1

Citywide Planning

2

Neighborhood Plans

3

Appendices

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Appendices

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Growth Strategy Appendix

Growth Strategy Appendix Figure A-1

Housing Units in Seattle, 1995–2015

	1995 Year-End Total Housing Units	1996–2015 Housing Units Built (Net)	20-Year Housing Unit Growth Rate 1996–2015	2015 Year-End Total Housing Units*	Estimated Housing Unit Growth 2015-2035
Urban Centers	**47,040**	**33,167**	**71%**	**80,322**	**35,000**
Downtown Urban Center	10,618	13,478	127%	24,347	12,000
First Hill/Capitol Hill Urban Center	21,562	7,907	37%	29,619	6,000
Northgate	3,559	1,167	33%	4,535	3,000
South Lake Union	809	3,954	489%	4,536	7,500
University District Urban Center	6,583	3,168	48%	9,802	3,500
Uptown	3,909	3,493	89%	7,483	3,000
Hub Villages	**14,253**	**10,654**	**75%**	**24,505**	**10,900**
Ballard	4,772	3,963	83%	9,168	4,000
Bitter Lake Village	2,364	1,380	58%	3,257	1,300
Fremont	2,194	1,111	51%	3,200	1,300
Lake City	1,391	1,138	82%	2,546	1,000
Mt. Baker (North Rainier)	1,568	875	56%	2,454	1,000
West Seattle Junction	1,964	2,187	111%	3,880	2,300
Residential Villages	**29,348**	**12,731**	**43%**	**42,174**	**12,600**
23rd & Union-Jackson	3,342	1,979	59%	5,451	1,600

	1995 Year-End Total Housing Units	1996–2015 Housing Units Built (Net)	20-Year Housing Unit Growth Rate 1996–2015	2015 Year-End Total Housing Units*	Estimated Housing Unit Growth 2015-2035
Admiral	847	311	37%	1,131	300
Aurora-Licton Springs	2,534	977	39%	3,454	1,000
Columbia City	1,794	1,367	76%	2,683	800
Crown Hill	1,125	174	15%	1,307	700
Eastlake	2,632	821	31%	3,829	800
Green Lake	1,512	860	57%	2,605	600
Greenwood/Phinney Ridge	1,244	595	48%	1,757	500
Madison-Miller	1,639	1,159	71%	2,781	800
Morgan Junction	1,196	220	18%	1,342	400
North Beacon Hill	1,171	215	18%	1,474	400
Othello	1,715	1,563	91%	2,836	900
Rainier Beach	1,280	113	9%	1,520	500
Roosevelt	1,031	573	56%	1,616	800
South Park	975	195	20%	1,292	400
Upper Queen Anne	1,363	377	28%	1,724	500
Wallingford	2,158	951	44%	3,222	1,000
Westwood/Highland Park	1,790	281	16%	2,150	600
Manufacturing/Industrial Centers	**1,298**	**-39**	**-3%**	**1,065**	**-**
Ballard/Interbay/Northend	551	-15	-3%	660	-
Greater Duwamish	747	-24	-3%	405	-
Inside Centers/Villages	**90,641**	**56,552**	**62%**	**147,001**	**58,500**
Outside Villages	**170,972**	**16,503**	**10%**	**189,187**	**11,500**
City Total	**261,613**	**73,055**	**28%**	**336,188**	**70,000**

**To estimate the 2015 total number of housing units, City staff started with the most recent decennial Census (2010) housing unit count and added the net number new units built since that count was taken. (Net new units built is the number of newly built minus the number of units demolished, based on numbers in the SDCI permit system.) Adding the 1996–2015 permit data in the table to the 1995 total does not match the 2015 total, due to recalibrating the housing unit count from the 2010 decennial Census.*

Growth Strategy Appendix Figure A-2

Total Covered Employment by Location in Seattle 1995–2014*

Location	1995	2000	2010	2015	Change 1995–2015	% Change 1995–2015	Estimated Job Growth 2015-2035**
Urban Centers	**239,792**	**267,345**	**255,975**	**311,135**	**71,343**	**30%**	**66,500**
Downtown	138,150	166,424	136,381	165,416	27,266	20%	35,000
First Hill/Capitol Hill	32,338	37,856	41,637	39,987	7,649	24%	3,000
Northgate	9,432	11,006	11,430	12,898	3,466	37%	6,000
South Lake Union	15,166	22,735	19,972	40,482	25,316	167%	15,000
University District	28,329	33,136	32,972	37,260	8,931	32%	5,000
Uptown	16,377	16,161	13,911	15,092	1,285	-17%	2,500
Hub Villages	**21,893**	**25,199**	**23,474**	**32,505**	**10,612**	**48%**	**12,200**
Ballard	4,699	5,126	5,447	7,861	3,162	67%	3,900
Bitter Lake Village	3,145	4,315	3,100	4,605	1,460	46%	2,300
Fremont	4,862	5,745	7,468	8,882	4,020	83%	400
Lake City	1,688	1,831	1,600	1,533	-155	-9%	800
Mt. Baker (North Rainier)	4,995	5,357	3,164	6,136	1,141	23%	3,100
West Seattle Junction	2,504	2,825	2,695	3,488	984	39%	1,700
Residential Villages	**28,499**	**34,969**	**31,736**	**36,721**	**8,222**	**29%**	**6,500**
23rd & Union-Jackson	5,030	6,248	4,269	4,551	179	-4%	
Admiral	882	1,089	1,400	1,468	586	66%	
Aurora-Licton Springs	2,734	2,857	2,334	2,319	-415	-15%	
Columbia City	1,567	1,443	1,902	2,672	1,105	71%	
Crown Hill	759	805	847	850	91	12%	
Eastlake	4,444	6,036	5,065	5,774	1,330	30%	
Green Lake	1,235	1,483	1,456	1,814	579	47%	
Greenwood/Phinney Ridge	1,345	1,639	1,705	2,067	722	54%	

Location	1995	2000	2010	2015	Change 1995–2015	% Change 1995–2015	Estimated Job Growth 2015-2035**
Madison-Miller	831	841	1,065	1,475	644	77%	
Morgan Junction	590	538	430	579	-11	-2%	
North Beacon Hill	359	527	559	593	234	65%	
Othello	853	1,148	1,378	1,439	586	69%	
Rainier Beach	924	1,118	1,088	1,130	206	22%	
Roosevelt	1,378	1,951	1,496	1,762	384	28%	
South Park	1,078	990	1,035	1,355	277	26%	
Upper Queen Anne	918	1,389	1,556	1,882	964	105%	
Wallingford	2,581	3,643	2,784	3,119	538	21%	
Westwood/Highland Park	991	951	1,367	1,572	581	59%	
Manufacturing/ Industrial Centers	**72,392**	**82,965**	**72,949**	**83,934**	**11,542**	**16%**	**9,000**
Ballard/Interbay/ Northend	14,726	15,162	14,205	18,173	3,447	23%	3,000
Greater Duwamish	57,666	67,803	58,744	65,761	8,095	14%	6,000
Total Inside Centers/ Villages	**362,576**	**430,205**	**384,584**	**464,295**	**101,719**	**14%**	**94,200**
Outside Centers/ Villages	**64,148**	**72,629**	**77,591**	**85,478**	**21,330**	**33%**	**20,800**
City Totals	**426,724**	**502,834**	**462,175**	**549,773**	**123,049**	**29%**	**115,000**

**Covered employment includes employees who are covered by the Washington Unemployment Insurance Act. It excludes self-employed workers, proprietors, CEOs, and other non-insured workers. Typically, covered employment has represented 85–90 percent of total employment.*

***No job estimates for individual residential urban villages, although collectively they are expected to add about 6,500 jobs by 2035.*

Land Use Appendix

Land Use Appendix Figure A-1

Existing Land Area Occupied by Specific Uses by Urban Centers and Urban Villages

Location	Gross Acres	Rights-of-Way	Net Acres*	Single-Family	Multifamily	Commercial/ Mixed-Use	Industrial	Major Institution & Public Facilities/ Utilities	Open Space**	Vacant	Other***
Downtown Urban Center	950	408	542	1	46	385	20	40	20	26	70
First Hill/Capitol Hill Urban Center	916	345	571	29	227	157	14	85	23	23	53
University Community Urban Center	752	190	562	22	115	120	8	278	8	6	20
Northgate	411	111	300	6	72	177	1	23	16	4	17
South Lake Union	339	145	194	0	8	127	25	7	14	13	19
Uptown	333	112	221	4	41	150	6	8	7	5	18
Urban Centers Total	**3,701**	**1,312**	**2,389**	**62**	**509**	**1,116**	**73**	**442**	**88**	**76**	**197**
Ballard	425	150	274	47	113	74	11	15	6	7	7
Bitter Lake Village	352	62	290	14	55	135	38	31	10	7	4
Fremont	213	81	133	14	41	47	18	5	4	4	2
Lake City	142	40	103	5	38	42	4	5	5	4	4
North Rainier	455	147	308	82	37	68	43	14	34	30	7
West Seattle Junction	226	88	138	38	34	47	2	10	1	7	4

Location	Gross Acres	Rights-of-Way	Net Acres*	Single-Family	Multifamily	Commercial/ Mixed-Use	Industrial	Major Institution & Public Facilities/ Utilities	Open Space**	Vacant	Other***
Hub Urban Villages Total	**1,814**	**568**	**1,246**	**199**	**318**	**413**	**115**	**80**	**59**	**59**	**27**
23rd & Union-Jackson	516	167	350	129	81	39	8	40	32	21	7
Admiral	98	30	68	12	11	17		13	14		1
Aurora-Licton Springs	327	95	232	54	76	40	23	25	9	5	7
Columbia City	313	95	217	68	49	32	4	14	17	32	6
Crown Hill	173	50	123	75	18	22	1	4	2	1	1
Eastlake	200	91	109	13	48	36	2	2	5	3	1
Green Lake	109	49	60	11	25	12	0	9	2	0	1
Greenwood/Phinney Ridge	94	31	63	4	12	40	1	2	0	2	2
Madison-Miller	145	50	95	27	36	15	0	5	8	4	3
Morgan Junction	114	39	75	40	18	11	0	4	0	0	0
North Beacon Hill	131	51	80	35	25	9	0	4	3	3	0
Othello	375	94	281	87	58	27	5	27	9	64	4
Rainier Beach	290	70	219	48	43	34	4	44	16	30	2
Roosevelt	158	61	97	51	9	18	1	13	0	6	2
South Park	263	80	184	116	20	6	5	5	15	15	1
Upper Queen Anne	53	21	32	1	13	13	0	4		0	0
Wallingford	257	99	158	79	29	31	2	12	4	1	2
Westwood/Highland Park	275	81	194	99	40	37	2	11		6	1
Residential Urban Villages Total	**3,891**	**1,254**	**2,638**	**949**	**611**	**440**	**58**	**240**	**139**	**193**	**40**
Ballard/Interbay/ Northend	932	218	713	4	2	154	166	283	5	97	9
Greater Duwamish	4,928	1,126	3,802	13	4	283	1,457	1,493	30	502	82

Location	Gross Acres	Rights-of-Way	Net Acres*	Single-Family	Multifamily	Commercial/ Mixed-Use	Industrial	Major Institution & Public Facilities/ Utilities	Open Space**	Vacant	Other***
Manufacturing Industrial Centers Total	**5,859**	**1,344**	**4,515**	**17**	**6**	**436**	**1,624**	**1,776**	**35**	**599**	**91**
Outside Villages	37,886	9,676	28,210	17,592	1,715	667	121	1,561	5,377	1,108	110
City Total	**53,151**	**14,153**	**38,998**	**18,818**	**3,159**	**3,072**	**1,991**	**4,099**	**5,698**	**2,035**	**465**

**Net acres = Gross acres minus rights-of-way*
***Some acreage may be also counted in rights-of-way as City-owned open space including boulevards.*
****Other includes parking, easements, unspecified uses.*
Source: King County Department of Assessments, 2014

Land Use Appendix Figure A-2

Population and Housing Units per Acre by Urban Center and Urban Village

	Gross Acres	Total Population 2010	Population /Acre	Housing Units 2015*	Housing Unit/ Acre	Housing Unit Capacity**
Downtown Urban Center	950	26,844	28.3	24,347	25.6	34,512
First Hill/Capitol Hill Urban Center	916	35,892	39.2	29,619	32.3	18,046
Northgate	411	6,369	15.5	4,535	11.0	10,659
South Lake Union	339	3,774	11.1	4,536	13.4	18,823
University District Urban Center	752	22,704	30.2	9,802	13.0	8,406
Uptown	333	7,300	21.9	7,483	22.5	3,888
Urban Centers Total	**3,701**	**102,883**	**27.8**	**80,322**	**21.7**	**94,334**
Ballard	425	10,078	23.7	9,168	21.6	4,978
Bitter Lake Village	352	4,273	12.1	3,257	9.3	10,689
Fremont	213	3,960	18.6	3,200	15.0	1,608
Lake City	142	3,899	27.5	2,546	17.9	4,318
Mt. Baker	455	4,908	10.8	2,454	5.4	11,545
West Seattle Junction	226	3,788	16.8	3,880	17.2	4,622

	Gross Acres	Total Population 2010	Population /Acre	Housing Units 2015*	Housing Unit/ Acre	Housing Unit Capacity**
Hub Urban Villages Total	**1,813**	**30,906**	**17.0**	**24,505**	**13.5**	**37,760**
23rd & Union-Jackson	516	9,468	18.3	5,451	10.6	4,295
Admiral	98	1,528	15.6	1,131	11.5	960
Aurora-Licton Springs	327	6,179	18.9	3,454	10.6	4,104
Columbia City	313	3,937	12.6	2,683	8.6	3,666
Crown Hill	173	2,459	14.2	1,307	7.6	1,583
Eastlake	200	5,084	25.4	3,829	19.1	1,015
Green Lake	109	2,904	26.6	2,605	23.9	729
Greenwood/Phinney Ridge	94	2,927	31.1	1,757	18.7	2,243
Madison-Miller	145	4,066	28.0	2,781	19.2	1,438
Morgan Junction	114	2,046	17.9	1,342	11.8	547
North Beacon Hill	131	2,900	22.1	1,474	11.3	1,725
Othello	375	7,267	19.4	2,836	7.6	4,787
Rainier Beach	290	3,583	12.4	1,520	5.2	4,729
Roosevelt	158	2,384	15.1	1,616	10.2	2,744
South Park	263	3,448	13.1	1,292	4.9	1,102
Upper Queen Anne	53	2,143	40.4	1,724	32.5	791
Wallingford	257	5,350	20.8	3,222	12.5	1,851
Westwood/Highland Park	275	4,606	16.7	2,150	7.8	2,376
Residential Urban Villages Total	**3,891**	**72,279**	**18.6**	**42,174**	**10.8**	**40,685**
Ballard/Interbay/Northend	932	1,658	1.8	660	0.7	31
Greater Duwamish	4,928	1,064	0.2	405	0.1	0
Manufacturing Industrial Centers	**5,860**	**2,722**	**0.5**	**1,065**	**0.2**	**31**
Outside Villages	37,886	399,870	10.6	188,122	5.0	51,054
City Total	**53,151**	**608,660**	**11.5**	**336,188**	**6.3**	**223,864**

**Total housing units is determined by adding net new built units (new-demo) from the SDCI permit system from 4/1/2010 to 12/31/2015 to the total housing units determined by Census 2010.*

***Estimated capacity for additional housing units under current zoning as of 2015*

Land Use Appendix Figure A-3

Jobs per Acre by Urban Center and Urban Village

	Gross Acres	Jobs 2014*	Jobs/Acre	Job Capacity*
Downtown Urban Center	950	150,694	158.6	48,823
First Hill/Capitol Hill Urban Center	916	39,047	42.6	3,286
Northgate	411	12,288	29.9	13,471
South Lake Union	339	35,859	105.8	23,877
University District Urban Center	752	36,256	48.2	10,284
Uptown	333	14,592	43.8	3,345
Urban Centers Total	**3,701**	**288,736**	**78.0**	**103,086**
Ballard	425	7,199	16.9	5,243
Bitter Lake Village	352	3,549	10.1	20,845
Fremont	213	8,489	39.9	511
Lake City	142	1,323	9.3	5,494
Mt. Baker	455	4,254	9.3	16,975
West Seattle Junction	226	3,334	14.8	4,716
Hub Urban Villages Total	**1,813**	**28,148**	**15.5**	**53,784**
23rd & Union-Jackson	516	4,913	9.5	2,133
Admiral	98	1,390	14.2	77
Aurora-Licton Springs	327	2,218	6.8	6,336
Columbia City	313	2,532	8.1	1,857
Crown Hill	173	1,006	5.8	176
Eastlake	200	5,159	25.8	177
Green Lake	109	1,729	15.9	259
Greenwood/Phinney Ridge	94	1,941	20.6	1,397
Madison-Miller	145	1,353	9.3	698
Morgan Junction	114	589	5.2	38
North Beacon Hill	131	588	4.5	756

	Gross Acres	Jobs 2014*	Jobs/Acre	Job Capacity*
Othello	375	1,529	4.1	4,194
Rainier Beach	290	1,066	3.7	751
Roosevelt	158	1,661	10.5	1,762
South Park	263	1,232	4.7	1,088
Upper Queen Anne	53	1,899	35.8	43
Wallingford	257	2,948	11.5	213
Westwood/Highland Park	275	1,463	5.3	149
Residential Urban Villages Total	**3,891**	**35,216**	**9.1**	**22,104**
Ballard/Interbay/Northend	932	16,308	17.5	8,399
Greater Duwamish	4,928	62,571	12.7	29,390
Manufacturing Industrial Centers	**5,860**	**78,879**	**13.5**	**37,789**
Outside Villages	37,886	83,732	2.2	16,270
City Total	**53,151**	**514,711**	**9.7**	**233,033**

Covered employment estimates are based on the Washington State Employment Security Department's (ESD) Quarterly Census of Employment and Wages (QCEW) series. This series consists of employment for those firms, organizations, and individuals whose employees are covered by the Washington Unemployment Insurance Act. Covered employment excludes self-employed workers, proprietors, CEOs, etc., and other noninsured workers. Typically, covered employment has represented 90–93 percent of total employment. Note that this includes part-time and temporary employment, and if a worker holds more than one job, each job would appear in the database.

**Estimated capacity for additional jobs under current zoning as of 2015.*

Land Use Appendix Figure A-4

Employment by Industry Sector 1995–2014

Industry Sector*	1995 Jobs**	% Share	2000	% Share	2010 Jobs	% Share	2014 Jobs	% Share	Sector % Change 2000–2014
Construction, Resources	15,282	3.6%	22,645	4.5%	16,748	3.6%	18,200	3.5%	-24.4%
Finance, Insurance, Real Estate	35,253	8.3%	42,471	8.4%	31,970	6.9%	31,781	6.2%	-33.6%
Manufacturing	38,050	8.9%	37,104	7.4%	26,417	5.7%	26,400	5.1%	-40.5%

Industry Sector*	1995 Jobs**	% Share	2000	% Share	2010 Jobs	% Share	2014 Jobs	% Share	Sector % Change 2000–2014
Retail	31,504	7.4%	41,984	8.3%	36,921	8.0%	51,345	10.0%	18.2%
Services	185,899	43.6%	235,336	46.8%	237,882	51.5%	273,336	53.1%	13.9%
Warehousing, Transportation, Utilities	40,545	9.5%	43,636	8.7%	29,206	6.3%	30,213	5.9%	-44.4%
Government	51,571	12.1%	47,565	9.5%	48,468	10.5%	46,470	9.0%	-2.4%
Education	28,625	6.7%	32,094	6.4%	34,570	7.5%	36,965	7.2%	13.2%
Total	**426,729**	**100%**	**502,835**	**100%**	**462,180**	**100%**	**514,710**	**100%**	**2.3%**

The total number of covered employment jobs increased by 17 percent from 1995 to 2014, from 426,729 to 514,710. From year 2000 to year 2014, the total number of covered jobs increased by 2.3 percent, from 502,835 to 514,710.

