6-2017

Carlton, OR: Economic and Demographic Profile

Portland State University. Northwest Economic Research Center

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Carlton, OR:

Economic and Demographic Profile

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Northwest Economic Research Center
College of Urban and Public Affairs

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ACKNOWLEDGEMENTS

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Background

The Carlton Post Office was founded in 1874 along the railroad stretching from Portland to the unincorporated settlement known as St. Joe's. According to local lore, a Mr. Wilson Carl traveled to the big city to ask for an intermediate stop in what became known as Carl's town, and later Carlton. Located in the heart of Yamhill County, Carlton enjoys a lively tourism industry for a town of its size, buoyed up by the proliferation of farms and wineries that the mild climate invites.

Carlton is a small town, with a population of just over two thousand. It had a median age slightly below that for Yamhill County and the state of Oregon in 2010, due to relative abundance in the youth cohorts, but a larger share of working-age population than that observed in comparable small towns in Oregon. The local economy is dominated by the wine industry, but a sizeable percent of the population in Yamhill County is employed in the Education and Health Services sector, as well. Carlton has an above-average net migration rate, compared to both Yamhill County and the state.

This report will use data from a variety of state and federal sources to describe the economic and demographic attributes of the town, provide forecasts from a number of sources for several economic and demographic factors, and outline factors to track going forwards. While small towns can be difficult to analyze due to a paucity of local-level data, information on Yamhill County at large provides considerable insight. Additionally, this report will discuss recommendations for future implementations of the Carlton Satisfaction Survey, in order to provide the City with trackable indicators going forwards.

Population

Analysis of Carlton's population dynamics is by nature restricted, due to the small sample size: the Census sampled 127 households over five years to arrive at the US Census Bureau's American Community Survey (ACS) data traditionally used to analyze US towns and cities in between decennial censuses. This smaller sample size necessarily results in high margins of error. See Figure 1, which shows the actual population count from the 2000 and 2010 US Census (blue bars), along with the five-year (2009-2014) estimate computed by the Census Bureau for the ACS (green bars). The black lines show the margins of error for the ACS estimates, and as can be observed, they are very large in comparison to the actual levels. The actual population of Carlton over that timespan could fall anywhere from 1,483 (below the population in 2000, according to the Census) up to 2,217, a number that exceeds the 2010 Census count by over two hundred individuals. Also of note is the fact that, although the 2010 Census total population figures are known to be the most accurate available, the Census ACS estimates are not adjusted up accordingly. Therefore, it is neither practical nor reasonable to use ACS data for population analysis in Carlton. (Generally speaking, reliable time series data is necessary for meaningful dynamic analysis, and as the State does not provide such data at this level, Carlton would need to collect it—see Appendix I for survey recommendations, and Appendix II for a potential additional resource from Portland State University's Population Research Center)

Figure 1: Carlton Population, Actual vs. Estimate (US Census)
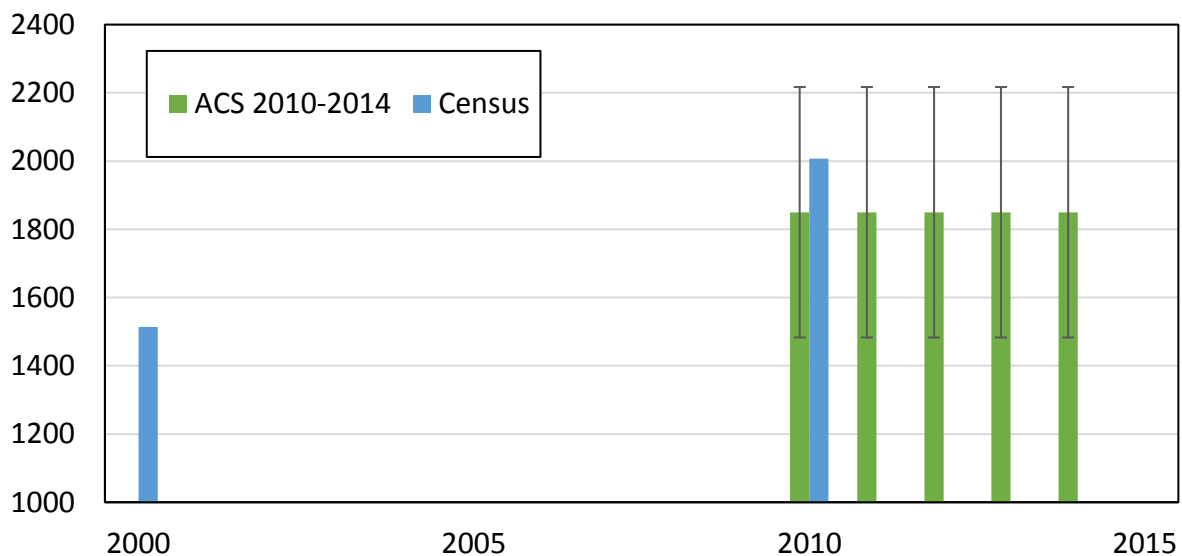
For a current estimate of Carlton's population, estimates from the Census and Portland State Population Research Center (PRC) can be considered in tandem, as shown in Figure 2.

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Figure 2: 2016 Population Estimates (Census and PSU PRC)
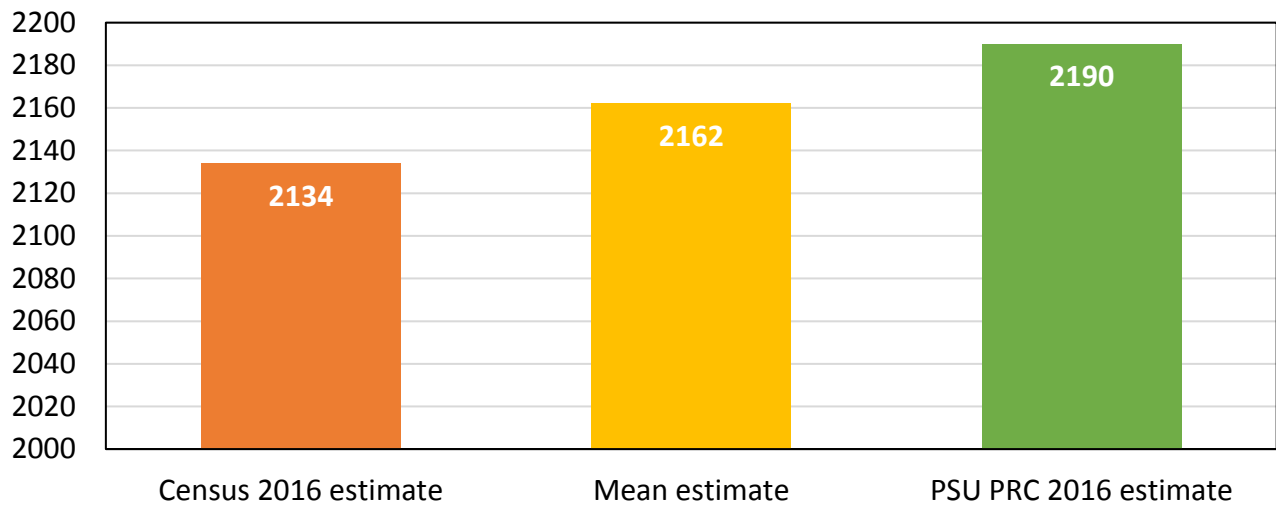
Population Profile

What we do know with a reasonable degree of certainty is presented in Figures 3 and 4. The former provides a population pyramid, giving percentages by age cohort in 2010, while the latter compares the proportion of the city that is "working-age" (aged 18 years to 65 years), an important predictor of labor supply, to the working-age population shares of Yamhill County and Oregon.

