

Appendix C

Trends and Forecasts

The Regional Transportation Plan (RTP) is a tool to guide the region's transportation needs 20 years into our future. The project recommendations, policies, goals, and planning priorities are largely built upon assumptions based on forecast data derived from past and present conditions. Information is gleaned from federal, state, regional, and local agencies to provide a comprehensive "glimpse" into how the future might unfold.

This appendix presents a glance at some of the types of data that inform the Thurston region's transportation demand model (also see Appendix I Modeling Process).

Note: This data is updated annually in [The Profile](#). For the most current information, visit TRPC's website, www.trpc.org.

Tables and figures clearly indicate the Thurston region is growing:

- Between 2010 and 2015, Thurston County's population increased by over 15,000 people, or 6 percent (Table C-1).
- Yelm's population grew 22 percent in the same period (Table C-2).

While most residents have observed these high levels of growth, they may not realize that by 2040 we anticipate over 127,000 new neighbors within Thurston County's borders. The individual choices we make – whether we drive alone, carpool, or take the bus, and the time we leave for work – all have a cumulative effect on the region's transportation system (Tables C-8 and C-10). As more homes are built in cities, urban growth areas, and rural unincorporated Thurston County, a greater demand is placed on services such as police, fire, transit, sewers, and schools (Table C-6).

Additional lifestyle choices, economic conditions, and other factors determine:

- The number of people working in the household.
- Whether children are driven to school, take the bus, bike, or walk.
- How close to work we live.
- How long we commute (Table C-9).
- The number of vehicles we own (Table C-7).
- The number of miles we choose to drive.

Maps C-1 and C-2 illustrate the region's 2040 forecasted residential and employment densities. Much of this density appears to concentrate in the urban areas. However, residents living in unincorporated Thurston County will be sharing the road with their rural neighbors on the way to their city jobs.

Puget Sound will continue to grow employment – here in Thurston County, and to the north in Pierce, King, and Snohomish Counties. More jobs means more commuting.

Currently, about 30,000 people commute out of Thurston County to work, and about 15,000 commute in for work (Table C-11). By 2040, these numbers are expected to double. Many more people will also live and work in Thurston County by 2040.

Growing population and employment will result in more travel, especially during the morning and evening peak periods when the transportation system is most congested. Such growth reinforces the RTP's commitment to improving system efficiency and safety, reducing trips or shifting modes through Commute Trip Reduction, and taking good care of the system today and in the future.

Table C-1: Historical Population Trends

1970 to 2015

Year	1970	1980	1990	2000	2010
Bucoda	421	519	536	628	562
Lacey	9,696	13,940	19,279	31,226	42,393
Olympia	23,296	27,447	33,729	42,514	46,478
Rainier	382	891	991	1,492	1,794
Tenino	962	1,280	1,292	1,447	1,695
Tumwater	5,373	6,705	9,976	12,698	17,371
Yelm	628	1,294	1,337	3,289	6,848
Total Cities	40,758	52,076	67,140	93,294	117,141
Unincorporated	36,136	72,188	94,098	114,061	135,123
Thurston County Total	76,894	124,264	161,238	207,355	252,264

Source: U.S. Census Bureau; Washington Office of Financial Management.

Explanations: ¹Preliminary estimate.

**Table C-2: Population Estimates and Forecast,
Thurston County Cities and UGAs**

2010 to 2040

Jurisdiction		Estimates	Forecast				
		2015 ¹	2020	2025	2030	2035	2040
Bucoda	City	565	575	675	890	1,065	1,215
	UGA	-	-	-	-	-	-
	Total	565	575	675	890	1,065	1,215
Lacey	City	46,020	49,360	50,850	52,170	53,090	54,910
	UGA	34,210	39,230	44,130	49,330	54,610	59,290
	Total	80,230	88,600	94,980	101,500	107,710	114,200
Olympia	City	51,020	54,660	60,200	65,060	67,810	71,840
	UGA	11,920	13,190	13,830	14,880	16,580	16,770
	Total	62,940	67,850	74,030	79,940	84,390	88,610
Rainier	City	1,880	2,035	2,175	2,480	2,660	2,810
	UGA	110	110	135	360	485	640
	Total	1,990	2,145	2,310	2,840	3,150	3,450
Tenino	City	1,730	1,745	2,010	2,670	3,095	3,675
	UGA	15	15	25	80	90	110
	Total	1,745	1,760	2,030	2,750	3,190	3,785
Tumwater	City	19,100	22,930	25,800	28,440	30,100	32,550
	UGA	6,550	7,910	9,820	11,710	12,790	13,750
	Total	25,650	30,840	35,620	40,160	42,880	46,300
Yelm	City	8,165	12,570	16,990	19,920	21,980	25,070
	UGA	1,420	1,480	1,600	2,540	4,300	5,700
	Total	9,585	14,050	18,600	22,460	26,280	30,770
Grand Mound UGA	Total	1,285	1,460	1,630	1,770	1,880	1,990
Chehalis Reservation ²	Total	70	90	105	125	160	190
Nisqually Reservation ²	Total	605	650	660	670	690	1,230
Total Cities		128,480	143,880	158,700	171,630	179,810	192,070
Total UGAs ³		55,500	63,400	71,180	80,680	90,740	98,250
Total Reservations ²		670	735	770	795	850	1,420
Rural Unincorporated County ⁴		82,760	87,850	91,520	95,450	99,190	101,930
Thurston County Total		267,400	295,900	322,200	348,600	370,600	393,700