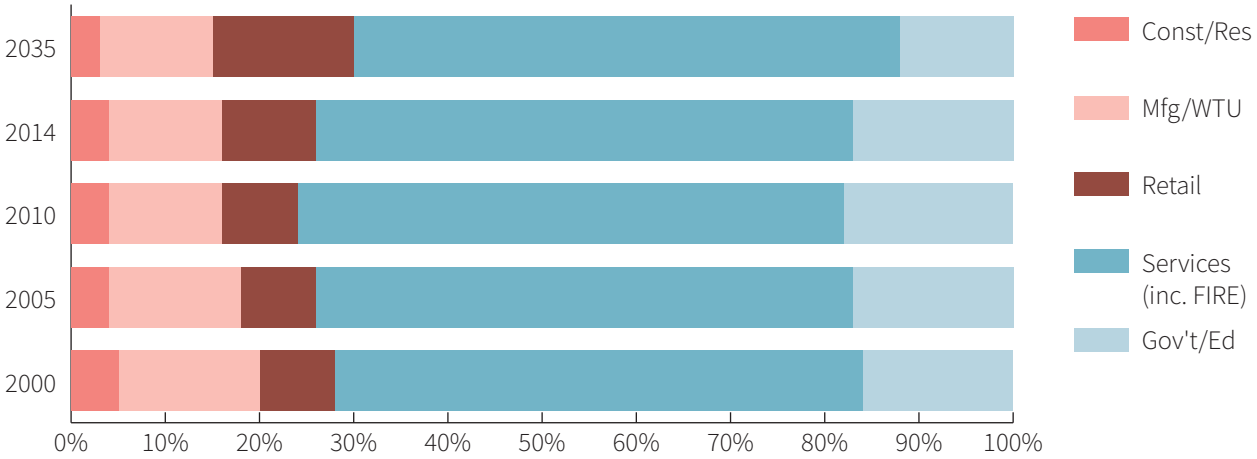
**The method of identifying jobs by sector has changed since 1995, and it is not practical to compare employment by sector between 1995 and later years.*

***Jobs are a report of "covered employment," which refers to positions covered by the Washington Unemployment Insurance Act. The act exempts the self-employed, proprietors and corporate officers, military personnel, and railroad workers, so those categories are not included in the dataset. Covered employment accounts for approximately 90 percent of all employment.*

Source: Washington State Employment Security Department Quarterly Census of Employment and Wages and Puget Sound Regional Council. March, 1995, 2010, and 2014

Land Use Appendix Figure A-5

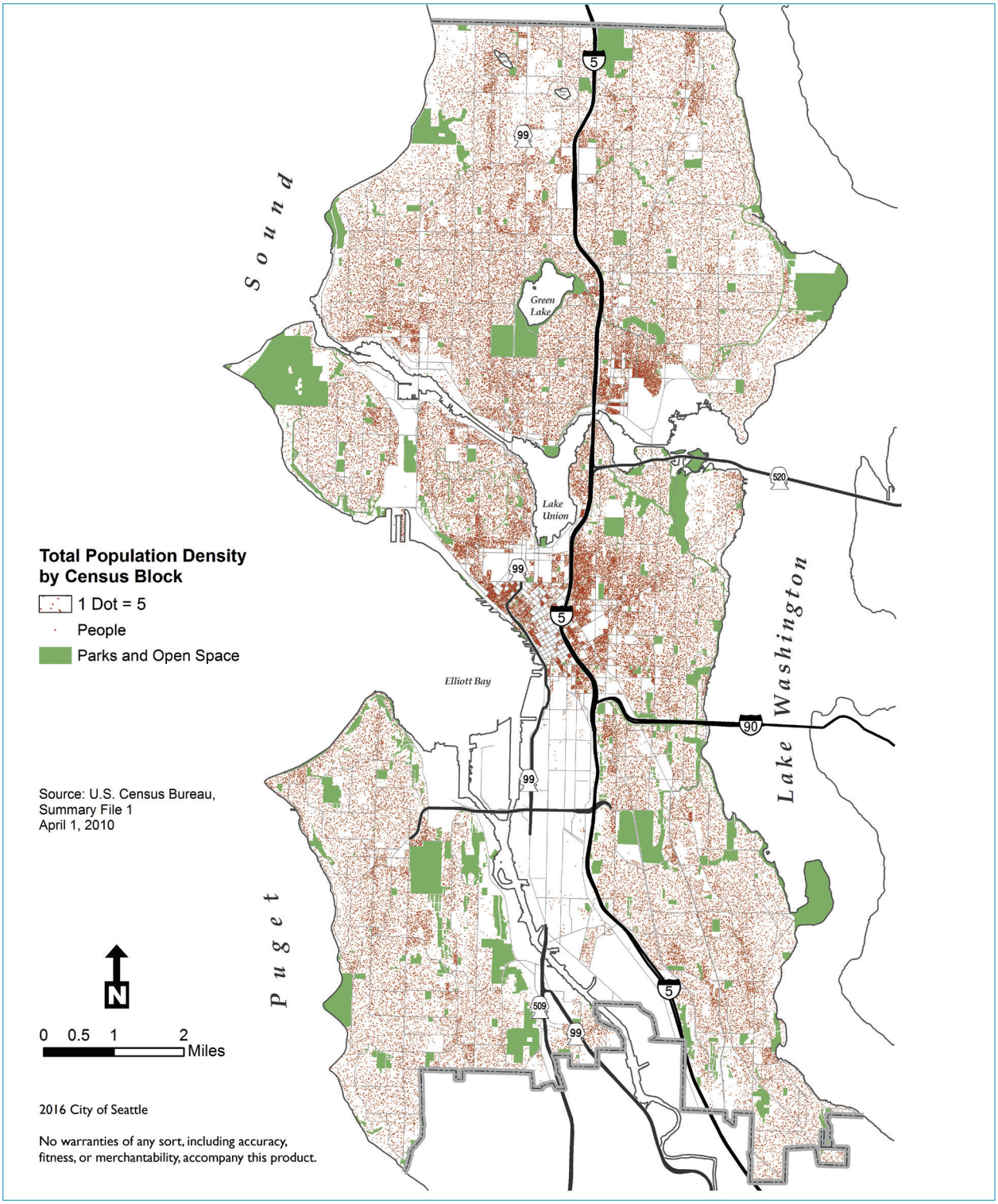
Proportions of Employment by Sector, 2000–2035



Source: Puget Sound Regional Council Vision 2040 Regional Growth Strategy/Land Use Vision dataset and covered employment estimates

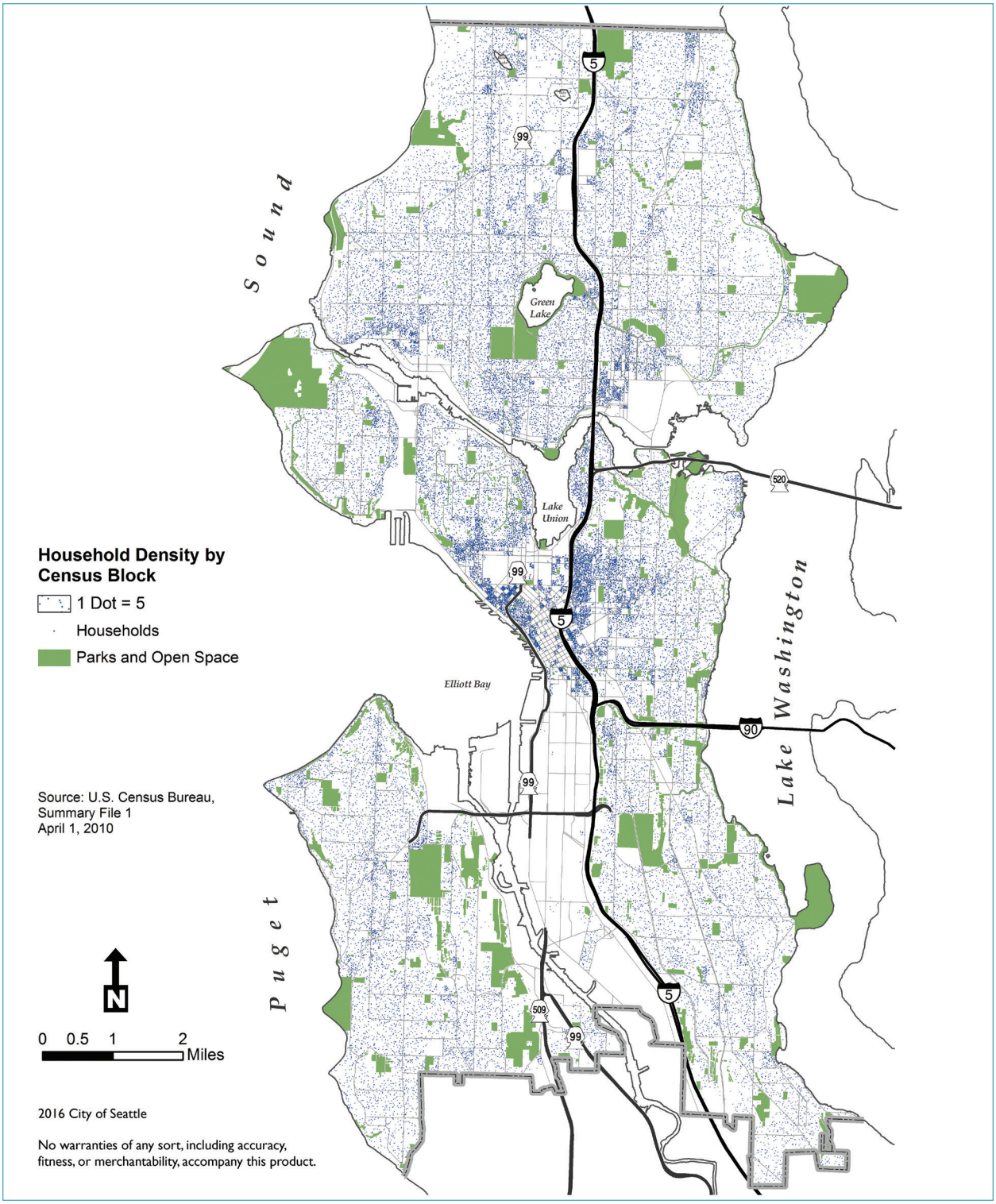
Land Use Appendix Figure A-6

Population Density 2010



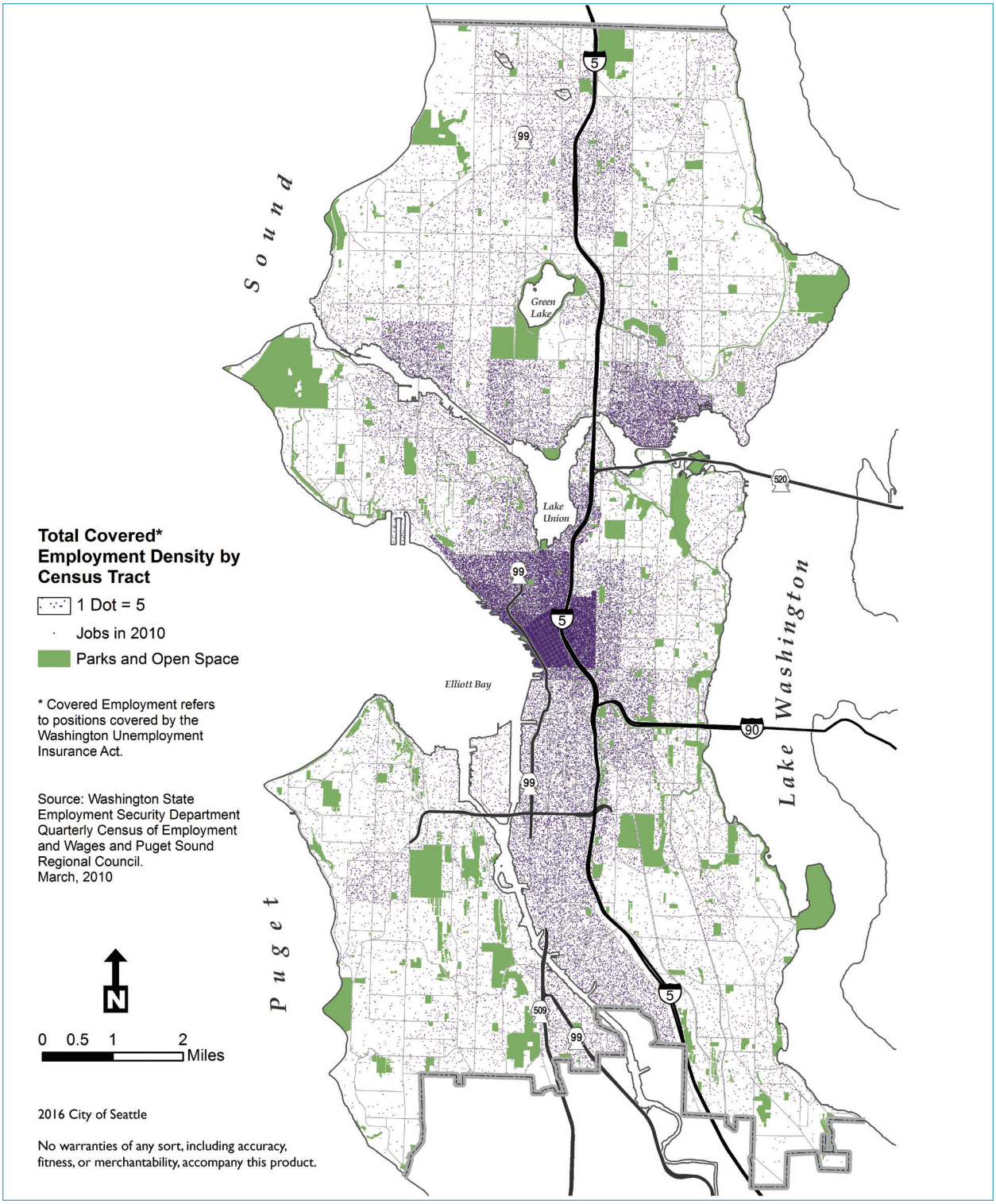
Land Use Appendix Figure A-7

Household Density 2010



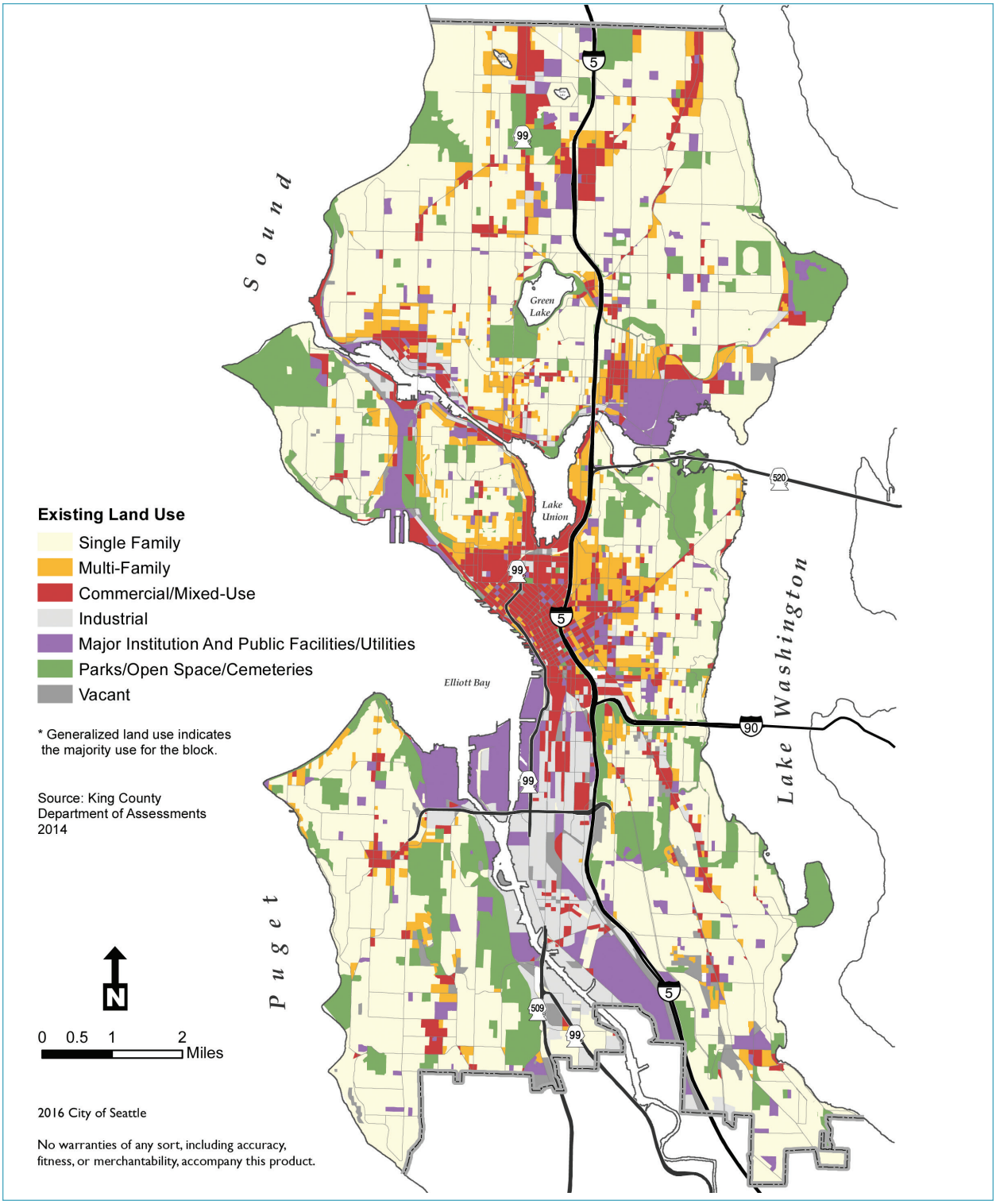
Land Use Appendix Figure A-8

Employment Density 2010



Land Use Appendix Figure A-9

Generalized* Existing Land Use



Transportation Appendix

Introduction

Many of the terms used in the Transportation element and appendix may be unfamiliar to the casual reader. The purpose of providing the information in this appendix, and related information in the Transportation element, is to comply with the requirements of the state Growth Management Act (GMA), RCW Chapter 36.70A, by showing land use assumptions used in estimating travel; estimated traffic impacts to state-owned transportation facilities based on those assumptions; facilities and service needs, including level of service standards for local arterials and state highways; forecasts of traffic; and a financing plan to show how these needs will be met.

There are useful glossaries in the State of Washington Department of Commerce's Transportation Guidebook (http://www.commerce.wa.gov/Services/localgovernment/GrowthManagement/Growth-Management-Planning-Topics/Pages/Transportation.aspx), Washington State Department of Transportation's (WSDOT) website titled Growth Management Act (GMA); http://www.wsdot.wa.gov/Publications/Manuals/index.htm and at Comprehensive Plan Resources (http://www.wsdot.wa.gov/planning/community/GMA).

Land Use Assumptions Used in Estimating Travel

To estimate future travel levels, assumptions were made for a variety of factors related to future population, employment, and transportation facilities. These include the number and geographic distribution of both households and employment in Seattle and the region, characteristics of households and jobs (e.g., number of residents per household, household income), and the transportation network (e.g., streets, transit routes). Then, a computer model was used to predict the total number of person-trips between various travel zones, the number of trips that would use various modes (e.g., car, bus, bike, walk), and the resulting vehicle traffic volumes on various streets throughout the city.

Existing Conditions

In 2010, the Census counted 608,660 people living in Seattle and 308,500 housing units. The State Office of Financial Management (OFM) provided an estimate in April 2015 of approximately 662,400 residents, 314,326 households, and 332,694 housing units. Many people visit Seattle for various purposes, such as working, shopping, education, tourism, medical appointments, pass-through travel, and other reasons.

Regional Land Use Assumptions

The Puget Sound Regional Council (PSRC) conducts regional planning for the four-county (Snohomish, King, Pierce, and Kitsap) central Puget Sound region. The PSRC's Vision 2040 and Transportation 2040 present a vision of growth management and an array of transportation policies to guide transportation investment decisions. The PSRC provides population and employment forecasts for the region, and encourages growth in ways that focus future population and employment growth into urban centers, including those urban centers defined in this Comprehensive Plan.

Seattle Land Use Assumptions

Seattle's growth assumptions for the period from 2015 through 2035 are 70,000 net new housing units and 115,000 net new jobs. This is Seattle's share of the region's projected housing and employment growth between 2015 and 2035, allocated through the countywide planning process conducted by the Growth Management Planning Council.

The growth assumptions for the urban centers are as follows:

Urban Center	Housing Units	Jobs
Downtown	12,000	35,000
First Hill/Capitol Hill	6,000	3,000
South Lake Union	7,500	15,000
Uptown	2,000	2,000
University District	3,500	5,000
Northgate	3,000	8,000
Greater Duwamish Mfg./Industrial Center	NA	6,000
BINMIC	NA	3,000

Expected growth in urban villages is shown in the following table.

	Expected Housing Growth Rate*	Expected Job Growth Rate*
Hub Urban Villages	**40%**	**50%**
With very good transit service	60%	50%
With high displacement risk and low access to opportunity, regardless of the level of transit service	40%	50%
Residential Urban Villages	**30%**	
With very good transit service	50%	
With high displacement risk and low access to opportunity, regardless of the level of transit service	30%	

*Percentage growth above the actual number of housing units or jobs in 2015, except where limited by zoning capacity.

Facilities and Service Needs

Seattle's street network consists of approximately 1,534 miles of arterials, including some that are designated state routes, and more than 2,400 miles of non-arterials ***(see Transportation Appendix Figure A-1)***. In the arterial system there are 620 miles of principal arterials, 566 miles of minor arterials, and 348 miles of collector arterials. High-occupancy vehicle (HOV) lanes exist on some arterials and limited access facilities as shown in Transportation Appendix Figure A-2.

Transit

Public transit in Seattle is provided by three agencies. King County Metro provides bus, trolley, and streetcar services that cover most of King County. Community Transit and Sound Transit operate express bus services to Seattle from King, Snohomish, and Pierce Counties. As of 2014, King County Metro serves a population of more than two million people in a service area greater than 2,000 square miles. It operates more than 1,800 vehicles on about 214 bus, trolley, and dial-a-ride routes. Included are 159 electric trolley buses serving fourteen routes along almost seventy miles of two-direction overhead wires. Its 2012 ridership was more than 114 million passengers. Transportation Appendix Figure A-3 shows bus routes in Seattle.

King County Metro operates a 1.3-mile-long tunnel under Third Avenue and Pine Street from the International District to Ninth Avenue and Pine Street. The tunnel has four operational stations, and connects to I-90 at the south end and to the I-5 express lanes at the north end.

The tunnel supports joint bus and light rail service until such time as light rail train service is too frequent to safely operate joint services in the tunnel.