Figure 3: Population age cohorts in Oregon and Carlton (2010 Census)
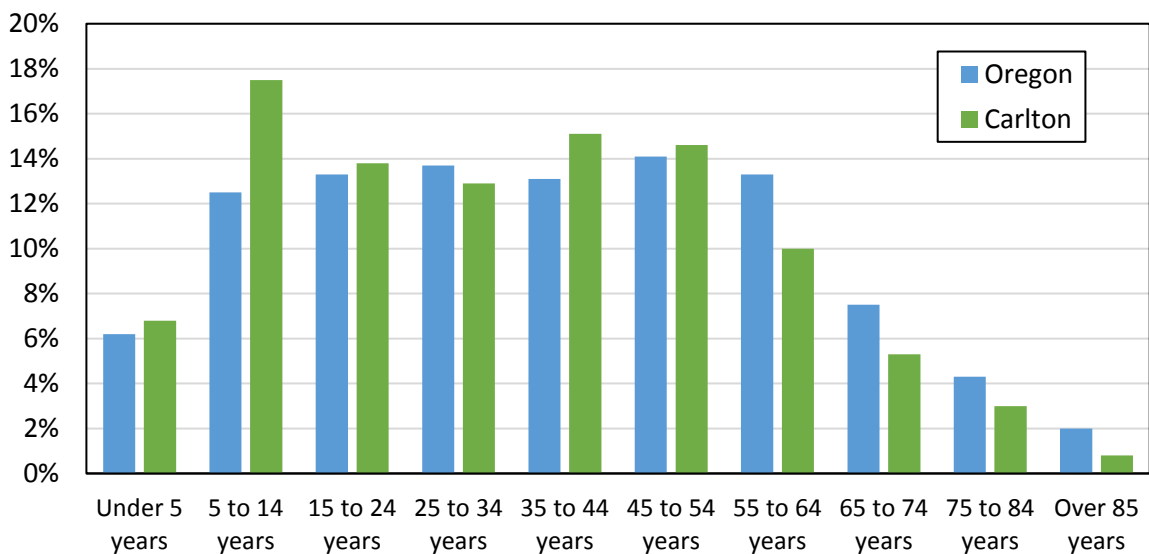
As shown above in Figure 3, Carlton's population was somewhat younger than the population of the state as a whole in 2010. Looking at a comparison between the broad population cohorts in Carlton, Yamhill County, and Oregon, as in Figure 4, Carlton is relatively young, in comparison to both the county and the state, and this is persistent over a decade.

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Figure 4: Broad Population Cohorts (2010 Census)
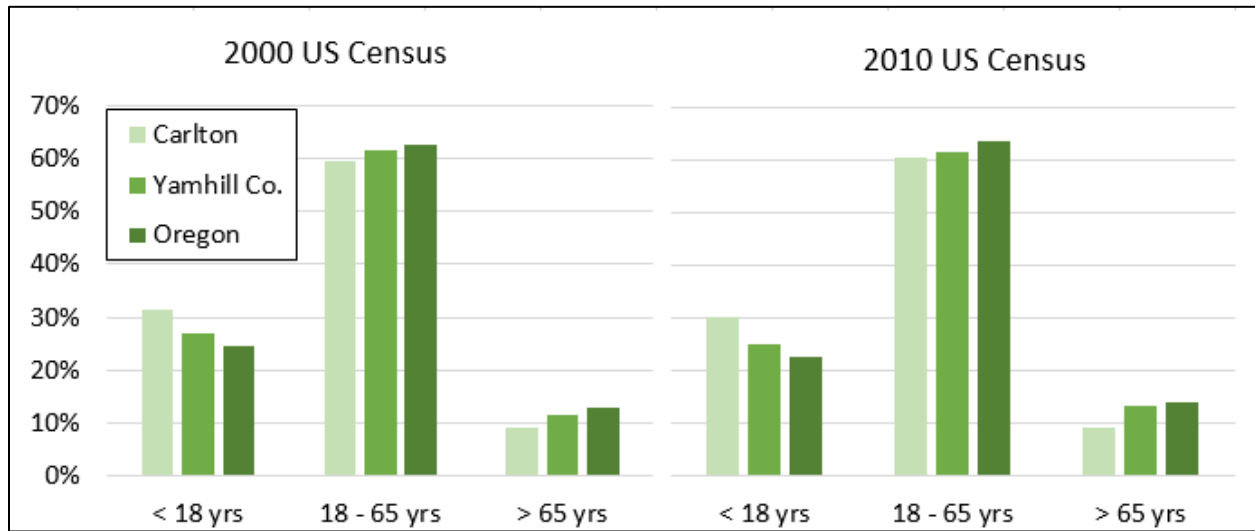
To lend context to Carlton's demographic characteristics, consider a panel of seven other small Oregon towns located relatively close to Carlton and of similar population size. Figure 5 gives the total population, percent of the population that is under 18 years of age, 18 to 65 years of age, and over 65. Note that while Carlton is younger than the state and county averages, its rank varies in this sample of comparable cities. In terms of working-age population share, it falls second only to Vernonia.

Figure 5: Population Comparables (2010 Census)

Total Population

Banks	Turner	Rainier	Carlton	Vernonia	Gervais	Dayton
1,777	1,854	1,895	2,007	2,151	2,464	2,534

Population Under 18

Rainier	Turner	Vernonia	Carlton	Dayton	Gervais	Banks
22%	26%	27%	30%	33%	37%	38%

Working Age Population

Turner	Dayton	Banks	Gervais	Rainier	Carlton	Vernonia
56%	57%	58%	59%	60%	60%	62%

Population Over 65

Gervais	Banks	Carlton	Dayton	Vernonia	Rainier	Turner
4%	4%	9%	10%	11%	18%	18%

Going forwards, Portland State University's Population Research Center (PSU PRC) expects that the population distribution in Yamhill County will even out, and the older cohorts will expand, as shown in Figure 6.