Source: TRPC: Annual Population Estimates, Population and Employment Forecast.

Explanations: Numbers may not add due to rounding. Estimates are for April 1st. Tumwater's Eastside annexation on January 1, 2016 added 3,270 residents to the city. ¹Preliminary estimate ²Estimate is for Thurston County portion of reservation only. ³Urban Growth Area (UGA): Unincorporated area designated to be annexed into city limits over 20 years time to accommodate urban growth. ⁴Rural Unincorporated County is the portion of the unincorporated county that lies outside UGA and Reservation boundaries.

Table C-3: Population Increase through Migration and Natural Increase

1960 to 2014

Percentage of Population Increase by Source	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010	2010-2014
Natural Increase	30.9%	15.9%	31.7%	23.5%	22.9%	37.6%
Migration	69.1%	84.1%	68.3%	76.5%	77.1%	62.4%
Total Population Increase	21,845	47,370	36,974	46,117	44,909	11,736

Source: Washington Office of Financial Management.

Table C-4: Average Household Size

1960 to 2010

	1960	1970	1980	1990	2000	2010
Incorporated	-	2.62	2.41	2.32	2.32	2.33
Unincorporated	-	2.80	2.84	2.75	2.67	2.59
Thurston County	3.11	2.71	2.64	2.55	2.50	2.46

Source: U.S. Census Bureau, 1960-2010 Decennial Census.

Table C-5: Total Dwelling Units, Thurston County Jurisdictions

1970 to 2015

Jurisdiction	1970	1980	1990	2000	2010
Bucoda	151	213	211	236	243
Lacey	3,278	5,838	8,081	13,160	18,493
Olympia	9,176	12,560	15,884	19,738	22,086
Rainier	120	305	357	551	717
Tenino	342	502	524	615	740
Tumwater	2,113	2,920	4,463	5,953	8,064
Yelm	208	470	510	1,323	2,523
Total Cities	15,388	22,808	30,030	41,576	52,866
Total Unincorporated	12,458	27,899	36,434	45,076	55,316
Thurston County	28,454	50,707	66,464	86,652	108,182

Source: U.S. Census Bureau; Washington Office of Financial Management.

**Table C-6: Dwelling Unit Estimates and Forecast,
Thurston County Cities and UGAs**

2010 to 2040

Jurisdiction		Estimate	Forecast				
		2015 ¹	2020	2025	2030	2035	2040
Bucoda	City	245	250	295	385	465	535
	UGA	-	-	-	-	-	-
	Total	245	250	295	385	465	535
Lacey	City	19,800	21,490	22,290	23,000	23,470	24,290
	UGA	13,690	15,530	17,650	19,900	22,090	24,040
	Total	33,490	37,020	39,940	42,900	45,560	48,330
Olympia	City	23,760	26,430	29,290	31,860	33,400	35,610
	UGA	5,040	5,470	5,780	6,270	7,020	7,100
	Total	28,800	31,900	35,070	38,130	40,410	42,710
Rainier	City	765	805	875	1,005	1,080	1,140
	UGA	50	50	60	165	220	290
	Total	815	855	935	1,165	1,300	1,430
Tenino	City	750	760	900	1,275	1,520	1,855
	UGA	5	5	10	25	30	40
	Total	755	765	905	1,300	1,550	1,895
Tumwater	City	8,900	10,470	11,800	13,050	13,840	14,940
	UGA	2,720	3,240	4,060	4,870	5,330	5,750
	Total	11,620	13,710	15,850	17,920	19,170	20,690
Yelm	City	3,050	4,670	6,440	7,670	8,550	9,810
	UGA	550	570	620	1,000	1,710	2,280
	Total	3,610	5,240	7,060	8,660	10,250	12,090
Grand Mound UGA	Total	420	490	560	630	690	740
Chehalis Reservation ²	Total	25	30	35	40	55	65
Nisqually Reservation ²	Total	205	220	225	235	245	355
Total Cities		57,270	64,870	71,890	78,240	82,310	88,180
Total UGAs ³		22,480	25,360	28,740	32,860	37,080	40,250
Total Reservations ²		230	250	260	275	300	420
Rural Unincorporated County ⁴		34,470	36,100	37,680	39,250	40,540	41,630
Thurston County Total		114,500	126,600	138,600	150,600	160,200	170,500