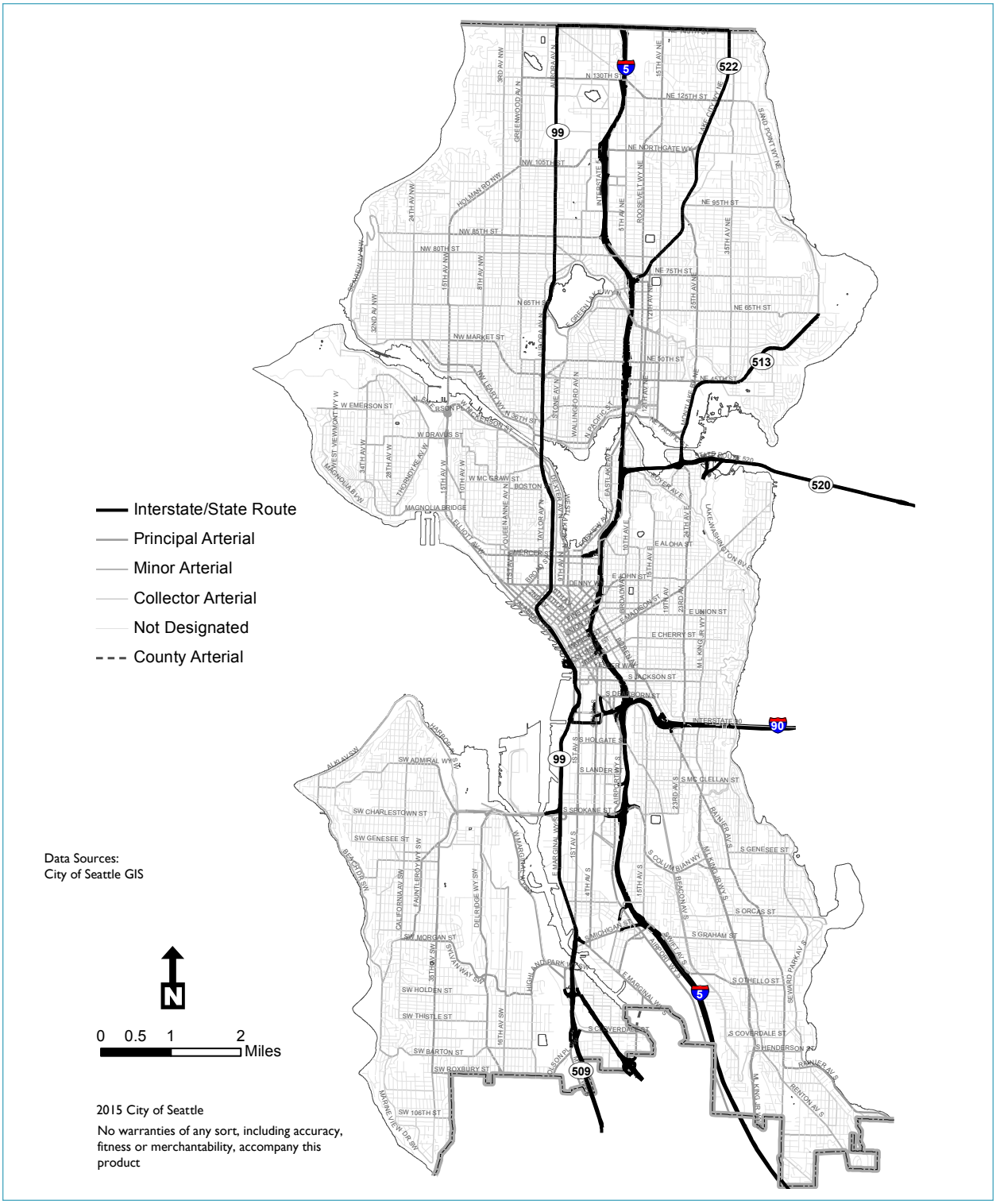
Sound Transit is the regional transit authority for the Puget Sound area (which includes portions of King, Snohomish, and Pierce Counties.) Sound Transit operates light rail service connecting Downtown Seattle with SeaTac Airport and has construction under way to extend service northward to Lynnwood. Stations serving Capitol Hill and Husky Stadium opened in March 2016. Light rail will serve additional stations in the University District, Roosevelt, and Northgate by 2021. Routing is shown on Transportation Appendix Figure A-4.

There are thirteen Link light rail stations currently in Seattle: in Rainier Beach, Othello, Columbia City, North Rainier/Mt. Baker, Beacon Hill, SODO/Lander Street, and SODO/Royal Brougham Way, Capitol Hill, Husky Stadium, and four in the Downtown transit tunnel. Weekday ridership averaged more than 37,000 passengers in 2014.

Sound Transit also provides Sounder commuter rail services during peak hours along existing rail lines from Downtown Seattle northward to Everett and southward to Tacoma and Lakewood. Metro, Sound Transit, and WSDOT operate approximately eighteen park-and-ride facilities with approximately 2,262 parking spaces in Seattle. ***(See Transportation Appendix Figure A-5.)***

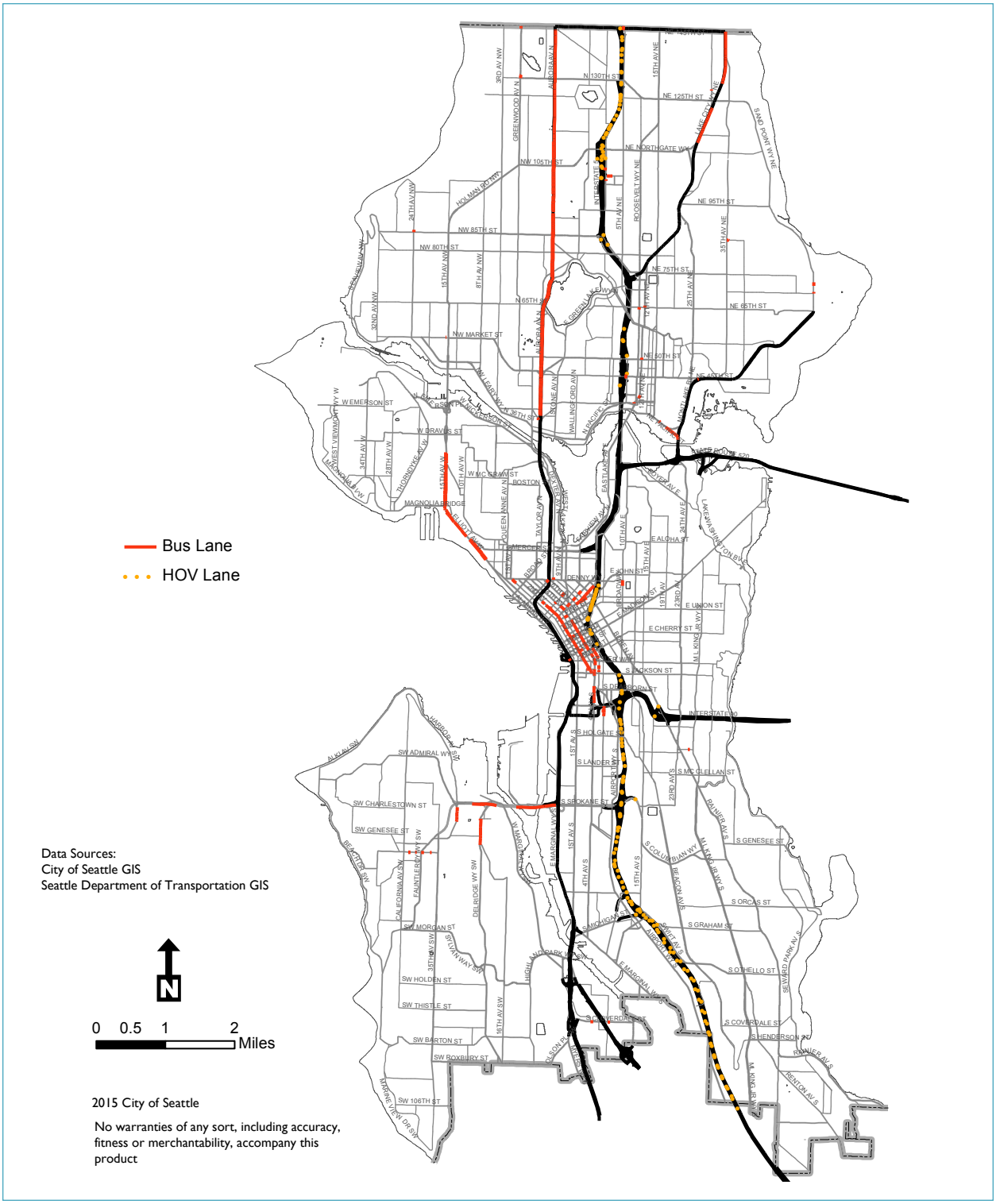
Transportation Appendix Figure A-1

Arterial Classification



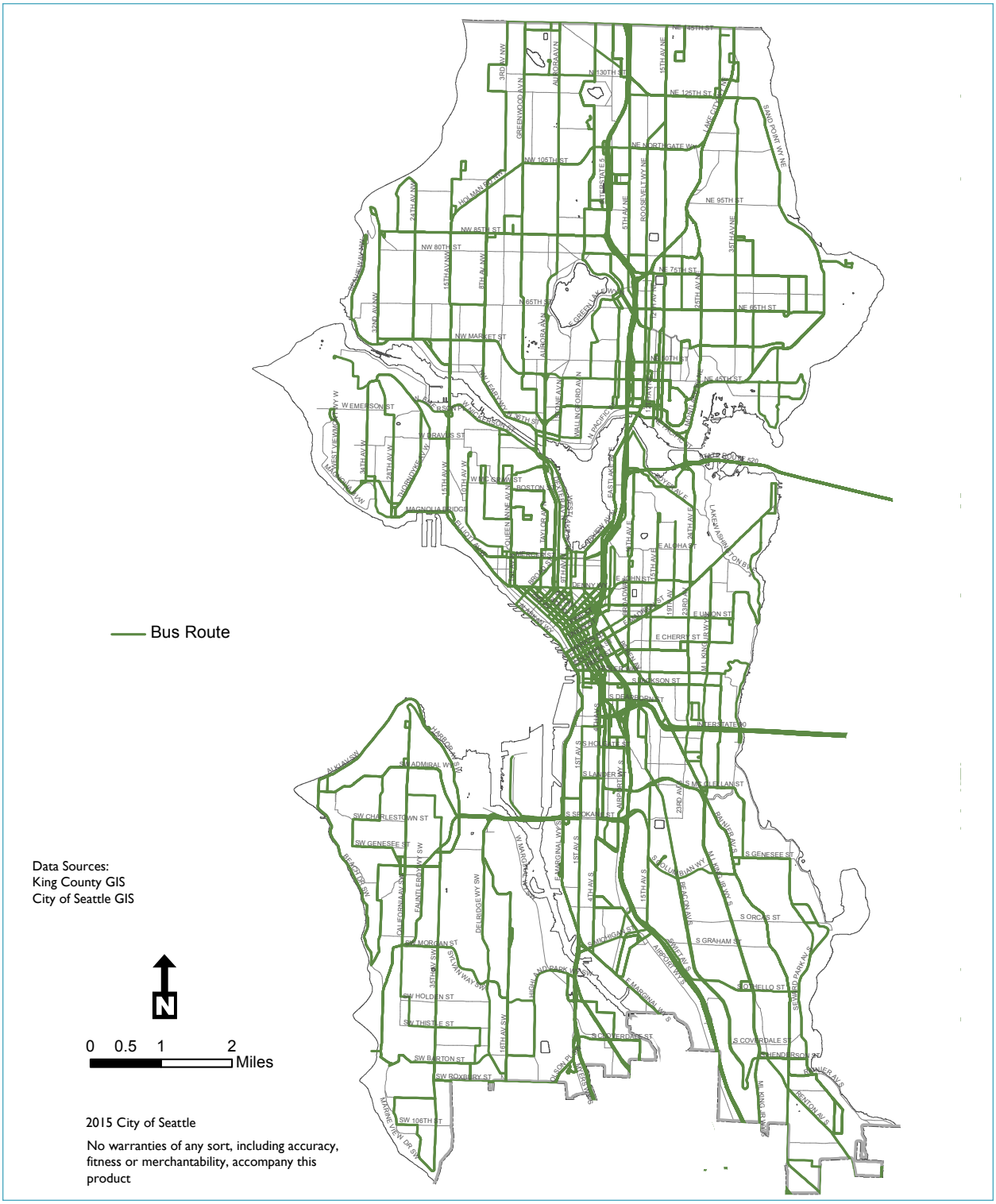
Transportation Appendix Figure A-2

Transit/High-Occupancy Vehicle Lanes



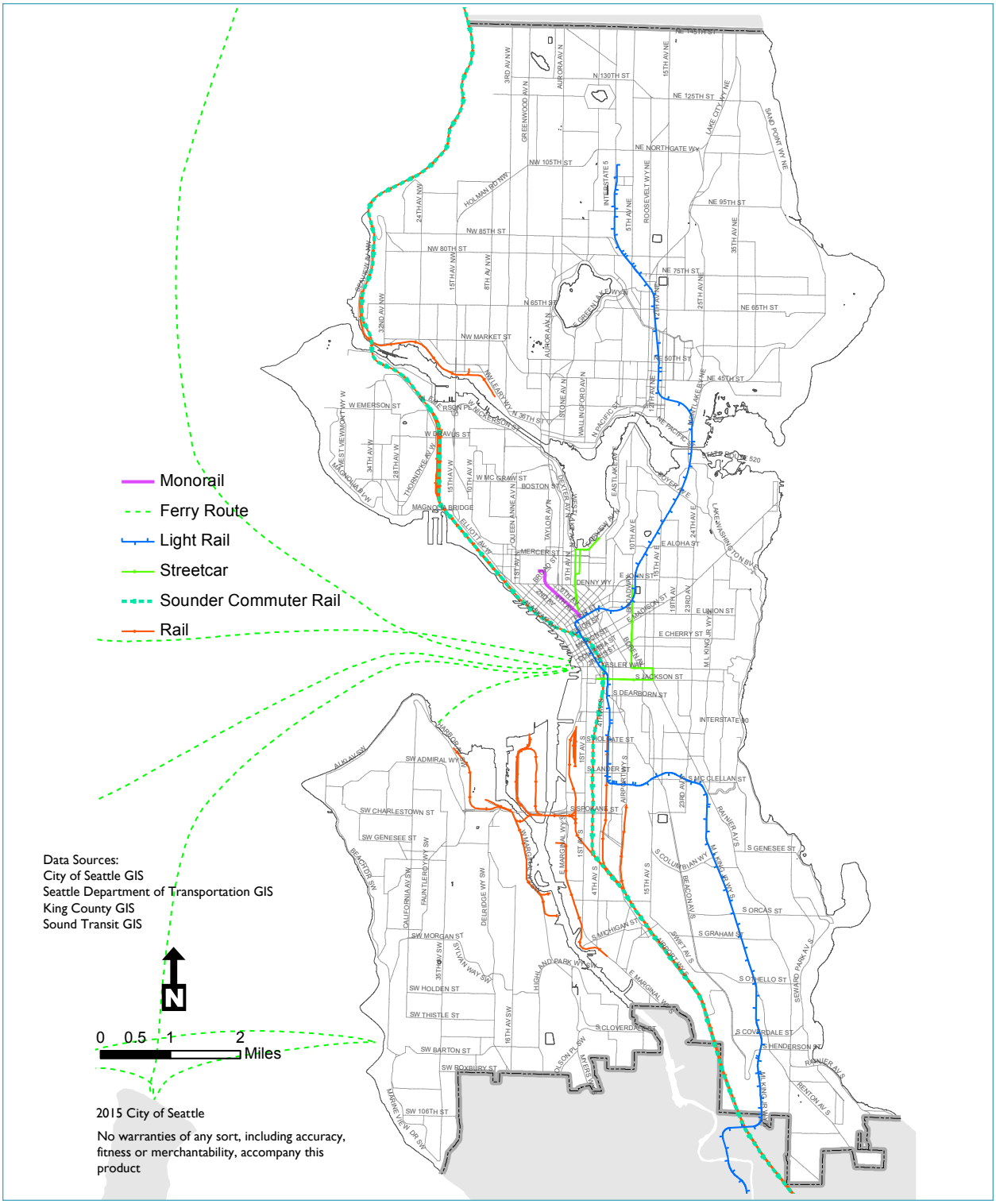
Transportation Appendix Figure A-3

Bus Routes



Transportation Appendix Figure A-4

Rail & Ferry Routes



Transportation Appendix Figure A-5

Park & Ride Facilities

Lot	Name	Address	Spaces	Amenities/Routes/Notes
N/A	Montlake Station	Montlake Blvd E & SR 520	0	54 Bike Lockers Metro: 25, 43, 48
703	Green Lake Park & Ride	6601 8th Ave NE	411	22 Bike Lockers Metro: 48, 64, 66, 67, 76, 242, 316 Sound Transit: 542 *Lot is usually filled 90 percent or above by 9:00 a.m. on weekdays
505	Lamb of God Lutheran Church	12509 27th Ave NE	21	Metro: 41
706	North Seattle Interim Park & Ride	402 NE 103rd Street	156	Metro: 16, 40, 41, 66, 67, 68, 75, 242, 303, 345, 346, 347, 348, 995 Sound Transit: 555, 556
758	Northgate Mall Park & Ride Garage	NE 103rd St & 1st Ave NE	280	Spaces located on floors 1 and 2 Metro: 16, 40, 41, 66, 67, 68, 75, 242, 303, 345, 346, 347, 348, 995 Sound Transit: 555, 556 *Lot is usually filled 90 percent or above by 9:00 a.m. on weekdays.
753	Northgate Transit Center	10200 1st Ave NE	296	12 Bike Lockers 12 On-Demand Bike eLockers Ticket Vending Machines Metro: 16, 40, 41, 66, 67, 68, 75, 242, 303, 345, 346, 347, 348, 995 Sound Transit: 555, 556 Boarding Locations Map *Lot is usually filled 90 percent or above by 9:00 a.m. on weekdays.

Lot	Name	Address	Spaces	Amenities/Routes/Notes
753.1 and 753.2	Northgate Transit Center East Park & Ride	3rd Ave NE & NE 103rd St	448	Spaces include 50 for carpool Metro: 16, 40, 41, 66, 67, 68, 75, 242, 303, 345, 346, 347, 348, 995 Sound Transit: 555, 556 *Lot is usually filled 90 percent or above by 9:00 a.m. on weekdays.
710	South Jackson Park Park & Ride	5th Ave NE & NE 133rd St	46	Metro: 242
760	Thornton Place Garage	3rd Ave NE & NE 100th St	350	Garage Floors P1 & P2 Hours: Monday-Friday 6 a.m. - 8 p.m. Metro: 16, 40, 41, 66, 67, 68, 75, 242, 303, 345, 346, 347, 348, 995 Sound Transit: 555, 556 *Lot is usually filled 90 percent or above by 9:00 a.m. on weekdays.
749	Airport & Spokane Park & Ride	Airport Way S & S Spokane St	25	Metro: 101, 102, 106, 131, 150, 177, 178, 190 Sound Transit: 590, 592, 593, 594, 595
550	Beverly Park First Baptist Church	11659 1st Ave S	12	Metro: 128, 131
N/A	Columbia City Station	4818 Martin Luther King Jr. Way S	0	37 Bike Lockers No Metro or Sound Transit Parking Available Paid Parking Nearby Ticket Vending Machines Sound Transit: Central Link Light Rail Closest Bus Route: Metro: 8
591	Community Bible Fellowship	11227 Renton Ave S	29	Metro: 106
562	Holy Family Church	9641 20th Ave SW	23	Metro: 22, 113, 125 Sound Transit: 560
738	Olson Place & Myers Way Park & Ride	9000 Olson Pl SW	100	Metro: 60, 113

Lot	Name	Address	Spaces	Amenities/Routes/Notes
N/A	SODO Station	500 S Lander St	0	16 Bike Lockers Sound Transit: Central Link Light Rail
553	Sonrise Evangelical Free Church	610 SW Roxbury St	10	Metro: 60, 113
744	Southwest Spokane St Park & Ride	3599 26th Avenue SW	55	Metro: 21, 37 Express

Source: King County Metro. "Park and Ride Information." Last modified 2014. http://metro.kingcounty.gov/tops/parknride/

Bicycles

Bicycles are classified as "vehicles" in the Seattle Traffic Code and have the right to use all streets in the city except where explicitly prohibited. Bicycling is growing in popularity as an everyday commuting method and as recreational activity. Transportation Appendix Figure A-6 illustrates the location of seven categories of bike facilities.

As of 2014, Seattle has 135 miles of bicycle facilities, including neighborhood greenways, protected bike lanes, in-street separations, sharrows, climbing lanes, and multi-use trails. The 2015 updates to the Bicycle Master Plan commit to further expanding the network to increase connectivity, completeness, and safety.

Bicycle racks are provided in neighborhood commercial areas and Downtown and other appropriate locations, and some workplaces provide secure, weather-protected bike parking, showers, and lockers. As of 2010, the City had installed over 2,550 bike racks across the city. Seattle's Land Use Code also requires that many new developments include bike parking to complement parking built for cars.

Pedestrians

As of 2010, Seattle had more than 2,200 miles of sidewalks, nearly 6,000 crosswalks, almost 27,000 curb ramps, 500 stairways, and thirty-nine lane miles of twelve-foot wide trails ***(see pedestrian facilities mapped in Transportation Appendix Figure A-7)***. Over the past decade, the City has made progress in addressing gaps in sidewalk coverage by pursuing construction of sidewalks or asphalt walkways in numerous locations where they were lacking, within the constraints of budgeted funding. Between 2009 and 2014, approximately 180 blocks of new sidewalk have been built citywide.

There remain several areas around the city, such as residential neighborhoods north of North 85th Street, that lack sidewalks because they were originally developed when

sidewalks were not required. The City has levy funding to build approximately 250 blocks of sidewalk over the next nine years.

Parking

On-street parking occurs in the public right-of-way and is therefore regulated by the City through the creation of no-parking and special-use parking zones, time-of-day restrictions, parking duration limits, pay stations/meters, and restricted parking zones (RPZs). Over the past decade, the City has modernized its pay stations/meters and continues to do so with innovations such as pay-by-phone. It also has pursued more active management of on-street parking rates in order to accomplish goals for availability of on-street parking for motorists wishing to park. This makes it easier for people to find parking when and where they need it.

RPZs are designed to protect Seattle's residential neighborhoods from parking impacts and congestion from major employment and/or retail centers. In an RPZ, on-street parking is generally restricted to one or two hours, except for residents and guests who display special RPZ decals. Existing RPZs include the following communities: Montlake, Squire Park, West Seattle-Fauntleroy, Capitol Hill, Wallingford, University District, First Hill, Eastlake, Magnolia, North Queen Anne, North Capitol Hill, Uptown (Seattle Center), Central District (Garfield High School), Belmont/ Harvard, Mount Baker (Franklin High School), North Beacon Hill, Licton Springs (North Seattle Community College), Cowen Park/Roosevelt, and Ravenna Bryant. The RPZ program is under review in 2016, with the objective to identify refinements that will respond to current needs and priorities with respect to neighborhoods' on-street parking.

Off-street parking facilities are usually privately owned and operated. The City regulates the location and size of garages and lots through the Land Use Code. Facilities with paid parking pay a licensing fee.

Carpools receive preferential parking treatment through City programs, allocation of on-street parking spaces, and Land Use Code requirements for carpool parking in new developments.

Rail

Passenger Rail: Amtrak operates trains over 900 miles of Burlington Northern tracks in the state and provides service to sixteen cities. The Empire Builder provides daily service from Seattle to Spokane and on to Chicago; the Amtrak Cascades runs four times a day to/from Portland, and twice daily to/from Vancouver, B.C. The Coast Starlight runs daily connecting Seattle to Portland, Oakland, and on to Los Angeles. Sound Transit operates two Sounder train routes on the same tracks between Seattle/Tacoma-Lakewood and Seattle/Everett.

