



MARKET ANALYSIS FOR GROCERY RETAIL SPACE IN FOREST GROVE, OREGON

PREPARED FOR
THE CITY OF FOREST GROVE,
FEBRUARY 2018



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I. INTRODUCTION

JOHNSON ECONOMICS was retained by THE CITY OF FOREST GROVE to evaluate the market potential for new grocery store development in Forest Grove. This study provides an overview of trends in the regional grocery market as well as demographic trends and development patterns within Forest Grove, and evaluates the potential for different grocery store formats. Five sites identified by the City are evaluated specifically. The main objective of the study is to inform the City's future planning efforts. The main components of the study are as follows:

- Overview of the regional and local grocery market;
- Analysis of local demographic trends and residential development patterns;
- Household growth projection and identification of likely future growth areas;
- Analysis of grocery demand, grocery spending leakage, and projected future spending;
- Evaluation of potential grocery formats and sites

II. EXECUTIVE SUMMARY

The Portland Metro grocery market is dominated by national and regional chains, which account for 80% of the regional market. Together, these chains have opened 36 new stores in the region over the past five years. The main change over this period is a shift toward specialty grocers (e.g., New Seasons, Natural Grocers), which focus primarily on urban areas. There is also a shift toward discount grocers (e.g., Grocery Outlet) – mainly in the suburbs. Traditional grocers (e.g., Safeway, Albertsons) have lost market share over this period, as have superstores like Fred Meyer. A new trend is the emergence of smaller versions of established big box chains, with increasing emphasis on groceries. In the Portland Metro Area, these have predominantly been located within larger suburban areas. The grocery market is currently characterized by some uncertainty related to Amazon's foray into the brick-and-mortar market and purchase of Whole Foods.

JOHNSON ECONOMICS projects household growth of 1,250 to 1,830 units over the coming ten years in Forest Grove, with growth of 1,800 to 2,800 within the larger potential trade area of a Forest Grove grocery site. The growth is expected to be weighted to areas in the northwest of the city. The main demographic change expected over this period is a shift to higher income brackets. In the baseline scenario, we project more than 1,000 new households with annual incomes above \$100,000 within Forest Grove.

Forest Grove appears underserved in terms of grocery options when compared to other markets of similar size and demographic profile. However, the imbalance appears less dramatic when viewed in combination with Cornelius, and when compared to other communities located near larger markets with greater retail gravity. Current grocery spending in Forest Grove indicates that the city is approaching the support threshold for a second full-service store. From a grocer's perspective, what is relevant is the trade area, and our analysis focuses on a defined Grocery Trade Area (GTA) for Forest Grove that includes Cornelius, Banks, and Gaston.

A comparison of current household retail spending (demand) to current retail sales (supply) within a market area reveals patterns of spending leakage – sales revenues from current residents not currently captured within the market. The leakage represents potential unmet demand (identified as “opportunity gap” in the following table) that may be filled by new retailers within the trade area. In the GTA, which includes Walmart, Fred Meyers and Jim's Thriftway, total grocery store sales are estimated to \$56 million, while demand is estimated to \$82 million. This indicates unmet demand on the order of \$26 million – which represents the threshold typically required to support a traditional full-service store.

An estimated 83% of the local workforce is employed outside of Forest Grove, a number that has been increasing over the last five years. The implications for leakage are significant, as persons commuting outside of the area have a greater likelihood to purchase grocer goods linked to their commute pattern.



The current demographic profile of the market indicates strongest support for traditional mid-market grocers, discount grocers, ethnic (Latino) grocers, and superstores. Chains with a regional presence operating in the traditional and superstore segments are already well represented in this market, and discount chains have good coverage of modest-income areas with locations west of Downtown Hillsboro. Only the ethnic foods segment appears to have adequate unmet demand to support a new store in the current market. However, an ethnic grocer might prefer Cornelius over Forest Grove, due to higher concentrations of Latino residents, and might prefer an existing building over costlier new construction space.

Additional grocery demand generated by household growth is expected to create support for a second full-service store in Forest Grove in five to ten years, with a format oriented toward mid/upper-income households becoming supportable toward the end of this period. Sites with proximity to expanding residential areas in the northwest, and locations along high-volume commute paths, are best positioned to attract a grocer with this orientation. Of the five sites evaluated in this analysis, we regard the Davidson site to represent the strongest potential in a ten-year perspective, offering proximity to growing mid/upper-income areas and high-volume commuter visibility and access.

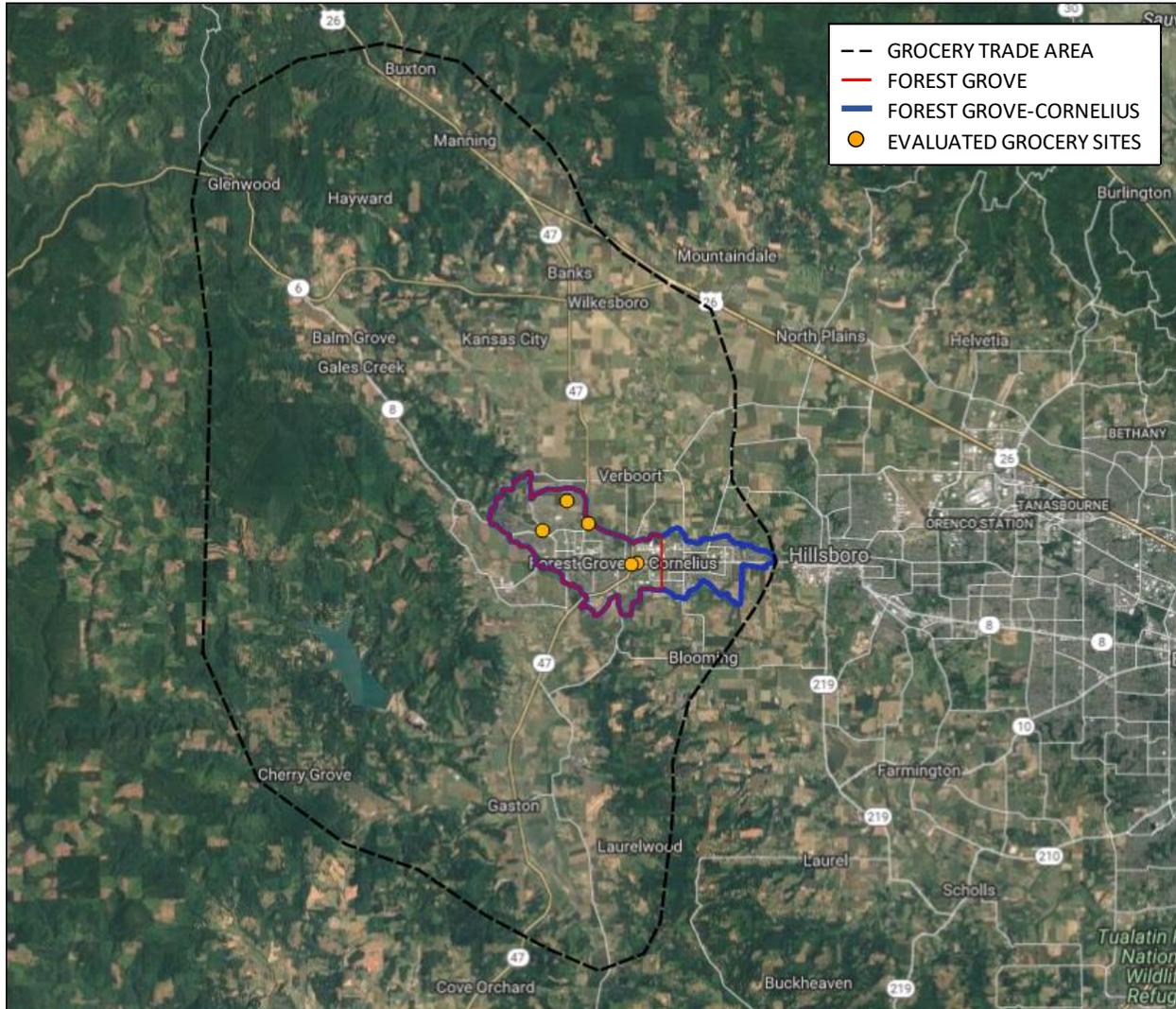


III. TRADE AREA DEFINITION

In the context of grocery stores, a trade area refers to the region from which a store derives the majority (typically 55-75%) of its customer spending. Trade areas vary in size depending on the type and size of the grocer, its access, and the residential density of the area. In this analysis, we will use the trade area delineation when estimating current and future grocery demand. Moreover, we will compare grocery spending in this area to grocery sales, to estimate the spending leakage out of the market.

The following map displays the trade area (dashed black line) defined for the five potential grocery sites evaluated in this analysis. The trade area includes rural areas and smaller communities around Forest Grove for which a new store in Forest Grove has the potential to become the primary grocery destination. This area extends west to Cherry Grove and Glenwood; north to Buxton, Manning, and Banks; east to Cornelius' eastern border; and south to Gaston and Laurelwood. In the following, we will refer to this area as the Grocery Trade Area, or GTA for short. The following analysis will also evaluate conditions within Forest Grove (outlined in red) and the combined Forest Grove-Cornelius area (outlined in blue). The latter will be referred to as FG-C for short.

FIGURE 3.1: GROCERY TRADE AREA



SOURCE: Google Maps, JOHNSON ECONOMICS

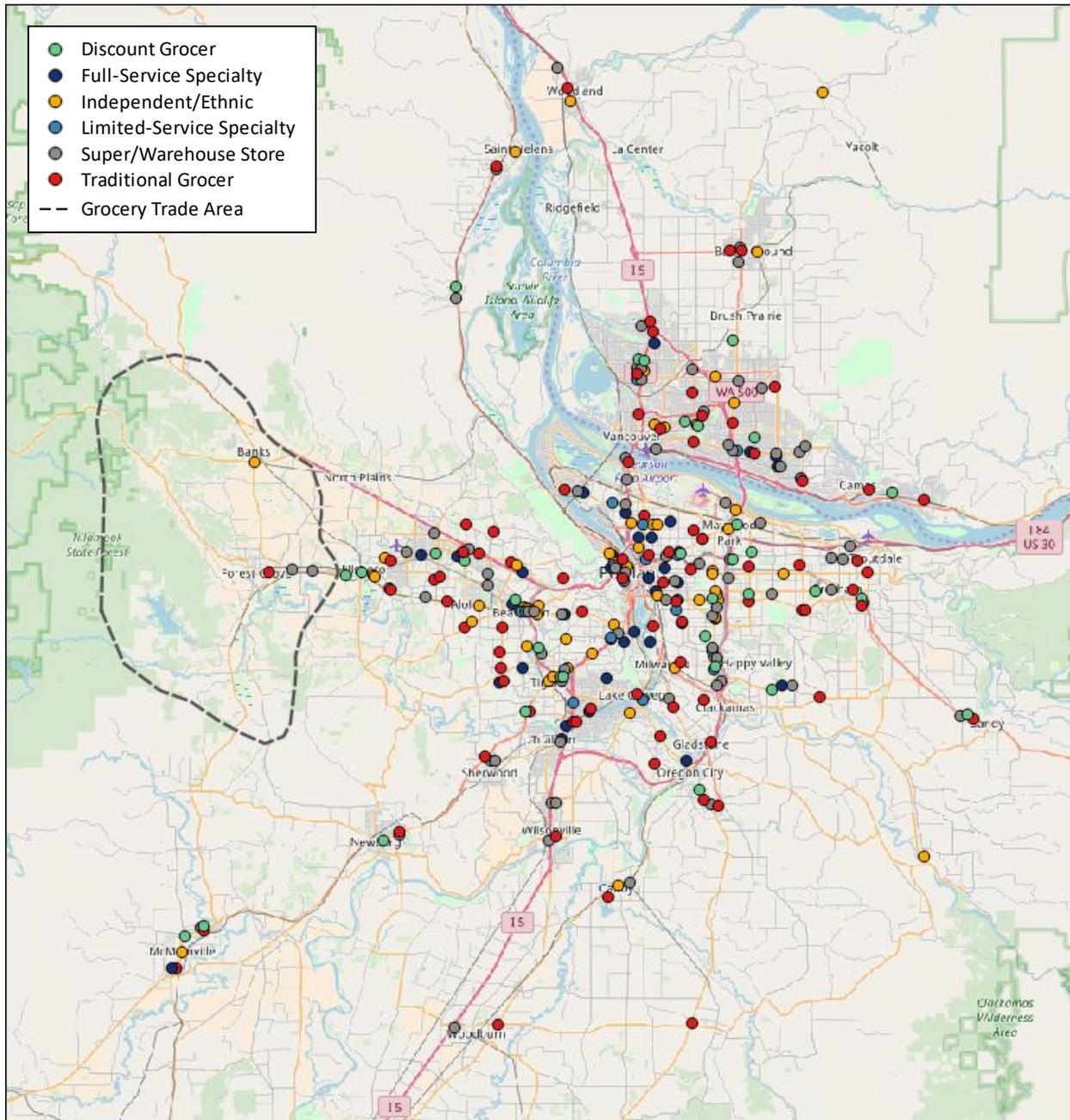


IV. GROCERY MARKET OVERVIEW

THE PORTLAND METRO MARKET

JOHNSON ECONOMICS classifies grocery stores in the Portland Metro Area in five categories: (1) traditional grocers, (2) full-service specialty grocers, (3) limited-service specialty grocers, (4) discount grocers, and (5) independent and ethnic grocers. For this analysis, we have also included superstores and warehouse stores that have groceries as one of their main product lines as a sixth category. The categories are defined on the next page. According to our counts, there are currently 305 stores in these categories in the Portland Metro Area, of which 243 (80%) are chain stores.

FIGURE 4.1: GROCERY STORES IN THE PORTLAND METRO AREA



SOURCE: OpenStreetMap, JOHNSON ECONOMICS



The following table provides a breakdown of the grocery market in our region, including the defining characteristics for each category and the number of stores in each category and chain. The table also includes counts of new stores opened over the 2013-2017 period.

Traditional grocers represent the largest category in our region, accounting for 27% of all grocery stores in our region, not including independently owned stores. Safeway is the single largest chain, with 53 stores. However, it has lost market share to Walmart Neighborhood Market which has opened six new locations over the past five years. Specialty grocers represent strongest growth segment, with a total of 17 new stores over this period, dominated by New Seasons and Natural Grocers. New store openings are mapped on the next page.

FIGURE 4.2: OVERVIEW OF THE PORTLAND METRO GROCERY MARKET

TYPE	STORE NAME	STORE COUNT	
		Total	New '13-'17
Traditional Grocer <i>Includes produce, deli/ bakery, meat/fish counter, pharmacy</i>	Albertsons	14	0
	QFC	6	0
	Safeway	53	2
	Walmart Neighborhood Market	10	6
	Metro Total	83	8
Full-Service Specialty Grocer <i>Offering more specialty items/ brands, including gourmet, organic, local options</i>	Chuck's Produce	2	0
	Market of Choice	4	2
	New Seasons Market	18	6
	Roth's Fresh Market	1	0
	Whole Foods	8	0
	Zupan's	3	0
	Metro Total	36	8
Limited-Service Specialty Grocer <i>Smaller, missing deli/bakery and/or meat/fish counter</i>	365 (Whole Foods)	1	1
	Green Zebra	3	3
	Natural Grocers	7	5
	Trader Joe's	8	0
	Metro Total	19	9
Independent/Ethnic Grocer <i>Independent store or local chain, including ethnic foods focus</i>	Thriftway	7	0
	Other	51	Unknown
	Metro Total	58	Unknown
Discount Grocer <i>Warehouse style, focused on low prices. Limited services.</i>	Grocery Outlet	18	4
	WinCo Foods	14	1
	Metro Total	32	5
Superstore/Warehouse Store <i>Larger stores with wide selection of non-grocery item. Limited grocery services.</i>	Costco	9	0
	Fred Meyer	36	1
	Target	16	1
	Walmart	16	4
	Metro Total	77	6
TOTAL		305	36 *

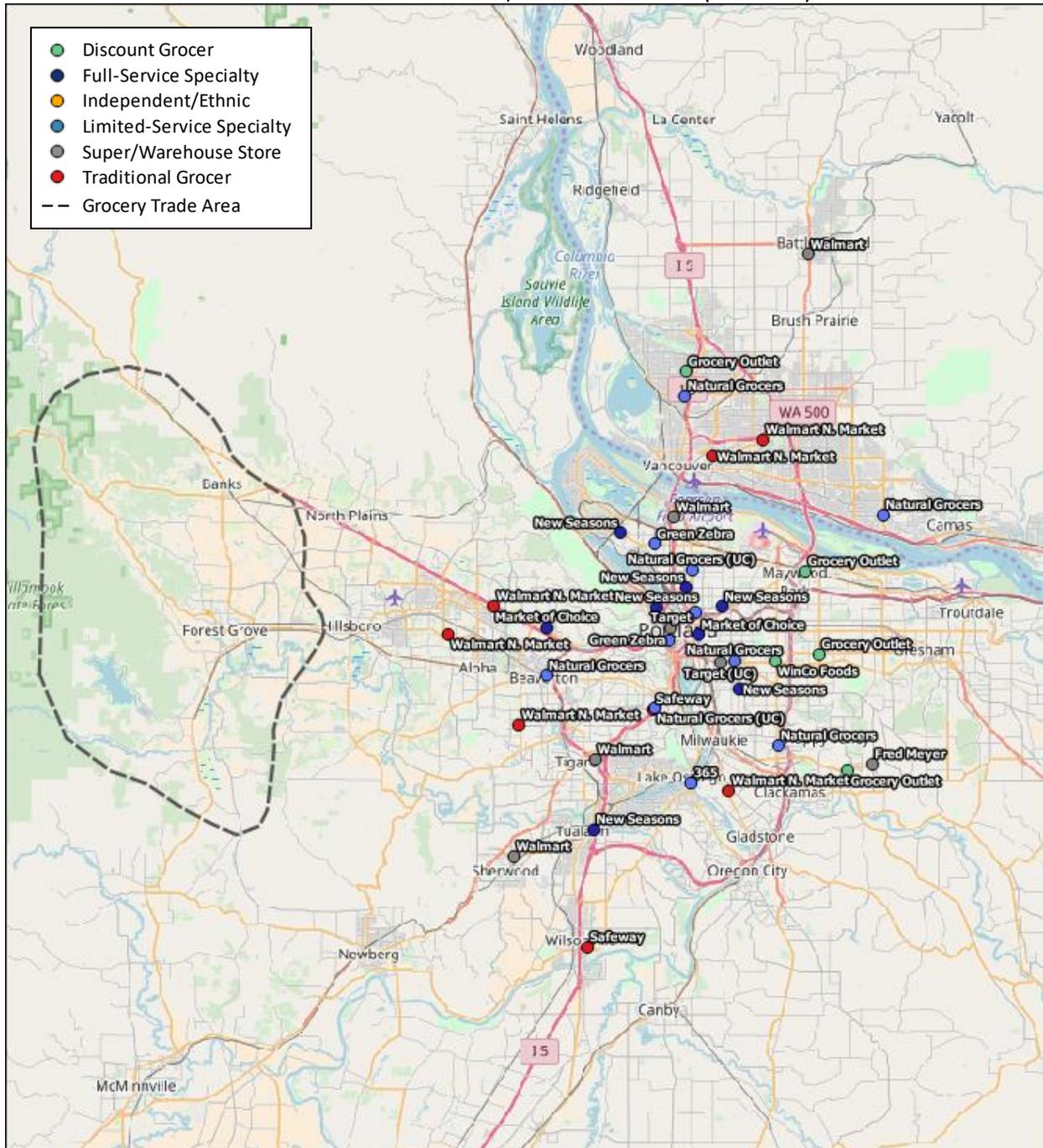
* New stores total includes chain stores only.

SOURCE: OpenStreetMap, JOHNSON ECONOMICS



The following map displays the locations of new stores that have opened in the Portland Metro Area between 2013 and 2017. The map also includes three stores under construction, set to open in 2018 (two Natural Grocers and one Target). New stores are disproportionately located in central/urban areas, driven by specialty grocers. This shift has been accommodated by strong household growth and gentrification in central areas, with increasing concentrations of high-income, college-educated households. Support for full-service specialty grocers, which rely more on lunch sales than other grocers, have also come from strong job growth in central areas. New stores of the traditional format are primarily located in the suburbs. (New independent stores are not included in this analysis.)