Source: TRPC: Annual Population Estimates, Population and Employment Forecast.

Explanations: Estimates are for April 1 of each year. Tumwater's Eastside annexation on January 1, 2016 added 1,290 dwelling units to the city. Numbers may not add due to rounding. ¹Preliminary estimate. ²Estimate is for Thurston County portion of reservation only. ³Urban Growth Area (UGA): Unincorporated area designated to be annexed into city limits over 20 years' time to accommodate urban growth. ⁴Rural Unincorporated County is the portion of the unincorporated county that lies outside UGA and Reservation boundaries.

Table C-7: Vehicles Per Household

1960 to 2008/2012

Proportion of Households by Number of Vehicles	1960	1970	1980	1990	2000	2008-2012
No Vehicles	13.3%	8.7%	6.8%	5.6%	6.3%	4.7%
One Vehicle	53.3%	49.3%	33.0%	30.0%	29.8%	29.8%
Two Vehicles	28.4%	34.2%	35.4%	40.8%	40.3%	40.0%
Three or More Vehicles	5.0%	7.8%	24.8%	23.6%	23.6%	25.5%
Average Vehicles per Household	-	-	-	1.91	1.93	1.98
Total Households	17,443	25,186	46,375	62,150	81,625	100,766

Source: U.S. Census Bureau, 1960-2000 Decennial Census, 2008-2012 American Community Survey.

Table C-8: Means of Transportation to Work

1990 to 2008/2012

Percentage of Work Trips	1990	2000	2008-2012
Drove alone	78.7%	77.2%	77.4%
Carpooled	12.1%	12.7%	11.3%
Public transportation (including taxicab)	1.4%	2.2%	2.3%
Bicycle or walked	3.4%	3.5%	3.5%
Motorcycle or other means	0.9%	0.6%	1.2%
Worked at home	3.5%	3.8%	4.3%
Total workers 16 years and over	75,364	100,986	117,805

Source: U.S. Census Bureau, 1990-2000 Decennial Census, 2008-2012 American Community Survey.

Note: ACS data are based on a survey and are subject to sampling variability. The original data source includes 90 percent Margin of Error values that are not published in this table.

Table C-9: Travel Time to Work

1990 to 2008/2012

Percentage of Workers by Travel Time	1990	2000	2008-2012
Less than 5 minutes	2.8%	3.0%	3.1%
5 to 9 minutes	10.8%	10.0%	9.2%
10 to 14 minutes	19.4%	16.7%	15.6%
15 to 19 minutes	21.6%	19.0%	18.6%
20 to 29 minutes	22.6%	22.3%	22.5%
30 to 44 minutes	13.8%	15.7%	17.4%
45 or more minutes	9.2%	13.2%	13.6%
Mean travel time to work (minutes)	20.7	24.4	24.7
Total workers who did not work at home	72,736	97,099	112,685

Source: U.S. Census Bureau, 1990-2000 Decennial Census, 2008-2012 American Community Survey.
 Note: ACS data are based on a sample and are subject to sampling variability. The original data source includes 90 percent Margin of Error values that are not published in this table.

Table C-10: Time Leaving Home to Go to Work

1990 to 2008/2012

Percentage of Workers that Leave Over Time Period	1990	2000	2008-2012
5:00 a.m. to 6:59 a.m.	24.9%	27.3%	29.8%
7:00 a.m. to 7:59 a.m.	37.6%	33.4%	29.4%
8:00 a.m. to 8:59 a.m.	14.9%	13.8%	14.6%
9:00 a.m. to 9:59 a.m.	4.4%	5.3%	5.5%
10:00 a.m. to 11:59 a.m.	3.0%	4.0%	4.0%
12:00 p.m. to 11:59 p.m.	12.5%	12.4%	11.5%
12:00 a.m. to 4:59 a.m.	2.6%	3.9%	5.2%
Total workers who did not work at home	72,736	97,099	112,685

Source: U.S. Census Bureau, 1990-2000 Decennial Census, 2008-2012 American Community Survey.
 Note: ACS data are based on a sample and are subject to sampling variability. The original data source includes 90 percent Margin of Error values that are not published in this table.