Freight: Transportation Appendix Figure A-17 shows a map of Freight Assets located in Seattle. Among these, Burlington Northern Santa Fe (BNSF) owns and operates a mainline dual-track from Portland to Seattle. Union Pacific owns and operates a single mainline track with two-way train operations between Tacoma and Seattle. BNSF owns and operates tracks that extend north from Downtown Seattle to Snohomish County and then east to Spokane.

There are four intermodal terminals servicing the Duwamish Industrial area: BNSF Railway operates the Seattle International Gateway yard north of South Hanford Street. Union Pacific Railroad operates the Seattle Argo Yard just south of Spokane Street off Diagonal/ Denver Avenues in the Duwamish Manufacturing/Industrial Center. Port of Seattle terminals include intermodal facilities at Terminals 5 and 18. BNSF's Interbay rail yard is north of Downtown Seattle. The Ballard Terminal is a shortline operator that connects from the BNSF railway bridge crossing of the ship canal with a three-mile spur that runs along Shilshole Way. This is an important rail operation for local freight.

Rail-line capacity depends on train length, operating speeds, the number of switch cross-over points, and whether the line has one- or two-way traffic. Current train speed limits in the City are ten, twenty, or forty mph depending on the segment.

Port of Seattle and other intermodal facilities

The Port of Seattle owns, operates, or supports marine, rail, and air intermodal facilities. Port of Seattle facilities include nine commercial marine terminals, four ocean container terminals with thirty-one container cranes, and a deep-draft grain terminal. Steamship operators have direct service to Asia, Europe, Latin America, and domestic markets (Alaska and Hawaii).

Services are offered by seventeen ocean carriers, about thirty tug and barge operators, and BNSF Railway and Union Pacific railroads, operating intermodal yards. Transportation Appendix Figure A-8 shows Port of Seattle facilities located in Seattle.

Air Transportation

There are five commercial aircraft landing facilities in the greater Seattle metropolitan area: Seattle-Tacoma International Airport (Sea-Tac), operated by the Port of Seattle and located in the City of SeaTac; King County International Airport, located partly in Seattle; the Kenmore Air Harbor and Seattle Seaplanes facilities based in Seattle's Lake Union; and the Lake Washington sea-plane base near Kenmore. Transportation Appendix Figure A-9 shows air facilities in Seattle.

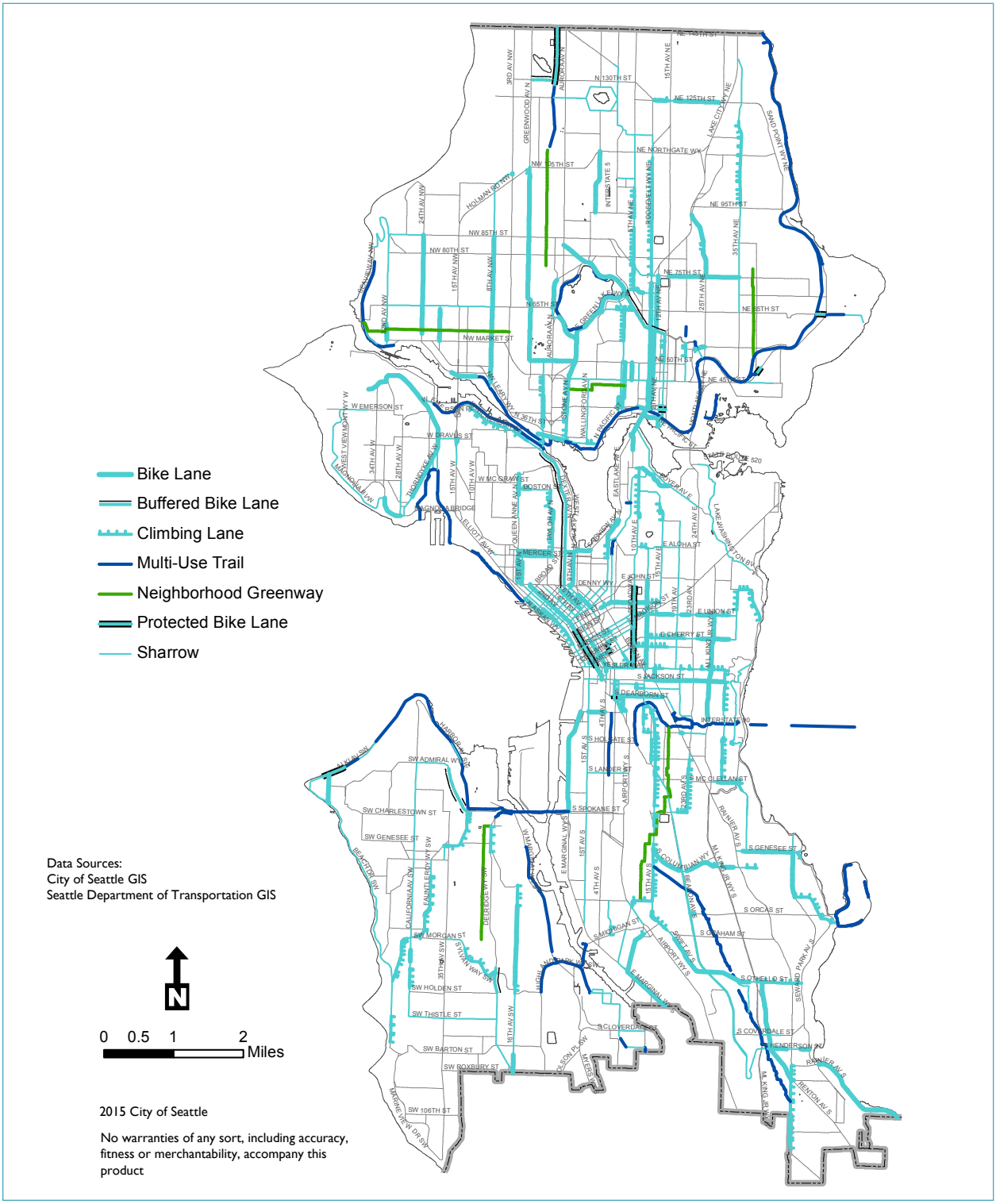
Water Transportation

The Washington State Ferry (WSF) system operates two terminals in Seattle: Colman Dock in Downtown Seattle, and the Fauntleroy terminal in West Seattle. Passenger-and-vehicle service is provided on two ferry routes from Colman Dock to Bainbridge Island and to

Bremerton. Passenger-and-vehicle ferries link Fauntleroy with Vashon Island and Southworth. King County operates the Water Taxi service in Elliott Bay that connects to West Seattle.

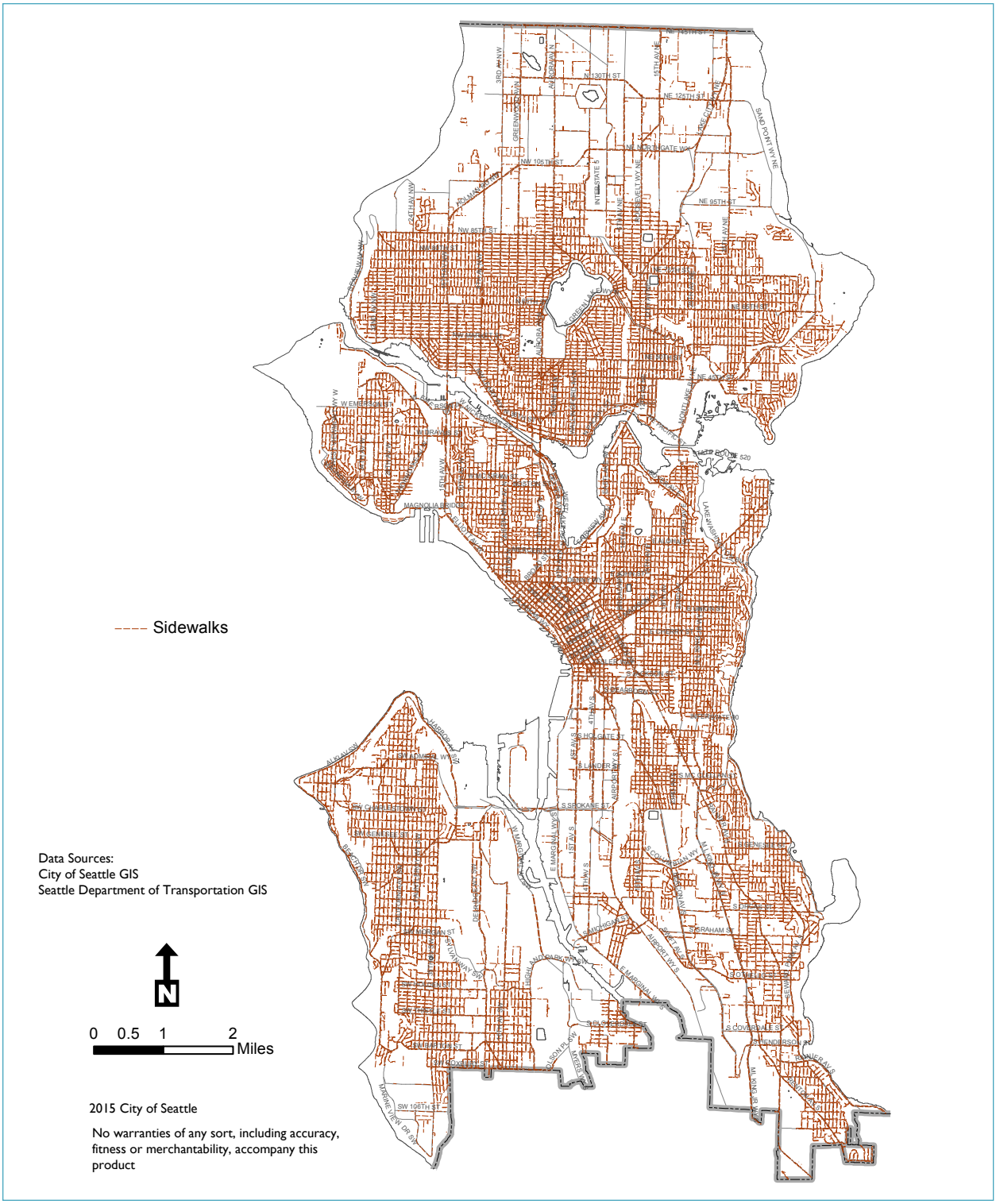
Transportation Appendix Figure A-6

Bicycle Facilities



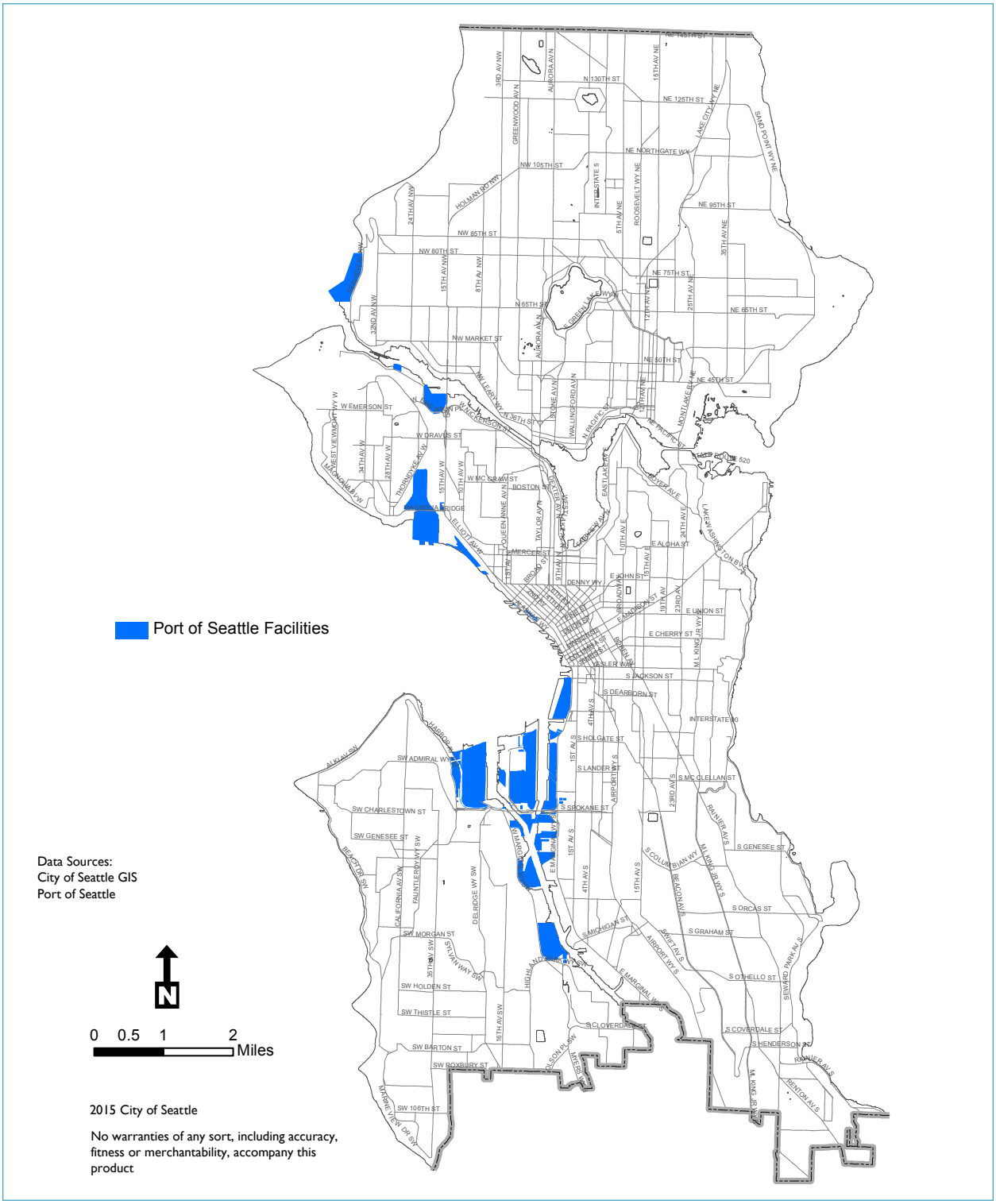
Transportation Appendix Figure A-7

Pedestrian Facilities



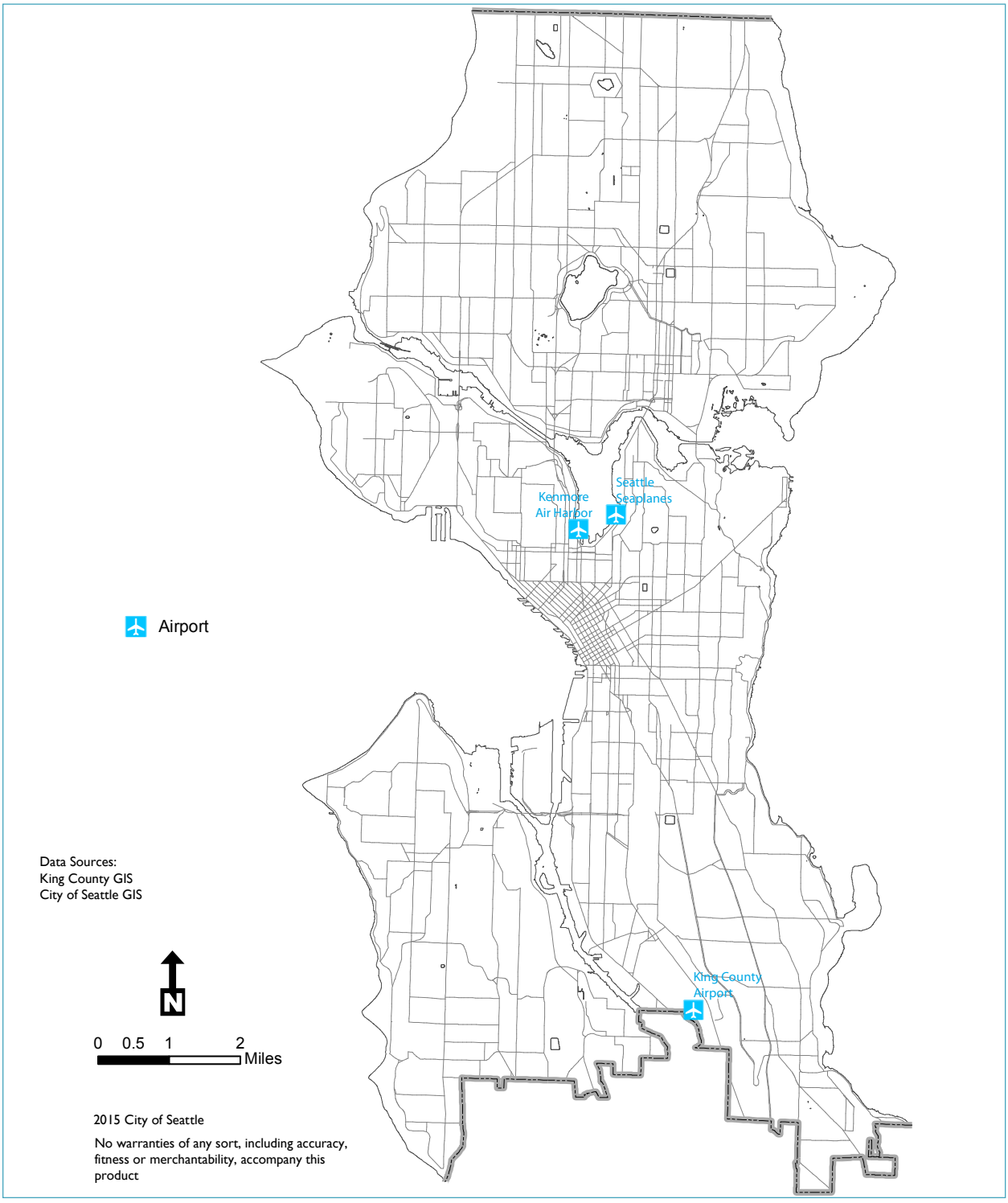
Transportation Appendix Figure A-8

Port of Seattle Facilities



Transportation Appendix Figure A-9

Airports



Local Level of Service Standards for Arterials and Transit Routes

Overview

The City measures level of service (LOS) based on the percentage of all trips that are made by single-occupant vehicle (SOV). This measure focuses on increasing the people-moving capacity of the city's roadways by reducing the SOV share of travel. The SOV share of travel is the least space-efficient mode and occurs during the most congested period of the day.

The performance of the overall system will be measured in relation to the reduced share of SOV travel. There are different performance levels defined for eight geographic sectors in the city, recognizing the diverse land use patterns and transportation contexts.

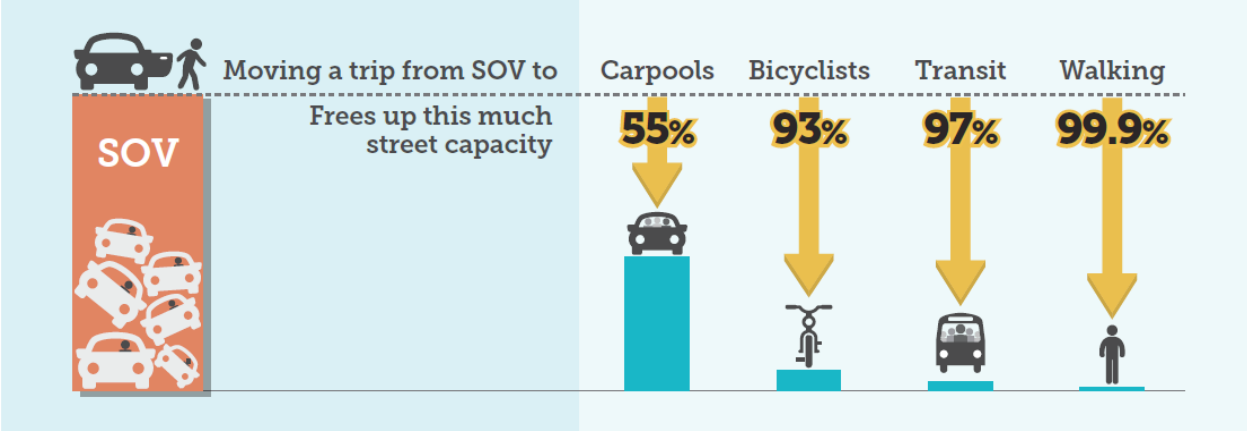
These performance levels differ from the prior screenline-based system. A target SOV mode share has been established for each of the eight sectors of the city and will be applied to every development project. The City's regulatory review will be reduced for each new unit of development.

This mode share measure is consistent with Seattle's comprehensive planning approach because it uses strategies other than adding new capacity for general-purpose travel. Adding vehicle capacity can be costly, and can lead to community disruption and environmental impacts. In many cases, widening arterials may not even be practical or feasible in a mature, developed urban environment. This mode share method of measuring LOS allows the City to use existing current street rights-of-way as efficiently as possible and encourages travel modes other than single-occupant vehicle, especially in peak hours.

Transportation Appendix Figure A-10 summarizes the assumptions about capacity savings and illustrates how lowering the SOV mode share provides "an established minimum capacity of public facilities or services that must be provided per unit of demand or other appropriate measure of need." Transportation Appendix Figure A-11 shows for each city sector the existing condition of SOV mode share and a future SOV target.