FIGURE 4.3: NEW GROCERY STORES, PORTLAND METRO AREA (2013-2018)



SOURCE: OpenStreetMap, JOHNSON ECONOMICS

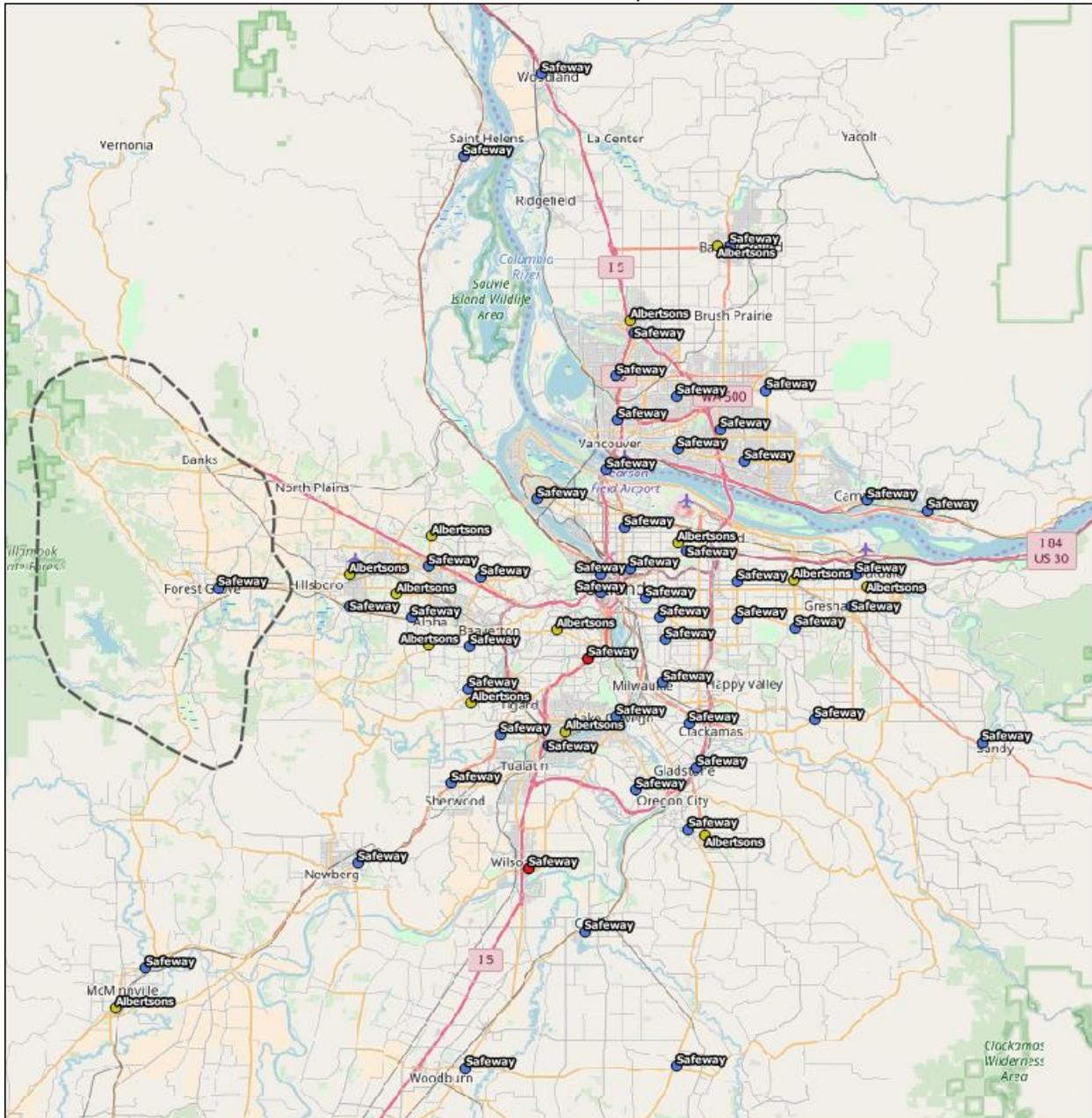


METRO LOCATION PATTERNS

TRADITIONAL GROCERS

Traditional grocers have a wide market appeal, as they carry well-known brands and offer a wide range of products and services. Because of their ability to meet the needs of a broad specter of the population, traditional grocers are often represented in smaller communities that can support only one grocery store. In communities with support for several grocers, these stores typically target the middle-income segment. Safeway is the dominating player in this category in the Portland Metro Area, with the densest store network and the strongest presence in peripheral/satellite communities. Its network expanded when merging with Albertsons in 2015 (see map below, with new Safeway stores shown in red). Some independent stores, like members of the Thriftway network, could be classified as traditional stores, but reflect varying location criteria as locations are chosen independently by each owner (see following).

FIGURE 4.4: SAFEWAY AND ALBERTSONS STORES, PORTLAND METRO AREA



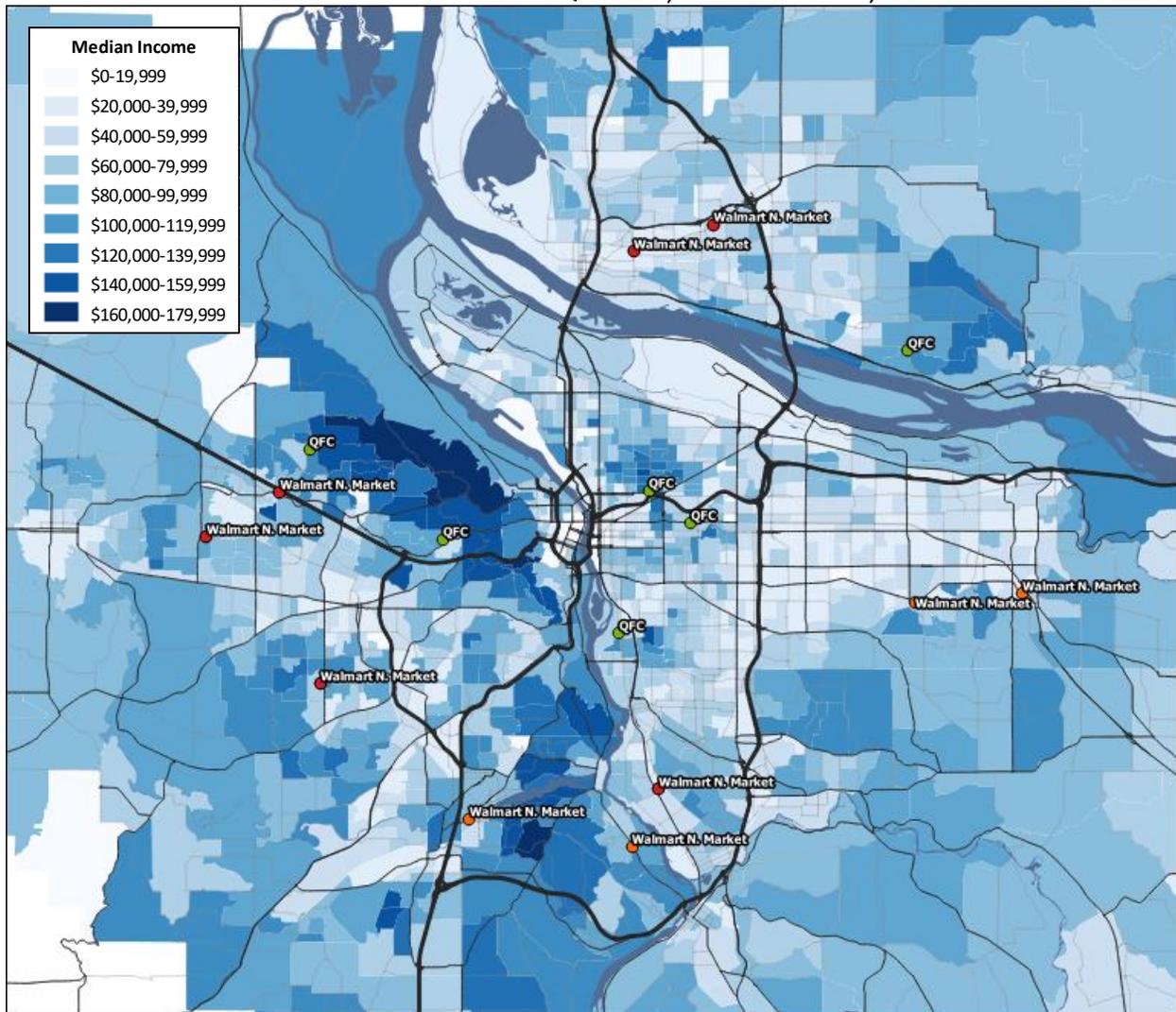
SOURCE: OpenStreetMap, JOHNSON ECONOMICS



The other two operators in the traditional grocer category, QFC and Walmart Neighborhood Stores, target more specific segments – segments whose needs are not well met by Safeway and Albertsons. QFC targets mid/upper-income households, while the Neighborhood Walmarts target mid/lower-income households. QFC has been pressured from above by new full-service specialty grocers in recent years, something that has reduced its ability to open new stores. It has responded by attempting to widen its appeal, providing more low-cost products as well as more organic and natural options. QFC is owned by Kroger, the parent company of Fred Meyer, and store locations are coordinated to avoid cannibalization (though both chains have stores in Grant Park, Portland).

Walmart Neighborhood Markets has been less affected by the growth of specialty grocers, as it targets less affluent customers. The Walmart offshoot takes advantage of its parent company’s efficient distribution network, which has allowed it to undercut other traditional grocers and compete with discount chains like WinCo. The Neighborhood Markets target much the same segments as the larger Walmart Supercenters, but represents a strategic shift that is less vulnerable to online competition. Thus, the Neighborhood stores are in areas that are not well served by Supercenter stores, but continues Walmart’s tradition of locating centrally within the suburban ring, avoiding smaller peripheral communities. The following map shows the locations of QFC and Walmart Neighborhood Markets (new stores in red) and median income levels in the Portland Metro Area, based on 2016 census data.

FIGURE 4.5: WALMART NEIGHBORHOOD MARKET AND QFC STORES, WITH MEDIAN INCOME, PORTLAND METRO AREA



SOURCE: U.S. Census Bureau, OpenStreetMap, JOHNSON ECONOMICS

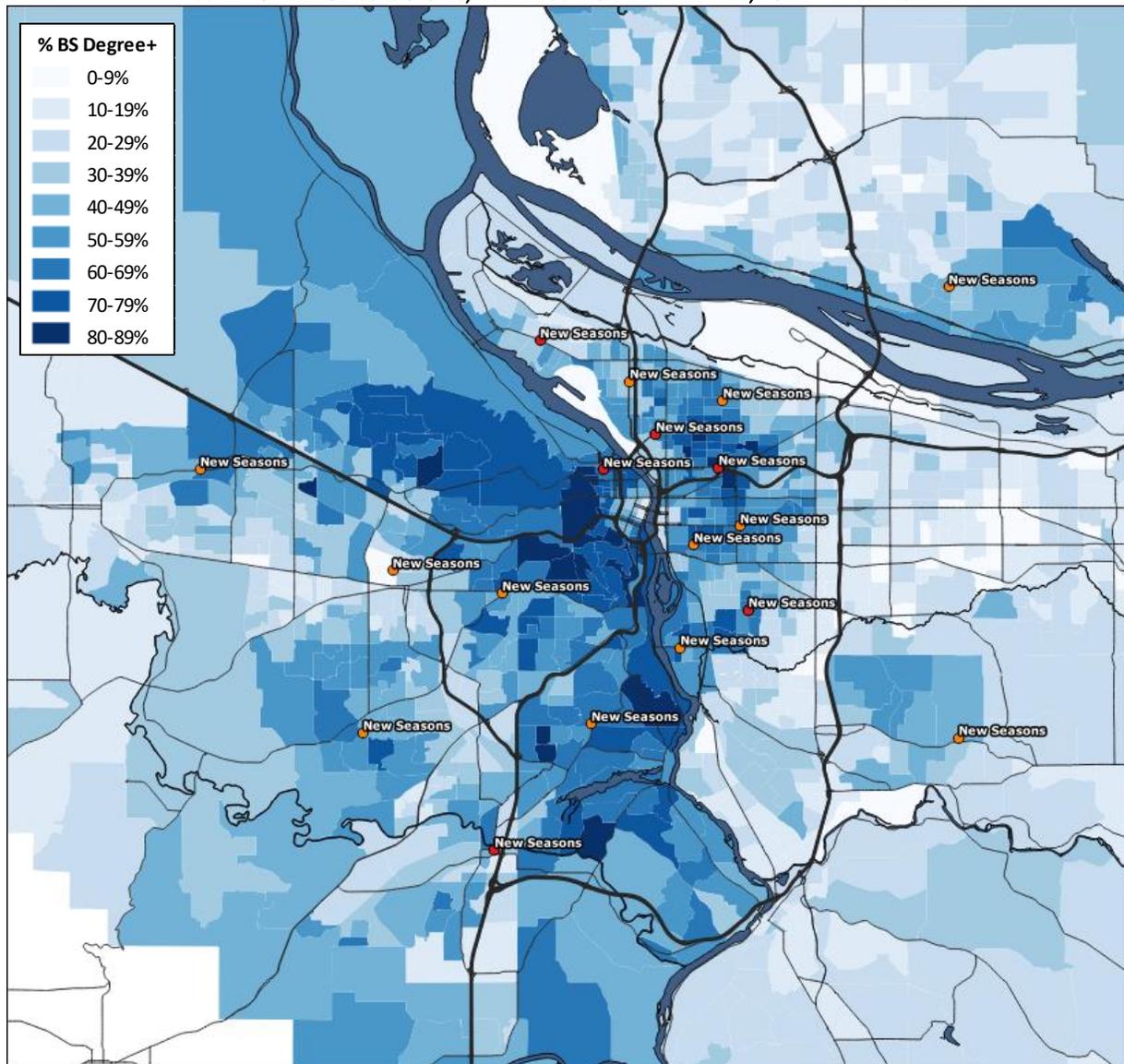


SPECIALTY GROCERS

Compared to traditional grocers, specialty grocers provide fewer products by large, national brands, and offer more gourmet, natural/organic, and local options. While consumption of gourmet products is highly correlated with income, consumption of organic and local foods exhibits stronger correlation with education levels. Many specialty grocers therefore focus more on educational attainment than incomes when selecting new sites. Because highly educated and high-income households are concentrated in larger cities, specialty grocers are predominantly found centrally within larger metropolitan areas. They tend to require sites accessible to a large household base, as their customers include a large number of households that get their staple products from less costly stores and thus only leave part of their grocery budget with the specialty grocers.

New Seasons is the prime example in the Portland Metro Area of a specialty grocer seeking access to customers with relatively high educational attainment levels. The following map displays New Seasons locations against a base map indicating the percent of the population with a bachelor degree or more. Again, new openings over the 2013-2017 period are displayed in red.

FIGURE 4.6: NEW SEASONS STORES, WITH EDUCATIONAL ATTAINMENT, PORTLAND METRO AREA

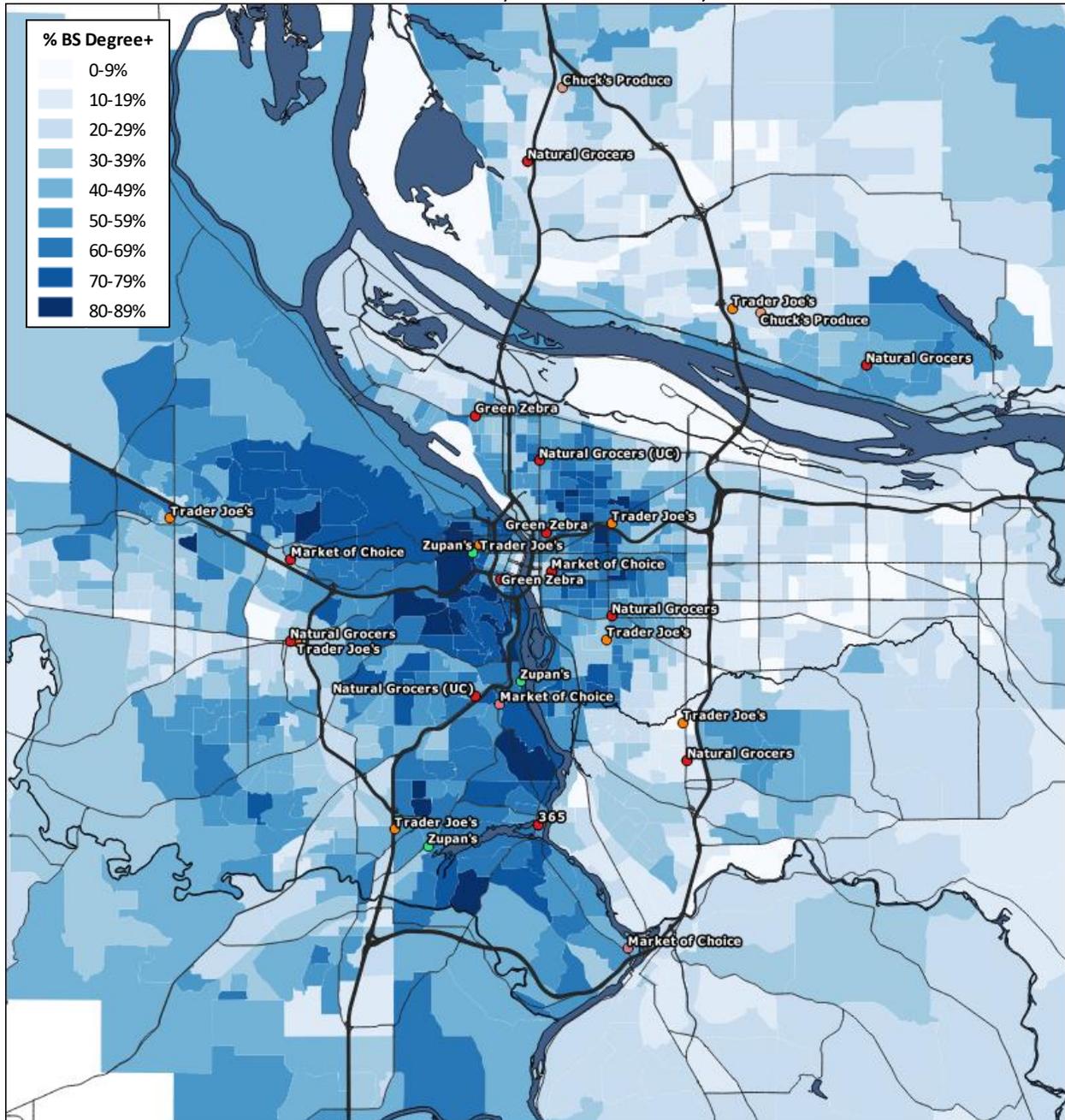


SOURCE: U.S. Census Bureau, OpenStreetMap, JOHNSON ECONOMICS



The other specialty grocers in the region also tend to locate near concentrations of college-educated residents. In Central Portland, many of these stores have typical neighborhood retail locations. However, outside Central Portland, in areas with lower concentrations of college-educated households, the majority of these are located near freeways, allowing them to capture traffic from larger geographic areas.

FIGURE 4.7: SPECIALTY GROCER LOCATIONS, WITH EDUCATION LEVELS, PORTLAND METRO AREA



SOURCE: U.S. Census Bureau, OpenStreetMap, JOHNSON ECONOMICS

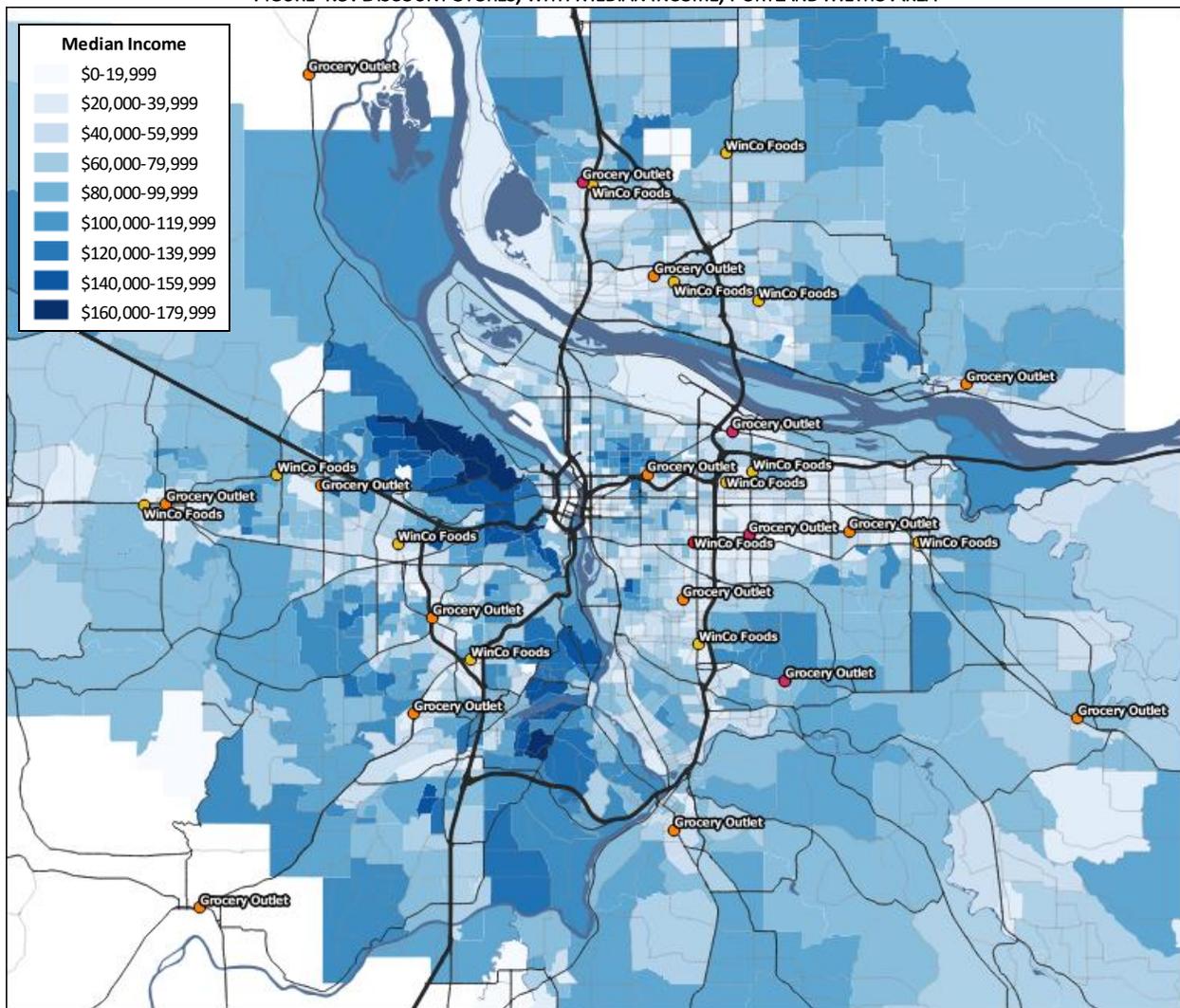


DISCOUNT GROCERS

Discount grocers do not offer the full range of products and services as traditional grocers (e.g., no pharmacy), and therefore tend not be found in smaller single-grocer communities. However, because they are oriented toward low-income households, they often represent secondary options in rural communities outside larger urban areas. In the Portland Metro Area, these stores are concentrated in suburban low-income areas, for instance in parts of Southeast Portland and central portions of Clark County, the 217 Corridor, and Hillsboro.