Table C-11: Thurston County Outbound and Inbound Commuters

1960 to 2006/2010

County of Residence	County of Workplace	1960	1970	1980	1990	2000	2006-2010 Average
Outbound Commuters							
Thurston	Pierce	1,937	1,975	3,768	8,526	14,352	20,050
Thurston	Lewis	331	702	1,950	2,610	2,843	2,825
Thurston	King	155	359	812	2,064	5,350	5,065
Thurston	Mason	127	243	717	1,086	1,597	1,555
Thurston	Grays Harbor	102	67	1,651	683	951	885
Thurston	Kitsap	12	23	40	180	267	295
Thurston	Snohomish	22	21	38	172	243	390
Thurston	Other	395	326	776	974	1,305	1,560
Total		3,081	3,716	9,752	16,295	26,908	32,625
Inbound Commuters							
Pierce	Thurston	379	1,029	2,355	3,750	4,953	6,830
Lewis	Thurston	277	530	842	1,749	2,383	3,500
King	Thurston	171	288	864	1,304	1,792	2,050
Mason	Thurston	111	350	770	1,438	2,841	3,535
Grays Harbor	Thurston	39	216	329	953	1,595	2,315
Kitsap	Thurston	12	8	54	109	325	230
Snohomish	Thurston	0	0	13	108	263	380
Other	Thurston	12	79	170	270	719	775
Total		1,001	2,500	5,397	9,681	14,871	19,615
Internal Commuters							
Thurston	Thurston	16,245	23,391	42,659	59,069	74,078	82,375
Net Outbound Commuters		2,080	1,216	4,355	6,614	12,037	13,010
Outbound / Inbound		3.1	1.5	1.8	1.7	1.8	1.7

Source: U.S. Census Bureau, 1960-2000 Decennial Census, 2006-2010 American Community Survey.

Note: ACS data are based on a survey and are subject to sampling variability. The original data source includes 90 percent Margin of Error values that are not published in this table.

Table C-12: Employment Forecast**2010 to 2040**

Industry	Actual	Forecast					
	2010	2015	2020	2025	2030	2035	2040
Agriculture, forestry, fishing, & related	2,780	2,480	2,600	2,620	2,640	2,670	2,670
Mining	110	150	160	170	180	200	210
Utilities	180	250	270	280	290	290	300
Construction	5,620	8,380	9,160	10,110	11,010	11,810	12,700
Manufacturing	3,100	3,200	3,480	3,530	3,500	3,540	3,630
Durable Goods	n/a	1,830	2,040	2,070	2,000	1,990	2,020
Nondurable Goods	n/a	1,370	1,440	1,460	1,500	1,550	1,610
Wholesale trade	3,250	3,410	3,630	3,810	3,960	4,100	4,280
Retail trade	14,660	16,100	17,200	18,300	19,500	20,500	21,500
Transportation and warehousing	2,310	2,960	3,190	3,470	3,730	3,940	4,180
Information	1,280	1,630	1,740	1,820	1,890	1,960	2,050
Finance and insurance	4,610	4,380	4,710	5,190	5,650	6,000	6,400
Real estate and rental and leasing	5,470	5,390	5,620	5,960	6,280	6,530	6,810
Professional and business services	13,000	15,300	17,500	19,500	21,800	23,900	26,200
Education, Health, & Social Services	17,000	19,000	20,900	22,500	24,500	26,000	27,500
Arts, entertainment, and recreation	2,750	2,960	3,400	3,780	4,190	4,600	5,020
Accommodation and food services	8,270	9,200	10,000	10,700	11,530	12,170	12,810
Other services, except public admin.	7,380	9,070	9,950	10,990	12,030	12,880	13,780
Federal government - civilian	1,010	980	1,110	1,050	1,180	1,120	1,240
State government	24,300	24,900	26,000	27,100	28,200	29,300	30,400
State government, except education	n/a	23,300	24,300	25,200	26,200	27,200	28,200
State education	n/a	1,620	1,710	1,830	1,970	2,100	2,230
Local government	11,400	12,200	13,300	14,700	15,800	16,900	18,000
Total Civilian Employment¹	128,500	142,000	153,900	165,600	177,800	188,400	199,700
Total Military Employment	4,150	4,700	4,700	4,700	4,700	4,700	4,700

Source: TRPC: Population and Employment Forecast.