Transportation Appendix Figure A-10

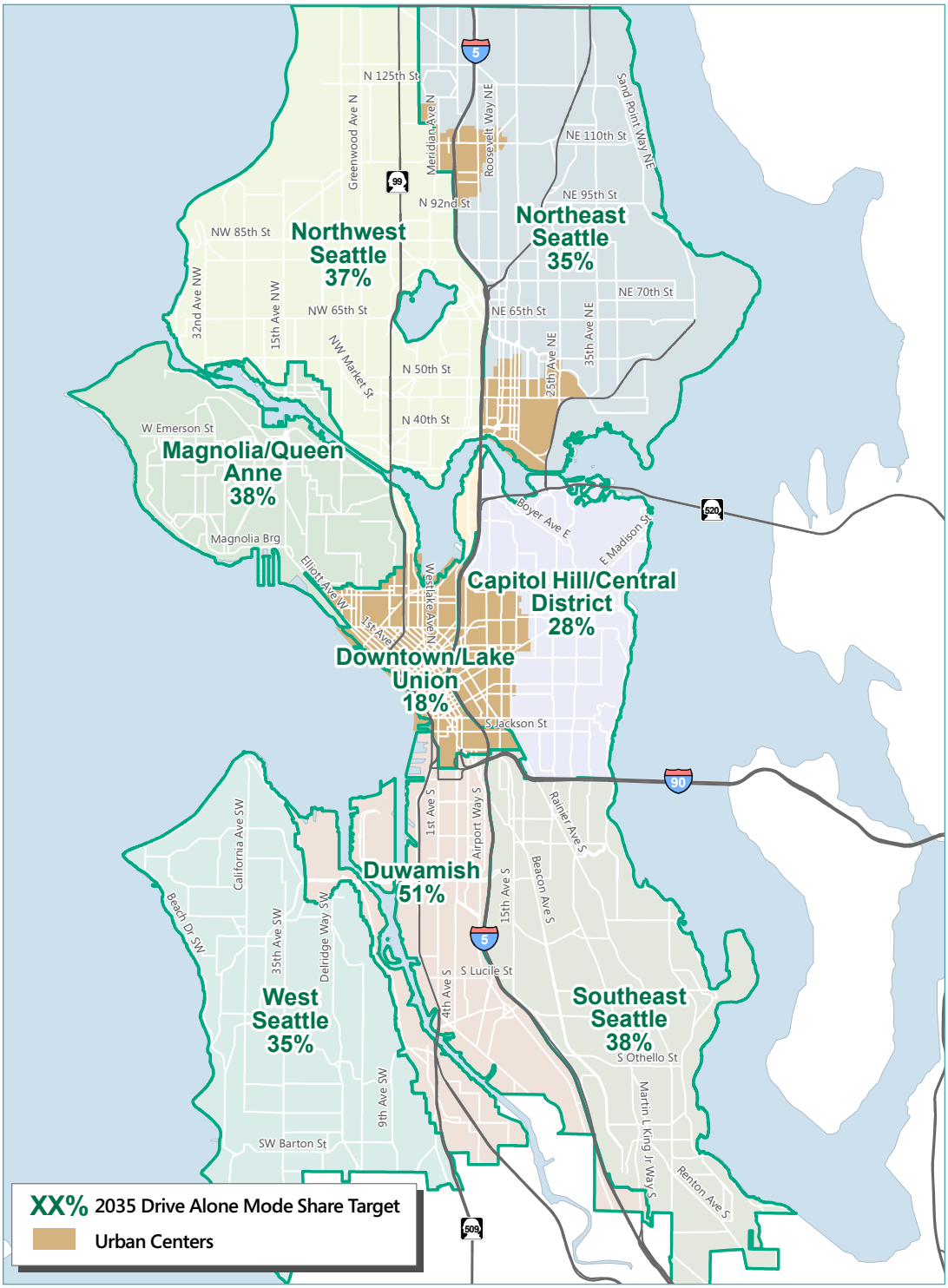
Street Capacity Gains with SOV Conversions



Source: Fehr & Peers, 2016

Transportation Appendix Figure A-11

2035 SOV Mode Share Targets by Geographic Sector



Source: Fehr & Peers, 2016

Traffic Forecasts

The v/c ratios shown in Transportation Appendix Figure A-13 are based on a model consistent with the PSRC Regional Transportation model. However, the City modified PSRC's model to better represent street conditions such as arterial speeds, future transit routing and service levels, the distribution of trips, and choice of transportation modes.

The model's current and 2035 regionwide and city-limit traffic volume estimates are shown in the following tables. The methodology used is to model traffic volumes on arterial streets for the year 2035 and compare them to current conditions.

The modeled volumes are then totaled for all arterials crossing a particular screenline. These totals are then compared to the sum of the arterials' rated capacities. The arterial capacity ratings were systematically reviewed and updated in 2015 to provide a consistent and accurate basis for comparison. This yields a v/c ratio for each direction of traffic at each screenline.

Total vehicle-miles-of-travel (VMT) for the region (per day)	
Existing	81.1 million
2035 forecasts	105.4 million (+30%)

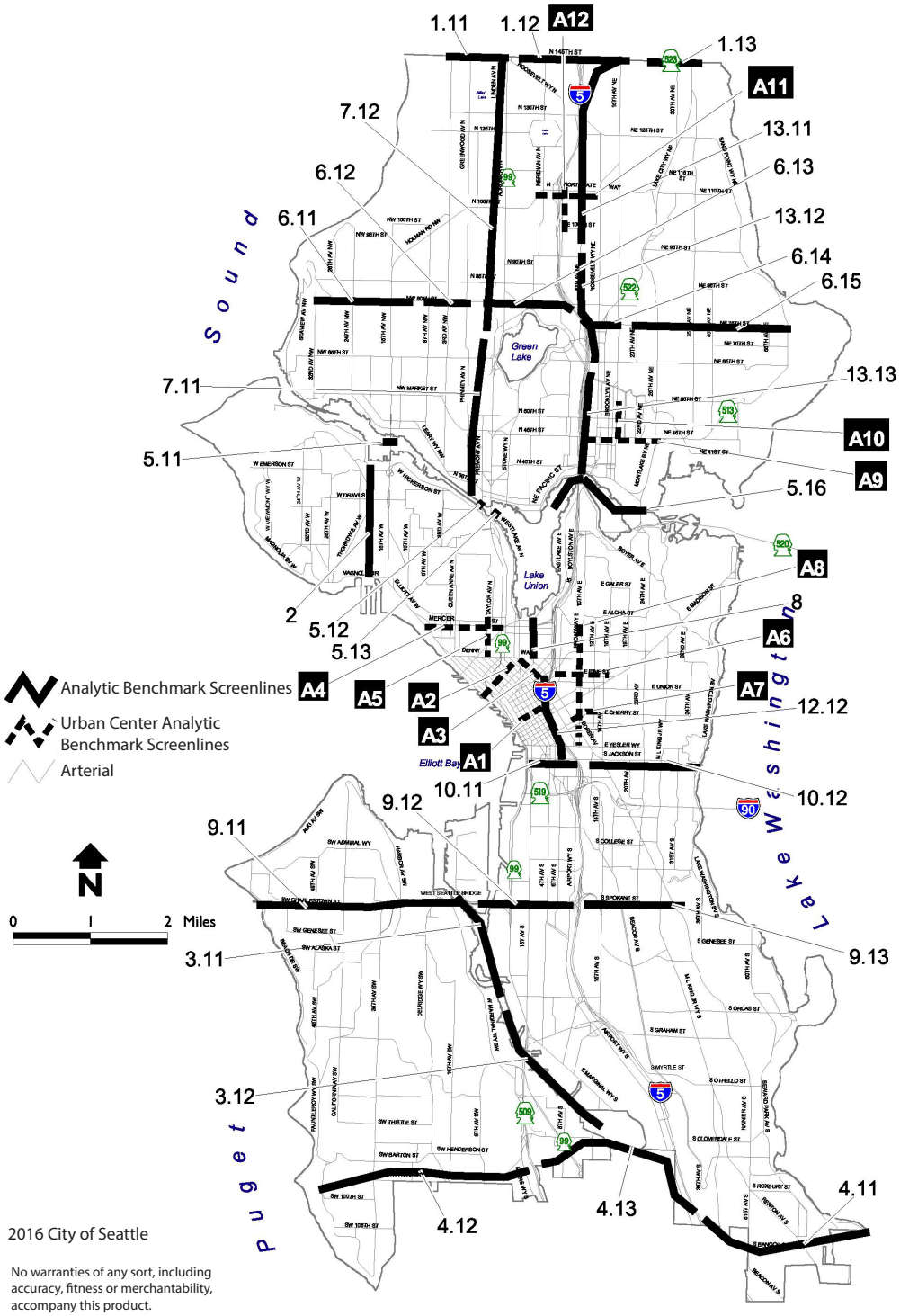
Traffic volume at north city limit (vehicles per day)	
Existing	360,800
2035 forecasts	467,500 (+-30%)

Traffic volume at south city limit (vehicles per day)	
Existing	503,600
2035 forecasts	637,300 (+27%)

Traffic volume at east city limit (SR 520 and I-90) (vehicles per day)	
Existing	213,000
2035 forecasts	270,500 (+27%)

Transportation Appendix Figure A-12

Screenlines for Traffic Forecast Analysis



Transportation Appendix Figure A-12 is a map illustrating the location of forty-two screenlines. Thirty of these screenlines were used until 2016 to evaluate level of service performance, and twelve other screenlines (labeled as A1–A12) provide supplemental information about performance in and near Seattle's urban centers.

A screenline methodology continues to be shown here because it highlights the trend in citywide and regional travel patterns. This methodology recognizes that no single intersection or arterial operates in isolation. Motorists have choices, and they select particular routes based on a wide variety of factors such as avoiding blocking conditions, and minimizing travel times. Accordingly, this analytic methodology focuses on a "traffic-shed" where the screenlines measure groups of arterials among which drivers logically can choose to travel.

Transportation Appendix Figure A-11 lists for each screenline the current conditions and modeled traffic results for the evening peak hour in year 2035, in comparison to analytic benchmarks. These benchmarks are expressed as v/c ratios of 1.0 or 1.20, which indicates a level of use equivalent to 100 percent or 120 percent of rated roadway capacity, measured during peak commute times.

With the anticipated implementation of the Comprehensive Plan, and with the future transportation and circulation conditions in the 2035 evening peak hour, traffic volumes will not exceed any of the screenline benchmarks. These results are evaluated in more detail below.

The forecasted screenline v/c ratios for the year 2035 evening peak hour range from 0.38 to 1.18.

- *Future peak hour traffic conditions will continue to reflect patterns similar to today, with the heaviest congestion at bridge locations including the Ballard Bridge (v/c = 1.18 northbound), the West Seattle Freeway and Spokane Street Bridges (collectively a v/c = 1.15 westbound), the University and Montlake Bridges (collectively a v/c = 0.95 northbound and 1.05 southbound), and the Aurora Bridge (v/c = 0.92 northbound and 0.82 southbound).*

- *Congestion is also projected to increase in other locations as well. This is due to growth or, in some cases, related to future planned road improvements addressing automobiles and bicycles. With respect to the latter factor, this analysis makes conservative assumptions about potential loss of automobile travel lanes. As part of future projects such as bicycle-serving "cycle tracks," a determination would be made contemporaneous with that project whether and how automobile travel lanes would be diminished. This caveat applies to all references below to future bicycle projects.*

- *Volumes on Aurora Avenue North, Lake City Way North, Greenwood Avenue North, and Third Avenue NW near the north city limits will continue to be heavy during evening*

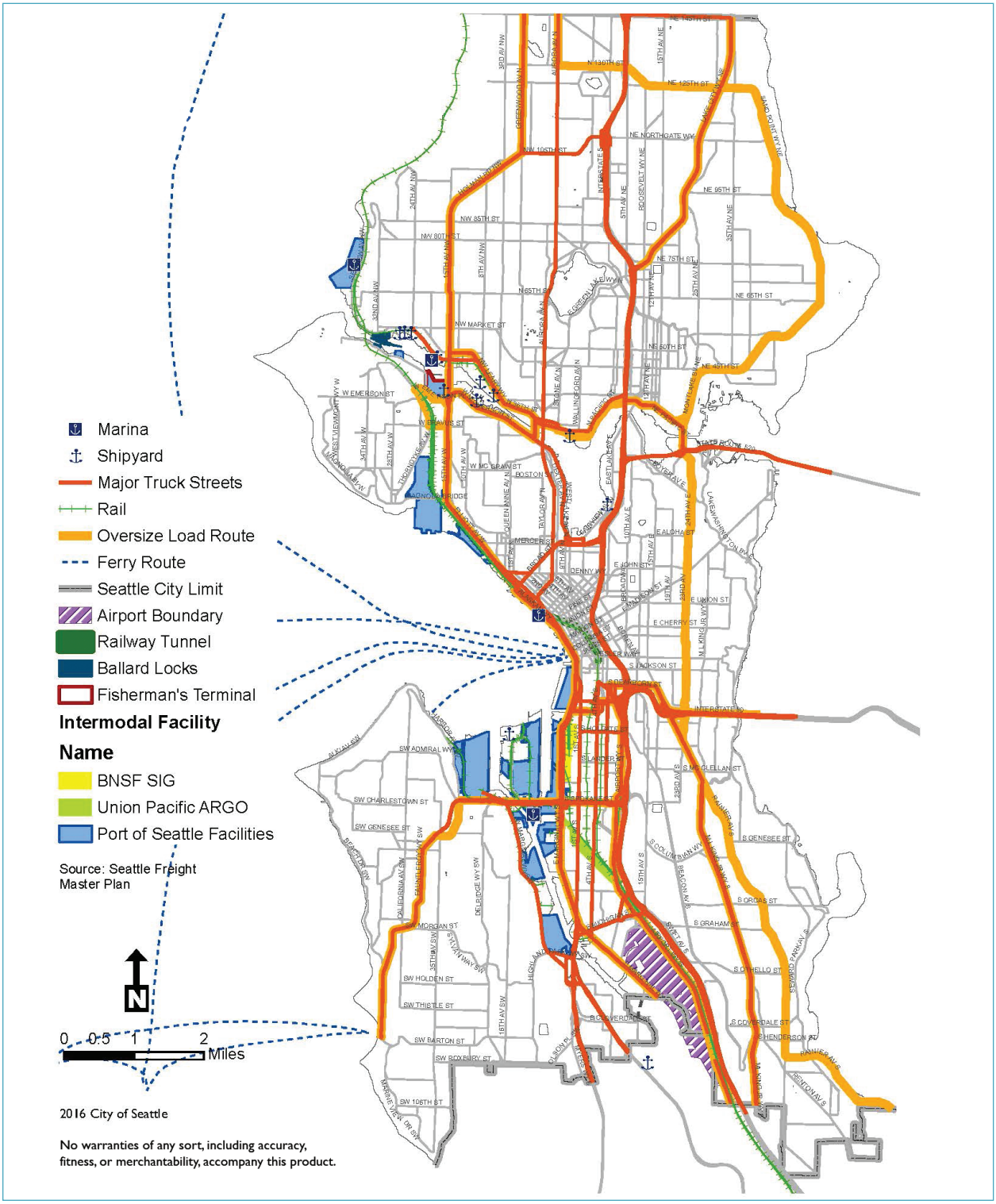
commutes, and will contribute to conditions that approach or slightly exceed the rated capacity level by 2035 (screenlines 1.11, 1.13).

- *Volumes on MLK Jr. Way South, Rainier Avenue South, and Renton Avenue South near the south city limits will continue to grow, and will contribute to greater use of capacity in the southbound peak direction, approaching but remaining below the rated capacity level for the entire screenline by 2035 (screenline 4.11).*

- *Southbound volumes toward southeast Seattle measured at South Jackson Street and at South Spokane Street will contribute to conditions that reach a v/c ratio of approximately 0.90, or using about 90 percent of rated capacity by 2035. This partly reflects the potential for changes in capacity related to future possible bicycle improvements (screenlines 9.13 and 10.12). See above caveat about future bicycle improvements.*

Transportation Appendix Figure A-13

Freight Assets



Transportation Appendix Figure A-14

Screenline V/C Ratios

Screenline No.	Screenline Location	Segment	Analytic Benchmark (V/C Ratio)	2013 PM Peak		2035 PM Peak	
				Dir.	V/C Ratios	Dir.	V/C Ratios
1.11	North City Limit	3rd Ave NW to Aurora Ave N	1.20	NB	0.70	NB	1.04
				SB	0.57	SB	0.80
1.12	North City Limit	Meridian Ave N to 15th Ave NE	1.20	NB	0.41	NB	0.77
				SB	0.32	SB	0.64
1.13	North City Limit	30th Ave NE to Lake City Way NE	1.20	NB	0.73	NB	0.97
				SB	0.63	SB	0.84
2	Magnolia	Magnolia Bridge to W. Emerson Place	1.00	EB	0.53	EB	0.56
				WB	0.55	WB	0.56
3.11	Duwamish River	West Seattle Freeway and S. Spokane St	1.20	EB	0.61	EB	0.69
				WB	0.87	WB	1.15
3.12	Duwamish River	1st Ave S and 16th Ave S	1.20	EB	0.35	EB	0.38
				WB	0.52	WB	0.55
4.11	South City Limit	M L King Jr Way to Rainier Ave S	1.00	NB	0.47	NB	0.56
				SB	0.63	SB	0.93
4.12	South City Limit	Marine View Drive SW to Myers Way S	1.00	NB	0.37	NB	0.56
				SB	0.42	SB	0.72
4.13	South City Limit	SR 99 to Airport Way S	1.00	NB	0.41	NB	0.58
				SB	0.45	SB	0.74
5.11	Ship Canal	Ballard Bridge	1.20	NB	0.99	NB	1.18
				SB	0.52	SB	0.72
5.12	Ship Canal	Fremont Bridge	1.20	NB	0.71	NB	0.79
				SB	0.54	SB	0.71
5.13	Ship Canal	Aurora Ave N Bridge	1.20	NB	0.81	NB	0.92
				SB	0.62	SB	0.82

Screenline No.	Screenline Location	Segment	Analytic Benchmark (V/C Ratio)	2013 PM Peak		2035 PM Peak	
				Dir.	V/C Ratios	Dir.	V/C Ratios
5.16	Ship Canal	University and Montlake Bridges	1.20	NB	0.80	NB	0.95
				SB	0.87	SB	1.05
6.11	South of NW 80th St	Seaview Ave NW to 15th Ave NW	1.00	NB	0.45	NB	0.53
				SB	0.43	SB	0.50
6.12	South of NW 80th St	8th Ave NW to Greenwood Ave N	1.00	NB	0.66	NB	0.87
				SB	0.49	SB	0.78
6.13	South of NE 80th St	Linden Ave N to 1st Ave NE	1.00	NB	0.44	NB	0.54
				SB	0.27	SB	0.41
6.14	South of NE 80th St	5th Ave NE to 15th Ave NE	1.00	NB	0.65	NB	0.74
				SB	0.53	SB	0.67
6.15	South of NE 80th St	20th Ave NE to Sand Point Way NE	1.00	NB	0.49	NB	0.63
				SB	0.47	SB	0.58
7.11	West of Aurora Ave N	Fremont Pl N to N 65th St	1.00	EB	0.48	EB	0.56
				WB	0.58	WB	0.65
7.12	West of Aurora Ave N	N 80th St to N 145th St	1.00	EB	0.50	EB	0.57
				WB	0.57	WB	0.65
8	South of Lake Union	Valley Street to Denny Way	1.20	EB	0.78	EB	0.91
				WB	0.78	WB	0.82
9.11	South of Spokane St	Beach Dr. SW to W Marginal Way SW	1.00	NB	0.51	NB	0.59
				SB	0.58	SB	0.72
9.12	South of Spokane St	E Marginal Way S to Airport Way S	1.00	NB	0.47	NB	0.60
				SB	0.52	SB	0.70
9.13	South of Spokane St	15th Ave S to Rainier Ave S	1.00	NB	0.45	NB	0.66
				SB	0.58	SB	0.89
10.11	South of S Jackson St	Alaskan Way S to 4th Ave S	1.00	NB	0.56	NB	0.64
				SB	0.65	SB	0.84

Screenline No.	Screenline Location	Segment	Analytic Benchmark (V/C Ratio)	2013 PM Peak		2035 PM Peak	
				Dir.	V/C Ratios	Dir.	V/C Ratios
10.12	South of S Jackson St	12th Ave S to Lakeside Ave S	1.00	NB	0.48	NB	0.75
				SB	0.58	SB	0.91
12.12	East of CBD	S Jackson St to Howell St	1.20	EB	0.35	EB	0.39
				WB	0.45	WB	0.52
13.11	East of I-5	NE Northgate Way to NE 145th St	1.00	EB	0.71	EB	0.86
				WB	0.59	WB	0.79
13.12	East of I-5	NE 65th St to NE 80th St	1.00	EB	0.44	EB	0.51
				WB	0.41	WB	0.53
13.13	East of I-5	NE Pacific St to NE Ravenna Blvd	1.00	EB	0.55	EB	0.63
				WB	0.54	WB	0.65
A1	North of Seneca St	1st Ave to 6th Ave	NA	NB	0.55	NB	0.67
				SB	0.40	SB	0.59
A2	North of Blanchard	Elliott Ave to Westlake Ave	NA	NB	0.43	NB	0.55
				SB	0.36	SB	0.51
A3	East of 9th Ave	Lenora St to Pike St	NA	EB	0.36	EB	0.44
				WB	0.32	WB	0.43
A4	South of Mercer St	Elliott Ave W to Aurora Ave N	NA	NB	0.78	NB	0.92
				SB	0.51	SB	0.78
A5	East of 5th Ave N	Denny Way to Valley St	NA	EB	0.39	EB	0.54
				WB	0.40	WB	0.46
A6	North of Pine St	Melrose Ave E to 15th Ave E	NA	NB	0.45	NB	0.53
				SB	0.50	SB	0.62
A7	North of James St–E Cherry St	Boren Ave to 14th Ave	NA	NB	0.62	NB	0.72
				SB	0.57	SB	0.77
A8	West of Broadway	Yesler Way to E Roy St	NA	EB	0.50	EB	0.56
				WB	0.60	WB	0.71

Screenline No.	Screenline Location	Segment	Analytic Benchmark (V/C Ratio)	2013 PM Peak		2035 PM Peak	
				Dir.	V/C Ratios	Dir.	V/C Ratios
A9	South of NE 45th St	7th Ave NE to Montlake Blvd NE	NA	NB	0.70	NB	0.78
				SB	0.70	SB	0.74
A10	East of 15th Ave NE	NE 45th St to NE 52nd St	NA	EB	0.52	EB	0.53
				WB	0.46	WB	0.49
A11	South of Northgate Way (N/NE 110th St)	N Northgate Way to Roosevelt Way NE	NA	NB	0.50	NB	0.65
				SB	0.49	SB	0.65
A12	East of 1st Ave NE	NE 100th St to NE Northgate Way	NA	EB	0.48	EB	0.65
				WB	0.62	WB	0.95

Results for areas around Seattle's six urban centers are summarized as follows.