Figure 6: Yamhill County Population Cohort Forecast
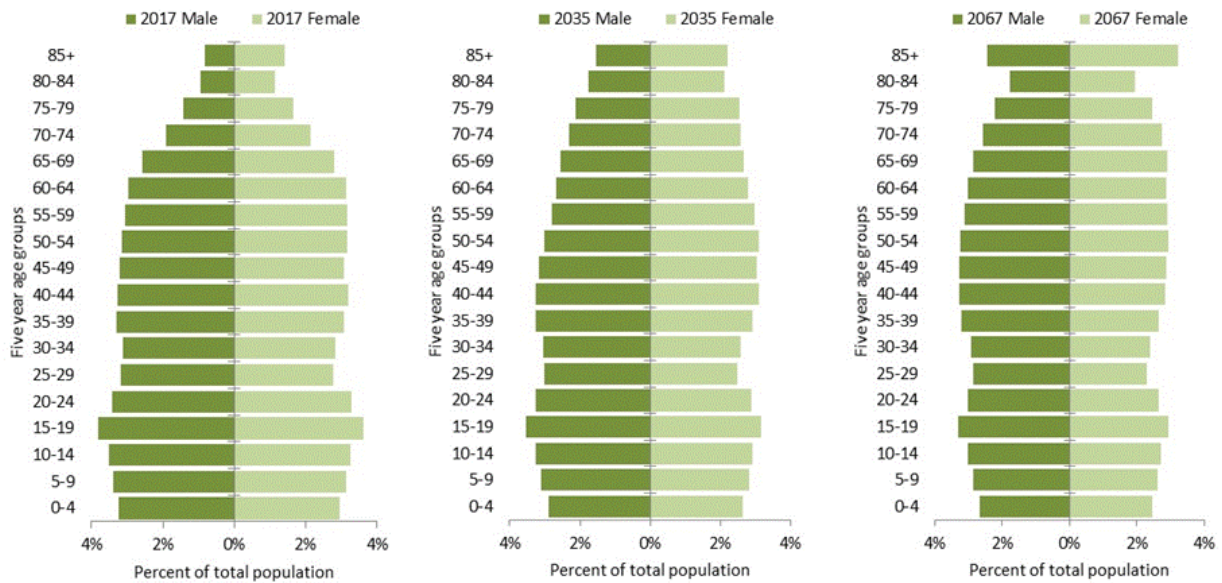
Population Growth

Looking first at the surrounding area, Yamhill County grew by 5.8% between 2010 and 2016, ranking ninth in the state (PSU PRC). Within the county, there was a natural increase (births minus deaths) of 1,375 individuals, and a migratory increase of 3,062 net migrants. Within the county, Carlton had the highest rate of growth of any incorporated town, as shown in Figure 7.

Figure 7: Population Growth 2010-2016, Carlton vs. Incorporated Towns in Yamhill Co. (PSU PRC)
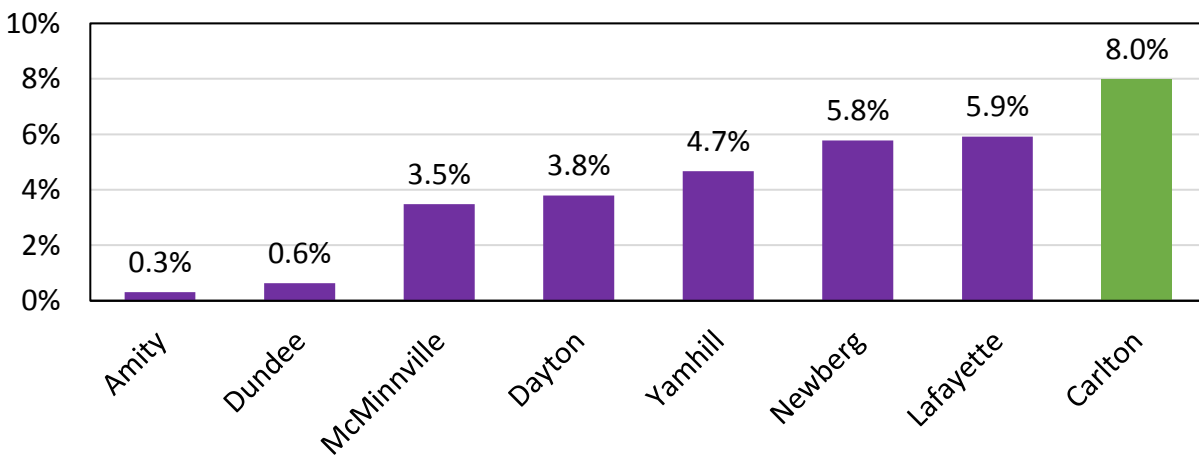
When compared with the seven towns previously selected, Carlton's historical rate of growth is the highest by a margin of 3.4% (see Figure 8).

Figure 8: Population Growth 2010-2016, Carlton vs. Select Comparables (PSU PRC)
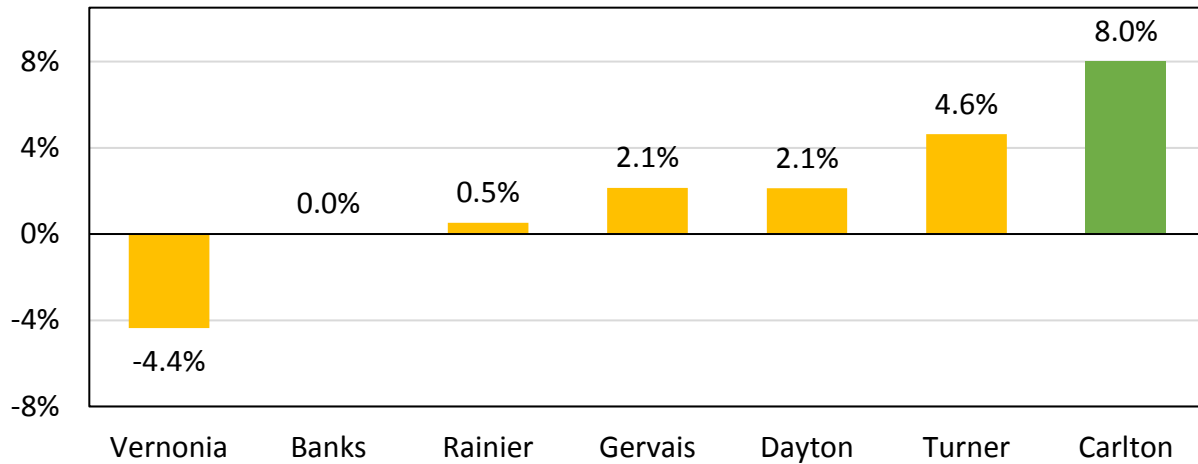
According to the PRC, 71% of Yamhill County's growth over the 2010-2016 period has been due to migration, while 29% has been due to natural increase, or the net balance of births and deaths. Comparing to Oregon, where the same figures are 70% and 30% respectively, it appears that Yamhill County is in step with the state as a whole. Historical and forecast data from PSU PRC, presented in Figure 9, indicates that a slightly higher rate of migration in Yamhill County relative to the state has been present since the 1980s, and is thus expected to persist.