Explanation: Numbers may not add due to rounding. ¹Total Civilian Employment is the number of positions available in Thurston County. Total Local Employment is larger than the Civilian Labor Force, because some individuals within the labor force work multiple jobs.

Table C-13: Intercity Transit Annual Boardings

2000 to 2013 (In Millions)

Service Type	2000	2005	2010	2011	2012	2013
Fixed Route	2.78	2.87	4.31	4.51	4.57	4.43
Vanpool	0.23	0.38	0.64	0.68	0.74	0.76
Dial-A-Lift	0.11	0.11	0.15	0.15	0.14	0.15

Source: Intercity Transit.

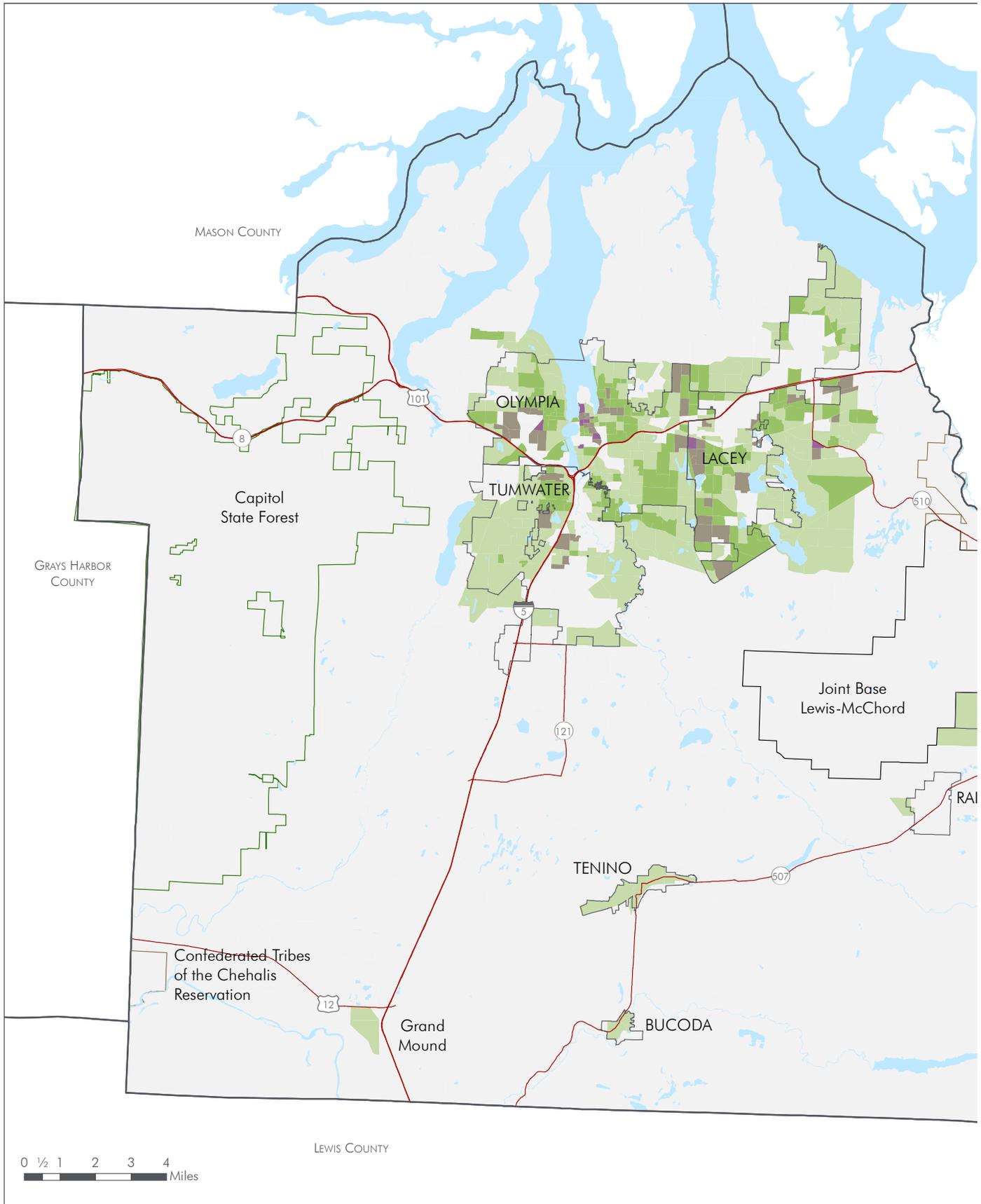
Table C-14: Mode Share and Vehicle Miles Traveled, at Commute Trip Reduction Worksites in Thurston County