Downtown: Screenlines 10.11, 12.12, A1, A2, and A3 pass through or along the edge of the Downtown Urban Center, some encompassing north–south avenues, and some encompassing east–west streets. Higher v/c ratios reflect higher future volumes on most avenues and streets, and increased congestion. However, for all five of these screenlines, the future v/c ratios will remain below 1.0 in 2035 with Comprehensive Plan implementation.

Uptown: For the Uptown Urban Center, screenline A4 is an east–west screenline south of Mercer Street extending as far west as Elliott Avenue West and east to include Aurora Avenue North, while screenline A5 is drawn north–south between Fifth Avenue North and Taylor Avenue North. The predicted increase in congestion, above a v/c ratio of 0.90 for northbound traffic, relates to major traffic volumes on Elliott Avenue West and Aurora Avenue North.

It also relates to a possible reduction in capacity on Fifth Avenue North if bicycle improvements reduce lanes for motorized vehicle travel. Measures of east–west travel congestion will worsen but remain well below a 1.0 v/c ratio; improvements enabling a two-way Mercer Street add capacity in the westbound direction.

South Lake Union: For the South Lake Union Urban Center, screenline 8 is drawn north–south at Fairview Avenue North. Volumes will continue to increase, and road improvements will continue to occur for a number of years into this planning period. The v/c ratios for both directions along this screenline will decline by 2035, with higher evening congestion levels in the eastbound direction reflected by a v/c ratio of 0.91. However, the ratio will remain below the 1.20 v/c ratio.

First Hill/Capitol Hill: Screenlines A6, A7, and A8 are drawn through the First Hill/Capitol Hill Urban Center. Screenline 12.12 is on the west edge of the First Hill/Capitol Hill Urban Center adjacent to Downtown. For all four of these screenlines, the year 2035 v/c ratios under the Comprehensive Plan will remain well below the 1.20 v/c ratio that applies to screenline 12.12. Although the findings for screenline A7 and A8 illustrate a somewhat elevated congestion level in all directions in the area between Boren Avenue and 14th Avenue by 2035, near James Street, and for travel east–west across Broadway, these areas are currently often congested at peak hours.

University District: For the University District Urban Center, screenlines 5.16 and 13.13 cover the south and west boundaries of the urban center, while screenline A9 passes east–west through the center and screenline A10 is drawn north–south through the center. Higher v/c ratios suggest higher volumes and a degree of increased congestion by 2035. However, the year 2035 v/c ratios will be below 1.0 for all four of these screenlines in the peak commuting directions, and at screenline A-10, the v/c ratio is projected to be .49 in the year 2035. At the University and Montlake Bridges, evening peak hour volumes will continue to be high, and the southbound volumes on the University Bridge are projected to exceed the northbound volumes. This may reflect the diverse range of destinations of university employees and students. Given the pass-through nature of many evening commuters, the projected volumes for Roosevelt Way NE and Montlake Boulevard NE would continue to be high and grow slightly by 2035.

Northgate: For the Northgate Urban Center, screenline A11 is drawn east–west just south of Northgate Way, while screenline A12 passes north–south just east of First Avenue NE. Screenline 13.11 also measures east–west traffic crossing Fifth Avenue NE. The year 2035 v/c ratios for these three screenlines will worsen but remain below 1.0, with the most significant increase in volume over capacity being at screenline A-12, westbound, with an increase in v/c from .88 to .95. The measures of east–west traffic both indicate increasing congestion that will reach v/c ratio levels of approximately 0.8 to 0.9, meaning much of the available capacity will be used by 2035. The analysis also shows relatively high volumes west of I-5, for westbound Northgate Way, and for both directions of Meridian Avenue North.

State Highway Level of Service Standards

There are two different types of State highways with segments in Seattle with two different LOS standards. The larger facilities are “Highways of Statewide Significance” (HSS). These are I-5, I-90, SR 99, SR 509, SR 519, SR 520, and SR 522. Highways of Statewide Significance include, at a minimum, interstate highways and other principal arterials needed to connect major communities in the state.

For all the HSS, the State defines a LOS standard of “D.” RCW 36.70A.070(6)(a)(iii)(C) provides that local jurisdictions’ Comprehensive Plans should indicate a LOS for State-owned facilities, but specifies that local concurrency requirements do not apply to the HSS routes.

Including LOS standards for HSS is a communication and coordination tool in local plans, so that the State of Washington has a current understanding of performance on their facilities.

Non-HSS facilities (also called "Highways of Regional Significance") in Seattle are SR 513, SR 523, and SR 99 (only those portions south of South Holden Street). These highways are monitored by the Puget Sound Regional Council for regional planning purposes. For these highways the LOS standard is "E/mitigated."

State-Funded Highway Improvements & Local Improvements to State Highways

The City of Seattle will continue to coordinate with WSDOT for consistency in plans and projects. Transportation Appendix Figure A-15 shows the known anticipated major projects for the metropolitan area that will address State highways and facilities including ferries, and an indication of project status as applicable today and/or into the future until 2035. These are the primary projects within Seattle and the broader metropolitan area that will affect the functioning of segments of State highways within city limits. Planned local system improvements are diverse; these are addressed as presented in the City's functional plans, including but not limited to the Transit Master Plan, Pedestrian Master Plan, and the Bicycle Master Plan.

Transportation Appendix Figure A-15

State Highway Project List

Project	2015	2035
SR 99 Tunnel (with Tolls)		x
SR 520 HOV Lanes to Montlake	x	x
Second Montlake Bascule Bridge		
SR 520 Tolling	x	x
I-90 HOV Lanes	x	x
I-405 Widening (SR 167 to SR 527)		x
Passenger-Only Ferries (Kingston, Southworth, Juanita)		
Montlake Blvd NE HOV Lane and ITS Improvements		x

Estimated Traffic Improvements to State-Owned Transportation Facilities

Transportation Appendix Figure A-16 includes, for State highways, information about existing conditions and future modeled conditions for 2035. This data is organized by "average annual daily traffic" (AADT), "average weekday daily traffic" (AWDT), and a calculation of the modeled increase in AWDT for each highway segment expressed as a percentage.

AWDT is emphasized here as an analytical tool because it is the most representative of the peak commuting periods when volumes and congestion are highest. Existing conditions are based on available information from WSDOT, with factoring to estimate AADT in certain locations. By contrast, the modeled future conditions forecasts AWDT. These raw model volume results for 2035 were further analyzed by using the "difference method" and are methodologically consistent with findings in the Environmental Impact Statement for this Comprehensive Plan.

Forecasts are for particular components of State facilities including HOV lanes, express lanes, and collector-distributor lane volumes. Note the explanation above of the different LOS for state highways designated as "HSS" and those designated as Highways of Regional Significance.

Transportation Appendix Figure A-16

State Highway Traffic Volumes 2013–2035

State Highway	Location (roads here are cross-streets that show approx. endpoints of State highway segments)	Dir.	2013 AADT	2013 AWDT Volume	2035 AADT Volume	2035 AWDT Volume	% Change in AWDT from 2013 to 2035
I-5	Boeing Access Rd.–Swift Avenue S	NB	95,900	100,300	115,100	120,300	20%
		SB	104,500	109,200	121,000	126,500	16%
I-5	Corson–Columbia Way S/West Seattle Bridge	NB	103,800	108,600	119,400	124,900	15%
		SB	121,500	127,100	135,400	141,600	11%
I-5	I-90–James Street	NB	133,200	139,300	162,400	169,900	22%
		SB	146,900	153,600	164,000	171,600	12%
I-5	Lakeview Blvd. E–SR 520	NB	123,700	139,800	141,800	160,200	15%
		SB	114,200	129,000	131,600	148,700	15%

State Highway	Location (roads here are cross-streets that show approx. endpoints of State highway segments)	Dir.	2013 AADT	2013 AWDT Volume	2035 AADT Volume	2035 AWDT Volume	% Change in AWDT from 2013 to 2035
I-5	SR 520–NE 50th Street	NB	133,400	135,900	155,200	158,000	16%
		SB	121,900	124,100	137,600	140,100	13%
I-5	NE 65th Street–SR 522	NB	117,700	119,900	137,300	139,800	17%
		SB	119,000	121,200	135,400	137,800	14%
I-5	NE 130th Street–NE 145th Street	NB	98,000	99,800	114,500	116,600	17%
		SB	98,700	100,400	116,100	118,200	18%
I-90	Rainier Avenue S–Lk. Washington (mainline)	EB	65,000	70,300	82,600	89,300	27%
		WB	68,100	72,500	89,900	95,800	32%
SR 991	14th Avenue S–S Cloverdale Street	NB	16,300	19,200	21,200	25,000	30%
		SB	13,700	16,200	15,900	18,700	15%
SR 99	W Marginal Wy S–S Michigan Street (1st Avenue S Bridge)	NB	44,000	48,500	56,900	62,800	29%
		SB	42,000	46,300	54,200	59,800	29%
SR 99	E Marginal Wy–W. Seattle Bridge	NB	21,300	23,500	30,100	33,200	41%
		SB	17,700	19,500	25,400	28,100	44%
SR 99	1st Avenue S Ramps–Seneca/ Spring	NB	33,900	37,400	30,900	34,000	-9%
		SB	36,100	39,800	29,200	32,200	-19%
SR 99	Raye Street–Bridge Way N	NB	32,900	36,000	42,100	46,000	27%
		SB	36,100	39,500	46,400	50,800	28%
SR 99	Winona Avenue N–N 80th Street	NB	14,700	16,100	18,600	20,300	26%
		SB	17,300	18,900	22,900	25,000	32%
SR 99	Roosevelt Way N–N 145th Street	NB	14,400	15,700	20,900	22,800	45%
		SB	14,600	16,000	21,800	23,800	48%
SR 509	S 112th Street–S Cloverdale Street	NB	18,200	21,400	25,200	29,800	39%
		SB	14,900	17,500	18,600	22,000	26%
SR 513	SR 520 Ramps–NE Pacific Street (Montlake Br.)	NB	16,600	18,100	20,300	22,200	23%
		SB	19,400	21,300	22,600	24,700	16%

State Highway	Location (roads here are cross-streets that show approx. endpoints of State highway segments)	Dir.	2013 AADT	2013 AWDT Volume	2035 AADT Volume	2035 AWDT Volume	% Change in AWDT from 2013 to 2035
SR 513	Montlake Blvd. NE–Union Bay Pl. NE	EB	18,600	20,300	18,800	20,500	0%
		WB	19,400	21,300	19,400	21,300	0%
SR 522	Roosevelt Way NE–12th Avenue NE	EB	12,300	13,500	14,100	15,400	16%
		WB	15,700	17,200	18,000	19,700	15%
SR 522	NE 137th Street–NE 145th Street	NB	15,100	16,500	18,200	19,900	20%
		SB	16,900	18,500	22,800	24,900	35%
SR 523	5th Avenue NE–15th Avenue NE	EB	13,900	15,200	14,100	15,500	2%
		WB	13,100	14,300	14,800	16,100	13%
SR 520	Between I-5 and Montlake Blvd.	EB	30,000	33,900	34,500	39,000	15%
		WB	42,600	48,100	48,700	55,000	14%
SR 520	Between Montlake Blvd. and Lake Washington	EB	30,100	33,900	35,700	40,200	19%
		WB	32,100	36,300	39,200	44,400	22%
SR 519	1st Avenue S.–4th Avenue S.	EB	14,800	16,100	18,400	20,100	25%
		WB	12,200	13,400	12,200	13,400	0%

Findings in Transportation Appendix Figure A-16 also show impacts on various segments of state highways and are described more specifically as follows:

I-5 Downtown and North of Downtown

Future average weekday daily volumes (AWDT) will increase by between 13 and 18 percent by 2035 in both directions in the four studied segments of I-5 north of Downtown. Daily volumes in the central segment of I-5 through Downtown will increase by between 12 and 22 percent and will be the most-used portions of I-5 in Seattle. Future volumes in segments farther from Downtown will also grow but volumes will be comparatively lesser than in the segments nearest Downtown.

This is an expected pattern, given the number of motorists who use I-5 and enter or exit from places including the University District, Wallingford, Green Lake, Roosevelt, and other neighborhoods in northwest and northeast Seattle. The added volumes through the day could exacerbate congestion, most notably during peak commuting periods, which could diminish overall freeway efficiency and performance.

I-5 South of Downtown

Future AWDT volumes will increase by between 15 and 20 percent northbound and by between 11 and 16 percent southbound by 2035 in two studied segments south of Downtown. Approaching Downtown from the south, the segment between I-90 and James Street would experience an approximately 22 percent increase in AWDT, likely due to volume contributions from I-90 and other local sources. AWDT volumes on I-5 south of Downtown, ranging from approximately 120,000 to 140,000 vehicle trips, would be about 25 percent lower than for the segment of I-5 just north of Downtown.

I-90

I-90 will experience AWDT increases of between 27 and 32 percent by 2035, with westbound volumes increasing to about 96,000 per day, slightly exceeding eastbound volumes.

SR 520

For this highway that has experienced volume decreases due to the initiation of tolling and construction east of Lake Washington, the projected future conditions are for increases in AWDT volumes of between 15 to 23 percent by 2035. This will be equivalent to an increase of about 5,000 to 6,000 vehicles in the eastbound direction, reaching about 40,000 vehicles per day east of Montlake, and about 44,500 vehicles per day in the westbound direction east of Montlake. Closer to I-5, the projected AWDT will reach approximately 55,000 vehicles in the westbound direction by 2035. Tolling is likely to continue to limit the rate of growth in usage over time on SR 520.

SR 99 Downtown and North of Downtown

This highway is anticipated to operate in a tunnel through Downtown by 2035, which may mean a change in volume trends compared to current operations. For three studied segments of SR 99 north of Downtown, future AWDT would increase by between 28 to 34 percent between the lower Queen Anne and Green Lake vicinities, and would increase by between 45 to 50 percent in the segment near the north city limits at North 145th Street.

The projected volumes in this vicinity would be highest in the portion nearest Lake Union and the Ship Canal, reaching between 46,000 to 50,000 vehicles per day AWDT in each direction, while in more northern segments, volumes would range between 20,000 to 25,000 vehicles per day in each direction.

SR 99 South of Downtown

South of Downtown, SR 99 provides access to the SODO and Greater Duwamish industrial areas, as well as southwest Seattle and points south including Burien and Tukwila. South

of South Park, SR 99 reconnects to I-5 in Tukwila. The First Avenue South Bridge crosses the Duwamish Waterway and accommodates traffic to/from Georgetown and the King County International Airport vicinity as well. The variety of its connections and configurations leads to different trends for projected AWDT.

These include (1) anticipated AWDT increases of about 29 percent in each direction at the First Avenue South Bridge (approximately 60,000 to 63,000 vehicles in each direction); (2) increased volumes in the SODO area north of Georgetown of 40 to 44 percent (28,000 to 33,000 vehicles in each direction) and similar gains in the southern direction. These trends likely reflect anticipated increases in commuting traffic and projected traffic growth over time, contributed by nearby neighborhoods like Lake City and Northgate.

SR 513 (Montlake Boulevard to Sand Point Way)

Future AWDT volumes would increase by about 17 to 25 percent in this segment that includes the Montlake Bridge just north of SR 520. This would represent AWDT volumes of approximately 25,000 vehicles per day southbound and 22,600 vehicles per day northbound. This would exacerbate congestion during peak hours in this route that is used heavily for daily commuting. However, other analysis indicates that the future 2035 conditions would still meet the v/c ratio analytic benchmark for the applicable screenline that covers both the University Bridge and the Montlake Bridge.

SR 519 (Edgar Martinez Way)

Future volumes (AWDT) would increase by about 23 percent in the eastbound direction for this segment that provides access to/from the Port of Seattle and SODO industrial area near the major sports stadiums. No increase in the westbound direction was projected in the modeling.

SR 523 (NE 145th Street East of I-5)

This route provides east–west access from Lake City and Lake Forest Park to I-5 and is at the north city limits. Future volumes (AWDT) would increase modestly by 3 to 13 percent, reaching volumes of about 16,000 vehicles in each direction by 2035.

Impacts on Adjacent Jurisdictions

Four jurisdictions are adjacent to the City of Seattle: the cities of Shoreline and Lake Forest Park along Seattle's north boundary and Tukwila and King County along Seattle's south boundary. Several major arterials that connect to streets in these jurisdictions near the Seattle borders were selected for analysis. For each arterial, the existing PM peak hour traffic volume and forecasted year 2035 traffic volumes were compared to the rated capacity of the arterial, yielding a v/c ratio. The results of this analysis are shown in Transportation Appendix Figure A-17.

Transportation Appendix Figure A-17

Arterials Reaching Adjacent Jurisdiction PM Peak Hour Capacities, Volumes, and V/C Ratios

Major arterials within Seattle at the Seattle/King County-Shoreline-Lake Forest Park Border (145th Street)

Arterial	Existing (2014) PM Peak Hour						2035 PM Peak Hour					
	Outbound			Inbound			Outbound			Inbound		
	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio
Greenwood Ave N	1,940	1,223	0.63	1,940	838	0.45	1,940	1,770	0.91	1,940	1,221	0.63
Aurora Ave N	2,100	1,681	0.80	2,000	1,223	0.61	2,100	2,427	1.16	2,000	1,879	0.94
Meridian Ave N	770	312	0.41	770	162	0.21	770	590	0.77	770	430	0.56
5th Ave NE	770	366	0.48	770	205	0.27	770	550	0.71	770	360	0.47
15th Ave NE	2,040	891	0.44	2,040	640	0.31	1,010	891	0.88	1,010	727	0.72
30th Ave NE	770	433	0.56	770	365	0.47	770	592	0.77	770	560	0.73
Lake City Way	2,150	1,697	0.79	2,040	1,388	0.68	2,150	2,230	1.04	2,040	1,790	0.88

Major arterials within Seattle just north of Seattle/King County Border

Arterial	Existing (2014) PM Peak Hour						2035 PM Peak Hour					
	Outbound			Inbound			Outbound			Inbound		
	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio
26th Ave SW	770	401	0.52	770	336	0.44	770	522	0.68	770	380	0.49
16th Ave SW	770	292	0.38	770	216	0.28	770	540	0.70	770	250	0.32
Olson Pl SW	2,040	1,442	0.71	2,040	1,070	0.52	1,010	1,442	1.43	1,010	1,070	1.06
Myers Way S	1,540	264	0.17	1,540	190	0.12	1,540	670	0.43	1,540	210	0.14
8th Ave S	770	93	0.12	770	99	0.13	770	222	0.29	770	99	0.13

Arterial	Existing (2014) PM Peak Hour						2035 PM Peak Hour					
	Outbound			Inbound			Outbound			Inbound		
	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio	Capacity	Volume	V/C Ratio
14th Ave S	1,540	498	0.32	1,540	394	0.26	1,540	830	0.54	1,540	590	0.38
Renton Ave S	770	570	0.74	770	393	0.51	770	940	1.22	770	501	0.65
Rainier Ave S	1,460	967	0.66	1,460	663	0.45	1,460	1,410	0.97	1,460	991	0.68
E Marginal Way S	2,040	699	0.34	2,040	703	0.34	2,040	1,020	0.50	2,040	779	0.38
Airport Way S	2,000	756	0.38	2,000	356	0.18	1,000	1,123	1.12	1,000	822	0.82
M L King Jr. Way S	2,040	1,297	0.64	2,040	1,076	0.53	2,040	1,650	0.81	2,040	1,078	0.53
51st Ave S	770	351	0.46	770	219	0.28	770	690	0.90	770	270	0.35

For all but five instances for the arterials shown in Transportation Appendix Figure A-17, the PM peak hour v/c ratio is below 1.0, indicating that there currently is remaining vehicle capacity and that the capacity will continue into the forecasted future. Exceptions are:

Aurora Avenue North (SR 99), as the primary north–south highway arterial to/from Shoreline, is projected to experience considerable growth in evening peak hour volumes by 2035 (nearly 750 added vehicles), which will raise the projected northbound v/c ratio from 0.80 to 1.16.

Lake City Way (SR 522), as the primary north–south highway arterial in north Seattle to/from Lake Forest Park, is projected to experience considerable growth in evening peak hour volumes by 2035 (530 added vehicles), which will raise the projected northbound v/c ratio from 0.79 to 1.04.

Olson Place SW, a route to/from White Center and Burien, may experience a projected v/c ratio of 1.43 in the peak westbound direction by 2035, but this is tempered by a recognition that the conservative analysis of road capacity predicts a reduced capacity with a possible future bicycle improvement, and the future volumes for 2035 are not otherwise projected to increase over existing 2014 volumes. A similar effect on the eastbound direction of travel on Olson Place SW leads to a projected congestion level measured as a 1.06 v/c ratio. Future bicycle facility design would determine whether vehicle lanes would actually be reduced; given the street's width, such reductions ultimately might not be needed.

Renton Avenue South, a route to/from Skyway and the city of Renton, is projected to experience growth of approximately 370 vehicles in the southbound direction by 2035, which will raise the corresponding v/c ratio to 1.22.

Airport Way (a route to/from Tukwila), like Olson Place SW, may be affected in its capacity by a future possible bicycle improvement, and given projected increases in peak hour traffic southbound (nearly 370 added vehicles) could experience congestion measured as a v/c ratio of 1.12.

In other locations, including Rainier Avenue South and MLK Jr. Way South, both routes to Renton, projected v/c ratios of 0.97 and 0.81 respectively, indicating future increases in volume and probable congestion.

These modeled traffic volume and v/c findings for 2035 reflect growth not only under Seattle's Comprehensive Plan, but also the probable growth in the adjacent jurisdictions and throughout the central Puget Sound region that contributes to total traffic growth. Much of the traffic on these arterials is and will continue to be through-traffic, although the destinations of some motorists will be to and from Seattle as well as the neighboring jurisdictions.

Intergovernmental Coordination Efforts

This section describes the City's intergovernmental coordination efforts during the development of the Comprehensive Plan and potential impacts of the plan on the transportation systems of adjacent jurisdictions.

Seattle is an active member of the PSRC, which is charged with certifying that local transportation plans are consistent with regional plans and goals. The City supports PSRC's Vision 2040, the regional growth strategy that describes linking high-density residential and employment centers throughout the region by high-capacity transit and promoting a multimodal transportation system. Vision 2040's goals are carried forward by this Comprehensive Plan.