Of the two chains classified as discount grocers our region, Grocery Outlet is the most vital, with four store openings over the past five years (shown in red below). In comparison, WinCo has only opened one store over this period. WinCo has lost market share to Walmart Neighborhood Markets in recent years, and is working on a smaller and fresher concept to address this new competition (WinCo Waremarts). Grocery Outlet has found a niche selling discounted closeout and overstocked brand products – which is a niche virtually without competition.

FIGURE 4.9: DISCOUNT STORES, WITH MEDIAN INCOME, PORTLAND METRO AREA



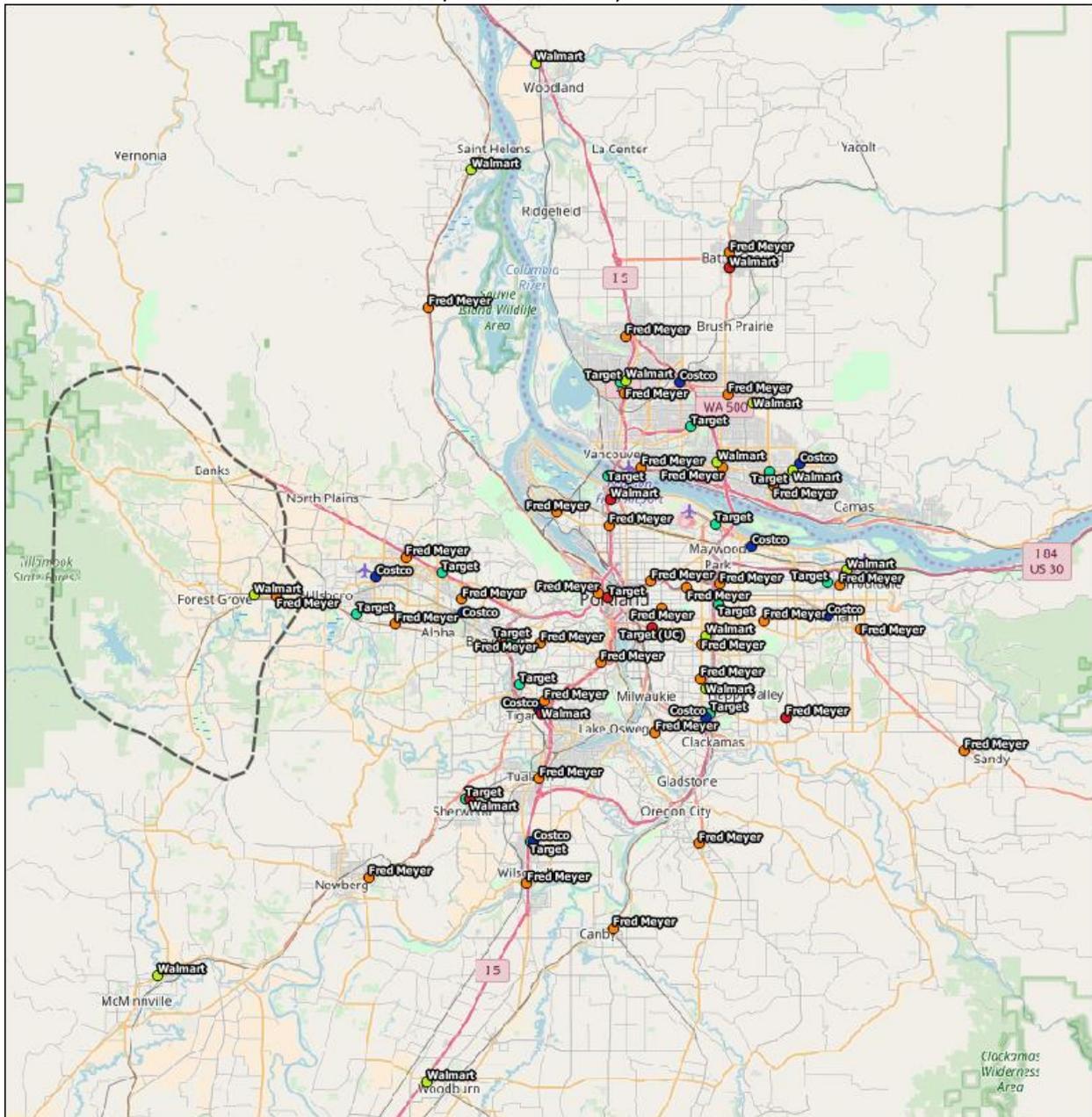
SOURCE: U.S. Census Bureau, OpenStreetMap, JOHNSON ECONOMICS



SUPERSTORES AND WAREHOUSE STORES

With their large stores and selection of products that are purchased less often than on a weekly basis (e.g., electronics, furniture), the stores in this category rely on larger population bases than traditional grocers, and thus tend to be found at freeway or major arterial nodes in larger communities. This is especially true of Costco, which depends heavily on planned destination shopping in the weekends rather than on impromptu stops on the way home from work. Fred Meyer, on the other hand, competes more closely with traditional neighborhood grocers, though its focus on the middle-income segment has prevented it from moving into peripheral communities dominated by low-income households, as Walmart has done in Cornelius, McMinnville, Saint Helens, and Woodland. Target is in the process of expanding its grocery offering, to better compete with Walmart and make up for the loss to online retailers in the non-grocery segment. It is currently building a smaller concept store on Powell Boulevard in Southeast Portland.

FIGURE 4.10: SUPER/WAREHOUSE STORES, PORTLAND METRO AREA



SOURCE: OpenStreetMap, JOHNSON ECONOMICS



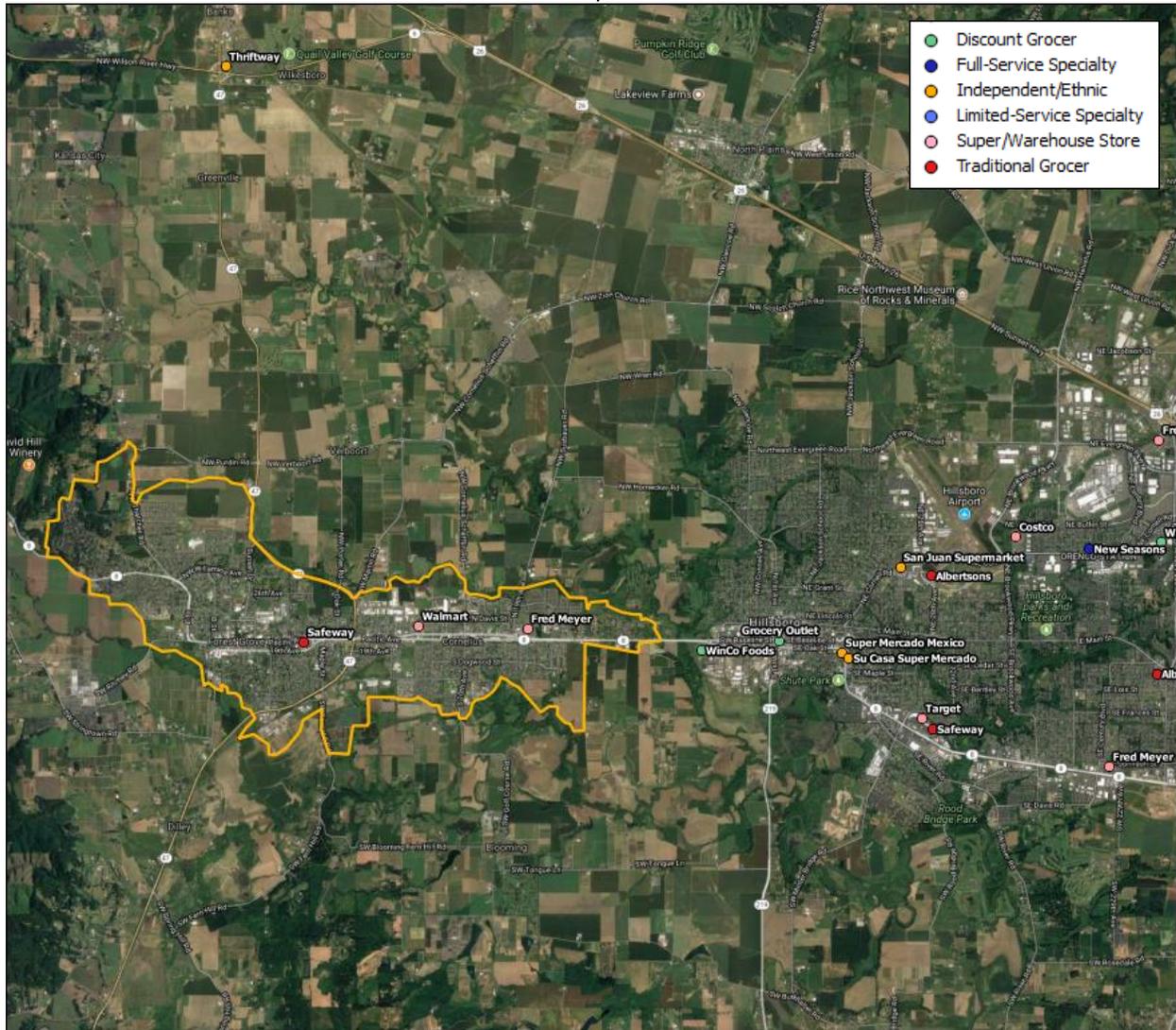
FOREST GROVE-CORNELIUS

FOREST GROVE-CORNELIUS GROCERY LOCATIONS

There are three grocery stores within Forest Grove-Cornelius (FG-C), including two superstores. The only traditional grocer in the area is a Safeway store along Pacific Avenue in Forest Grove. The two superstores are Walmart and Fred Meyer, both located along TV Highway in Cornelius, with the Walmart store just at the border to Forest Grove. All three stores are heavily dependent on weekday afternoon shopping. The two superstores have locations north of TV Highway, with easy right-turn access for afternoon commuters returning to Forest Grove from work in Hillsboro or other areas to the east. In addition to capturing commuter shopping, these stores also attract non-commuting customers from the western portion of Hillsboro as well as Forest Grove and Cornelius. The Safeway store, on the other hand, primarily serves Forest Grove.

Other grocery formats are represented to the east of the FG-C area in Hillsboro, including discount grocers and ethnic stores located along the TV Highway commute path, less than five miles from Forest Grove. Residents in the FG-C also have access to a Costco store and a New Seasons market east of the Airport on Cornell Road, roughly eight miles from Forest Grove.

FIGURE 4.11: GROCERY STORES, WEST WASHINGTON COUNTY



SOURCE: Google Maps, OpenStreetMap, JOHNSON ECONOMICS



FOREST GROVE-CORNELIUS AND COMPARABLE MARKETS

With only one grocery store, and a population of 23,000 and a household count of 7,800, Forest Grove currently appears to be underserved in terms of grocery stores. If we look at the FG-C area (which includes the jurisdictions of Forest Grove and Cornelius), the market still has few stores relative to the population, compared to other peripheral communities around the Portland Metro Area. The following analysis provides a comparison of Forest Grove and the FG-C to seven other cities in the region that are comparable in terms of size and peripheral location. The analysis includes metrics for income, race/ethnicity, and educational attainment as well as population and household counts.

FIGURE 4.12: COMPARISON OF GROCERY SERVICE IN PERIPHERAL PORTLAND METRO COMMUNITIES

	Forest Grove	FG-C	McMinnville	Newberg	Canby	Oregon City	Sandy	Washougal	Battle Ground
Population	23,214	35,455	33,724	22,749	17,218	35,057	10,369	14,987	18,987
Households	7,827	11,193	11,992	7,764	6,216	12,767	3,862	5,296	6,132
Median Income	\$49,857	\$52,432	\$47,460	\$53,075	\$62,035	\$65,548	\$61,687	\$70,943	\$60,644
Minority %	31%	41%	28%	20%	25%	14%	13%	14%	13%
BS Degree+ %	23%	20%	22%	28%	27%	24%	20%	25%	21%
Grocery stores	Safeway	Safeway Fred Meyer Walmart	Safeway Albertsons Walmart Roth's WinCo Grocery Outlet Independent	Safeway Fred Meyer Grocery Outlet	Safeway Fred Meyer Independent	Safeway Albertsons Fred Meyer Grocery Outlet	Safeway Fred Meyer Grocery Outlet	Safeway	Safeway Albertsons Fred Meyer Walmart Independent
Pop. per Store	23,214	11,818	4,818	7,583	5,739	8,764	3,456	14,987	3,797
HHS. per Store	7,827	3,731	1,713	2,588	2,072	3,192	1,287	5,296	1,226

SOURCE: Google Maps, OpenStreetMap, JOHNSON ECONOMICS

Of the cities included above, McMinnville is the most similar to the FG-C in terms of size and demographic profile, but totals seven grocery stores within city limits. However, McMinnville is surrounded by a greater number of smaller towns without grocery service and is further from other larger cities. Thus, it serves as a gravitational center for grocery shopping, attracting shoppers from outside the city, and experiencing limited spending to other markets. Sandy and Battle Ground represent somewhat similar situations in this respect, and offer relatively many grocery stores compared to their population.

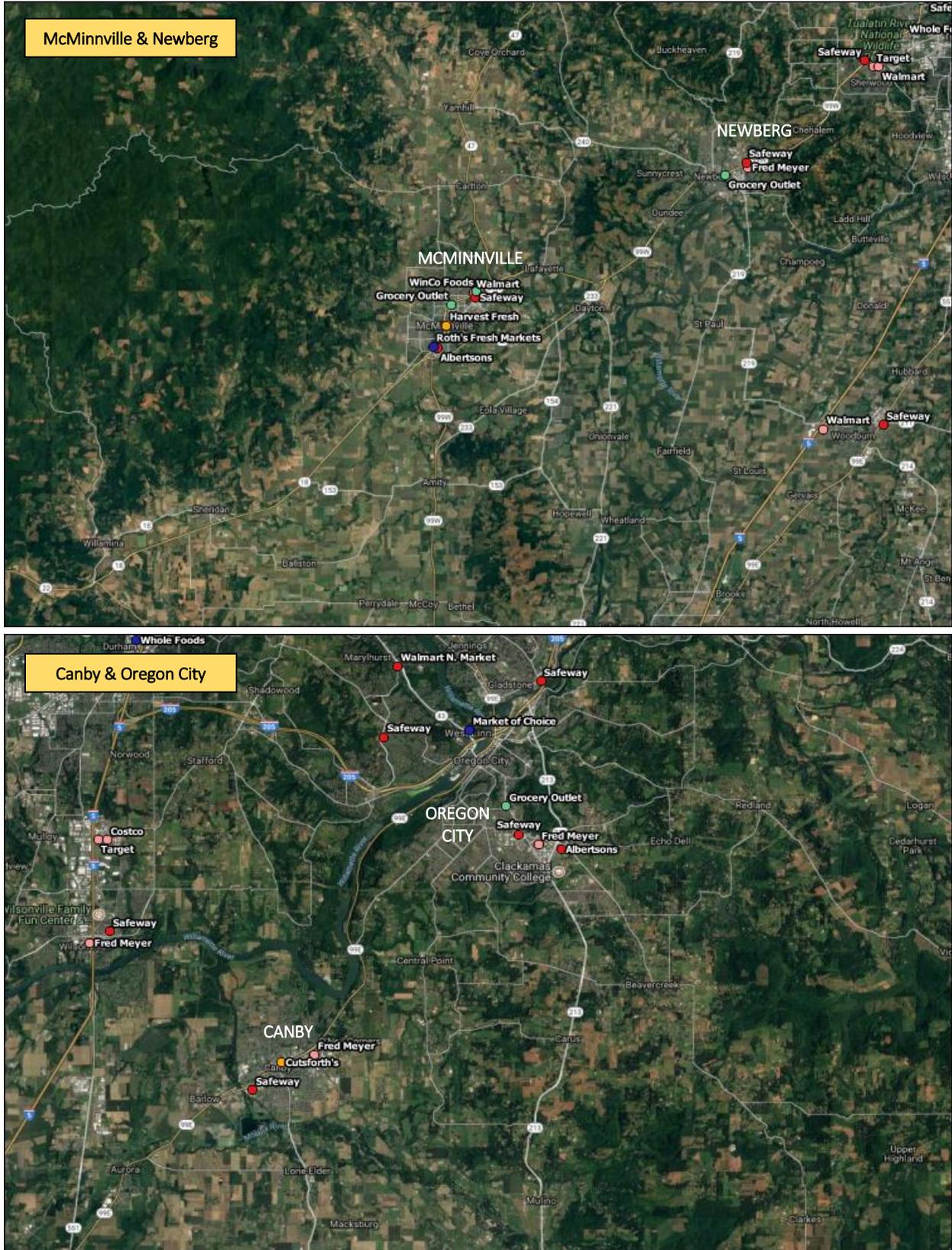
Washougal, Washington is an example of the opposite pattern – a satellite community experiencing relatively high spending leakage due to the gravitational pull of its larger neighbors, Camas and Vancouver. This is more similar to the FG-C area. Washougal is the only city in the above analysis with a greater population per grocery store than the FG-C.

The FG-C definition is smaller than the larger GTA for a site in Forest Grove, but was used for this comparison as data is more readily available at the jurisdictional level. The GTA for Forest Grove would include outlying communities such as Gaston and Banks, while one for Newberg would include communities such as Dundee.

Maps of the markets included in this analysis are included over the following pages.



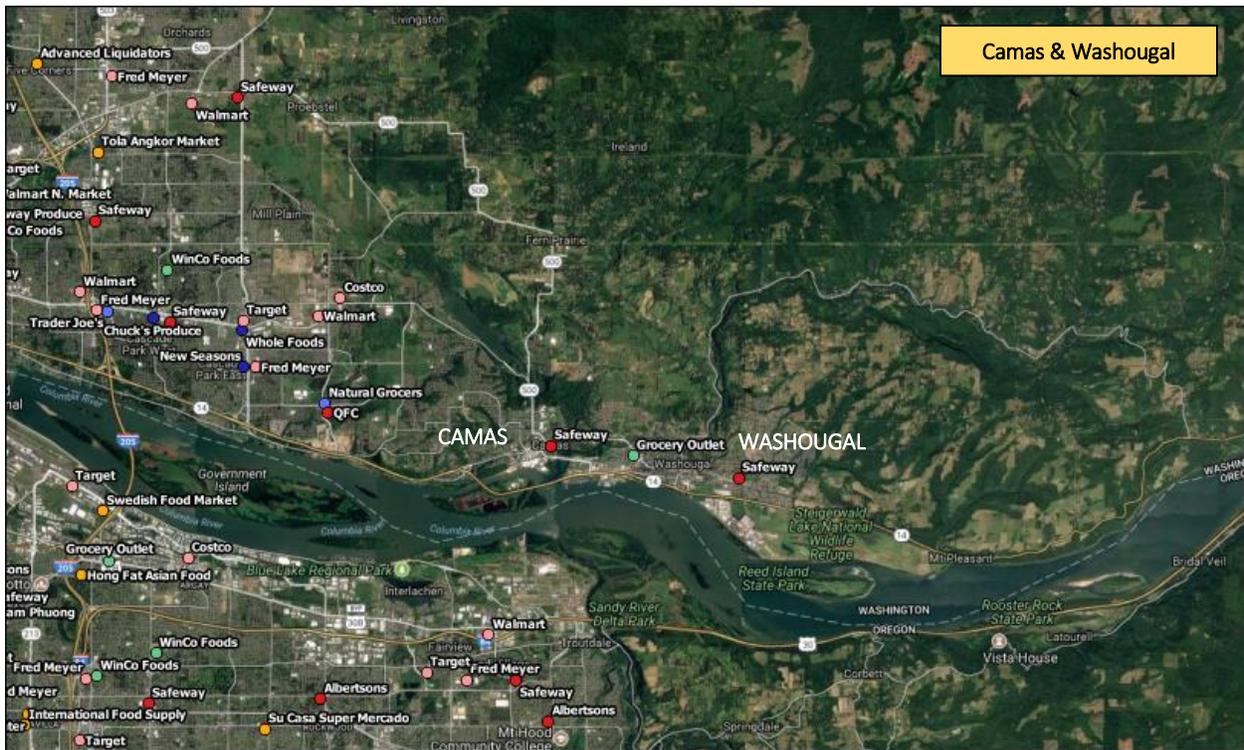
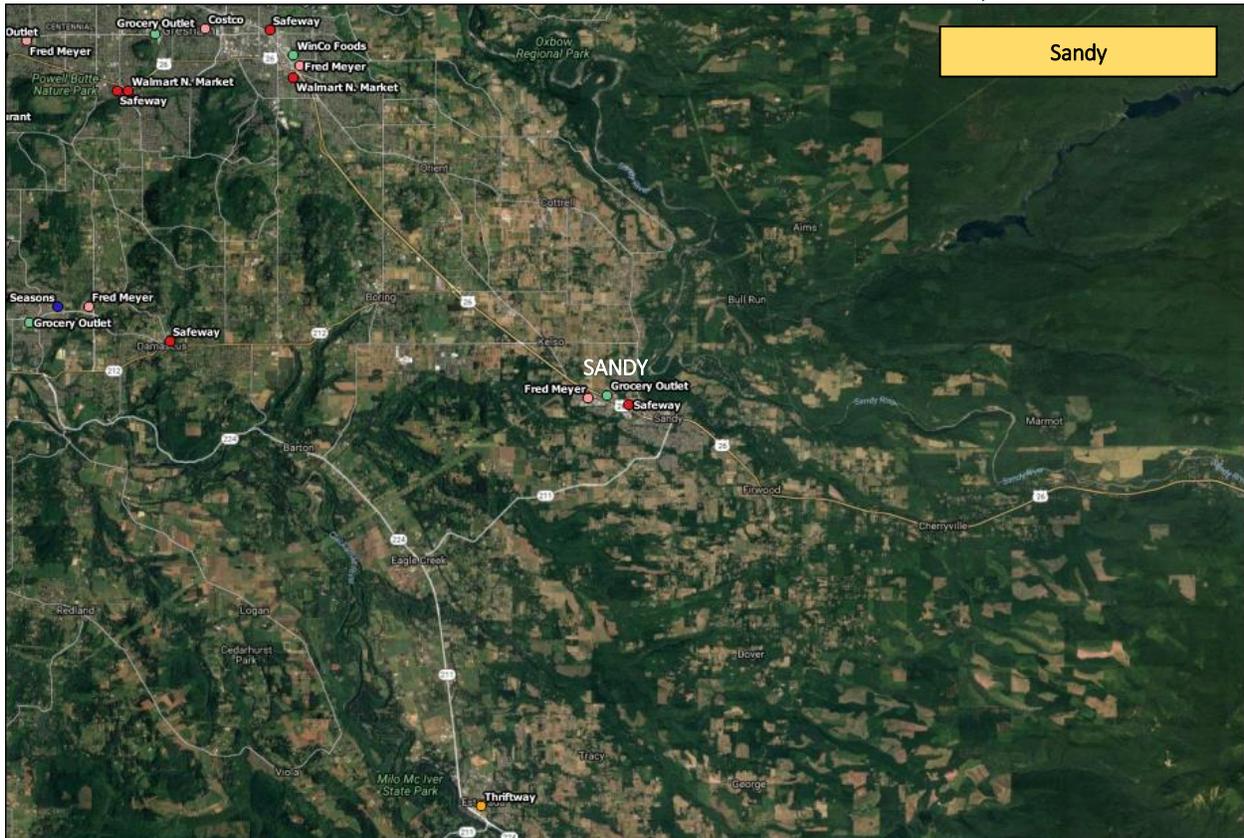
FIGURE 4.13: MAPS OF PERIPHERAL GROCERY MARKETS IN THE PORTLAND METRO AREA