Figure 9: Net migration per 1000 residents in Yamhill County (Oregon Office of Economic Analysis)
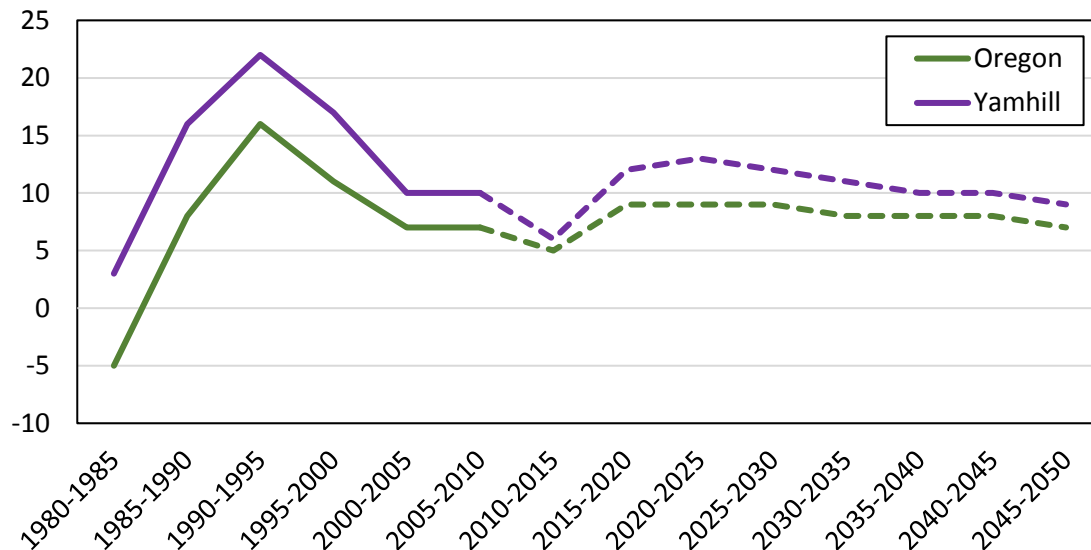
The PRC offers preliminary estimates for growth over the next fifty years within the Urban Growth Boundaries (UGBs) of incorporated towns in Yamhill County, and these values for Carlton and similarly-sized towns are shown in Figure 10. Figure 11 shows estimated five-year growth rates for Yamhill County

and Carlton: the City is projected to grow more quickly than the county in the short term, before levelling off in the 2055-2060 period.

Figure 10: Population forecast out to 2067 in Select Incorporated Yamhill County (PSU PRC)

Figure 11: Population forecast growth rate out to 2067 in Yamhill County and Carlton (PSU PRC)

Policy Implications of Population Characteristics

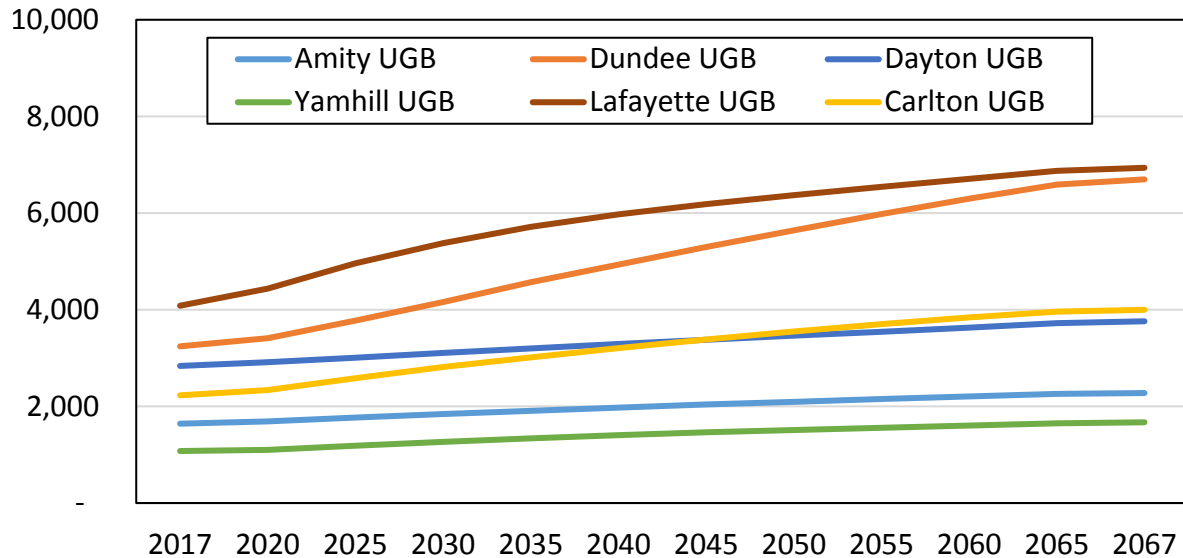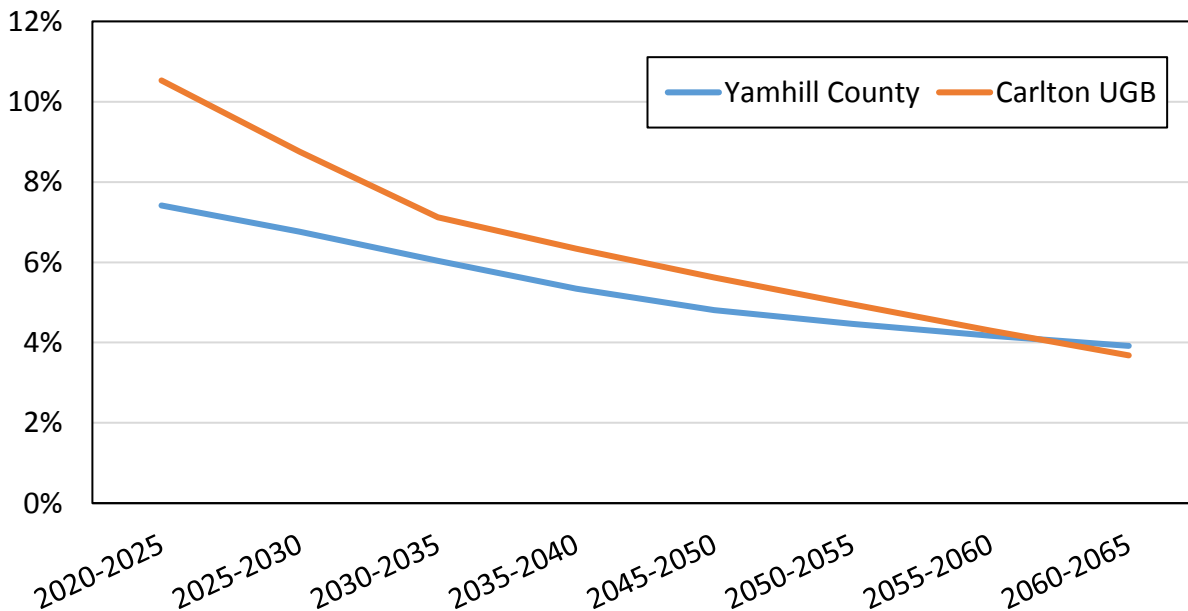One facet of population that concerns cities of all sizes is the retention of young population cohorts. According to some theses, vibrant economic growth depends upon retaining and attracting educated young adults. While Carlton has a young population, it's possible that young adults are departing the city and failing to return, but current data limitations prevent verification. Since Carlton does not have a college or university, schooling past high school necessitates a move. While the American Community Survey typically has margins of error that are too wide for reliable use, in this case the difference is dramatic enough to warrant inclusion: 24.5% of Carlton residents hold some type of college degree (associate- to graduate-level, margin of error ~3.5%), compared to 39.2% of Oregon residents (margin of error ~0.15%). This could imply that young adults seek higher education and do not return, youth are seeking advanced degrees at a lower rate than in the general population, and/or Carlton does not attract the same proportion of college educated young adults. In any case, this suggests increased efforts to attract new and returning college graduates— promotion of entrepreneurship and establishment of comprehensive high-speed internet coverage are commonly cited as attributes that young professionals seek out[1]. However, it is important to note that at this time there is a considerable amount of uncertainty in population cohort estimation for the city (see Appendix II for a potential option, available soon).