The PSRC provides population, employment, and transportation data to Seattle and other jurisdictions. Coordination is established via this centralized information resource. The PSRC is charged with allocating certain federal funds. Seattle has participated in establishing the criteria and selection process to determine how funds will be distributed among transportation projects.

The City of Seattle cooperates with WSDOT and the PSRC regarding improvements to State transportation facilities and services and to ensure that the City's plans are consistent with the State Transportation Plan and the Transportation 2040 plan. The PSRC monitors State highways of regional significance for regional planning purposes.

Housing Appendix

Introduction

Broad Policy Framework

The state Growth Management Act (GMA) requires each local jurisdiction to include an inventory and analysis of existing and projected housing needs in its Comprehensive Plan. King County's Countywide Planning Policies (CPPs) provide additional direction and guidance for the inventory and analysis of local housing supply and housing needs.

As required, the analysis provided in the Housing Appendix addresses existing and projected housing needs for all economic segments in Seattle as well as for the special-needs populations in the community.

Contents of Housing Appendix

The first sections of the appendix describe the City's projections for the total amount of housing needed to accommodate growth in Seattle and the amount of capacity within the city for future residential development at a range of housing densities.

The next sections of this appendix provide information on the characteristics of Seattle's population and households. This includes data on the extent of housing cost burdens and other indicators of housing-related needs experienced by Seattle's extremely low, very-low, and low-income households. Information is also presented on Seattle's special-needs populations, including homeless people. Information on disparities in housing cost burdens and homelessness by race and ethnicity is presented in order to support planning consistent with the City's Race and Social Justice Initiative (RSJI) and the Seattle Comprehensive Plan core value of social equity.

Subsequent sections in this appendix describe recent growth and characteristics of Seattle's existing housing market, and present information on the affordability of the existing rental and owner housing supply. An analysis is included on the gaps between existing housing need and the amount of rental housing affordable and available to lower-income households. Projections are then provided on the amount of housing needed to accommodate growth by income level.

Sections near the end of the appendix describe the City's strategies for addressing affordable housing, inventory rent/income-restricted housing within Seattle, and provide rough projections for continued production of rent/income-restricted housing.

Information on the data sources employed in the Housing Analysis is provided below.

Data Sources

One of the main sources used is a special tabulation of American Community Survey (ACS) prepared by the US Census Bureau for the US Department of Housing and Urban Development (HUD), otherwise known as the Consolidated Housing Affordability Strategy (CHAS) data.

Certain aspects of the CHAS data are important to note. As sample-based estimates, the CHAS estimates, like other ACS estimates, carry margins of error. These margins of error can be substantial, particularly for small groups of households. To provide reasonably reliable statistics at the local level, HUD obtains CHAS tabulations based on ACS data pooled over a period of five years.

The five-year CHAS estimates from the 2006–2010 American Community Survey (ACS) provide the main data source for analyses in this appendix regarding household income, housing cost burden, and affordability of Seattle's housing supply. There is a considerable lag time between the collection of data and the time HUD publishes the CHAS estimates. The 2006–2010 CHAS estimates were the most recent tabulation of CHAS data available at the time the analysis for this appendix began.

The CHAS data, like other ACS data, do not distinguish whether housing units are income- and rent-restricted. The ACS does not provide official numerical population estimates, but is designed to provide insights into the characteristics of the population.

Other key sources of data reported and analyzed in this appendix include the following.

- *Standard tabulations of decennial Census and American Community Survey (ACS) estimates published by the US Census Bureau;*

- *Rental market data from Dupre+Scott (D+S) Apartment Advisors, Inc. and home sales data from the Northwest Multiple Listing Service (NWMLS);*

- *The City's Office of Planning and Community Development (OPCD) permit database that provides information on recent housing growth;*

- *OPCD's development capacity model, which provides estimates regarding capacity for additional residential growth under current zoning;*

- *Seattle's 2014–2017 Consolidated Plan for Housing and Community Development (Consolidated Plan), and*

- *City Office of Housing (OH) information on rent/income-restricted housing.*

The time periods for the data reported from these sources vary and so do the population, household, and housing unit totals. This is due to several reasons including differences in data release schedules and data availability at the time analysis for this appendix was performed. With some sample-based data sources such as the ACS, data also needed to be pooled over several years in order to report reliable results.

For purposes of the Comprehensive Plan, the City refers to 60 percent of AMI instead of 50 percent of AMI because 60 percent of AMI is a more common income limit for many funding sources for rent/income-restricted housing. However, much of the analysis in this Housing Appendix refers to income levels bounded by 50 percent of AMI (for example, 30–50 percent of AMI, and 50–80 percent of AMI) due to the way key data sources including the CHAS tabulate the AMI income categories.

Housing Needed to Accommodate Growth

The King County Countywide Planning Policies (CPPs) are prepared by the Growth Management Planning Council and ratified by local jurisdictions in the county. The CPPs provide cities in the county with a common set of policies and guidelines for developing local comprehensive plans. The CPPs also facilitate coordinated planning for growth by a collaborative process to allocate expected housing and employment growth to local jurisdictions within the county.

The Washington State Office of Financial Management (OFM) provides forecasts of population growth for each county. (In King County, the population forecast is converted to housing units because local governments can more reliably track housing units on a frequent basis.) In 2010, the CPPs were updated to include twenty-five-year housing and employment growth allocations for all jurisdictions in the county. For Seattle, the twenty-five-year housing growth allocation was 86,000 net new housing units.

Compared with the previous growth estimates, the updated growth estimates in the CPPs reflect greater residential growth rates in the county as a whole as forecast by OFM. The allocation of twenty-year growth estimates was also based on the Puget Sound Regional Council's (PSRC) regional growth strategy, which emphasizes growth in "Metropolitan Cities," including Seattle and Bellevue. The allocation to Seattle was further informed by other factors such as demographic and development trends, zoned capacity, and local policy and market factors.

To correspond with the twenty-year planning period in Seattle's Comprehensive Plan, the City of Seattle translated the twenty-five-year housing and employment growth allocations of 86,000 housing units into a twenty-year growth estimate of 70,000 net new housing units. The housing units needed to satisfy affordability needs for lower-income households are discussed below.

Residential Capacity

OPCD's development capacity model estimates the amount of development that could be accommodated in Seattle. The model is based on current zoning and makes assumptions about likelihood of redevelopment and ultimate development densities achievable in those zones. The City uses development capacity estimates to inform regional and countywide growth planning and to determine potential outcomes of planning efforts conducted for areas of the city.

Housing Appendix Figure A-1 contains residential estimates generated from the development capacity model. This figure shows the amount of residential development capacity for Seattle as a whole. It also shows the capacity in major zoning categories as well as in the city's urban centers and villages.

Seattle's current zoning provides development capacity to accommodate more than 220,000 additional housing units. This capacity is ample for the City's residential growth estimate of 70,000 net new units between 2015 and 2035.

Seattle's mixed-use and residential zones allow a wide range of housing types and densities. About 75 percent of Seattle's residential development capacity is in zones allowing a mix of residential and commercial uses. Of this 75 percent, Commercial, Neighborhood Commercial, and Seattle Mixed zones account for 60 percent of capacity, with Downtown zones accounting for the other 15 percent.

The remaining 25 percent of Seattle's residential development capacity is in zones that allow only residential uses—meaning these zones do not allow a mix of residential and commercial uses. Of this 25 percent, 20 percent is in zones allowing multifamily structures. The remaining 5 percent is in single-family zones.

Thus, Seattle has the zoned capacity for an additional 220,000 units, or about two-thirds the number of housing units that currently exist. This large amount of capacity is consistent with Seattle's "Metropolitan City" role in the PSRC's regional growth strategy.

Housing Appendix Figure A-1 also shows capacity estimates for urban centers, hub urban villages, and residential urban villages. More than three-quarters (77 percent) of the capacity for new housing is within urban centers/villages. This shows consistency with the Comprehensive Plan urban village strategy, calling for new development to be concentrated in urban centers/villages, close to transit, other services, and amenities.

About 43 percent of the city's overall residential development capacity is within urban centers. Of the six urban centers, Downtown has the greatest share of that capacity. Hub urban villages contribute about 16 percent of Seattle's total residential development capacity, and residential urban villages contribute about 18 percent.

Housing Appendix Figure A-1

Seattle Residential Development Capacity (Model Estimates)

	Residential Development Capacity (Housing Units)	Share of Total Residential Development Capacity
TOTAL	**223,713**	**100%**
By Future Land Use Designation:		
Single-Family	10,959	5%
Multifamily	46,803	21%
Commercial/Mixed-Use	132,439	59%
Downtown	33,512	15%
Major Institution	N/A	N/A
City-Owned Open Space	0	0%
By Urban Centers/Villages:		
Inside Urban Centers	96,862	43%
Downtown	33,512	15%
First Hill/Capitol Hill	19,009	8%
Northgate	10,966	5%
South Lake Union	20,277	9%

	Residential Development Capacity (Housing Units)	Share of Total Residential Development Capacity
Uptown	4,165	2%
University District	8,933	4%
Inside Hub Urban Villages	36,227	16%
Inside Residential Urban Villages	39,386	18%
Outside Centers and Villages	51,207	23%

Source: Development Capacity Report, DPD, September 2014

Broad Trends in Seattle's Population and Households

This section summarizes recent trends in the basic characteristics of Seattle's population and households, using estimates from the 2000 and 2010 censuses and the most recent three-year tabulation of ACS data spanning 2011 to 2013.[1] This is the most recent set of ACS multiyear estimates since the 2010 Census. This summary provides broad context for the more detailed analysis of household characteristics and housing needs discussed below.

Seattle has the largest population of cities in the state of Washington and is the twenty-third most populous city in the US. The 2010 Census counted Seattle's population at 608,660. From 2000 to 2010, Seattle's population grew by 8 percent.

Seattle has seen substantial growth in population, households, and housing units since the 2010 Census. OFM produces official population estimates for cities and counties on an annual basis. As of April 2015, OFM estimates that Seattle contained approximately 662,400 residents, 314,326 households, and 332,694 housing units.

Population Characteristics

The 2010 Census results showed that more than a third (33.7 percent) of Seattle residents are people of color, up from 32.1 percent in 2000.[2] ACS estimates for the period 2011 to 2013 indicate that the number and share of Seattle's residents who are people of color has continued to increase since 2010. However, these ACS estimates show that the increase in the population of color has occurred much more slowly in Seattle than in the balance of King County. ***(See Housing Appendix Figure A-2.)***

1. The analysis uses the 2011–2013 ACS estimates because they are the most recent multiyear estimates available spanning the years after the 2010 census.

2. The Census collects information on Hispanic/Latino ethnicity in a separate question from race. "People of color" encompass Hispanics and Latinos of any race as well as people who are any race other than white alone.

Although the population of color in the city as a whole increased between 2000 and 2010, the population of color declined in many of the census tracts located in the central and southeast portions of Seattle.

The 2010 Census indicates that children under eighteen make up roughly 15 percent of the city's population. Between 2000 and 2010, the number of children in Seattle increased, but at a slightly slower pace than the overall population increased. However, the number of young children (under age five) increased much more quickly.

Families with children are substantially underrepresented in Seattle compared with the balance of King County. Data indicate that this is starting to change, but trends differ greatly by race. Increases in Seattle's population of children have mainly been from the growing numbers of white, non-Hispanic children living in the city. In the balance of King County, increases in the child population have, in contrast, been driven by a rapid rise in the number of children of color.

Housing Appendix Figure A-2

Growth in Total Population and Population Under 18
(Includes Detail for the Population of Color and for the White, Non-Hispanic Population)

	Population Growth in Seattle				Pop. Growth in Remainder of King Co.			
	2000–2010 Census		2010 to 2011–2013 ACS		2000–2010 Census		2010 to 2011–2013 ACS	
Total population	45,286	8.0%	27,610	4.5%	148,929	12.7%	48,920	3.7%
Pop. of color	24,240	13.4%	11,152	5.4%	193,802	69.0%	40,009	8.4%
White, non-Hispanic pop.	21,046	5.5%	16,458	4.1%	-44,873	-5.0%	8,911	1.1%
Pop. under 18 yrs. of age	5,686	6.5%	6,917	7.4%	17,170	5.7%	4,723	1.5%
Pop. of color under 18	896	2.1%	1,399	3.2%	59,062	63.8%	10,150	6.7%
White, non-Hispanic pop. under 18	4,790	10.7%	5,518	11.2%	-41,892	-19.9%	-5,427	-3.2%

Sources: 2000 Census and 2010 Census estimates; 2011–2013 ACS estimates.

Census estimates show that young adults (i.e., adults between eighteen and thirty-four years of age) make up a large share of Seattle's population. In 2010, young adults were 33 percent of Seattle's population compared to 22 percent in the remainder of King County.

The 2010 Census found that seniors (people age sixty-five and over) are about 11 percent of Seattle's population. The number of seniors in Seattle, as well as the percentage share of

the city's population who are seniors, declined between 2000 and 2010. However, ACS estimates for the period 2011 to 2013 suggest that the number of seniors in the city is starting to increase as individuals in the baby boom generation begin reaching their senior years.

Household Characteristics

The 2010 Census tallied 283,510 households in Seattle. This was an increase of roughly 25,000 households, or 9.7 percent, since the 2000 Census.

Between 2000 and 2010, the average number of people per household in Seattle declined from 2.08 to 2.06. This slight decline reflects the continuation, but marked slowing, of a long-term trend toward smaller household sizes locally and nationally.[3]

Census 2010 found that about 43 percent of households in Seattle are family households, less than half of which are families with children. About 19 percent of Seattle's households are families with related children.[4] The majority (57 percent) of Seattle's households is non-family households, and most of these non-family households are people living alone. In 2010, one-person households made up 41 percent of Seattle's total households. The increasing number of one-person households has been a key driver contributing to the broader decline in the city's household size.

In Seattle, renter households outnumber households who own their home. Of Seattle households counted in Census 2010, 52 percent were renter households and 48 percent were owner households. The trend in recent decades has been one of gradually declining homeownership rates and increasing shares of renter households.[5] The ACS (2011–2013) estimates show that approximately 54 percent of Seattle's households rent, continuing a long-term increase in the share of Seattle households who rent. The share of households in Seattle who are renters is likely to increase as multifamily housing units (which are more commonly renter-occupied than owner-occupied) continue to increase as a share of the city's housing stock.

3. The 2011 to 2013 ACS shows an average household size in Seattle of about 2.12 people, which is higher than the household size in 2010. That recent increase in Seattle's household size reflects a decrease in the rate of household formation that occurred in the US as a whole in the wake of the Great Recession. It is likely that the increase in household size will be temporary.

4. These figures on family households with children refer to households in which there is at least one child under eighteen years of age who is related to the householder.

5. Single-year ACS estimates indicate that the downward trend in homeownership rates was interrupted temporarily during the housing bubble that occurred in the latter half of the last decade. However, estimated homeownership rates in the city began to decline again after the effects of the Great Recession took hold.

Population in Group Quarters

The 2010 Census found that one in twenty Seattle residents lived in group quarters such as college/university student housing (with about 11,800 people), nursing facilities (2,600 people), and correctional facilities (2,000 people).

Analysis of Key Household Characteristics

The analysis provided below is based on CHAS data from ACS surveys (2006–2010) reflecting approximately 280,470 total households in Seattle. The household total from the CHAS is lower than the number of households who currently reside in Seattle. Today, Seattle contains almost 315,000 households.[6]

Tenure refers to whether a household owns or rents the housing unit in which they live. As indicated in Housing Appendix Figure A-3, approximately 51 percent of households in the 2006–2010 CHAS estimates are renters. It is important to view these estimates in the context of the period in which they were collected. The 2006–2010 CHAS estimates include the housing boom in the mid-2000s, the Great Recession, and the steep downturn in the housing market in the wake of that recession. As noted above, the share of Seattle households who rent is now closer to 54 percent.

Housing Appendix Figure A-3

Total Households and Household by Tenure, Seattle

Total households	280,470	100.0%
Owner households	137,090	48.9%
Renter households	143,380	51.1%

Source: CHAS (2006–2010)

Income Distribution

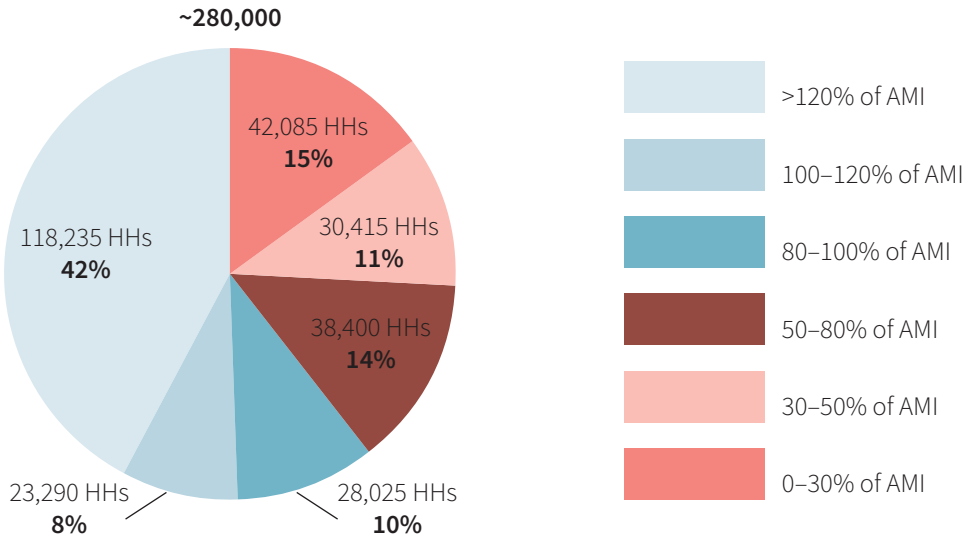
There is a wide distribution of incomes among Seattle households as shown in the pie chart in Housing Appendix Figure A-4.

6. The previous section of the appendix summarizes more recent data available from other sources. OFM estimates that Seattle contained 314,326 households as of April 2015.

- *Households with incomes at or below 80 percent of area median income (AMI) comprise almost 40 percent of total households in Seattle.*
- *About 26 percent of all Seattle households have incomes at or below 50 percent of AMI.*
- *Households with incomes above 80 percent of AMI but not higher than 120 percent of AMI are about 18 percent of Seattle households.*
- *Roughly 42 percent of households in Seattle have incomes above 120 percent of AMI.*

Housing Appendix Figure A-4

Seattle Households (HHs) by Household Income Category



Source: CHAS (2006–2010)

The distribution of household incomes varies a great deal by tenure. Compared with owner households, renter households are much more likely to have incomes lower than 80 percent of AMI. A majority of renter households, but only about one in five owner households, are in lower income categories. About 40 percent of renter households have incomes of no higher than 50 percent of AMI, in contrast with an 11 percent share of owner households.

Households with Unaffordable Housing Cost Burdens

A broadly used standard for housing affordability regards housing costs that consume up to and including 30 percent of a household's income to be affordable. This standard evolved as a general indicator of the share of income that a household can spend on housing

and still have enough income left over for other essentials such as food, clothing, and transportation.

Based on the 30 percent standard, HUD considers households to be cost-burdened if they spend more than 30 percent of their household income on housing costs and severely cost-burdened if they spend more than 50 percent of their household income on housing costs. (This appendix refers to households as "moderately" cost-burdened if the households spend more than 30 percent but not more than 50 percent of their income on housing.)

Based on the CHAS data, approximately 38 percent of all households in Seattle are cost-burdened at either a moderate or a severe level. About 21 percent of all Seattle households are "moderately" cost-burdened. Approximately 17 percent of all Seattle households are severely cost-burdened.

Cost Burdens by Tenure and Household Income

Renter households are more likely than owner households to be burdened by housing costs they cannot afford.

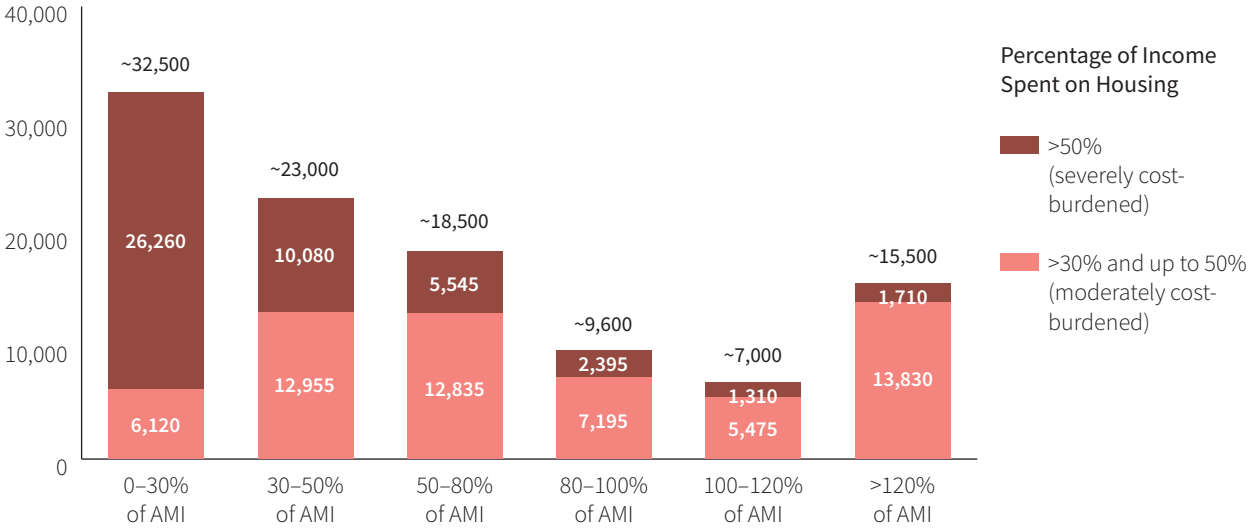
- *About 42 percent of renter households are cost-burdened.*
- *A lower, but still sizable, 33 percent share of owner households is cost-burdened.*

The greater prevalence of cost burdens among renter households is primarily due to the higher prevalence of severe burdens among these households: roughly 21 percent of renter households, compared to 13 percent of owner households, are severely cost-burdened.