SOURCE: Google Maps, OpenStreetMap, JOHNSON ECONOMICS



FIGURE 4.14: MAPS OF PERIPHERAL GROCERY MARKETS IN THE PORTLAND METRO AREA, CONT.



SOURCE: Google Maps, OpenStreetMap, JOHNSON ECONOMICS



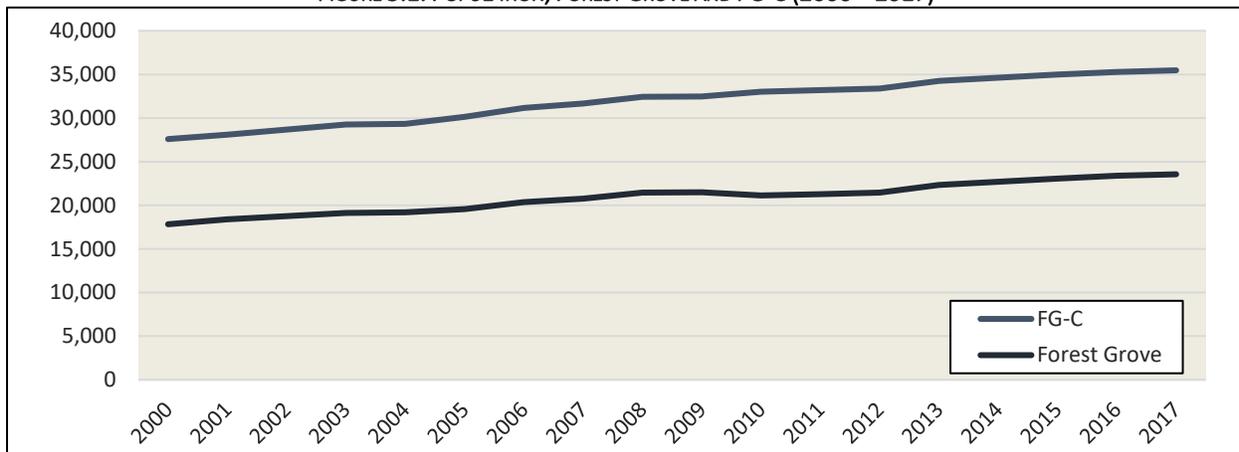
V. SOCIO-ECONOMIC CONDITIONS

POPULATION & HOUSEHOLDS

POPULATION

The Forest Grove population has grown from 17,800 to 23,600 since the turn of the millennium, according to estimates from the PSU Population Research Center. This increase of nearly 6,000 people represents an annual growth rate of 1.7%. The growth in Cornelius was somewhat lower, averaging 1.2% annually. In total, the Forest Grove-Cornelius area grew from 27,600 to 35,500 over this period, averaging an increase of 460 or 1.5% per year.

FIGURE 5.1: POPULATION, FOREST GROVE AND FG-C (2000 – 2017)

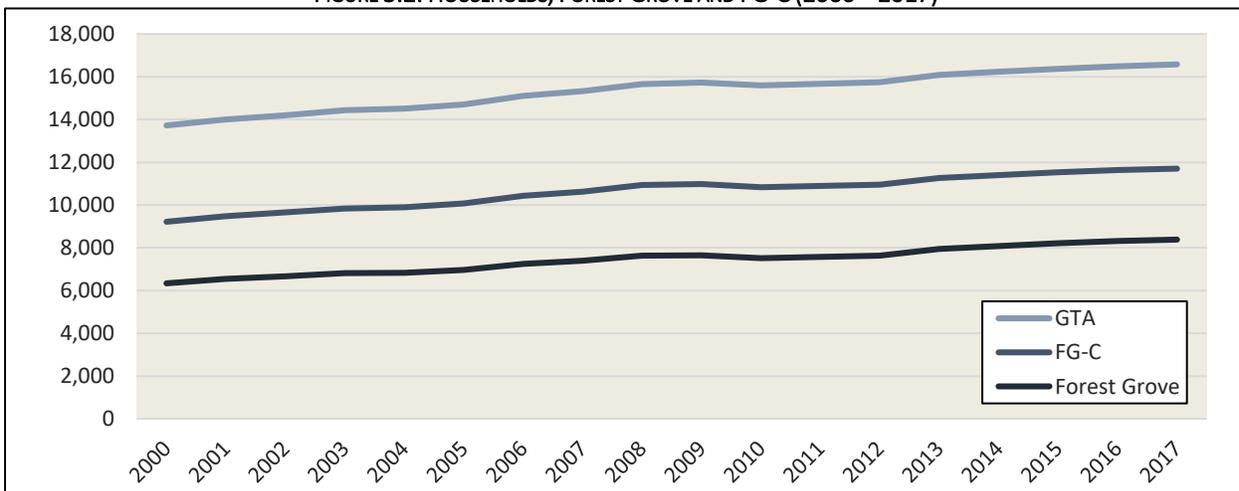


SOURCE: PSU Population Research Center, JOHNSON ECONOMICS

HOUSEHOLDS

The household count in Forest Grove grew from 6,300 to an estimated 8,400 between 2000 and 2017, while the FG-C grew from 9,200 to 11,700, reflecting the same annual rates as population growth. The average household size has remained at 2.81 in Forest Grove during this period, while it has increased modestly in the FG-C, from 2.99 to 3.03. We also include estimates for the Grocery Trade Area (GTA), based on 2016 census data and a GIS analysis of residential construction. This area currently totals an estimated 16,600 households, with 4,900 households outside the FG-C. The rural portion has grown by 370 units since 2000, averaging growth of 22 units (0.4%) per year.

FIGURE 5.2: HOUSEHOLDS, FOREST GROVE AND FG-C (2000 – 2017)



SOURCE: PSU Population Research Center, U.S. Census Bureau, JOHNSON ECONOMICS



EMPLOYMENT & COMMUTING

EMPLOYMENT

Employment data on the city level is only available from 2002 to 2015. For Forest Grove, this was a period of very moderate growth, with a gain of 200 primary jobs (0.2% per year on average), growing from 6,600 to 6,800. The growth was stronger in Cornelius, which added roughly 600 jobs over this period (1.4% per year). The FG-C grew its employment base from 8,600 to 9,200 over this period, averaging an annual growth rate of 0.5%. A comparison of this job growth to household growth indicates that the FG-C has become more of a bedroom community since 2000.

COMMUTE PATTERNS

According to the Census Bureau, the percent of working FG-C residents who were employed outside the FG-C increased from 76% to 81% between 2002 and 2015. Within Forest Grove, the increase was slightly greater, from 77% to 83%, with commuters to Portland accounting for much of the growth. The implication for the grocery market is that with a greater share of the working population commuting to other areas, the potential for leaking grocery spending out of the market is also greater.

Among Forest Grove workers commuting to work outside the city, 60% commute to destinations in Washington County, including 4% to Cornelius and 27% to Hillsboro. 20% commute to Multnomah County, including 18% to Portland. The following table shows changes to the commute pattern in Forest Grove between 2002 and 2015.

FIGURE 5.3: COMMUTE PATTERNS, FOREST GROVE (2002 – 2015)

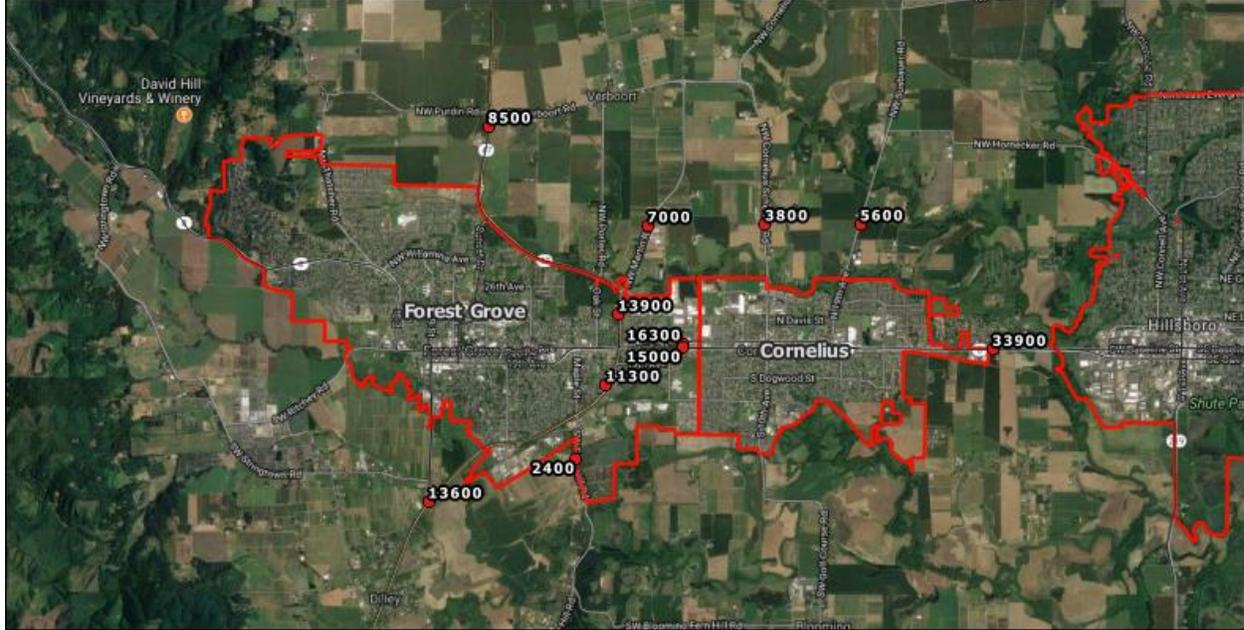
	WORKERS			PERCENT		
	2002	2015	Change	2002	2015	Change
Forest Grove resident workers	7,772	9,612	1,840	100%	100%	0%
working within Forest Grove	1,806	1,653	-153	23%	17%	-6%
commuting out of Forest Grove	5,966	7,959	1,993	77%	83%	6%
Non-residents commuting to Forest G.	4,751	5,100	349	100%	100%	0%
Forest Grove workers commuting out	5,966	7,959	1,993	100%	100%	0%
Washington County (excl. Forest G.)	3,991	4,777	786	67%	60%	-7%
Hillsboro	1,837	2,187	350	31%	27%	-3%
Beaverton	576	650	74	10%	8%	-1%
Cornelius	334	323	-11	6%	4%	-2%
Tigard	164	297	133	3%	4%	1%
Multnomah County	1,077	1,595	518	18%	20%	2%
Portland	937	1,458	521	16%	18%	3%
Clackamas County	298	418	120	5%	5%	0%
Marion County	138	265	127	2%	3%	1%
Yamhill County	117	237	120	2%	3%	1%
Other, incl. tele/virtual commuters	345	667	322	6%	8%	3%

SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS

The main commute destinations are located directly east of Forest Grove. These areas are primarily accessed via TV Highway and Sunset Highway. With Portland and Hillsboro (mostly North Hillsboro) accounting for much of the increase in commuting in recent years, it appears that strongest increase in traffic volumes have taken place on the north side of Forest Grove, connecting the city to the Sunset Highway. Traffic counts from 2015 provide an indication of the commute flow (next page).



FIGURE 5.4: AVERAGE DAILY TRAFFIC VOLUME ALONG MAJOR COMMUTE PATHS (2015)

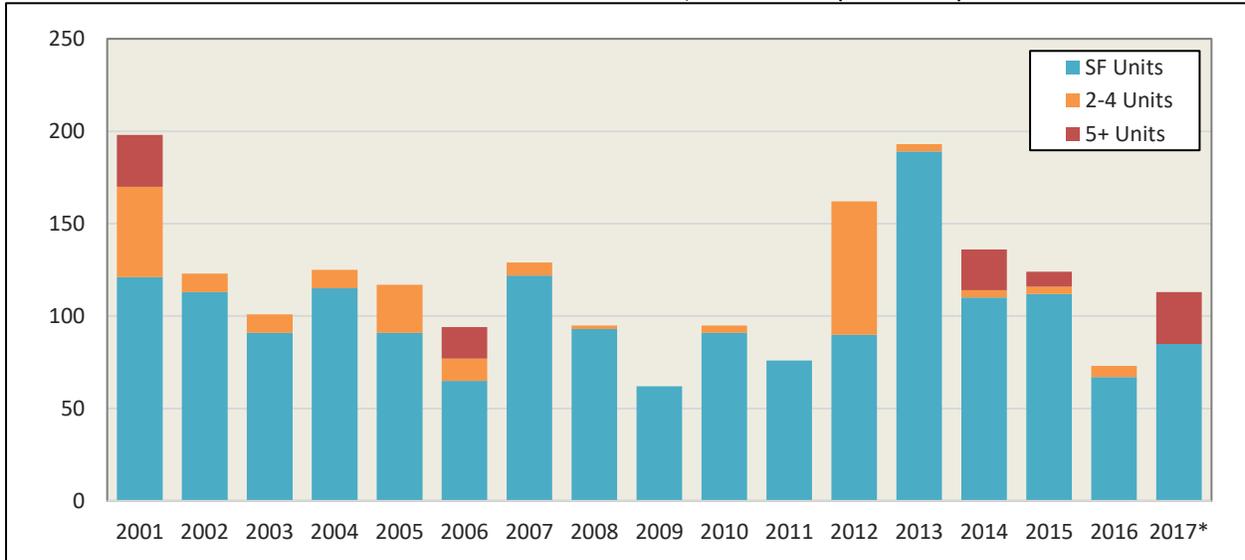


SOURCE: ODOT, JOHNSON ECONOMICS

RESIDENTIAL DEVELOPMENT

Residential construction in Forest Grove has ranged between 73 and 193 units per year over the past five years, averaging 130 units. This is in line with the construction pace prior to the mid-2000s foreclosure crisis, which reduced the construction pace to below 100 units per year on average. As in the remainder of the Metro Area, duplex and townhome construction has been very limited in recent years, while multifamily construction has increased, compared to the pre-recession pattern.

FIGURE 5.5: RESIDENTIAL BUILDING PERMITS, FOREST GROVE (2001-2017)



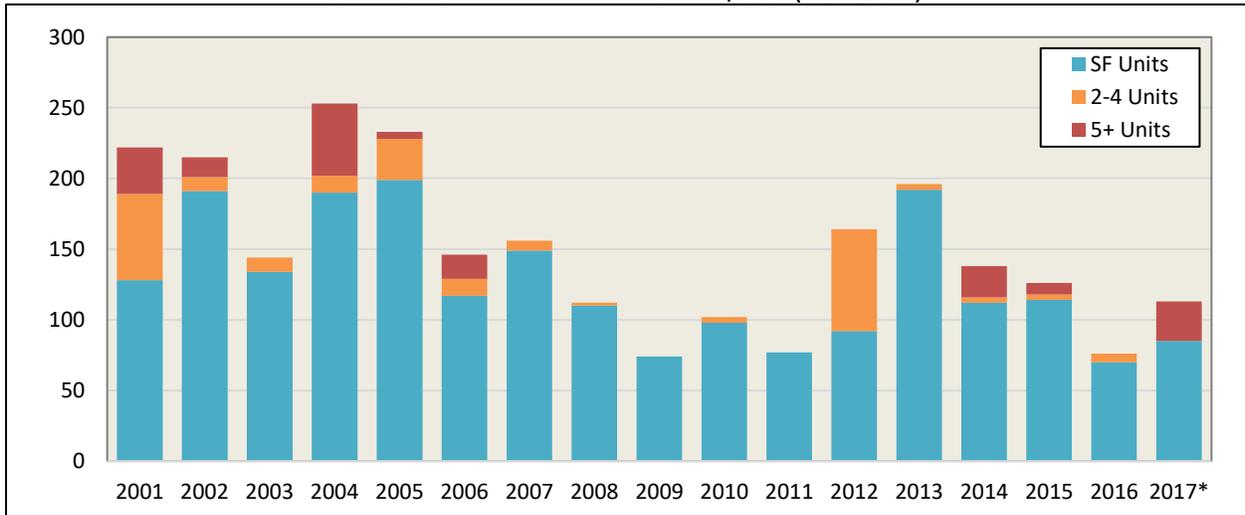
* Full-year estimate based on permits through October 2017 compared to monthly permits in 2016.

SOURCE: U.S. Census Bureau/HUD, JOHNSON ECONOMICS



Unlike in Forest Grove, Cornelius has had very little new residential construction since the mid-2000s, averaging only 11 new homes per year since 2005 and three new homes per year since 2010. The 128 homes built in Cornelius since 2005 are exclusively single-family homes. For the FG-C as a whole, housing production therefore remains well below the early 2000s.

FIGURE 5.6: RESIDENTIAL BUILDING PERMITS, FG-C (2001-2017)

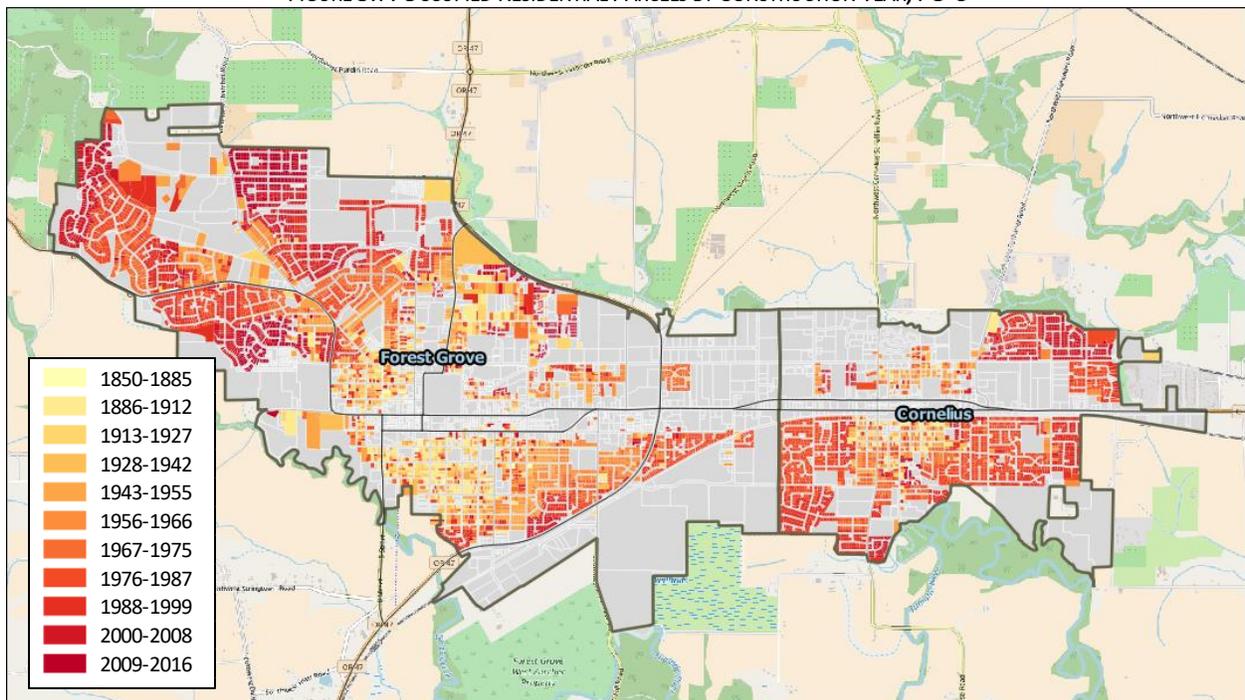


* Full-year estimate based on permits through October 2017 compared to monthly permits in 2016.

