underproduction

Using population forecast from OMF and the Shaping Spokane report, and selected Census information, we can estimate both the current underproduction and future housing need. For this analysis we calculated the total future housing need as the current underproduction of housing plus the future need based on the 2037 household projections.

Current underproduction of housing was calculated based on the ratio of housing units produced and new households formed over time. The average household size in each city is calculated and converted to a ratio of total housing units to households. This ratio is compared to that of the region as the target ratio. If the ratio is lower, then we calculated the underproduction as the number of units it would have needed to produce over time, to reach the target ratio.

Washington State does not have a regional approach for housing production. This approach to underproduction is simple and intuitive while using the best available data that is both local and most updated. This analysis does not differentiate between renter and owner households and relies on average household size to convert population counts to household counts. One drawback of this approach is that it does not identify the underproduction at different levels of affordability.

Future housing need is calculated based on the forecasted growth. To calculate future housing need, we use a target ratio of 1.14 housing units per new household. This ratio is the national average of housing units to households in 2019. It is important to use a ratio greater than 1:1 since healthy housing markets allow for vacancy, demolition, second/vacation homes, and broad absorption trends.

Total Units Needed by Income

Once we arrive at the total number of units needed by 2037, the next step is to allocate the units by income level. We first look at the most recent distribution of households by income level (using PUMS to determine area median income or “AMI”) in the Spokane County subregion. We then account for current and future household sizes at the city level to better understand nuances of how housing need by income can shift over time as household sizes change and subsequent changes to housing affordability.

Because forecasting incomes at the household level over time can be challenging at best, and misleading at worst, this data evaluates housing need using current income distributions forecast forward. The forecast housing need by income category at both the city level and at the subregion is likely to vary depending on policy choices made over the next two decades. That is to say that if cities choose to take less action on increasing housing production and affordability worsens due to demand outpacing supply, the forecast need for lower income households is likely to be less because those low income households that are most at risk from housing price changes are more likely to be displaced from the subregion. The ultimate income distribution in 2037 will be the result of regional housing trends and policy decisions made at the local level. We then apply each distribution of households by income to the total units needed to get the share of new units needed by income level.

Employment Analysis

An employment analysis was conducted for two reasons. First, employment analysis and trends in job growth by industry is a requirements for local housing action plans. Secondly, findings from access to employment analysis can help inform housing action strategies such as those related to development allowances in urban centers. Understanding Spokane Valley’s workforce profile and commuting trends will help provide insights on the housing needs of workers today and into the future. Factors such as job sector growth and the city’s commuting patterns may have implications for how many people are able to both live and work within the city. If such factors indicate many people are commuting into the city for work, it could be

possible that the city does not have enough housing to accommodate its workforce or enough housing matching their needs and affordability levels.

We developed city-level employment estimates by 2-digit NAICS codes using the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) data. For each city, the employment estimates show the total number of residents working in each 2-digit NAICS sector in that city, the change in employment in that sector in that city since 2010, and the 2018 average wages for the residents in that city in that sector.

Access to Employment

Transit and auto access to regional employment was derived using 45-minute travel sheds for each mode. ECONorthwest calculated the number of jobs available within these travel sheds in each industrial sector category for each city. We measured access to employment for both transit and auto use, using a preset limit of 45 minutes to generate isochrones (travel sheds). We used ESRI Services to create drive-time isochrones, simulating traffic conditions typical of 7:00AM, Wednesday.

Transit Isochrones

We created isochrones originating from every transit stop within the jurisdiction. Each transit stop was also weighted by the population within a half-mile distance (straight-line). These isochrones were then joined to LODES job points at the Census Block Level, and the total number of jobs by NAICS industry was calculated for each isochrone. For each jurisdiction, the total number of jobs reachable by transit (and walking) within 45 minutes was calculated as the weighted mean number of jobs within the isochrones, using the transit-stop population as weights.

Auto Isochrones

For drive-time isochrones, we used a similar method as the transit isochrones. Instead of transit stops, however, we used block group centroids as the isochrone origin points, and the associated block group population estimates provided the weights with which we calculated the average number of jobs reachable by the "average resident."

Share of Jobs Accessible

Once we calculated the total number of jobs available by 45-minute transit or auto travel from each city, we calculated the share of total jobs in that industry.

Caveats

Wage estimates by industry from ACS are not available for every industry, usually due to low numbers of survey samples. Many of these estimates, especially for industries with low numbers of workers, show relatively high margins of error and should be treated as rough approximations.