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[1] Schallhorn, Pamela (2015). "Five Strategies for Retaining and Attracting Youth to Rural Communities." University of Illinois Extension. March 17.

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Employment and Income

As there is no employment data after the 2000 Census available at the Carlton level (margins of error in the American Community Survey are far too large, often approaching the actual number of reported jobs in a sector), analysis will rely upon Yamhill data. This is appropriate, as many of Carlton's residents work outside of the city: see Figure 11, which describes commute patterns in Carlton. For comparison, results for McMinnville and Dayton are included as well—smaller towns typically have a higher rate of outside employment.

Figure 11: 2014 Commute patterns in Carlton, Dayton, and McMinnville (from OnTheMap, US Census)
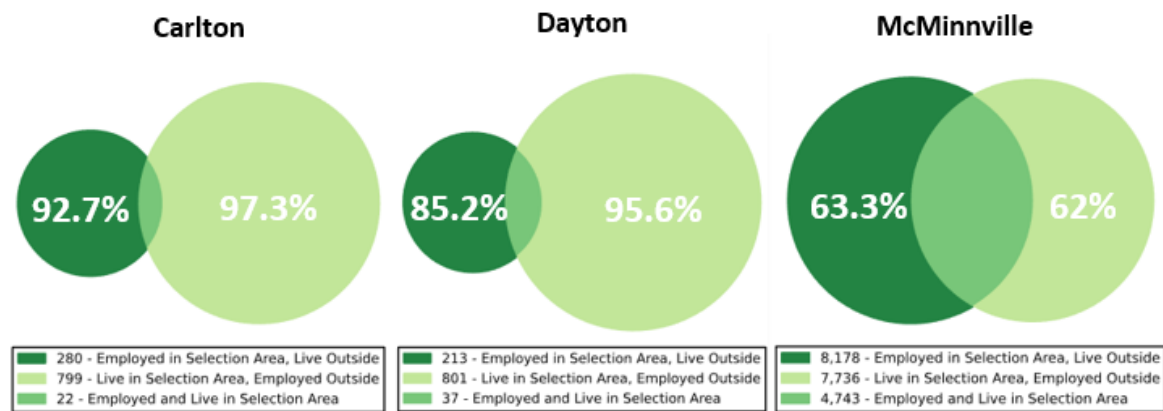
To interpret the above Venn diagrams, consider each circle as its own entirety: the dark green circles are all of the jobs in the selection area, and the light green circles are all of the workers in the selection area. Thus, the area of overlap is workers living in the area, whose jobs are located in that same area, and the percent value of that space will differ depending on which totality is being considered. For example, 92.7% of those employed in Carlton live outside of city limits, meaning that 7.3% of those employed in Carlton live in Carlton (the overlap region). At the same time, 97.3% of workers residing in Carlton commute outside of the city, leaving 2.7% that work in Carlton as well (the overlap region).

Employment

In Yamhill County, the top employing industries are Manufacturing and Health Services and Education, as seen in Figure 12 below. Comparing that pie chart to a sector employment graph for Oregon as a whole (Figure 13) illuminates what are termed "traded sectors": areas of likely relative strength that are exported at the state level and beyond. By identifying and strengthening traded sectors, communities can bolster their resilience to economic shocks. In Yamhill County, the shares of Manufacturing and Education and Health Services are higher than the state in aggregate, indicating potential relative strength. Goods-producing industries are vulnerable to economic fluctuations so tradability may be limited, but the second sector typically remains strong.

Figure 12: Top Employing Industries, Yamhill County (2016, Current Employment Statistics [CES] from Oregon Employment Department [OED])
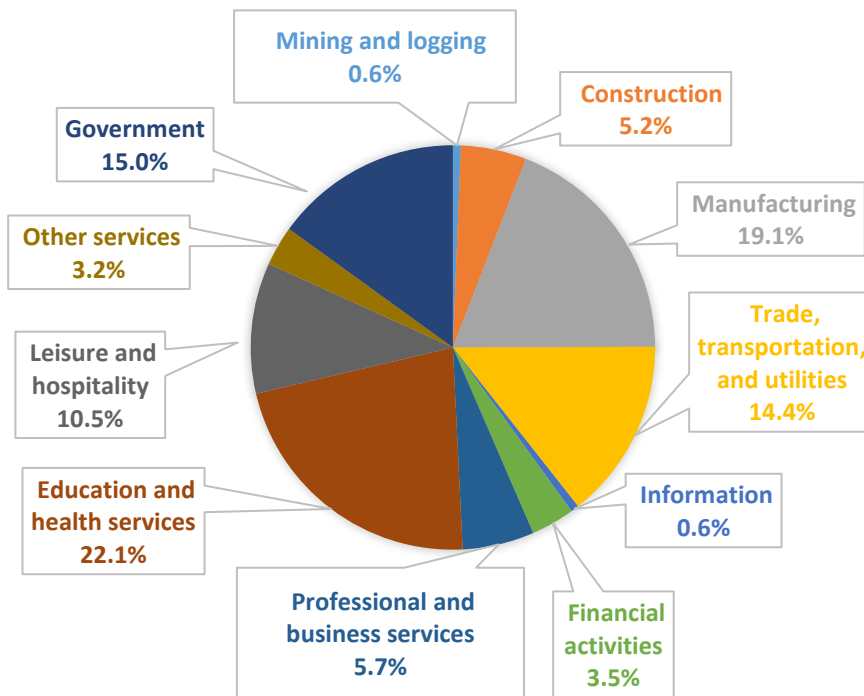
Figure 13: Top Employing Industries, Oregon (2016, CES from US Bureau of Labor and Statistics [BLS])
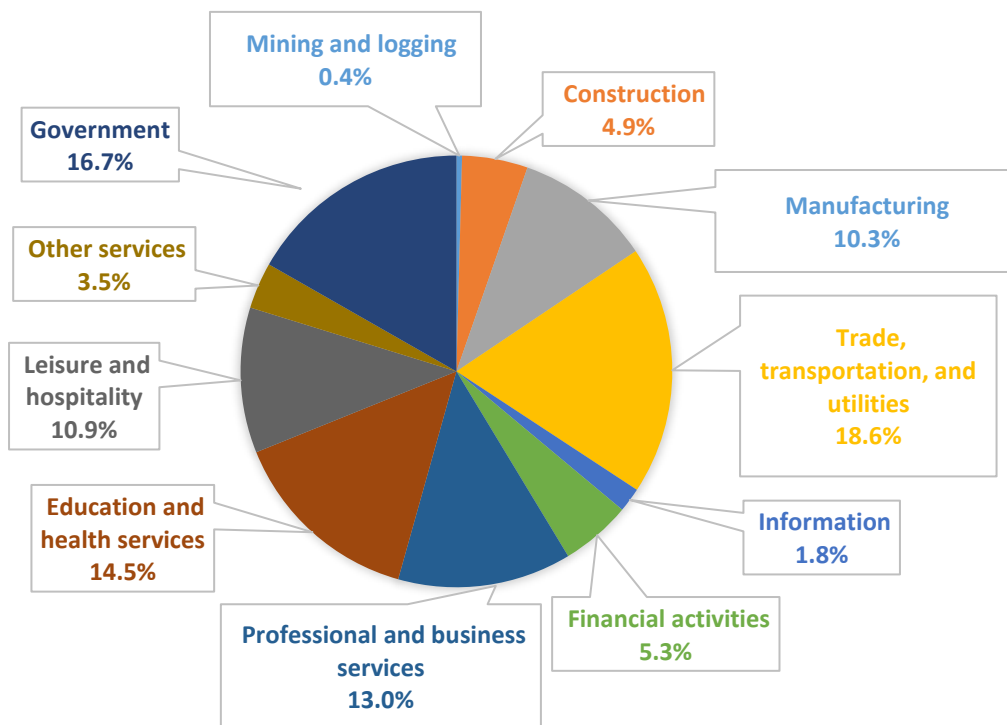
Figure 14 shows employment in Yamhill County industry sectors over the past decade. As described above, Manufacturing was heavily impacted by the recent recession, while Education and Health Services was not, illustrating the differential performance of goods- and service-providing industries observed at the national level.