SOURCE: U.S. Census Bureau/HUD, JOHNSON ECONOMICS

The following map displays occupied residential parcels in Forest Grove and Cornelius by construction year, with the darkest red indicating construction within the past ten years. As indicated by the map, development in Forest Grove has been moving to the northwest, while development in Cornelius has moved south and northeast.

FIGURE 5.7: OCCUPIED RESIDENTIAL PARCELS BY CONSTRUCTION YEAR, FG-C

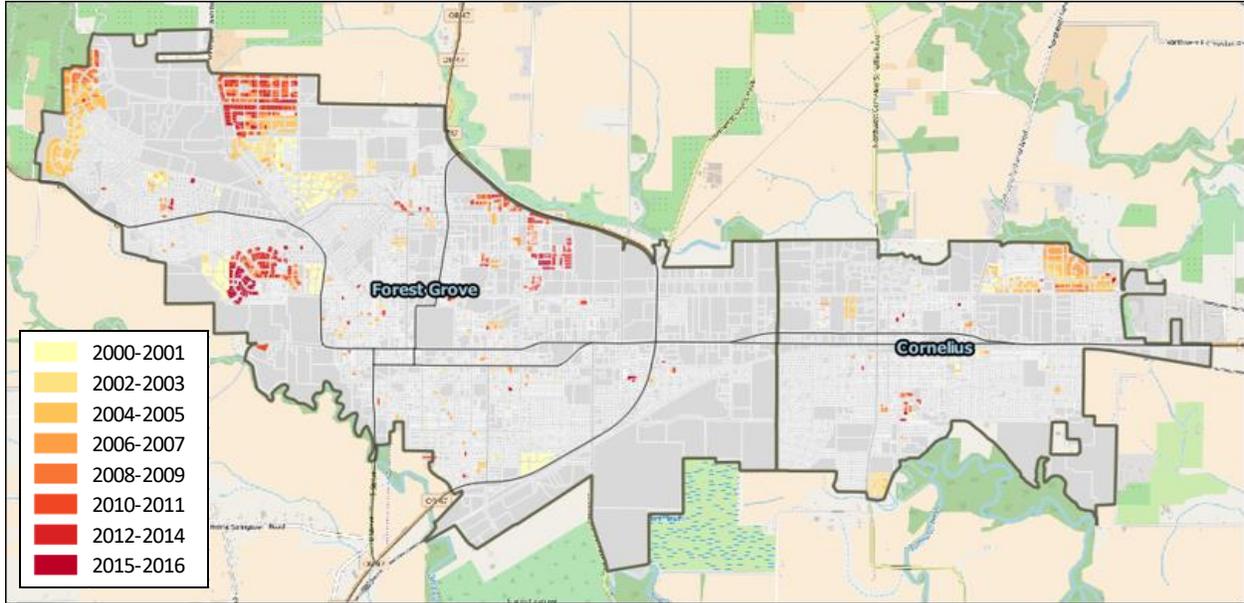


SOURCE: Metro, OpenStreetMap, JOHNSON ECONOMICS



The following map identifies recent growth areas by displaying locations of homes built between 2000 (light yellow) and 2017 (dark red). Data from New Home Trends indicates that nearly 75% of the development has taken place in subdivisions or multifamily projects with five or more units, while smaller infill development accounts for the rest.

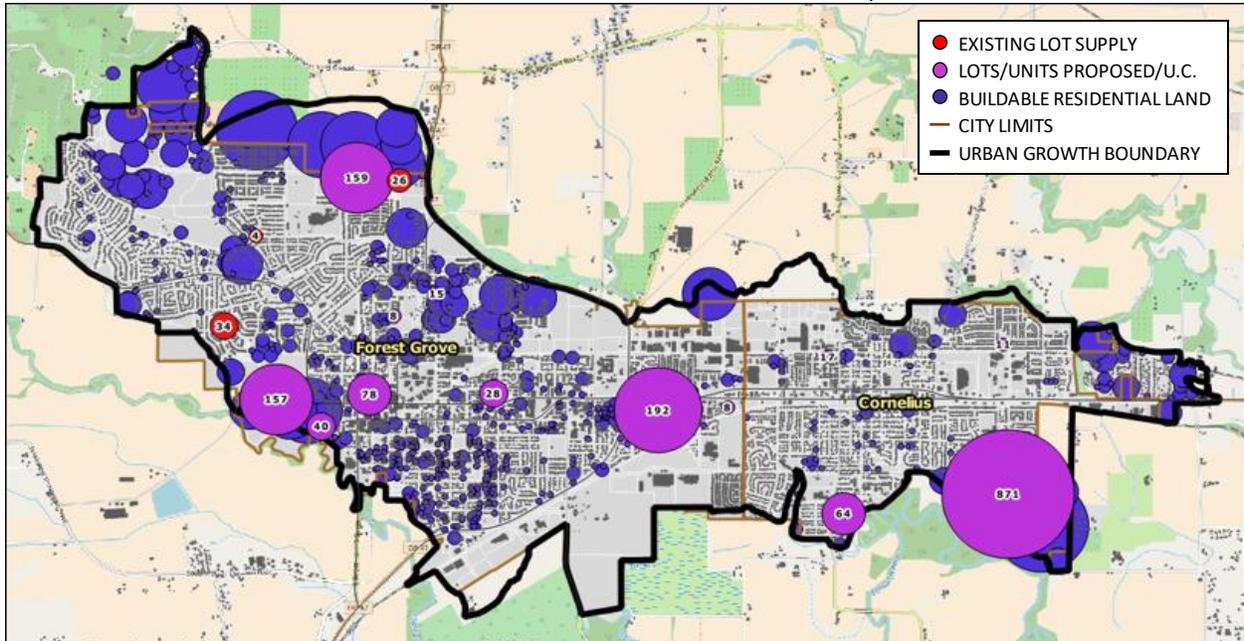
FIGURE 5.8: OCCUPIED RESIDENTIAL PARCELS BUILT 2000-2017, BY CONSTRUCTION YEAR, FG-C



SOURCE: Metro, OpenStreetMap, JOHNSON ECONOMICS

The map below indicates potential future growth areas, by displaying existing lot supply, developments in the pipeline, and potential future residential capacity. The latter, indicated by dark purple fill, represents buildable land (including infill capacity) identified in Metro’s 2014 Urban Growth Report. However, parcels appearing unlikely to be redeveloped based on a visual analysis of satellite images have been removed, and “grand bargain” areas have been added.

FIGURE 5.9: POTENTIAL FUTURE RESIDENTIAL GROWTH AREAS, FG-C



SOURCE: Metro, OpenStreetMap, JOHNSON ECONOMICS



Our analysis did not evaluate projected growth in rural areas to the west and south, as these areas are not expected to see significant growth and limited information is available. There has been discussion of new subdivision activity in Gaston, but there has been no recent progress on that project.

INCOME

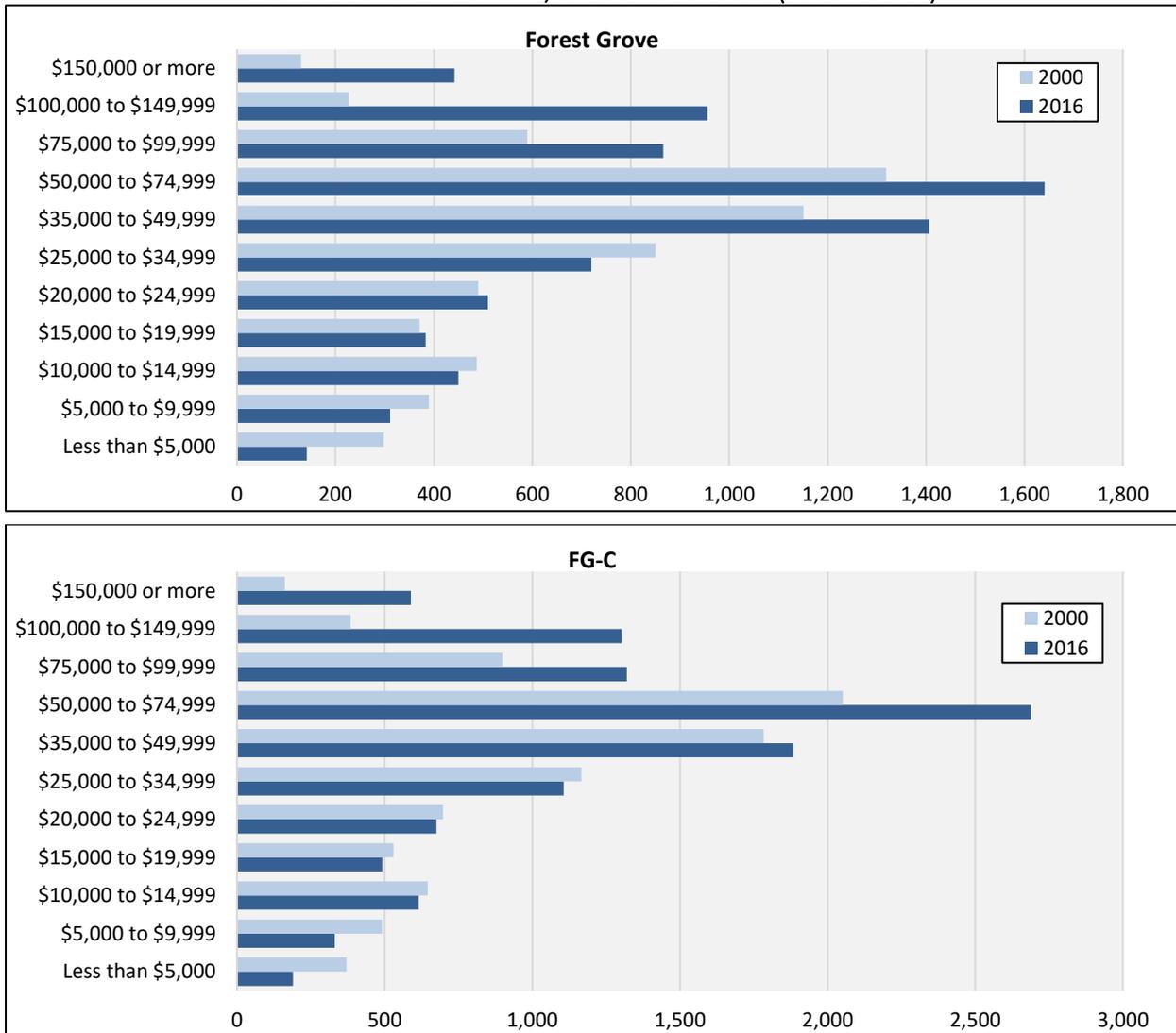
Between 2000 and 2016, the median income level increased from \$38,100 to \$49,900 in Forest Grove, and from \$40,100 to \$52,400 in the FG-C, according to the Census Bureau. Within both geographies, the increase represents a gain of 31%, which is slightly lower than in the remainder of the nation (32%) and the Portland Metro region (34%). In the context of grocery siting, a median income level around \$50,000 is typically associated with discount grocers, traditional grocers, and superstores.

The distribution across income categories has shifted toward higher income brackets since 2000. While the number of low-income households has remained relatively stable, middle- and upper-income categories have seen strong growth. Forest Grove has added roughly 1,000 households with incomes above \$100,000 since 2000, accounting for two-thirds of the growth. The city currently has 3,900 households with incomes below \$50,000; 1,600 between \$50,000 and \$75,000; 3,900 above \$50,000; 2,300 above \$75,000; and 1,400 above \$100,000.

Ignoring commute-related spending leakage, these figures indicate adequate support for a smaller discount grocer like Grocery Outlet and a traditional grocer. The numbers also appear adequate for a larger discount store like WinCo or a superstore like Walmart or Fred Meyer. However, the figures indicate inadequate depth for a high-end or specialty grocer.



FIGURE 5.10: HOUSEHOLD INCOME, FOREST GROVE AND FG-C (2000 AND 2016)

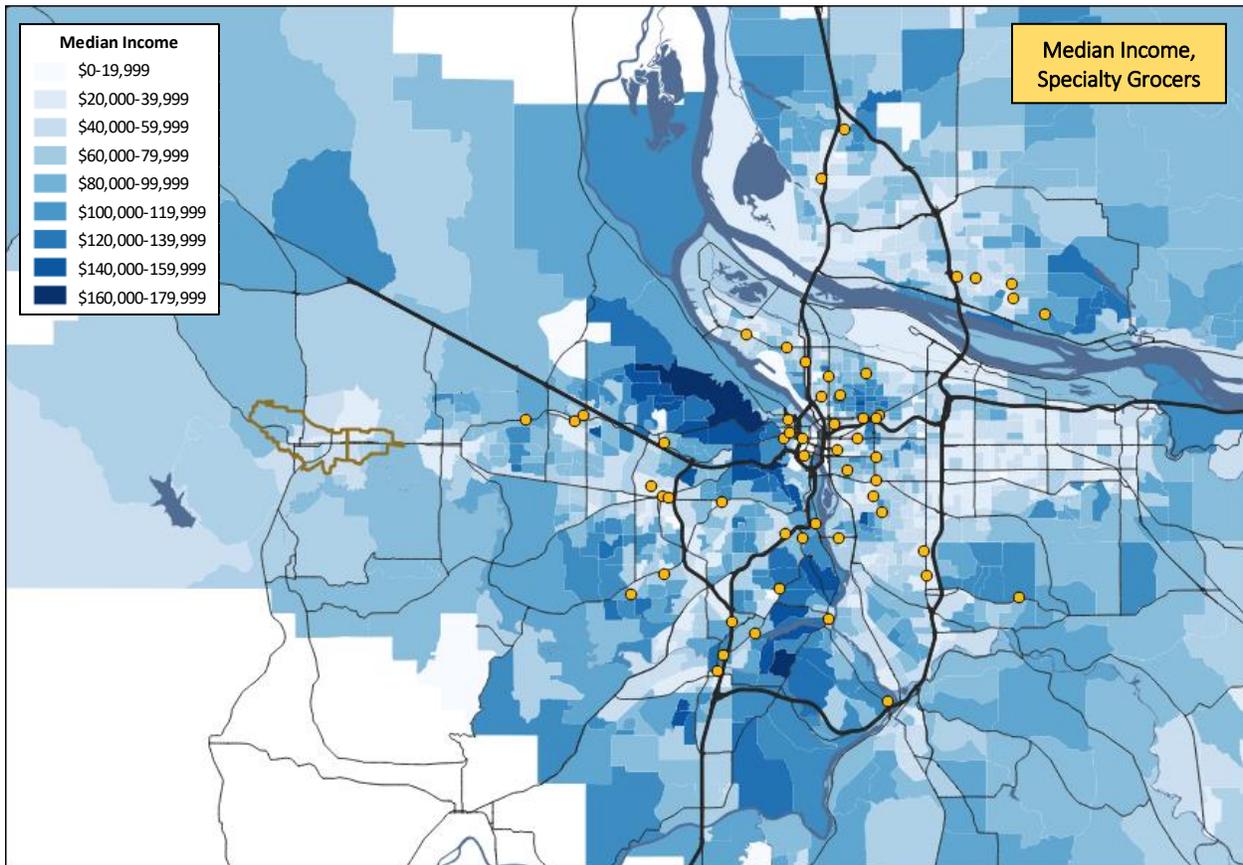
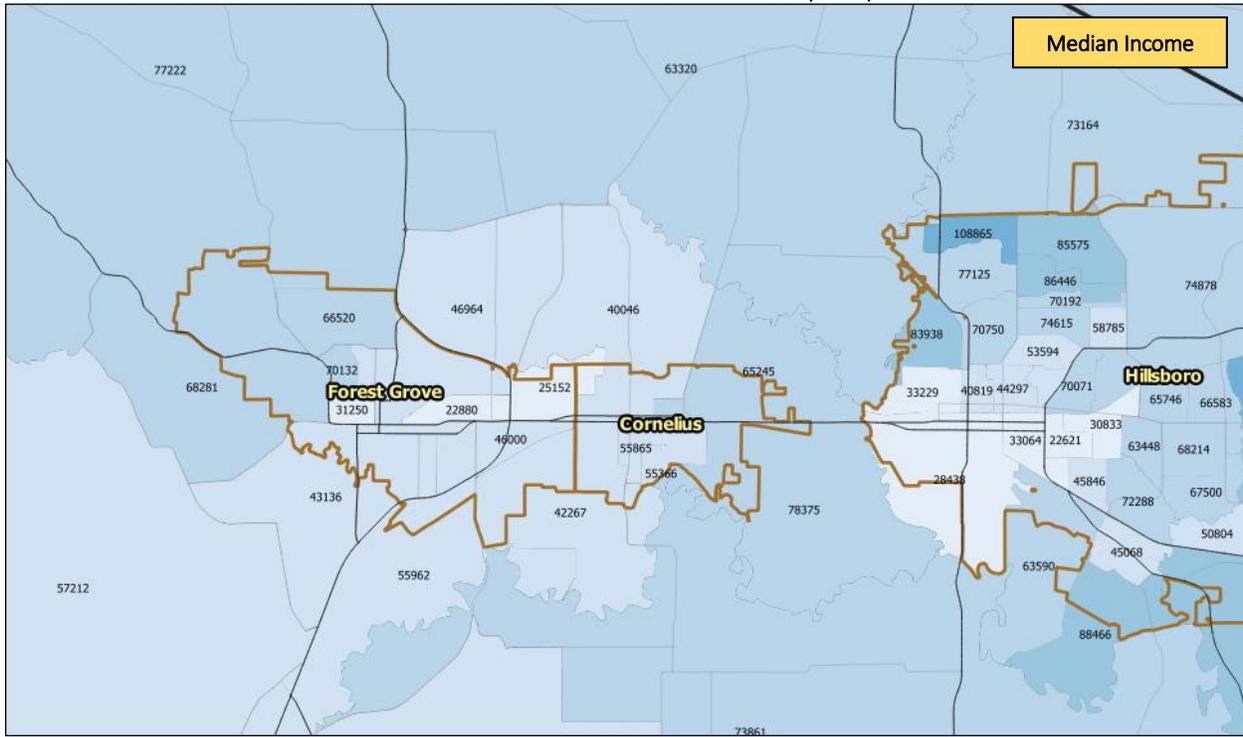


SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS

The highest income levels in Forest Grove are in the western portion, where most of the new single-family homes have been built. Median income levels in this area are in the \$65,000-70,000 range. This is an income level typically targeted by traditional grocers and superstores. Specialty grocers are sometimes found in such areas, provided education levels are high or the sites have good access to large populations and/or nearby high-income areas.