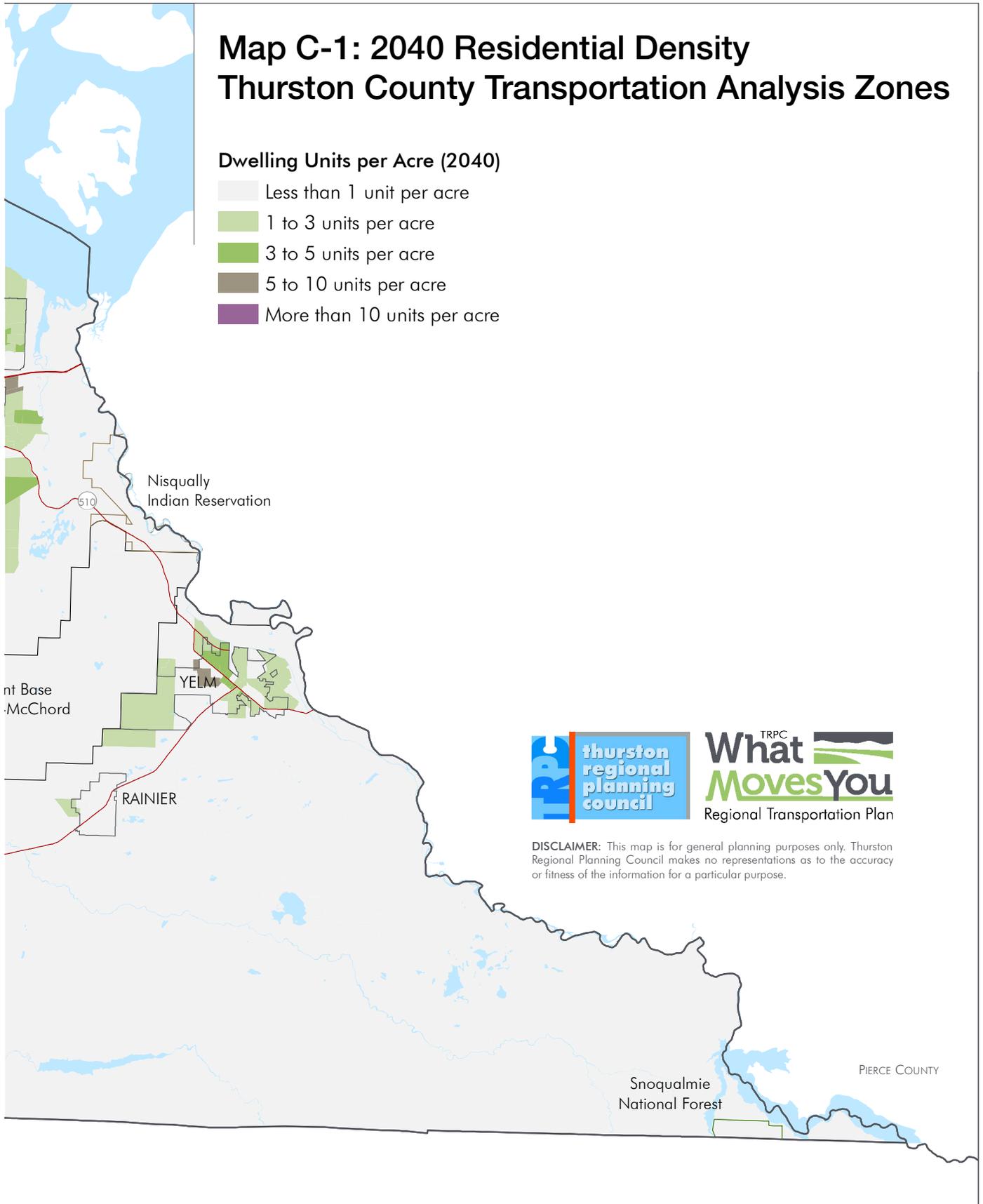
2007 to 2014

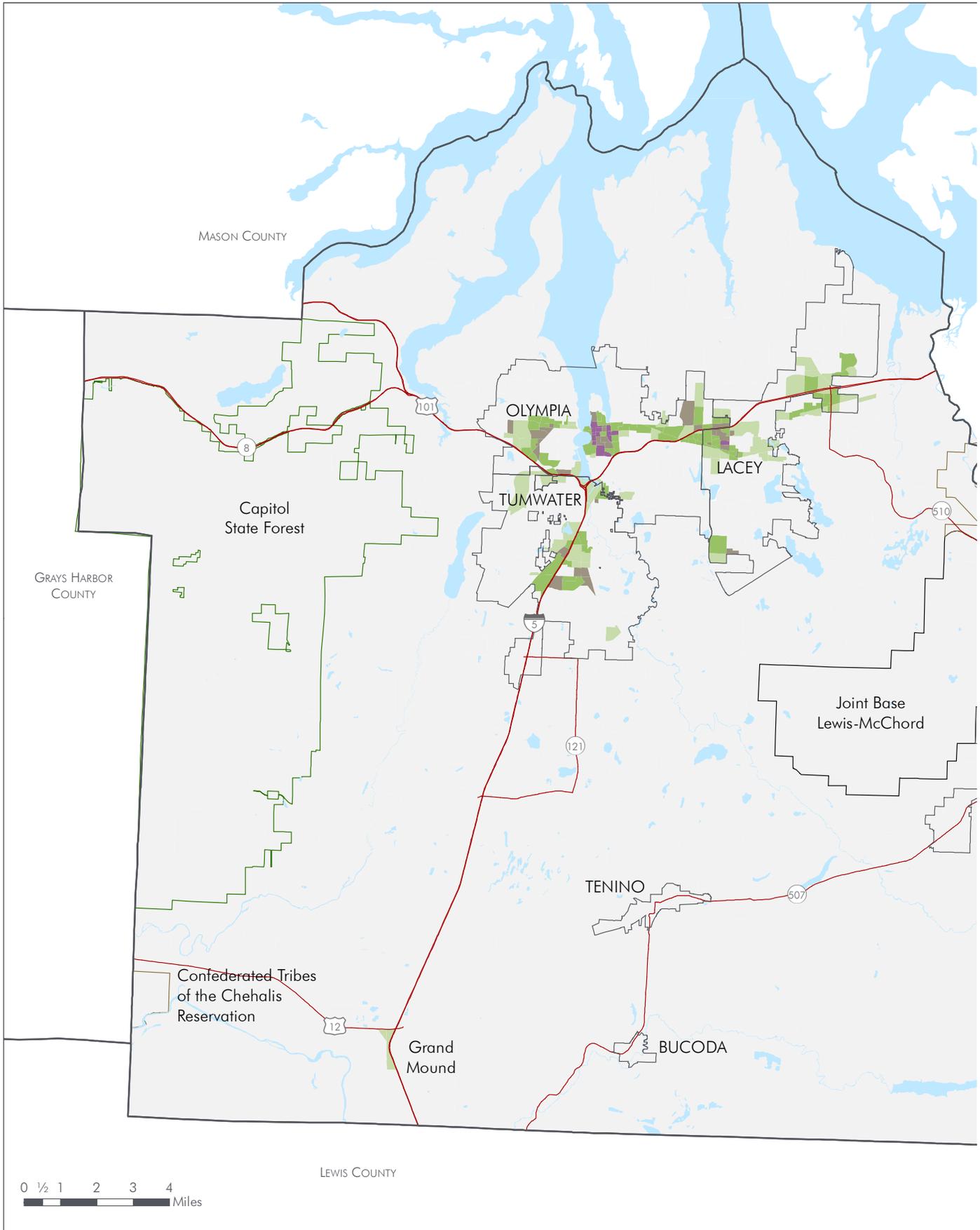
All Thurston County Worksites	Number of Worksites	Average Employee Vehicle Miles Traveled	Mode Share									
			Drive Alone	Car-pool	Van-pool	Motor-cycle	Bus or Train	Bike	Walk	Tele-work	Compressed Work Week	Other
2007/2008	116	12.5	75.6%	12.3%	2.3%	0.1%	2.9%	1.5%	1.5%	1.2%	1.6%	1.1%
2009/2010	119	12.2	72.9%	12.6%	2.8%	0.8%	3.3%	1.8%	1.6%	1.5%	1.8%	0.8%
2011/2012	185	12.6	74.3%	11.2%	2.4%	0.8%	3.3%	2.0%	1.4%	1.7%	1.9%	0.9%
2013/2014	172	13.1	75.0%	10.7%	2.8%	0.8%	2.9%	1.8%	1.6%	1.8%	1.7%	0.9%

Source: Washington State Dept. of Transportation, Commute Trip Reduction Office.