Figure 14: Ten-Year Employment History, Yamhill County (OED)
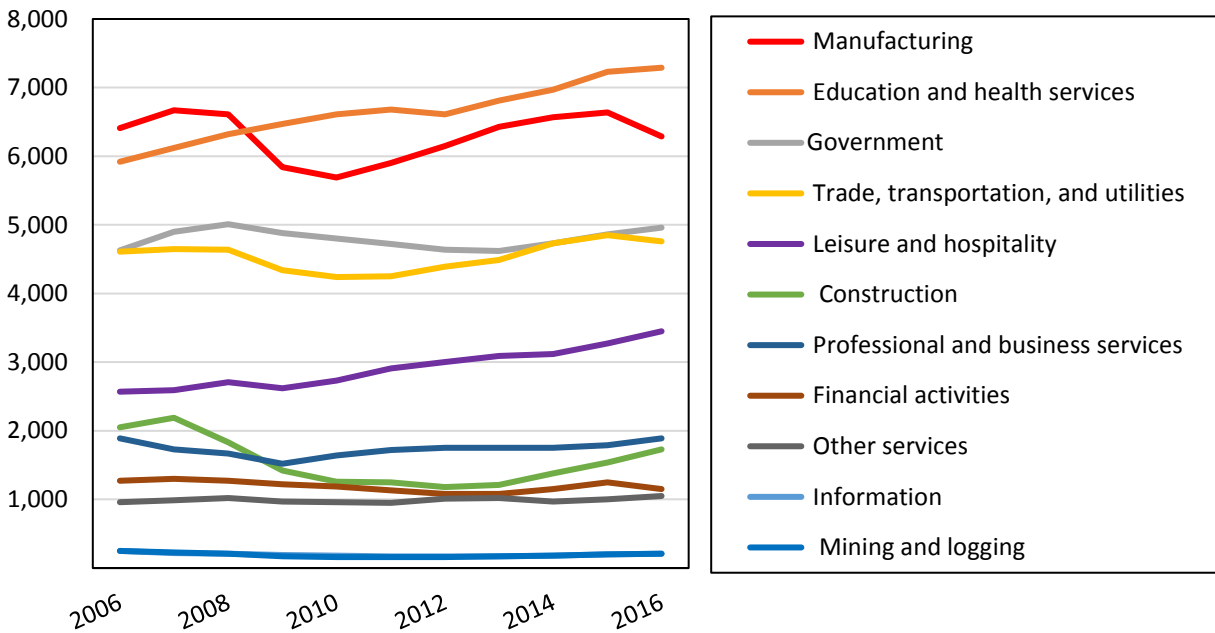
The next-highest employment figures are observed in Trade, Transportation, and Utilities. Leisure and Hospitality—an important industry within Carlton city limits—is also a notable Yamhill County employer. Figure 15 below indexes key county industries to their levels in the first quarter of 2008, thus illustrating growth since that time, and incorporates NERC's regional forecast (dotted lines) to indicate expected growth going forwards. Leisure and Hospitality is expected to continue to grow apace, at a faster rate than other key industries.

Figure 15: Fast- and Slow-growing Industries, Yamhill County (OED and NERC)
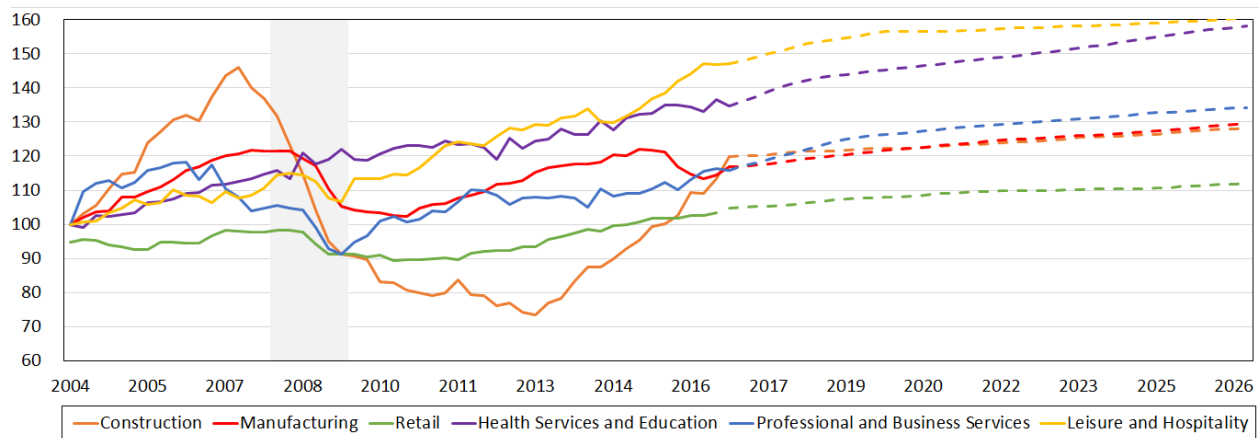
Income

Yamhill County has a median household income of $53,423, making it the fifth-highest earning county in the state. Total personal income has grown steadily since 2004, with a slight flattening-out observed during the recent recession, when growth became negative in 2009. Going forwards, NERC expects that growth will average around 4% per year.