FIGURE 5.11: INCOME LEVELS BY BLOCK GROUP (2016)



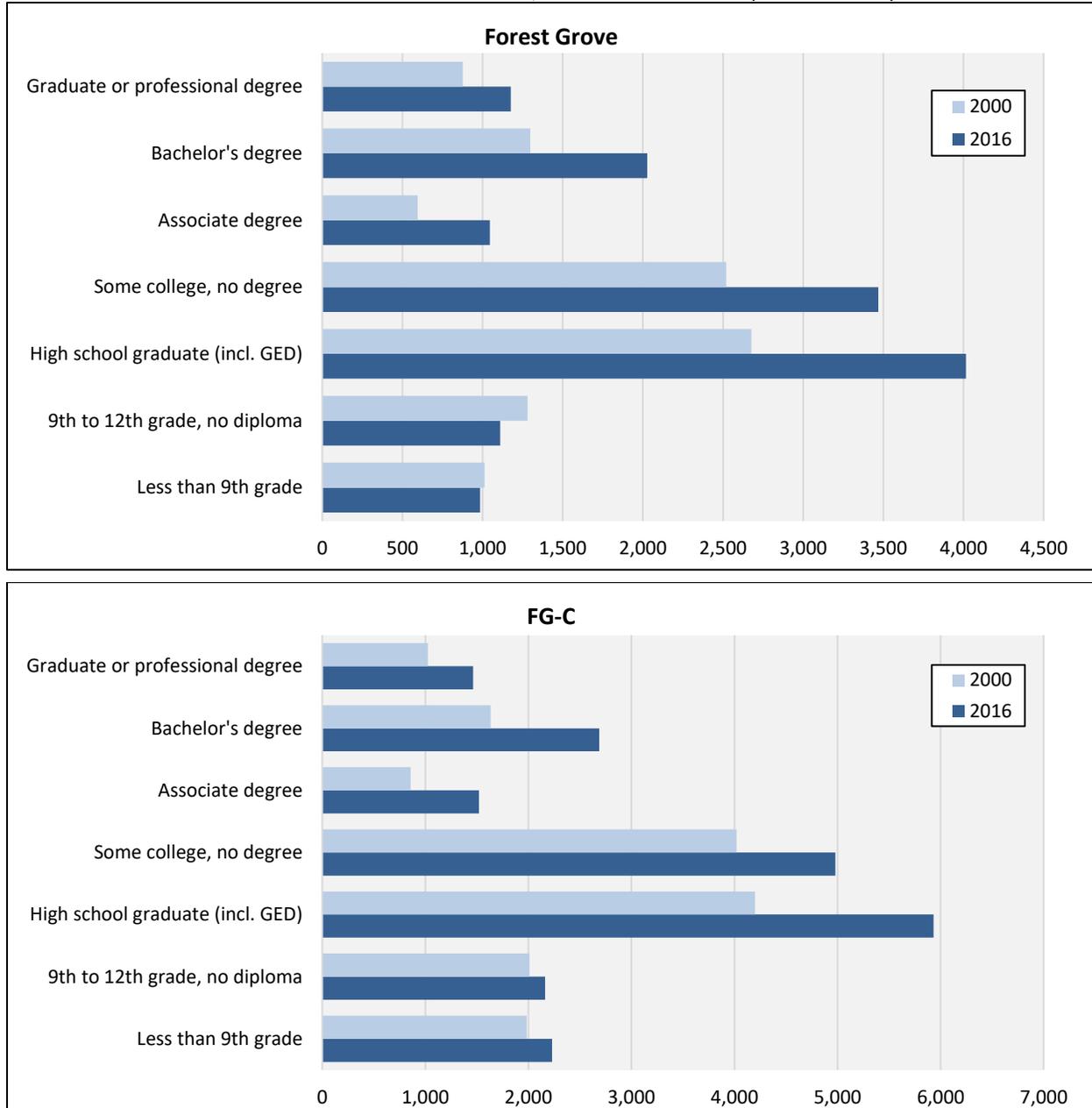
SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS



EDUCATION

The number of people with four or more years of college education increased from 2,200 to 3,200 between 2000 and 2016 in Forest Grove, increasing the percentage from 21% to 23% and accounting for 29% of the growth. In the FG-C, the number increased from 2,700 to 4,200 and from 17% to 20%, accounting for 28% of the growth. New Seasons typically targets areas where more than 50% hold a four-year degree, while some of the other specialty grocers will locate in areas with lower percentages so long as the sites represent access to larger populations. In this context, the FG-C population remains inadequate for specialty grocery chains currently represented in the Portland Metro Area.

FIGURE 5.12: EDUCATIONAL ATTAINMENT, FOREST GROVE AND FG-C (2000 AND 2016)

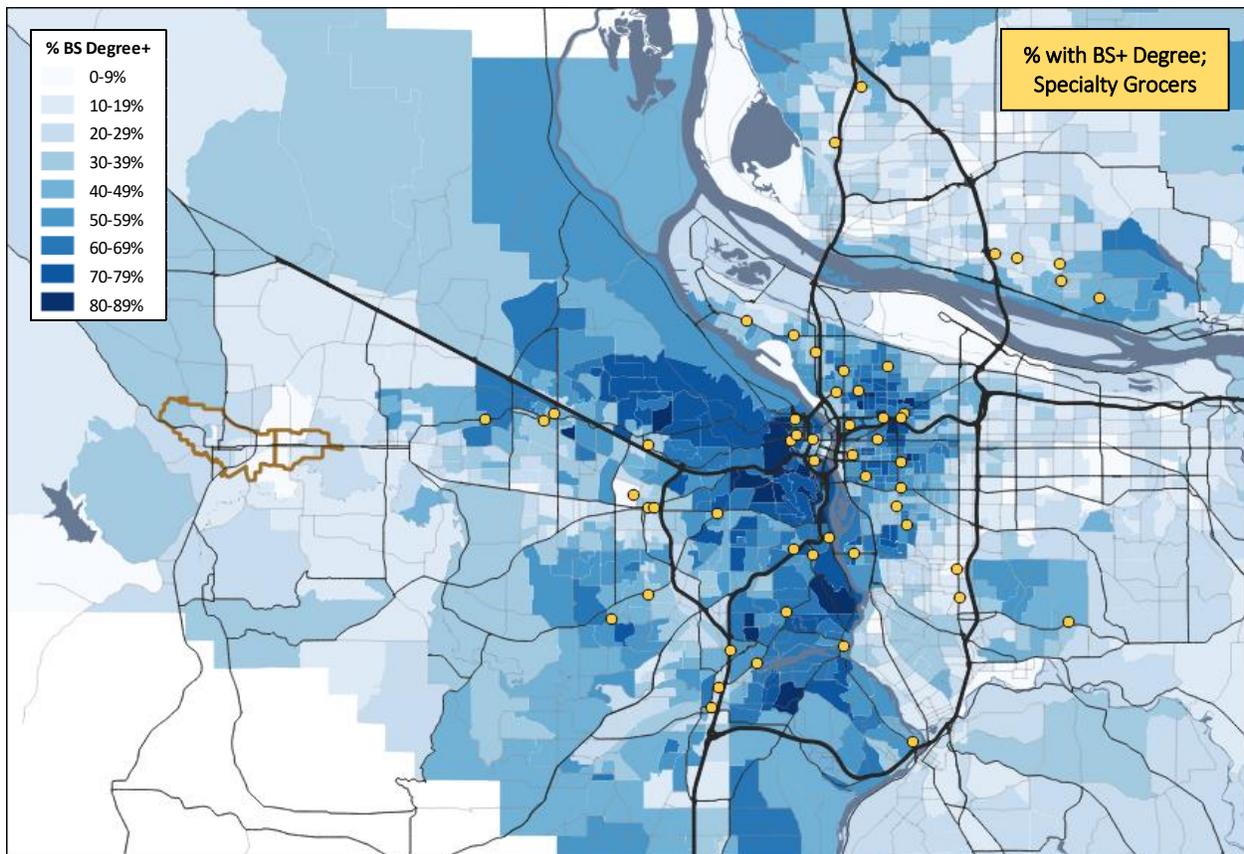
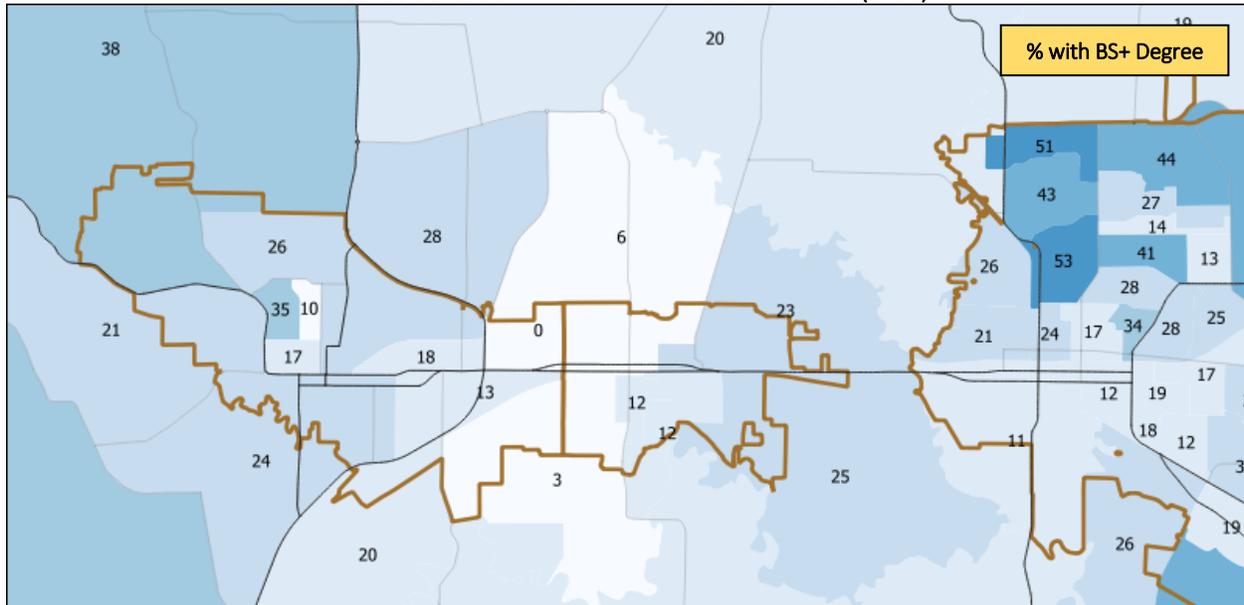


SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS



Education levels have a high correlation with income, and the western portion of Forest Grove thus exhibits the highest education levels. Still, with 20-40% of the population holding a four-year degree or more, these areas do not have the concentration of educated residents that specialty grocers typically look for. This is illustrated by the second map below, which displays the locations of specialty grocers in the Portland Metro Area in yellow.

FIGURE 5.13: EDUCATIONAL ATTAINMENT BY BLOCK GROUP (2016)



SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS



RACE & ETHNICITY

Forest Grove and FG-C have relatively large concentrations of Latino residents, and this segment of the population has grown faster than other ethnicities. Between 2000 and 2016, the Latino population grew from 3,100 to 5,200 (from 16 to 21%, accounting for 38% of the growth) in Forest Grove, and from 6,700 to 11,500 (23% to 31%, accounting from 60% of the growth) in FG-C. These figures suggest adequate support for an ethnic grocer.

FIGURE 5.14: RACE/ETHNICITY, FOREST GROVE AND FG-C (2000 AND 2016)

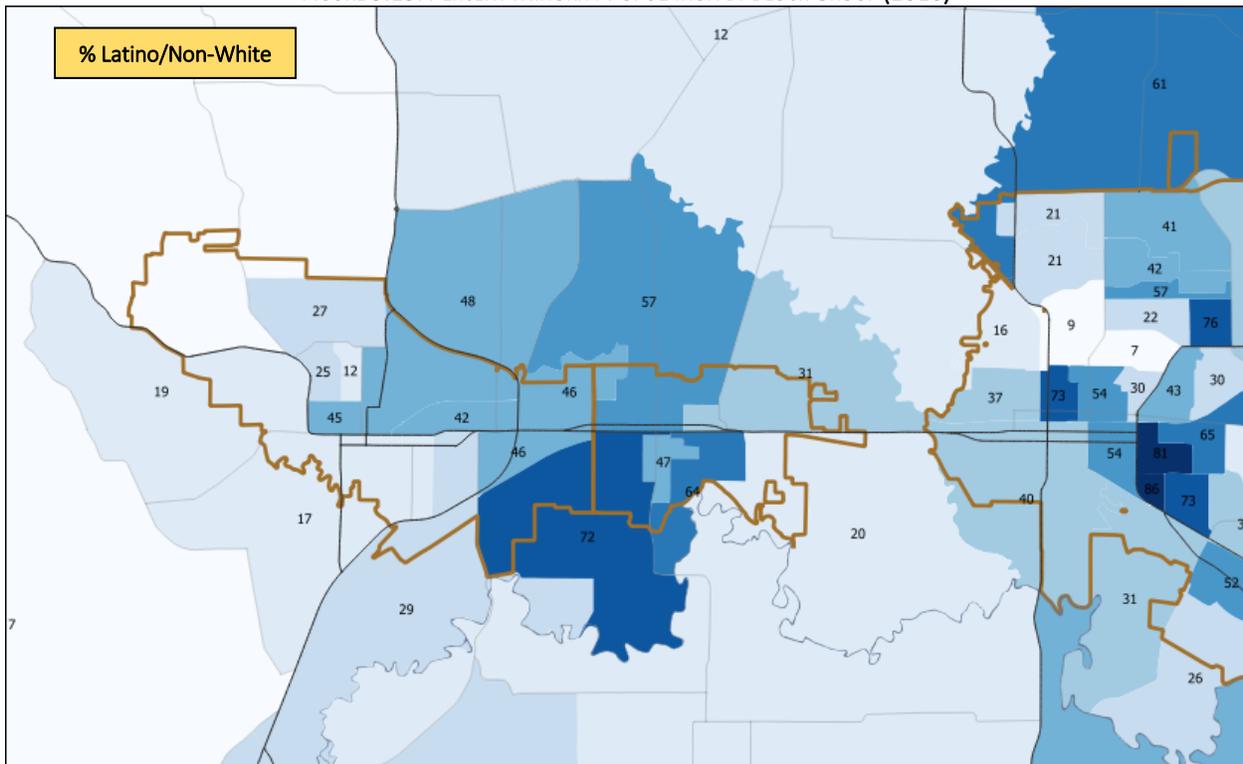
FOREST GROVE	2000	2016	Change	2000	2016	Change
White, not hispanic/latino	13,669	15,981	2,312	69%	63%	-6%
Hispanic/latino	3,065	5,176	2,111	16%	21%	5%
Other	974	2,057	1,083	5%	8%	3%
Total	19,708	25,230	5,522	100%	100%	0%

FG-C	2,000	2,016	Change	2000	2016	Change
White, not hispanic/latino	19,286	21,073	1,787	66%	56%	-9%
Hispanic/latino	6,674	11,501	4,827	23%	31%	8%
Other	1,400	2,881	1,481	5%	8%	3%
Total	29,360	37,471	8,111	100%	100%	0%

SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS

The following map displays the percentages for the minority population (Hispanic/Latino or Non-White) by block group, indicating minority concentrations in the eastern portion of Forest Grove and the western portion of Cornelius. This suggests potential for an ethnic grocer near the Forest Grove/Cornelius border.

FIGURE 5.15: PERCENT MINORITY POPULATION BY BLOCK GROUP (2016)

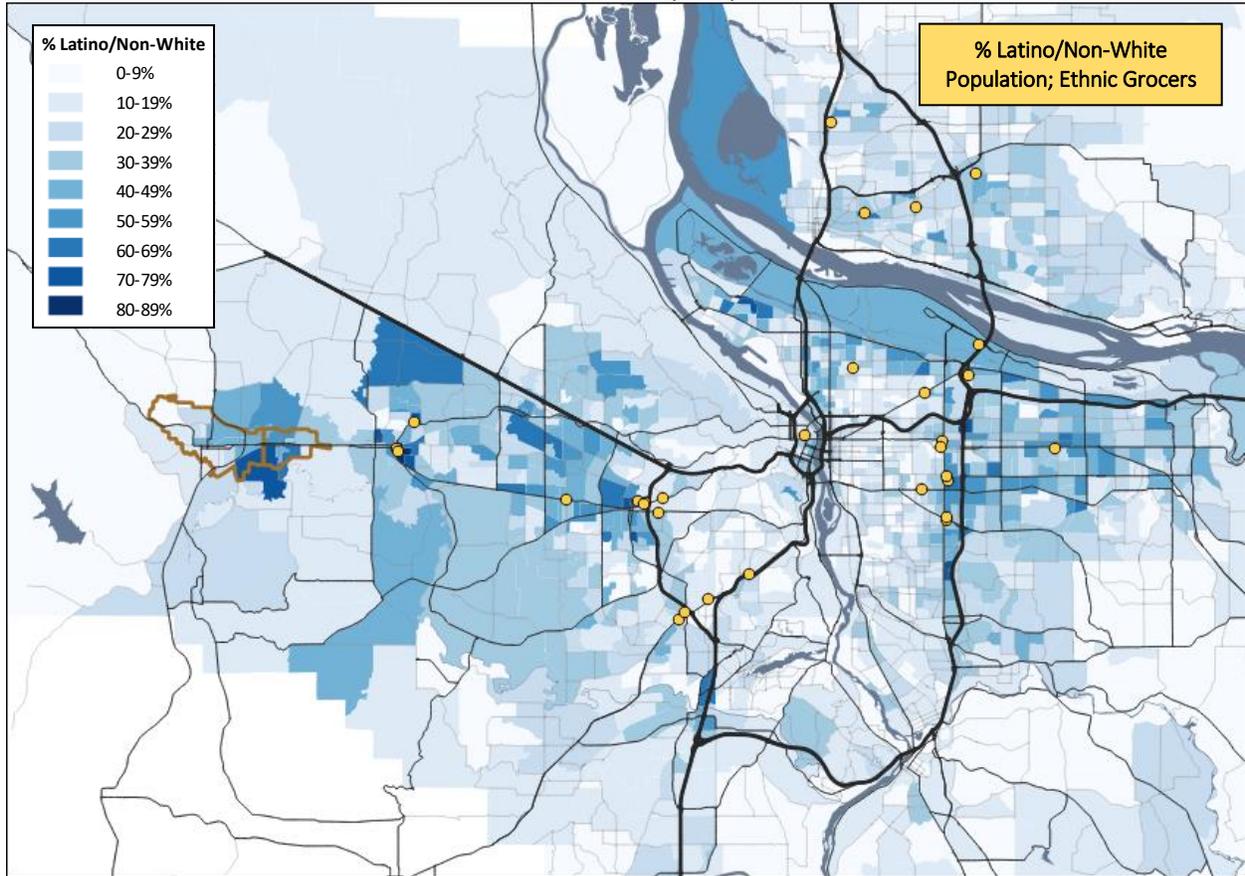


SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS



A comparison to other parts of the Portland Metro Area currently served by ethnic grocers corroborates the notion that the FG-C has an adequate Latino concentration to support a grocery store focused specifically on this market. However, Cornelius might be a more likely location than Forest Grove, given the larger Latino population in Cornelius and the east-to-west afternoon commute flow.

FIGURE 5.16: PERCENT MINORITY POPULATION (2016) AND ETHNIC GROCERY STORES



SOURCE: U.S. Census Bureau, JOHNSON ECONOMICS



VI. HOUSEHOLD GROWTH PROJECTIONS

HOUSEHOLD GROWTH

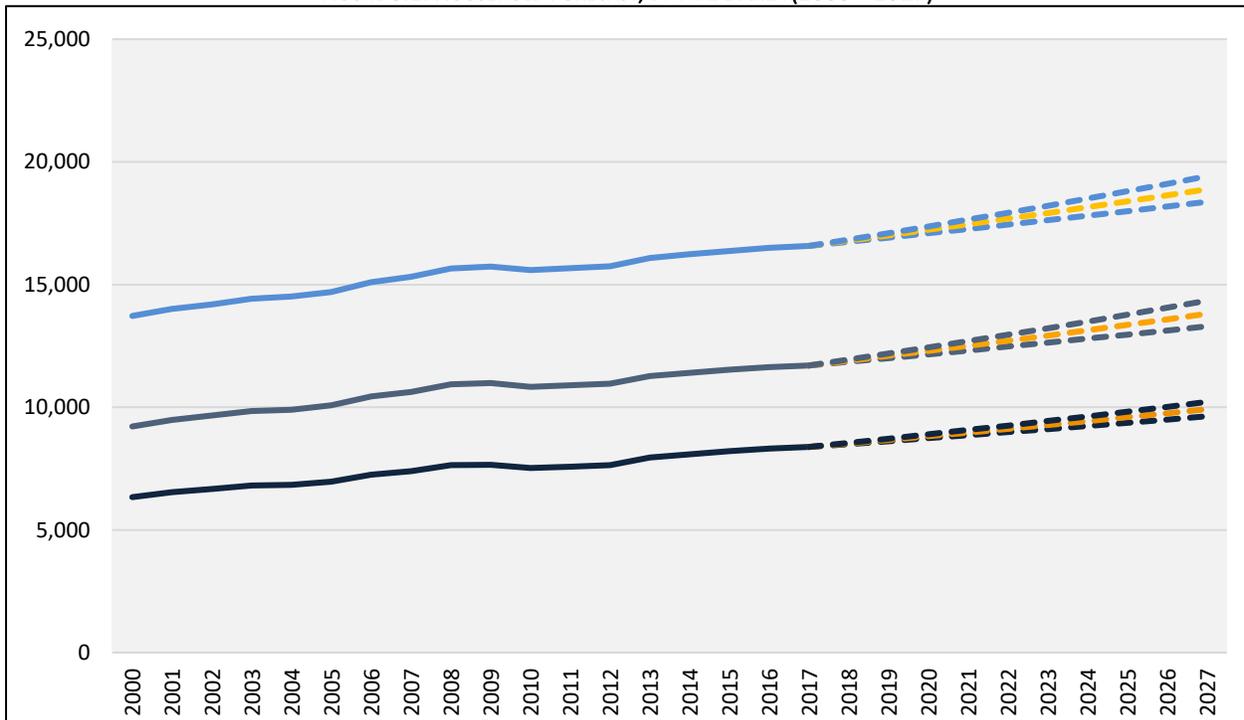
In this section, we present household growth projections for Forest Grove, the Forest Grove-Cornelius area (FG-C), and for the defined Grocery Trade Area (GTA) over the coming ten years. The projections are based on historical trends, but consider the impact on historical growth of the mid-2000s foreclosure crisis and ensuing recession. The projections also take into account the limited land supply in recent years, especially in Cornelius, and the anticipated impacts of the recent expansion of the urban growth boundary. Both are factors expected to support stronger household growth over the next ten years.

The projections are developed individually for Forest Grove, Cornelius, and the rural portion of the GTA. These areas exhibited average annual household growth of 1.7%, 1.2%, and 0.4%, respectively, over the 2000-2017 period. The rural area reflects the most stable growth, and we will assume continued growth at 0.4% over the coming ten years. For Forest Grove, we assume annual growth between 1.4% (low) and 2.0% (high), with a baseline estimate of 1.7%. For Cornelius, we assume growth between 1.0% to 2.2% per year, with 1.6% as the baseline estimate. In addition, we assume an increase in the student population of 300 over the ten years.