Note: Data only include worksites affected by the state's Commute Trip Reduction Law (1991) or worksites that have voluntarily chosen to participate. For more information, visit www.thurstoncommutes.org.



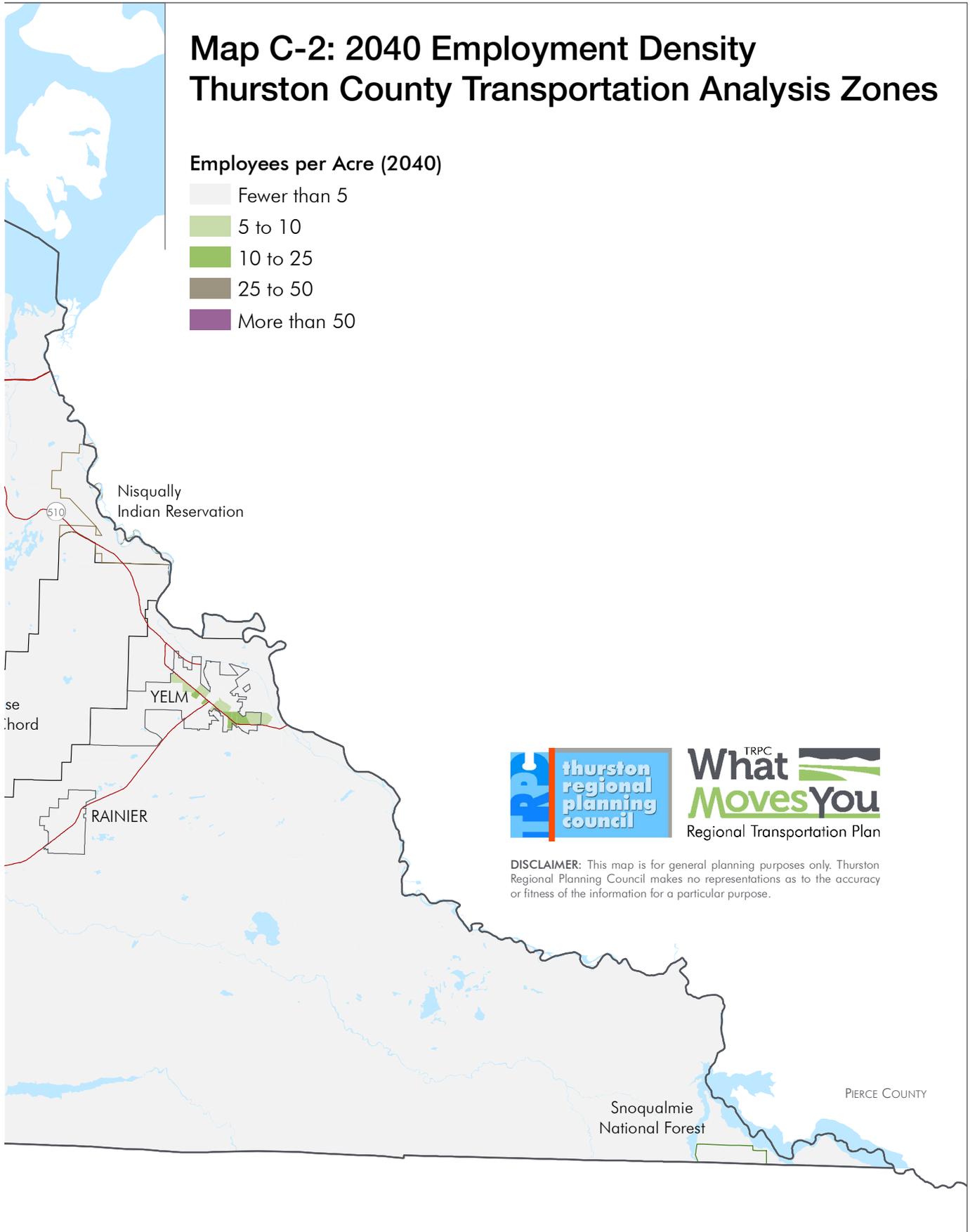




Map C-2: 2040 Employment Density Thurston County Transportation Analysis Zones

Employees per Acre (2040)

- Fewer than 5
- 5 to 10
- 10 to 25
- 25 to 50
- More than 50



DISCLAIMER: This map is for general planning purposes only. Thurston Regional Planning Council makes no representations as to the accuracy or fitness of the information for a particular purpose.

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