Figure 16: Total Personal Income Level and Percent Change in Yamhill County, Historical and Forecast
(Blue bars are percent change [left axis values] and orange line is level [right axis values])

Policy Implications of Employment and Income Characteristics

While data limitations preclude exact figures, it is reasonable to assume that the wine industry creates a cluster of economic activity that includes large segments of employment in Manufacturing and Leisure and Hospitality. In fact, the wine industry is a key "traded cluster" that brings outside dollars into the city. While it should not b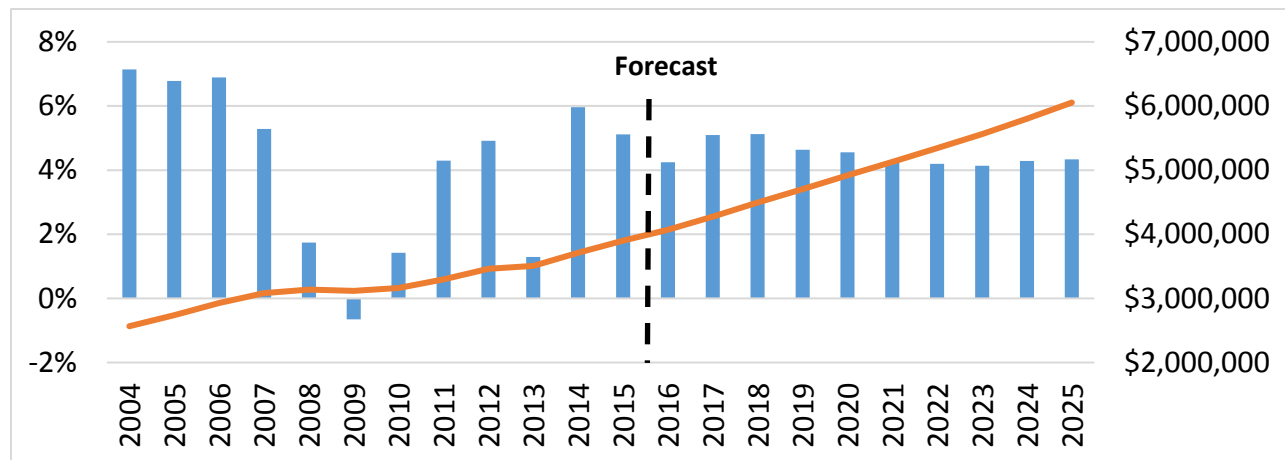e emphasized to the detriment of the many industries that indirectly support it, wine will remain an important facet of the local economy and trends should be noted. The persistent employment growth in Leisure and Hospitality over the last decade is likely to continue, thanks to wine tourism. Direct spending by travelers has trended upwards as well, with a small dip in 2009 (see Figure 17). Nearby, the town of McMinnville has been creating new high-end facilities for tourism (the Hotel Atticus being a prominent example with rooms upwards of $300 a night[2]), and is attempting to market itself and the Willamette Valley area as a "Little Napa" in Oregon—this may benefit Carlton by drawing additional tourist dollars into the area, and Carlton could potentially capitalize on said new developments by advertising high-end options as well. It remains to be seen whether or not this strategy will be effective.

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[2] "Atticus Hotel Plans Unveiled," VisitMcMinnville.org. January 24 2017.

Figure 17: Total Visitor Spending in Yamhill County, 1992-2016 (Dean Runyan & Associates)
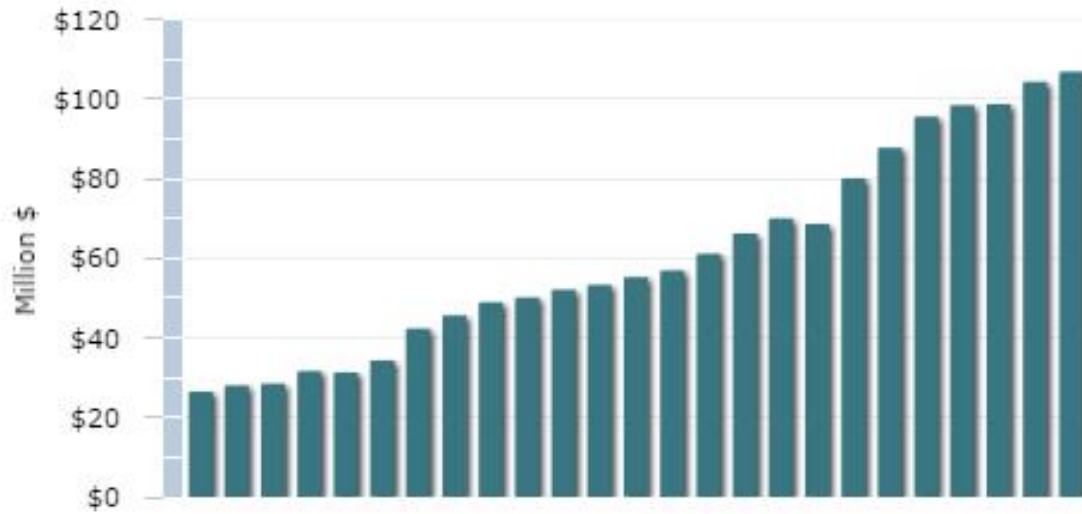
Conclusion

Carlton has many positive indicators going forwards, such as a younger population and relatively interactive economy that provides added resilience to economic shocks. The largest local industry sectors are Education and Health Services and Manufacturing: the former typically grows even in times of economic contraction, and the latter is more vulnerable to larger economic trends. Leisure and Hospitality is the most rapidly growing sector, and that growth may be indicative of a relative advantage. Survey responses indicate that there is a perception that local government places too much emphasis on the wine industry, however, and with an eye to attracting college graduates to return, attention could turn to bolstering Education and Health Services. This sector benefits local stakeholders outside of the wine industry, and employs a swathe of skill sets including degree holders. Additionally, bolstering available health services may attract more retirees to the community, strengthening the local economy and raising demand within the sector.

Going forwards, NERC recommends that Carlton refine its Citizen Survey in order to provide data for analysis not currently available. For example, NERC was unable to discuss housing, as the available data was not sufficient for meaningful analysis. Appendix I provides recommendations to that end.

Appendix I: Survey Methodology

In order to effectively capture representative information, it is crucial that surveys a) reach as many citizens as possible and b) ask questions in a format that does not influence responses. Below, recommendations for each of these attributes are provided.

Maximizing Participation

Choosing the mode through which a survey is administered is crucial. Different categories of individuals respond to different survey types, and across the board, more civically-minded individuals are more likely to respond: the same individuals who regularly show up at City Council meetings are those most likely to participate, while those who keep more to themselves and feel more disenfranchised are less likely to be heard. Younger individuals are more likely to respond to a digital medium, while older individuals are more likely to respond to printed correspondence. Responses can also vary dramatically based on the mode of administration: face-to-face conversation will solicit "gentler" responses, as will telephone interviews. The most important aspect is the maximization of participation: the more people respond, the better. However, the mode must be constant across an individual survey, or else there is no way to control for the different response types that each mode obtains. With this in mind, NERC recommends a paper questionnaire (encouraging openness) that can be sent by mail and handed out at community events and hubs, and returned by mail or in person at designated locations. These approaches are proven to bolster election participation.