With the above assumptions, we anticipate 1,250-1,830 new households in Forest Grove over the coming ten years, excluding students. The baseline scenario indicates 1,540 new households, or roughly 150 per year. In the FG-C area, we project growth of 1,600-2,600 (2,100 baseline), and in the GTA we project growth of 1,800-2,800 (2,300 baseline).

Assuming the same share of the growth as for the 2000-2017 period, the baseline projection indicates 450 additional households with a bachelor degree or more in Forest Grove (610 in FG-C; 670 in the GTA); 1,050 additional households with incomes above \$100,000 (1,430 in FG-C; 1,800 in GTA); and 590 additional Latino households (1,270 in FG-C; 1,340 in GTA). Note that inflation will reduce the buying power of the \$100,000+ segment by 2027, perhaps making it equivalent to \$80,000-85,000+ in today's dollars.

FIGURE 6.1: HOUSEHOLD FORECAST, BY TRADE AREA (2000 – 2027)



SOURCE: U.S. Census Bureau, PSU Population Research Center, JOHNSON ECONOMICS

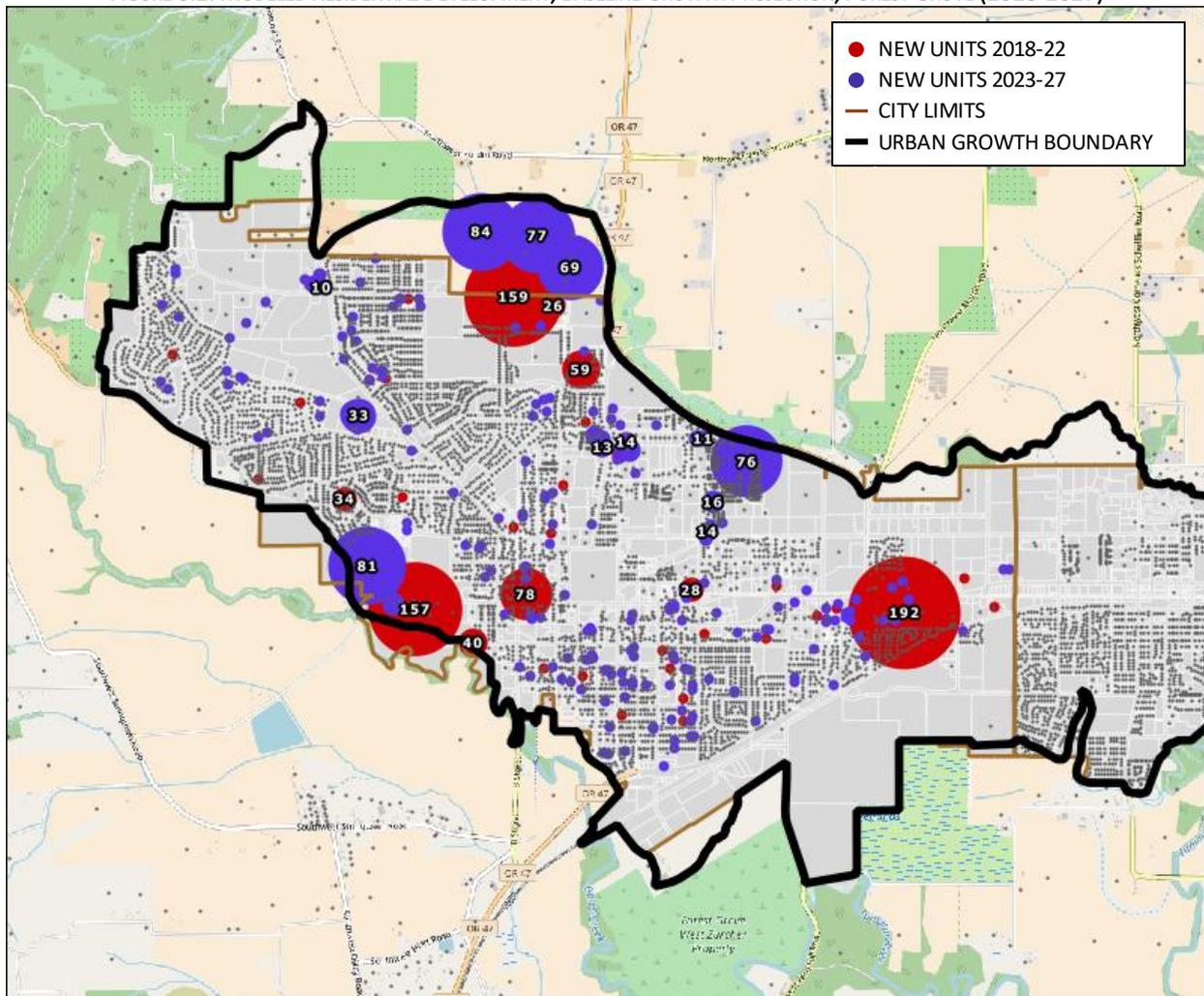


IMPACT ON RESIDENTIAL DEVELOPMENT

As indicated in the previous section, future residential development in Forest Grove is likely to be weighted to areas in the northwest. Based on the location of existing lot supply, subdivisions and multifamily projects in the pipeline, and additional buildable land within the urban growth boundary, we can model the future geographic dispersion of housing units in the city. The model assumes that 70% of new residential construction will take place in larger subdivisions (compared to 73% since 2000), while the remainder will be infill development.

The following map shows how the projected household growth might be accommodated by residential development in Forest Grove over the coming ten years, using baseline growth assumptions. Labels are only displayed for potential future developments with more than 10 units. The anticipated concentration of growth in the north, near existing commute paths, enhances the potential for a future grocery store in this part of the city.

FIGURE 6.2: MODELED RESIDENTIAL DEVELOPMENT, BASELINE GROWTH PROJECTION, FOREST GROVE (2018-2027)



SOURCE: Metro, OpenStreetMap, JOHNSON ECONOMICS



VII. GROCERY SPACE DEMAND

In this subsection, we analyze potential opportunities for grocery store development in Forest Grove based on current spending leakage to surrounding areas and anticipated new demand from household growth. The analysis is conducted for Forest Grove, the combined Forest Grove-Cornelius area (FG-C), and the defined Grocery Trade Area (GTA).

CURRENT SPENDING LEAKAGE

A comparison of current household retail spending (demand) to current retail sales (supply) within a market area reveals patterns of spending leakage – sales revenues from current residents not currently captured within the market. The leakage represents potential unmet demand (identified as “opportunity gap” in the following table) that may be filled by new retailers within the trade area. Small communities typically exhibit considerable leakage, as they do not have the household counts required to sustain retail businesses dependent on scale. The leakage tends to increase if the community is close to a larger city with established regional retail centers.

Data for this analysis is provided by Environics (form. Nielsen Claritas), which provides current-year estimates based on past data from the Bureau of Labor Statistics (BLS) and the Census Bureau. Data on retail spending by households within the market area (demand) is based on the Consumer Expenditure Survey conducted by the BLS. Data on sales by retailers within the market (supply) is sourced from the Census Bureau’s Retail Sales Survey.

In the following table, spending leakage is displayed in positive numbers (black font, third column), while spending surplus is displayed as negative numbers (red font), representing opportunity. In aggregate, the data suggests a spending leakage from Forest Grove of approximately \$14 million per year. According to the data, grocery stores represent only minor leakage, at around \$5 million. The annual demand in this category, \$45 million, represents nearly two traditional grocery stores in terms of annual sales. As there is only one store of this format in Forest Grove currently, the \$40 million in sales within this category suggests that several smaller convenience stores are classified as grocery stores. In other words, we expect the true opportunity gap for grocery stores to represent more than the indicated \$5 million – perhaps as much as \$15-20 million per year.

FIGURE 7.3: RETAIL GROCERY STORE/SUPERMARKET SPENDING LEAKAGE, FOREST GROVE, FG-C, AND GTA (2017)

	2017 Demand (Consumer Expenditures)	2017 Supply (Retail Sales)	Opportunity Gap/Surplus	
			Total	%
FOREST GROVE				
Grocery Stores/Supermarkets-44511	\$45,280,214	\$40,358,437	\$4,921,777	11%
FOREST GROVE/CORNELIUS				
Grocery Stores/Supermarkets-44511	\$65,390,494	\$43,413,911	\$21,976,583	34%
GROCERY TRADE AREA				
Grocery Stores/Supermarkets-44511	\$82,406,366	\$56,588,013	\$25,818,353	31%

SOURCE: Environics, JOHNSON ECONOMICS

For the combined Forest Grove-Cornelius area, the total grocery demand is estimated to \$65 million per year, while the supply is only slightly higher than in Forest Grove alone, indicating unmet demand of \$22 million. Some of the grocery demand in this market is met by Walmart and Fred Meyer, which are classified as general merchandise stores in the table.

In the GTA, which includes an additional grocery store in Banks (Jim’s Thriftway), total grocery store sales are estimated to \$56 million, while demand is estimated to \$82 million. This indicates unmet demand on the order of \$26 million – which represents the threshold typically required to support a traditional full-service store. A new grocery store in Forest Grove likely will not be able to capture all the unmet demand. To capture enough sales to support a full-service store, the new store would likely need to represent an attractive format that is not well represented currently along major commute paths around the city.



FUTURE GROCERY DEMAND

JOHNSON ECONOMICS models future demand for retail space based on projected household growth, which we presented in the previous section. By applying local average per-household retail expenditures to the household estimates, we can model future retail spending. The total expenditures are in turn converted to retail space demand utilizing typical per-square-foot sales figures.

The following table displays our baseline estimates for household growth within Forest Grove, the FG-C, and the GTA, as presented in an earlier section.

FIGURE 7.5: HOUSEHOLD GROWTH ASSUMPTIONS (2017 – 2027)

HOUSEHOLD FORECAST Trade Area	Households			2017-2027 Δ	
	2017	2022	2027	HH's	Rate
Forest Grove	8,383	9,120	9,922	1,539	1.7%
Forest Grove - Cornelius	11,702	12,713	13,812	2,110	1.7%
Grocery Trade Area	16,576	17,686	18,885	2,309	1.3%

SOURCE: JOHNSON ECONOMICS

GROWTH IN RETAIL SPENDING

Based on 2017 estimates of per-household consumer expenditures, annual retail spending in Forest Grove is anticipated to grow by around \$74 million over the coming 10 years, in 2017 dollars. Grocery store spending is estimated to increase by roughly \$8 million, reaching \$54 million per year by 2027. Spending at this level represents two full-service stores of the traditional format.

FIGURE 7.6: PROJECTED RETAIL EXPENDITURES, FOREST GROVE, 2017 DOLLARS (2017 – 2027)

FOREST GROVE		Per Household Expenditures	Household Retail Spending (In Millions)			
NAICS	Category		2017	2022	2027	'17-'27 Δ
441	Motor Vehicles	\$8,839	\$74.1	\$80.6	\$87.7	\$13.6
441	Auto Parts & Tire Stores	\$732	\$6.1	\$6.7	\$7.3	\$1.1
442	Furniture and Home Furnishings Stores	\$895	\$7.5	\$8.2	\$8.9	\$1.4
443	Electronics and Appliance Stores	\$815	\$6.8	\$7.4	\$8.1	\$1.3
444	Building Materials and Garden Equipment	\$4,596	\$38.5	\$41.9	\$45.6	\$7.1
445	Food and Beverage Stores	\$6,360	\$53.3	\$58.0	\$63.1	\$9.8
	Grocery Stores/Supermarkets	\$5,401	\$45.3	\$49.3	\$53.6	\$8.3
446	Health and Personal Care Stores	\$2,426	\$20.3	\$22.1	\$24.1	\$3.7
447	Gas Stations	\$2,788	\$23.4	\$25.4	\$27.7	\$4.3
448	Clothing and Clothing Accessories Stores	\$2,142	\$18.0	\$19.5	\$21.3	\$3.3
451	Sporting Goods, Hobby, Book and Music Stores	\$961	\$8.1	\$8.8	\$9.5	\$1.5
452	General Merchandise Stores	\$5,275	\$44.2	\$48.1	\$52.3	\$8.1
453	Miscellaneous Store Retailers	\$1,278	\$10.7	\$11.7	\$12.7	\$2.0
722	Foodservices and Drinking Places	\$5,466	\$45.8	\$49.8	\$54.2	\$8.4
	Total	\$47,973	\$402.1	\$437.5	\$476.0	\$73.8

SOURCE: EnviroNics, JOHNSON ECONOMICS

Within FG-C grocery store spending is estimated to increase by nearly \$12 million over the coming ten years, reaching \$77 million per year by 2027 (see next page). In sales, this translates into three typical grocery stores. In the GTA, grocery store spending is projected to increase by just over \$12 million, to an annual level of \$102 million per year in 2027, corresponding to four stores.



FIGURE 7.7: PROJECTED RETAIL EXPENDITURES, FG-C AND GTA, 2017 DOLLARS (2017 – 2027)

FOREST GROVE - CORNELIUS (FG-C)		Per Household Expenditures	Household Retail Spending (In Millions)			
NAICS	Category		2017	2022	2027	'17-'27 Δ
441	Motor Vehicles	\$9,109	\$106.6	\$115.8	\$125.8	\$19.2
441	Auto Parts & Tire Stores	\$744	\$8.7	\$9.5	\$10.3	\$1.6
442	Furniture and Home Furnishings Stores	\$915	\$10.7	\$11.6	\$12.6	\$1.9
443	Electronics and Appliance Stores	\$820	\$9.6	\$10.4	\$11.3	\$1.7
444	Building Materials and Garden Equipment	\$4,762	\$55.7	\$60.5	\$65.8	\$10.0
445	Food and Beverage Stores	\$6,562	\$76.8	\$83.4	\$90.6	\$13.8
	Grocery Stores/Supermarkets	\$5,588	\$65.4	\$71.0	\$77.2	\$11.8
446	Health and Personal Care Stores	\$2,503	\$29.3	\$31.8	\$34.6	\$5.3
447	Gas Stations	\$2,848	\$33.3	\$36.2	\$39.3	\$6.0
448	Clothing and Clothing Accessories Stores	\$2,225	\$26.0	\$28.3	\$30.7	\$4.7
451	Sporting Goods, Hobby, Book and Music Stores	\$976	\$11.4	\$12.4	\$13.5	\$2.1
452	General Merchandise Stores	\$5,463	\$63.9	\$69.4	\$75.5	\$11.5
453	Miscellaneous Store Retailers	\$1,296	\$15.2	\$16.5	\$17.9	\$2.7
722	Foodservices and Drinking Places	\$4,180	\$48.9	\$53.1	\$57.7	\$8.8
Total		\$47,991	\$561.6	\$610.1	\$662.8	\$101.3

GROCERY TRADE AREA (GTA)		Per Household Expenditures	Household Retail Spending (In Millions)			
NAICS	Category		2017	2022	2027	'17-'27 Δ
441	Motor Vehicles	\$9,154	\$151.7	\$161.9	\$172.9	\$21.1
441	Auto Parts & Tire Stores	\$725	\$12.0	\$12.8	\$13.7	\$1.7
442	Furniture and Home Furnishings Stores	\$912	\$15.1	\$16.1	\$17.2	\$2.1
443	Electronics and Appliance Stores	\$807	\$13.4	\$14.3	\$15.2	\$1.9
444	Building Materials and Garden Equipment	\$4,776	\$79.2	\$84.5	\$90.2	\$11.0
445	Food and Beverage Stores	\$6,331	\$104.9	\$112.0	\$119.6	\$14.6
	Grocery Stores/Supermarkets	\$5,386	\$89.3	\$95.3	\$101.7	\$12.4
446	Health and Personal Care Stores	\$2,470	\$40.9	\$43.7	\$46.6	\$5.7
447	Gas Stations	\$2,796	\$46.3	\$49.4	\$52.8	\$6.5
448	Clothing and Clothing Accessories Stores	\$2,174	\$36.0	\$38.5	\$41.1	\$5.0
451	Sporting Goods, Hobby, Book and Music Stores	\$949	\$15.7	\$16.8	\$17.9	\$2.2
452	General Merchandise Stores	\$5,301	\$87.9	\$93.8	\$100.1	\$12.2
453	Miscellaneous Store Retailers	\$1,267	\$21.0	\$22.4	\$23.9	\$2.9
722	Foodservices and Drinking Places	\$4,093	\$67.8	\$72.4	\$77.3	\$9.4
Total		\$47,139	\$781.4	\$833.7	\$890.2	\$108.8

SOURCE: EnviroNics, JOHNSON ECONOMICS

GROWTH IN SPACE DEMAND

By applying typical sales-per-square-foot figures for each retail category, we convert estimates of future household spending into estimates of retail space demand. This approach indicates demand growth for grocery space of 19,000 square feet in Forest Grove, 27,000 square feet in FG-C, and 28,000 square feet in the GTA (see next page). For context, a traditional grocery store is typically around 50,000 square feet in size, while the smaller Jim’s Thriftway in Banks is around 20,000 square feet.

CONCLUSION

The preceding analysis of grocery store spending and sales indicates that Forest Grove is approaching the support threshold for a second grocery store of a traditional full-service format. With the additional demand generated from household growth over the coming years, we expect a second grocery store of this format to be supportable in five to ten years. A smaller format store is likely supportable in the current market.



FIGURE 7.8: RETAIL SPACE DEMAND SUPPORTED BY HOUSEHOLD GROWTH (2017 – 2027)

FOREST GROVE		Sales Support Factor ¹	Spending Supported Retail Demand			
NAICS	Category		2017	2022	2027	'17-'27 Δ
441	Motor Vehicles	\$1,401	52,892	57,544	62,604	9,712
441	Auto Parts & Tire Stores	\$394	15,596	16,967	18,459	2,864
442	Furniture and Home Furnishings Stores	\$213	35,285	38,388	41,764	6,479
443	Electronics and Appliance Stores	\$307	22,225	24,180	26,306	4,081
444	Building Materials and Garden Equipment	\$396	97,358	105,920	115,234	17,876
445	Food and Beverage Stores	\$437	121,868	132,585	144,245	22,377
	Grocery Stores/Supermarkets	\$437	103,507	112,609	122,512	19,005
446	Health and Personal Care Stores	\$284	71,643	77,944	84,798	13,155
447	Gas Stations	\$748	31,255	34,004	36,994	5,739
448	Clothing and Clothing Accessories Stores	\$159	113,130	123,078	133,902	20,772
451	Sporting Goods, Hobby, Book and Music Stores	\$202	39,810	43,311	47,120	7,310
452	General Merchandise Stores	\$167	265,019	288,325	313,680	48,661
453	Miscellaneous Store Retailers	\$129	82,892	90,181	98,112	15,220
722	Foodservices and Drinking Places	\$272	168,677	183,510	199,648	30,971
Total			1,221,157	1,328,545	1,445,377	224,220

FOREST GROVE - CORNELIUS (FG-C)		Sales Support Factor ¹	Spending Supported Retail Demand			
NAICS	Category		2017	2022	2027	'17-'27 Δ
441	Motor Vehicles	\$1,401	76,093	82,670	89,815	13,722
441	Auto Parts & Tire Stores	\$394	22,099	24,009	26,084	3,985
442	Furniture and Home Furnishings Stores	\$213	50,338	54,689	59,416	9,077
443	Electronics and Appliance Stores	\$307	31,249	33,950	36,884	5,635
444	Building Materials and Garden Equipment	\$396	140,816	152,986	166,208	25,393
445	Food and Beverage Stores	\$437	175,538	190,709	207,192	31,654
	Grocery Stores/Supermarkets	\$437	149,478	162,397	176,433	26,955
446	Health and Personal Care Stores	\$284	103,172	112,089	121,777	18,605
447	Gas Stations	\$748	44,566	48,417	52,602	8,036
448	Clothing and Clothing Accessories Stores	\$159	164,090	178,271	193,679	29,590
451	Sporting Goods, Hobby, Book and Music Stores	\$202	56,407	61,282	66,579	10,172
452	General Merchandise Stores	\$167	383,156	416,270	452,249	69,093
453	Miscellaneous Store Retailers	\$129	117,362	127,505	138,525	21,163
722	Foodservices and Drinking Places	\$272	180,076	195,639	212,549	32,472
Totals/Weighted Averages			1,694,441	1,840,884	1,999,993	305,552

GROCERY TRADE AREA (GTA)		Sales Support Factor ¹	Spending Supported Retail Demand			
NAICS	Category		2017	2022	2027	'17-'27 Δ
441	Motor Vehicles	\$1,401	108,319	115,570	123,405	15,086
441	Auto Parts & Tire Stores	\$394	30,505	32,547	34,754	4,249
442	Furniture and Home Furnishings Stores	\$213	71,133	75,894	81,039	9,907
443	Electronics and Appliance Stores	\$307	43,519	46,432	49,580	6,061
444	Building Materials and Garden Equipment	\$396	200,036	213,426	227,895	27,860
445	Food and Beverage Stores	\$437	239,898	255,956	273,309	33,411
	Grocery Stores/Supermarkets	\$437	204,098	217,760	232,523	28,425
446	Health and Personal Care Stores	\$284	144,243	153,899	164,333	20,089
447	Gas Stations	\$748	61,980	66,129	70,612	8,632
448	Clothing and Clothing Accessories Stores	\$159	227,095	242,297	258,723	31,628
451	Sporting Goods, Hobby, Book and Music Stores	\$202	77,680	82,880	88,499	10,819
452	General Merchandise Stores	\$167	526,724	561,982	600,083	73,358
453	Miscellaneous Store Retailers	\$129	162,559	173,440	185,199	22,640
722	Foodservices and Drinking Places	\$272	249,769	266,488	284,555	34,786
Totals/Weighted Averages			2,347,558	2,504,699	2,674,509	326,951

¹ National average for neighborhood centers. "Dollars & Cents of Shopping Centers," Urban Land Institute, 2008. Converted to 2017 dollars.