Asking the Right Questions

It can be difficult to separate feelings and values surrounding city services from usefulness of city services. For example, the previous survey asked respondents what they felt were the most important services, and responses indicated the police force was perceived as the most important civic element (second only to water, which likely emerged as prevalent due to the 2015 water restrictions). Officers are highly valued individuals within their communities, and serve a tremendously valued role in maintaining social cohesion. Likewise, it is important to know what citizen perceive as most valuable in their community. However, with regard to funding and policy, it might be more valuable to accompany this question with others regarding frequency of use: for example, "Which services did you use most over the past year?" followed by qualitative questions regarding satisfaction with those services specifically: what went well and what didn't. Additionally, as the population ages, it will be useful to know how accessible citizens consider the nearby healthcare facilities, as retirees typically choose homes based in part on proximity to medical care.

One of the primary limitations in this report was the lack of data. Census figures have very wide margins of error for populations of this size, rendering them inadequate for meaningful inference. Carlton could ask questions similar to those in Census questionnaires in order to obtain more useful results: explicit questions about age, ages in household, location of work, type of job, family size, income sources, housing type and tenure, and even method of commute might provide insight on the variables that the city is interested in describing. Of course, the personal nature of such questions requires the city to ensure anonymity, and the quality of the data collected will depend on the number and socioeconomic breadth of respondents. Generally speaking, it is best to provide a multiple-choice format for questions like these, in order to ease later analysis. The most important reason for these demographic questions is that they can then be compared with US Census data in order to find whether or not the sample shows

signs of bias towards one group or another, and potentially weight responses differently based on the percent of the population that they are more likely to represent. For an alternative to demographic survey, see Appendix II.

List of Example Questions

City Services

1. What city services and facilities have you used most over the past 12 months? *[Provide a list]*
    a. Are you satisfied with the service you received? (Rate: 1-10)
    b. What did you like about the experience?
    c. What did you dislike?
2. Has the quality of the city services and facilities that you use most frequently increased, decreased, or remained constant over the last five years?

Population

1. Record participant age, gender, marital status, veteran status, and race.
    a. [If participant is at or approaching retirement age:] Do you consider healthcare accessible to you, or will you consider moving to an area where it is more accessible?
    b. [If participant is 18-25:] Do you plan on attaining a college degree? If yes, do you plan on a) using an online program, b) moving, or c) commuting?
    c. [If participant has high school age children:] Do/Does your children/child plan on attaining a college degree? If yes, do they plan on a) using an online program, b) moving, or c) commuting?
2. What is the highest level of education you have attained?
3. How many individuals are in your household?
    a. Do you have children? If so, what are their ages?
    b. Describe the other individuals that you share a household with. (Age, gender, relationship to respondent.)

Employment and Income

1. Are you currently employed?
    a. If so, what is your position and employer?
    b. If not, are you seeking employment at this time? If yes, how long have you been seeking employment?
2. What are your household's income sources?
3. What is your annual income over the last twelve months?
4. Do you commute out of town to work?

Housing

1. Do you rent or own your residence?
2. What is your residence type? (House, apartment, mobile home, etc.)
3. How many bedrooms does your home have?
4. What is your rent or mortgage payment?
5. Do you have internet in your home?
    a. If yes, how do you access it? (Computer, mobile phone, or other)

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Appendix II: Population Research Center Current Estimates

Portland State University's Population Research Center has a new service available in the near future that will likely be very helpful to the City of Carlton in policy and service planning. This program will provide detailed current estimates across the state at the county, school district, and town level using consistent methodology, providing exactly the kind of data granularity absent from the national estimates. Information will be available at:

https://www.pdx.edu/prc/

On the next page is an example of one such current-level estimate, in this case for Yamhill-Carlton School District 1. NERC recommends that the City initiate a conversation with Charles Rynerson, the Oregon State Data Center Coordinator, who can be contacted at rynerson@pdx.edu with regard to release dates and general questions.

Population, Housing, Social and Economic Profile
Yamhill-Carlton School District 1, Oregon

	2006-2010			2011-2015			Compare
	Estimate	CV *	Margin of Error (+/-)	Estimate	CV *	Margin of Error (+/-)	Statistically Different?
POPULATION							
Total population	6,931	🟢	583	6,855	🟢	542	
Percent under 18 years	28.7%	🟢	3.1%	22.7%	🟢	2.9%	**
Percent 65 years and over	12.7%	🟢	1.9%	18.3%	🟢	3.3%	**
Median age (years)	39.3	🟢	3.5	46.0	🟢	2.3	**
Percent white alone, non-Latino	92.3%	🟢	2.9%	93.0%	🟢	2.4%	
HOUSING							
Total housing units	2,485	🟢	160	2,808	🟢	180	**
Occupied housing units	2,372	🟢	158	2,461	🟢	198	
Owner occupied	1,941	🟢	198	1,996	🟢	195	
Percent owner-occupied	81.8%	🟢	5.8%	81.1%	🟢	5.1%	
Renter occupied	431	🟡	136	465	🟡	135	
Vacant housing units***	113	🟡	54	347	🟡	118	**
Vacancy rate	4.5%	🟡	2.1%	12.4%	🟡	4.1%	**
Average household size	2.92	🟢	0.18	2.77	🟢	0.18	
Renter households paying more than 30 percent of household income on rent plus utilities	33.9%	🟡	9.8%	26.6%	🟡	8.2%	
SOCIAL							
Age 25+ with a bachelor's degree or higher	22.8%	🟢	4.9%	25.2%	🟢	4.9%	
Foreign-born population	92	🔴	50	243	🔴	161	
Percent foreign-born	1.3%	🔴	0.7%	3.5%	🔴	2.3%	
Age 5+ language other than English at home	298	🟡	78	332	🔴	236	
Percent language other than English	4.5%	🟡	1.3%	5.0%	🔴	3.5%	
ECONOMIC							
Median household income (2015 dollars)	$67,944	🟢	$11,237	$66,156	🟢	$10,568	
Per capita income (2015 dollars)	$28,302	🟢	$3,157	$36,946	🟡	$11,907	
Percent of persons below poverty level	6.5%	🟡	3.2%	4.0%	🟡	1.6%	

* Green , yellow , and red icons indicate the reliability of each estimate using the coefficient of variation (CV). The lower the CV, the more reliable the data. High reliability (CV <15%) is shown in green, medium reliability (CV between 15-30% - be careful) is shown in yellow, and low reliability (CV >30% - use with extreme caution) is shown in red. However, there are no absolute rules for acceptable thresholds of reliability. Users should consider the margin of error and the need for precision.

** Indicates that the two estimates are statistically different at the 90 percent confidence level based on results of z-test taking into account the difference between the two estimates as well as an approximation of the standard errors of both estimates.

*** Vacant units include those for sale or rent, those sold or rented but not yet occupied, those held for seasonal, recreational, or occasional use, as well as other vacant such as homes under renovation, settlement of an estate, or foreclosures.

Source: U.S. Census Bureau, American Community Survey 5 year estimates. Surveys are collected over a 60 month period. Estimates represent average characteristics over the entire period. Tabulated by Population Research Center, Portland State University, with additional calculations from source data as needed.

www.pdx.edu/prc

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