SOURCE: Envirionics, Urban Land Institute, JOHNSON ECONOMICS



VIII. POTENTIAL FOR GROCERY DEVELOPMENT

POTENTIAL GROCERY FORMATS

CURRENT POTENTIAL

Of the grocery formats discussed in this analysis, the strongest current potential in Forest Grove is for an ethnic foods store. The high concentration of Latino households makes this a viable option, especially on sites in the eastern portion of the city. The current Latino population in FG-C represents an estimated \$27 million in annual grocery store sales. Even if only 25% of this is captured by a new ethnic foods store, we would expect a store of 15,000-20,000 square feet to be supportable in this area today. Neither Cornelius nor Forest Grove currently have a store of this format, and the nearest options are located east of Downtown Hillsboro. Ethnic grocery stores rarely anchor new retail developments, but tend to lease space in existing, lower-cost buildings. This grocery format therefore appears somewhat unrealistic for the five sites evaluated in this analysis.

The other grocery formats for which Forest Grove or the combined Forest Grove-Cornelius area currently have adequate support – traditional grocers, discount grocers, and superstores – are already well represented in West Washington County, and the current potential for an additional store in one of these category is limited. Safeway-Albertsons is already represented in Forest Grove; Kroger (Fred Meyer, QFC) and Walmart have stores in Cornelius; and WinCo and Grocery Outlet have locations in West Hillsboro. The two remaining chains in these categories with an established presence in the region are Target and Costco. These represent weaker potential in Forest Grove, and likely view their Hillsboro locations as adequate for West Washington County. Specialty grocers represent limited potential in Forest Grove currently due to inadequate numbers of residents with higher education and high incomes.

FIGURE 8.1: EVALUATION OF GROCERY STORE POTENTIAL, FOREST GROVE

GROCERY FORMAT	STRENGTHS	CHALLENGES
Traditional Grocer - 35-55,000 sf. store - 2.0-5.0 acre site	<ul style="list-style-type: none"> - Household incomes (west) - Household growth (west) 	<ul style="list-style-type: none"> - Safeway already present in FG. - Walmart already present in FG-C - Kroger already present in FG-C - Incomes inadequate for QFC
Full-Service Specialty Grocer - 35-55,000 sf. store - 2.0-5.0 acre site	<ul style="list-style-type: none"> - No existing stores in FG-C 	<ul style="list-style-type: none"> - Inadequate educated population - Inadequate high-income households
Limited-Service Specialty Grocer - 5-20,000 sf. store - 0.5-2.0 acre site	<ul style="list-style-type: none"> - No existing stores in FG-C 	<ul style="list-style-type: none"> - Inadequate educated population - Inadequate high-income households
Independent/Ethnic Grocer - 5-35,000 sf. store - 0.5-3.5 acre site	<ul style="list-style-type: none"> - Adequate Latino population (east) - No existing stores in FG-C 	<ul style="list-style-type: none"> - (Likely to prefer existing space)
Discount Grocer - 15-75,000 sf. store - 1.5-7.0 acre site	<ul style="list-style-type: none"> - Adequate low/mid-income HHs. 	<ul style="list-style-type: none"> - Winco already present in West Hillsboro - Grocery Outlet already present in W.H.
Superstore/Warehouse Store - 100-150,000 sf. store - 9.0-14.0 acre site	<ul style="list-style-type: none"> - Adequate middle-income households for Walmart/Fred Meyer. 	<ul style="list-style-type: none"> - Walmart already present in FG-C - Fred Meyer already present in FG-C - Inadequate middle-inc. HHs for Target - Inadequate mid/high-inc. HHs for Costco

SOURCE: Metro, OpenStreetMap, JOHNSON ECONOMICS



FUTURE POTENTIAL

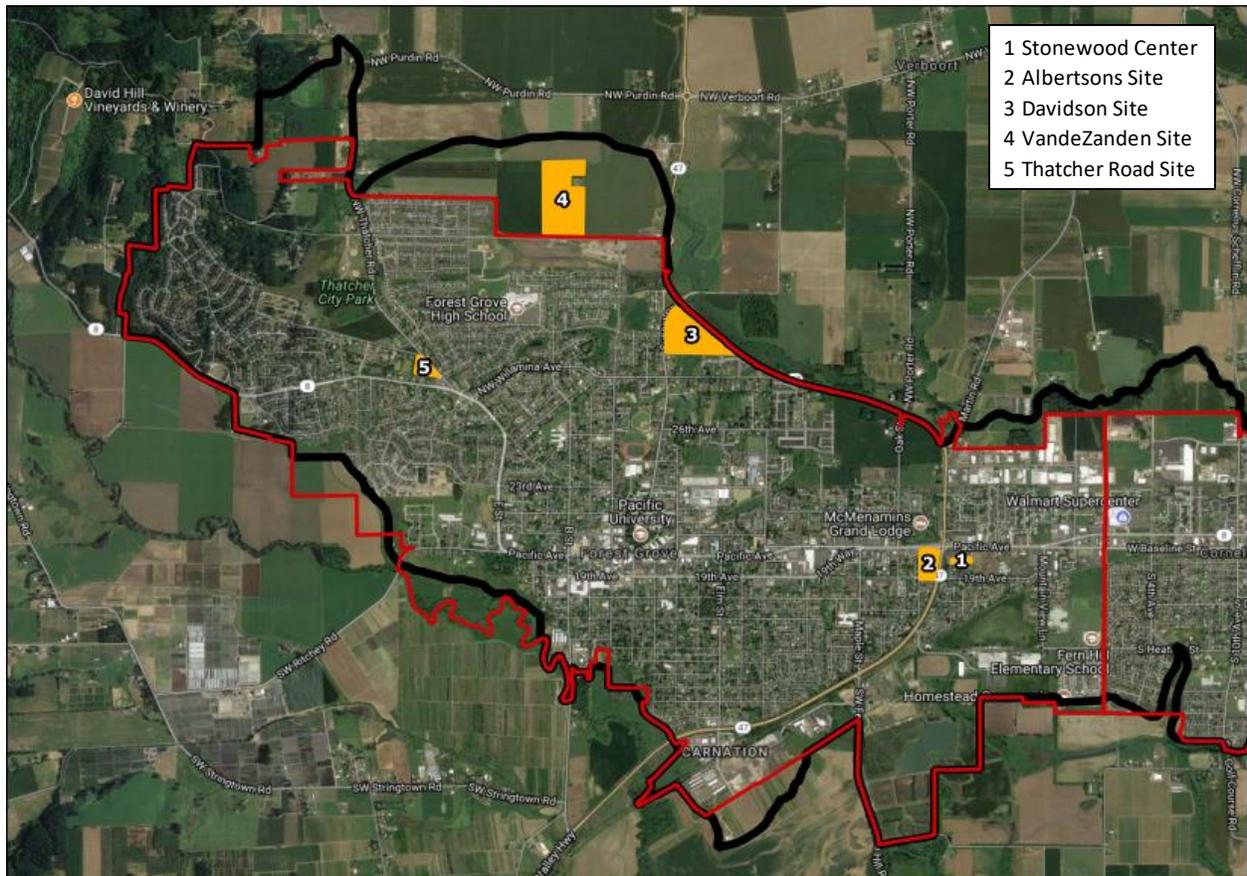
The major change in Forest Grove’s household composition anticipated over the coming ten years is the upward shift in terms of incomes. With more than 1,000 additional households earning more than \$100,000 annually (baseline projection), the city will become more attractive to chains targeting mid/upper-income households. A traditional grocer targeting this segment, such as QFC, is therefore a possibility. However, QFC has historically focused on areas with deeper high-income markets, and has not opened any new stores in recent years. There are no other chains operating in this segment in the Portland Metro Area currently, though this might change over the next ten years. Amazon might attempt a brick-and-mortar foray into the mid/upper traditional segment.

In terms of appeal to specialty grocery chains, the number of households with higher education (+450, baseline projection) is inadequate to create support for a larger specialty grocer focused on natural foods, at least if we rely on site selection criteria among the dominant chains of this format in the Portland Metro Area. However, chains like Roth’s Fresh Market and Market of Choice, both of which are based in Oregon and have a profile closer to traditional chains, have in the past shown willingness to enter smaller markets. Roth’s, for instance, have newer stores in McMinnville and West Salem, which currently have 3,500 and 3,000 households, respectively, above \$75,000. Forest Grove currently has 2,300 households above this threshold, but is expected to have 3,600 by 2027. Again, Amazon might also become a candidate in this market, with stores that cross the specialty/traditional categories.

POTENTIAL GROCERY SITES

The five sites evaluated in this analysis are displayed in the following map. Two of the sites are located east in the city along Pacific Avenue, while another two are located off Highway 47 in the north, and one is located on Thatcher Road in the west.

FIGURE 8.2: EVALUATED SITES



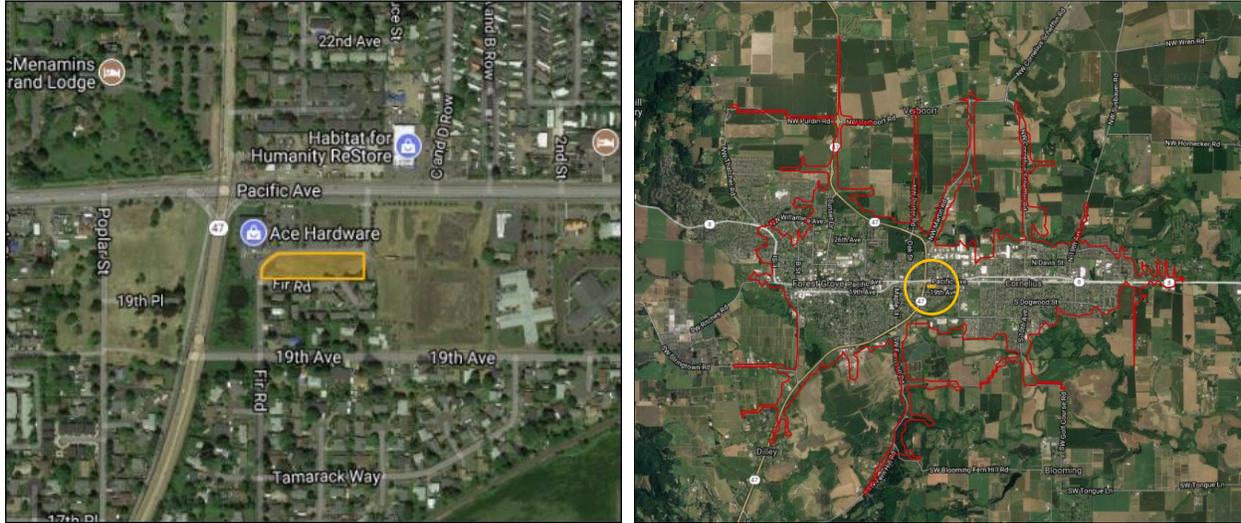
SOURCE: City of Cornelius, Metro, JOHNSON ECONOMICS



SITE 1 – STONEWOOD CENTER

Stonewood Center is a commercial project under development at the southeast corner of Pacific Avenue and Highway 47. The first building, which will be located along Pacific Avenue, is partially leased, and the remaining spaces offer inadequate space for a grocery store. In the following, we therefore focus on the second phase, which will be located along Fir Road.

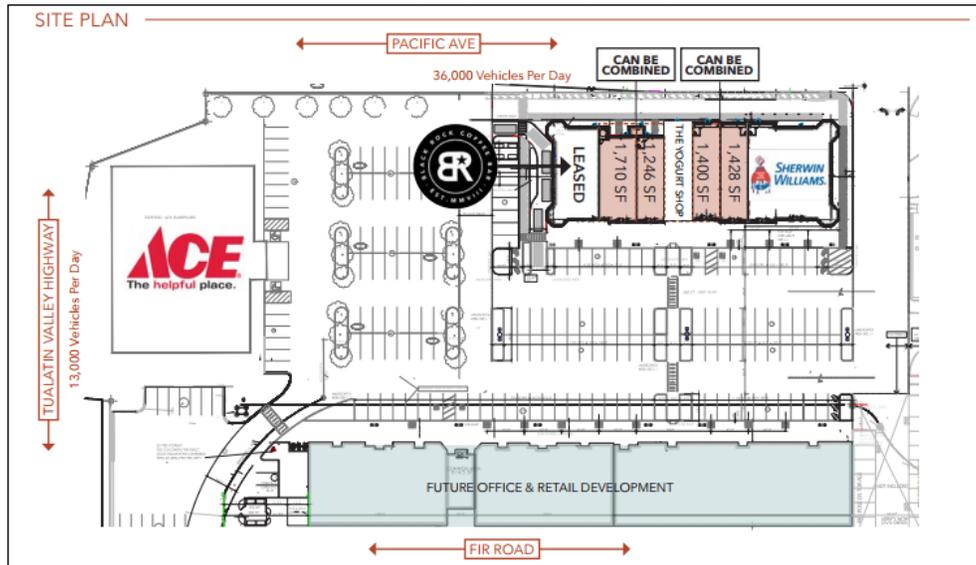
FIGURE 8.3: SITE 1 LOCATION AND FIVE-MINUTE DRIVE-TIME AREA



SOURCE: City of Forest Grove, Metro, OpenStreetMap, QGIS, JOHNSON ECONOMICS

Stonewood Center represents a high-exposure location at the intersection of two high-volume thoroughfares, offering good access and visibility. A large portion of FG-C is within a five-minute drive radius, though the site does not offer the optimal right in/out on the westbound afternoon commute path. The main issue with the second phase is that it provides inadequate depth and loading opportunities for most grocery formats except small stores with a narrow specialty focus. A reconfiguration is difficult given the first phase and the existing Ace store. Among the formats evaluated in this analysis, a small ethnic grocer is the most likely, benefitting from proximity to Latino concentrations east in the city and in Cornelius, though new-construction lease rates tend to be prohibitive for most of these grocers.

FIGURE 8.4: STONEWOOD CENTER SITE PLAN



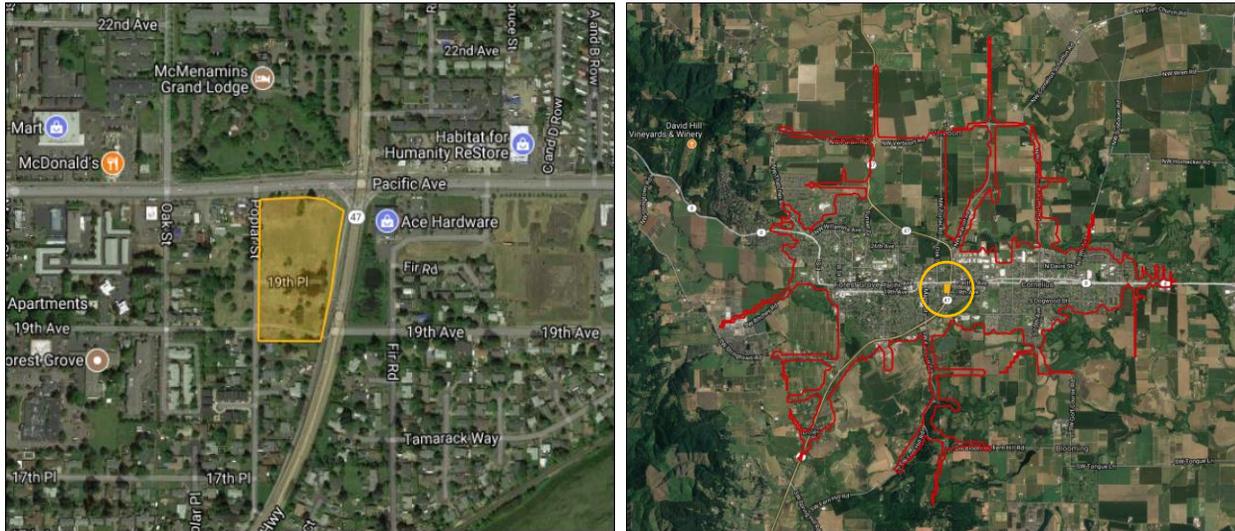
SOURCE: Urban Works



SITE 2 – ALBERTSONS SITE

The Albertsons site is located just west of Stonewood Center, at the southwest corner of Pacific Avenue and Highway 47. At a size of approximately 8 acres, the site is large enough to accommodate a full-service grocery store with additional complementary retail space. Its grocery potential is reflected in its history as a site once targeted for a new Albertsons store, though the site access was eventually found to be inadequate for the chain.

FIGURE 8.5: SITE 2 LOCATION AND FIVE-MINUTE DRIVE-TIME AREA



SOURCE: City of Forest Grove, Metro, OpenStreetMap, QGIS, JOHNSON ECONOMICS

In terms of location, the Albertsons site benefits from the same qualities as Stonewood Center, providing high visibility and a central location within a relatively short drive of the entire FG-C population. Its position between higher-income areas in the west and lower-income areas in the east makes it suitable for a traditional, mid-market store that draws support from a wide demographic specter. Moreover, competitors to Safeway might be attracted by the opportunity to cut off some of the afternoon commute traffic flowing to the Safeway store located further west. The main issue with the site is the lack of signalized access, which reduces the potential for capturing commute traffic.

In the current competitive landscape, where Safeway-Albertsons is the only traditional, mid-market chain in the region, the potential for grocery development at the Albertsons site is limited, given the existing Safeway store half a mile to the west. Walmart – which is the chain that is most aggressively seeking to take market share from Safeway currently, might have been a candidate for the site with its Neighborhood Markets, were it not already operating a Supercenter less than a mile away.

As the support for a more upscale grocery option increases over the coming years, the Albertsons site might become a candidate for a more upscale format. However, the demographic profile of the neighborhoods surrounding the site, and the downscale profile of other retail in this area, might deter some operators. The limited potential for upper-income household growth in this part of the city might also be viewed negatively.

SITE 3 – DAVIDSON SITE

The Davidson site is located on the west side of Highway 47, south of the Sunset Drive intersection. The site is 25 acres in size, and can thus accommodate a larger grocery-anchored retail center with a wide geographic draw. Though located in the periphery of the city, the site is within a five-minute drive of nearly all of Forest Grove. Moreover, it is close to areas recently brought within the urban growth boundary north of the city, where much of the household growth over the coming ten years is expected to take place. Though the current traffic volume on Highway 47 (8,500 ADT in 2015) is somewhat low for a grocery store, this road is expected to see a dramatic increase in traffic as areas to the north are built out. Many of the new households will likely rely on this road as their primary commute path to communities in the east, avoiding Pacific Avenue, which is expected to become increasingly congested in coming



years. A signalized intersection along Highway 47 at the south end of the site will increase the site’s potential capture of this traffic. A grocery store at the site will also likely attract additional customers from communities and rural areas to the north. From a location standpoint, the site therefore represents relatively strong future potential as a grocery site, especially for grocers targeting mid/upper-income segments.

FIGURE 8.6: SITE 3 LOCATION AND FIVE-MINUTE DRIVE-TIME AREA



SOURCE: City of Forest Grove, Metro, OpenStreetMap, QGIS, JOHNSON ECONOMICS

SITE 4 – VANDERZANDEN SITE

The VanderZanden site is located within the area north of David Hill Road that was recently brought within the urban growth boundary. Like the Davidson site, this site therefore represents some potential for capturing future grocery demand. However, the VanderZanden site does not offer visibility or direct access from Highway 47, something that greatly reduces its potential for capturing traffic along this road. Moreover, we do not expect David Hill Road to reach an adequate traffic volume for a grocery store within the next ten years, even with considerable development along this road. Location along a high-volume thoroughfare is a crucial site selection criterion for most grocery chains, and we therefore regard this site’s potential for grocery development to be very limited over the coming ten years.

FIGURE 8.7: SITE 4 LOCATION AND FIVE-MINUTE DRIVE-TIME AREA



SOURCE: City of Forest Grove, Metro, OpenStreetMap, QGIS, JOHNSON ECONOMICS



SITE 5 – THATCHER ROAD SITE

The Thatcher Road site is located along Thatcher Road west in Forest Grove, just north of Gales Creek Road. The site is 3.2 acres in size, which means it can accommodate a store with up to 35,000 square feet of space, assuming a typical suburban 1:4 floor area ratio. A typical full-service store is around 50,000 square feet in size, and 35,000 is below the threshold required by some national chains, though there are many examples of full-service stores at this size in our region. However, the site does not allow for additional complementary retail, and the only existing retail immediately surrounding the site is a convenience store, which represents competition rather than synergy.

The Thatcher Road Site will likely be viewed by most grocery chains to be located too far west. Most chains seek locations on major commute paths, which in the case of Forest Grove means on the east or north side of the city. The traffic volume along Thatcher Road is only 3,500 (2015 ADT), which is inadequate for a grocery store. Though there is some potential visibility, but no access, from Gales Creek Road, the 5,700 or so vehicles on this road (2015 ADT) is also inadequate to support a grocery store. New residential development further north along Thatcher Road, in the newly added urban growth area, will boost the traffic volume to some extent. However, we expect this area to be built out subsequently to the area along David Hill Road, and to capture less of the new traffic than David Hill Road. Taken together with the size of the site, we therefore regard the potential for a grocery store at this site to be very limited.

FIGURE 8.8: SITE 5 LOCATION AND FIVE-MINUTE DRIVE-TIME AREA



SOURCE: City of Forest Grove, Metro, OpenStreetMap, QGIS, JOHNSON ECONOMICS