Housing Appendix Figure A-5 shows that more than three-quarters of households in both the 0–30 percent of AMI and 30–50 percent of AMI categories spend more than 30 percent of income on housing and that more than 60 percent of households with incomes of 0–30 percent of AMI spend more than half of their income on housing.

Housing Appendix Figure A-5

Seattle Households (by Income Category) Who Are Moderately or Severely Housing Cost-Burdened



Source: 2006–2010 5-Year Estimates from the American Community Survey CHAS Dataset.

Housing Appendix Figure A-6 provides additional detail on the prevalence of cost burdens by tenure and household income category.

Housing Appendix Figure A-6

Housing Costs as a Percentage of Household (HH) Income (Includes Detail by Tenure and Income Category)

	0–30% of AMI	30–50% of AMI	50–80% of AMI	80–100% of AMI	100–120% of AMI	>120% of AMI	TOTAL
Est. *number* of owner HH with housing costs:	**7,265**	**8,400**	**12,585**	**11,390**	**11,580**	**85,855**	**137,090**
up to 30% of HH income (not cost-burdened)	780	2,830	5,130	5,355	6,150	71,165	91,420
not computed (no/negative income)	570	-	-	-	-	-	570
>30% of HH income (total cost-burdened)	5,915	5,570	7,455	6,035	5,430	14,690	45,100

	0–30% of AMI	30–50% of AMI	50–80% of AMI	80–100% of AMI	100–120% of AMI	>120% of AMI	TOTAL
>50% of HH income (severely cost-burdened)	4,865	3,840	3,795	2,055	1,270	1,600	17,425
30–50% of HH income (moderately cost-burdened)	1,050	1,730	3,660	3,980	4,160	13,090	27,675
Est. *percent* of owner HH with housing costs:							
up to 30% of HH income (not cost-burdened)	10.7%	33.7%	40.8%	47.0%	53.1%	82.9%	66.7%
not computed (no/negative income)	7.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
>30% of HH income (total cost-burdened)	81.4%	66.3%	59.2%	53.0%	46.9%	17.1%	32.9%
>50% of HH income (severely cost-burdened)	67.0%	45.7%	30.2%	18.0%	11.0%	1.9%	12.7%
30–50% of HH income (moderately cost-burdened)	14.5%	20.6%	29.1%	34.9%	35.9%	15.2%	20.2%
Est. *number* of renter HH with housing costs:	**34,820**	**22,015**	**25,815**	**16,635**	**11,710**	**32,380**	**143,380**
up to 30% of HH income (not cost-burdened)	6,000	4,550	14,890	13,080	10,355	31,530	80,410
not computed (no/negative income)	2,355	-	-	-	-	-	2,360
>30% of HH income (total cost-burdened)	26,465	17,465	10,925	3,555	1,355	850	60,610
>50% of HH income (severely cost-burdened)	21,395	6,240	1,750	340	40	110	29,875
30–50% of HH income (moderately cost-burdened)	5,070	11,225	9,175	3,215	1,315	740	30,735
Est. *percent* of renter HH with housing costs:							
up to 30% of HH income (not cost-burdened)	17.2%	20.7%	57.7%	78.6%	88.4%	97.4%	56.1%
not computed (no/negative income)	6.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%
>30% of HH income (total cost-burdened)	76.0%	79.3%	42.3%	21.4%	11.6%	2.6%	42.3%

	0–30% of AMI	30–50% of AMI	50–80% of AMI	80–100% of AMI	100–120% of AMI	>120% of AMI	TOTAL
>50% of HH income (severely cost-burdened)	61.4%	28.3%	6.8%	2.0%	0.3%	0.3%	20.8%
30–50% of HH income (moderately cost-burdened)	14.6%	51.0%	35.5%	19.3%	11.2%	2.3%	21.4%

Source: CHAS (2006–2010)

Household Characteristics by Race and Ethnicity

Shortly after taking office, Mayor Murray issued Executive Order 2014–02 to reaffirm and further detail the City's commitment to RSJI, meaning that the City will incorporate a racial equity lens in citywide initiatives including those related to affordable housing and planning for equitable growth and development.

Data are presented in the following pages to identify the extent of disparities in housing needs and opportunities by race and ethnicity. Consideration of these disparities is vital to informing planning for housing consistent with RSJI.

Tenure by Race and Ethnicity

While a slight majority (53 percent) of white, non-Hispanic households own their homes, most households of color[7] (63 percent) are renters. The share of Asian households who rent is only slightly more than half, but renting is much more prevalent for households in which the householder is Hispanic or Latino, Native American, Pacific Islander, or black or African American. More than two-thirds of each of these groups of households rent.

Household Income Distribution by Race and Ethnicity

Seattle's households of color are disproportionately likely to have incomes that are under 50 percent of AMI, a pattern that applies not only to households of color overall, but also to each of the individual racial and ethnic groups of color for which the CHAS data are tabulated.

- *Households of color as a group are twice as likely as white, non-Hispanic households to have a household income that is 0–30 percent of AMI: about 24 percent of households of*

7. Households of color are households in which the householder is a person of color. The Census Bureau tabulates race and ethnicity of households based on the characteristics of the householder. For convenience, this Appendix refers sometimes refers to households by race or ethnicity, but this is not intended to imply that all household members are of the same race or ethnicity as the householder.

color compared to 12 percent of white, non-Hispanic households have incomes this low. Furthermore, about 16 percent of households of color compared to 13 percent of white, non-Hispanic households have incomes that are 30–50 percent of AMI.

- *Over half of black households have incomes no higher than 50 percent of AMI. Breaking down these data further, about 35 percent of black households have incomes no higher than 30 percent of AMI, and 17 percent have incomes from 30 to 50 percent of AMI.*

- *Having an income at or below 50 percent of AMI is almost as common for Native American households and Pacific Islander households as it is for black households: over 40 percent of households in each of these groups have incomes at or below 50 percent of AMI.*

Racial and ethnic disparities in income levels exist for both renters and owners as detailed in Housing Appendix Figure A-7 for many Seattle racial and ethnic groups.

Housing Appendix Figure A-7

Household (HH) Income Distribution by Race and Ethnicity of Householder by Tenure, Seattle

	Broad Categories			Specific Racial and Ethnic Groups of Color			
	White alone, not Hispanic	Of color	Asian alone, not Hispanic	Black or African-American	Other (incl. Native American, Pacific Islander, and multiple race)	Hispanic or Latino, any race	Totals
Total Owner Households	109,100	28,015	14,995	5,900	3,870	3,250	137,115
Owner Household Income—Percent of AMI							
less than or equal to 30%	5%	7%	6%	12%	6%	4%	5%
greater than 30% but less than or equal to 50%	6%	9%	7%	12%	6%	11%	6%
greater than 50% but less than or equal to 80%	8%	13%	14%	15%	9%	10%	9%
greater than 80% but less than or equal to 100%	8%	11%	11%	12%	10%	8%	8%
greater than 100%	74%	61%	62%	49%	68%	67%	71%
Percent of AMI—Cumulative							
less than or equal to 50%	10%	15%	13%	24%	13%	15%	11%

	Broad Categories			Specific Racial and Ethnic Groups of Color			
	White alone, not Hispanic	Of color	Asian alone, not Hispanic	Black or African-American	Other (incl. Native American, Pacific Islander, and multiple race)	Hispanic or Latino, any race	Totals
less than or equal to 80%	19%	29%	27%	39%	22%	25%	21%
Total Renter Households	95,575	47,785	16,975	13,390	7,570	9,850	143,360
Renter Household Income—Percent of AMI							
less than or equal to 30%	19%	34%	36%	45%	25%	23%	15%
greater than 30% but less than or equal to 50%	14%	18%	16%	19%	18%	18%	18%
greater than 50% but less than or equal to 80%	18%	17%	16%	14%	22%	21%	12%
greater than 80% but less than or equal to 100%	13%	9%	8%	7%	12%	13%	31%
greater than 100%	36%	21%	23%	15%	23%	24%	24%
Percent of AMI—Cumulative							
less than or equal to 50%	33%	52%	53%	65%	42%	42%	33%
less than or equal to 80%	52%	70%	69%	79%	65%	63%	45%

Source: CHAS 2006–2010. Notes: Households of color have a householder who is of Hispanic origin or a race other than white alone. Native American and Pacific Islander households are included in the "other" category due to the small survey sample sizes at this level of detail.

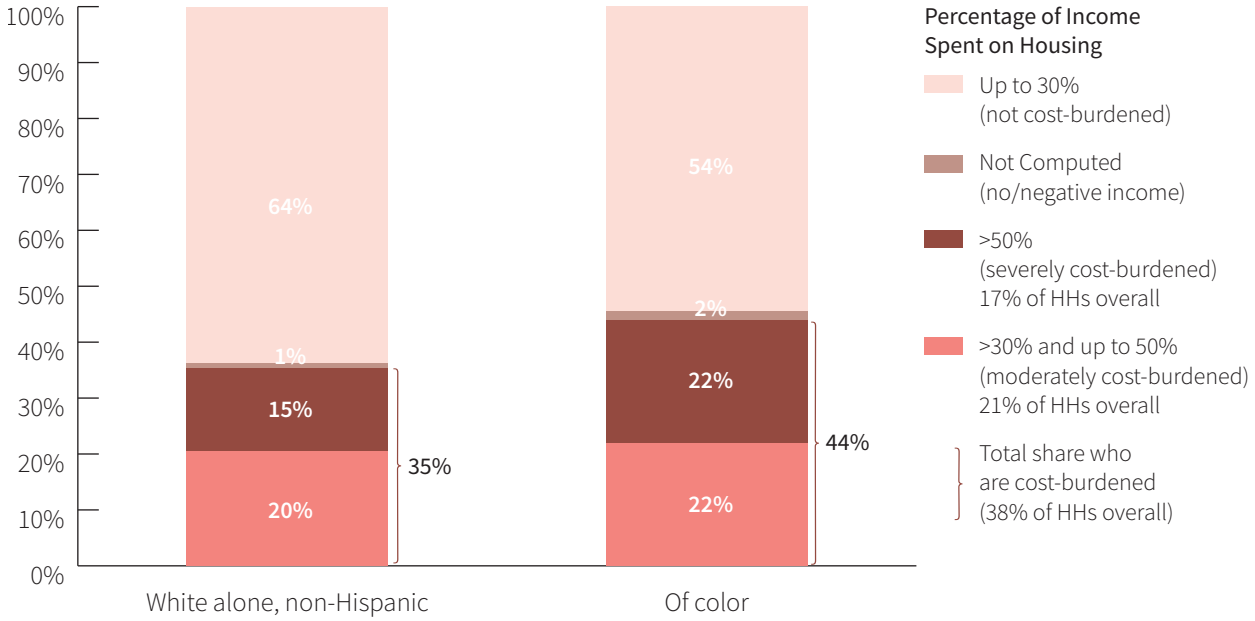
Prevalence of Housing Cost Burdens by Race and Ethnicity

Unaffordable housing cost burdens fall disproportionately on households of color. Overall, as shown in Housing Appendix Figure A-8, about 44 percent of households of color are moderately or severely cost-burdened compared with 35 percent of white, non-Hispanic households. About 22 percent of householders of color are severely cost-burdened, compared to roughly 15 percent of white, non-Hispanic households.

Among most racial and ethnic groups analyzed, cost burdens are more common for renter households than for owner households. However, data for Hispanic or Latino households suggest a possible exception to this pattern.

Housing Appendix Figure A-8

Shares of Seattle Households, by Race of Householder,
Who Are Moderately or Severely Housing Cost-Burdened



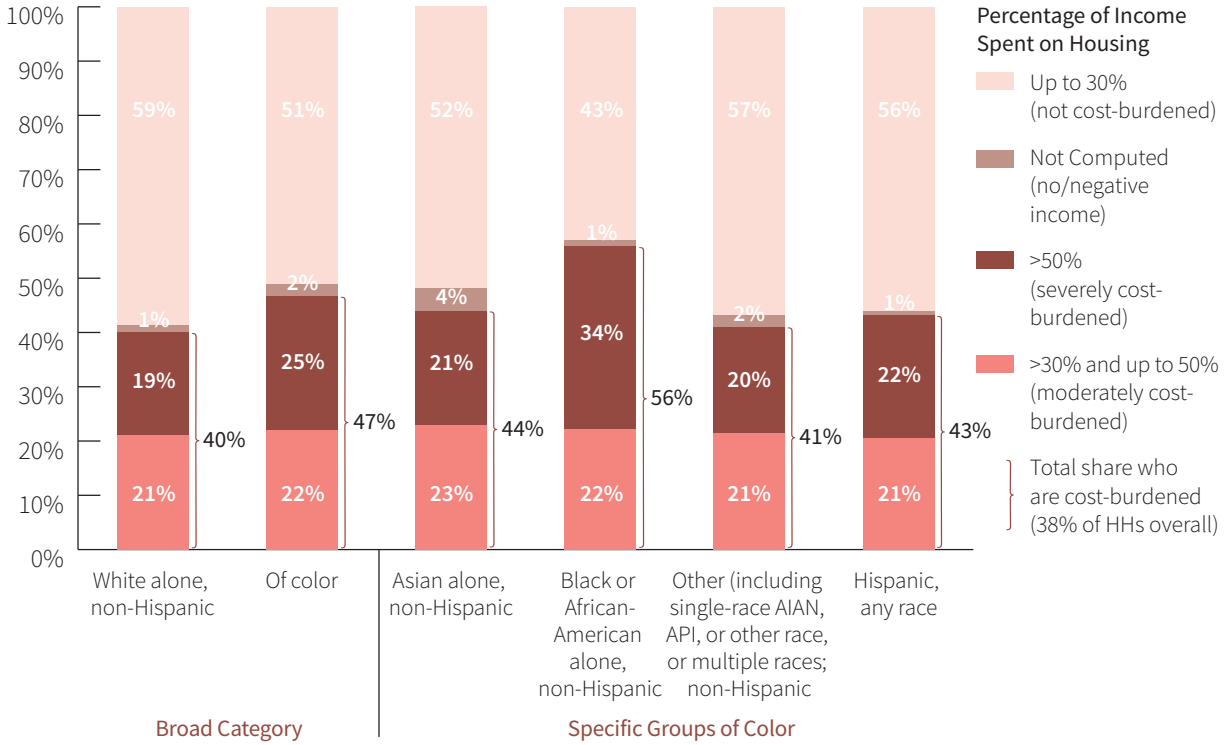
Source: 2006–2010 5-Year Estimates from the American Community Survey CHAS Dataset.

Overall, about 47 percent of renter households of color are burdened by unaffordable housing costs compared with 40 percent of white, non-Hispanic renter households.

Housing Appendix Figure A-9 illustrates this finding and provides additional detail on how rates of cost burden vary among renter households by race and ethnicity.

Housing Appendix Figure A-9

Shares of Seattle Renter Households (by Race of Householder)
Who Are Moderately or Severely Housing Cost-Burdened



Source: 2006–2010 5-Year Estimates from the American Community Survey CHAS Dataset.

Prevalence of Housing Cost Burden by Household Type

The CHAS (2006–2010) tabulations include income and prevalence of cost burden for five household types[8, 9] This data is also broken out by tenure (Housing Appendix Figure A-10). Insights for Seattle are summarized below.

- *Renter households comprised of elderly non-family households stand out as particularly likely to be cost-burdened: 54 percent of these households are cost-burdened compared to 42 percent of renter households overall.*

- *Renter households that are large families also have a higher estimated prevalence of cost burden (roughly 47 percent) than do renter households generally.*

- *The higher prevalence of cost burdens found among elderly non-family households and large families correlates with the fact that these households are also disproportionately likely to have very low-incomes: 64 percent of elderly non-family renter households, and 57 percent of large families renter households, compared to 40 percent of all renter households, have incomes at or below 50 percent of AMI.*

- *Within the category of owner households, elderly non-family households are also one of the household types most likely to be cost-burdened.[10] About 39 percent of elderly non-family owner households are cost-burdened, compared to 33 percent of owner households overall. Elderly non-family households are much more likely than owners generally to have a household income no higher than 50 percent of AMI (37 percent of elderly non-family households have incomes this low compared to only 11 percent of owner households overall).*

---

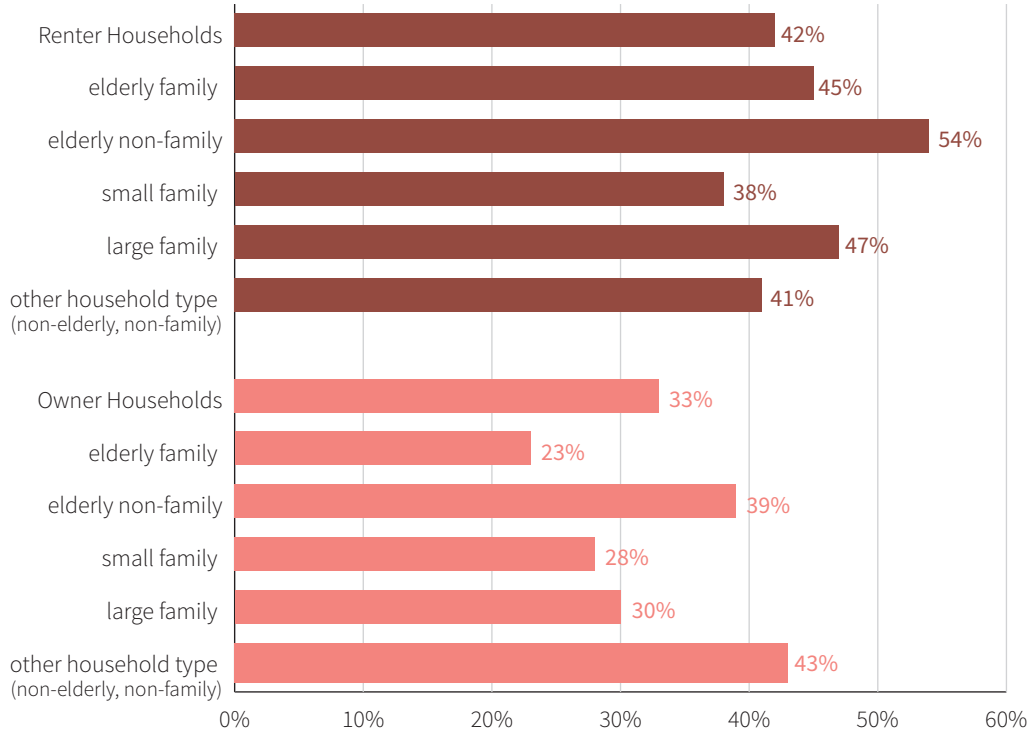
8. The five household types tabulated in CHAS (2006–2010) data are as follows.
   - Elderly family households, which are defined as families of two people, with either or both age sixty-two or over.
   - Elderly non-family households, which are one- or two-person non-family households in which either person is sixty-two years or over. The CHAS data do not include more detail on the composition of these households, but other ACS tables suggest that a large majority of these households are elderly women living alone.
   - Small family households, defined as families comprised of two people, neither of which is sixty-two years or over, or three or four people.
   - Large family households, which are families with five or more people.
   - Other household types, referred to in this appendix as non-elderly, non-family. This includes non-elderly people living alone and most other households with non-related individuals who are not elderly.

9. Disability questions on the ACS were changed between 2007 and 2008, which rendered the previous data on disability noncomparable after the change. Consequently, estimates for households with people with disabilities are not available in the CHAS (2006–2010) tabulations.

10. Non-elderly, non-family households are the other type of owner household disproportionately likely to be cost-burdened. However, they are no more likely than other owner households to have incomes at or below 50 percent of AMI.

Housing Appendix Figure A-10

Percentage share of cost-burdened households by household type, Seattle



Source: CHAS (2006–2010)

Another way to look at cost burden data besides percentages is in terms of absolute numbers of cost-burdened households. The largest estimated numbers of cost-burdened households are found for: 1) non-elderly, non-family households and 2) small family households. These two types of households are also the overall most common household types in Seattle.

Another essential observation is that sizable majorities of households in the lowest income categories are cost-burdened *regardless* of household type. This is, for example, the case for small family households in the lowest income categories.

The CHAS data tabulate cost burden for generalized household types. This limits the insights that can be derived from the CHAS data. Notably, the CHAS tables do not capture whether family households include children. Single-parent households, which are among the most economically disadvantaged households, are also not distinguished in the CHAS data.

A separate and earlier analysis for an earlier Consolidated Plan (2009–2012) used ACS (2006) microdata to identify the characteristics of households who were more likely to be severely

cost-burdened. That analysis included some household categories not isolated in the CHAS tabulations and found that households in which there was a female single parent, and households composed of a family with two or more children, were among the groups of renter households disproportionately likely to be shouldering severe housing cost burdens.

Household cost burdens are a key indicator of affordability problems within a community but must be considered in context of other housing data and in light of broader regional demographics. Cost burden data provided for Seattle households only refer to those households living *within* the city and are blind to the housing needs of households who may wish to live in Seattle, but have located outside of the city of Seattle likely due to affordability considerations.

For example, family households with children are a demographic substantially underrepresented in Seattle relative to the region. As previously noted, the population of color under eighteen in Seattle is increasing much more slowly than this population segment is increasing in the remainder of King County. These factors suggest that Seattle's housing affordability challenges may be affecting the locational decisions made by families with children and families of color.

Maps Showing Selected Household Characteristics

HUD's Community Planning and Development (CPD) Office provides an online set of mapping tools for analyzing housing needs at the local and neighborhood level. Screenshots of selected CPD maps for census tracts in and around Seattle are included in several sections of this appendix. Maps showing household income and cost burden are in the subsections that follow immediately below, while maps about the affordability of the housing supply are included in Section G—Affordability of Seattle's Overall Housing Supply.

The shading for the CPD maps in this appendix was generated using the default "natural breaks" setting for highlighting variation within a region. The resulting data ranges are different from one map to the other and are shown in the legend accompanying each map.

The CPD maps are based on the CHAS data collected from 2007 to 2011, which is a slightly later period than the period for other CHAS data analyzed in this appendix.[11]

Shares of Households by Income Category by Census Tract

The trio of maps (Housing Appendix Figures A-11, A-12, and A-13) that follow show estimated shares of households within each census tract with incomes equal to or below three AMI-based income thresholds: 30 percent of AMI, 50 percent of AMI, and 80 percent of AMI.

11. The interactive CPD mapping tool is online at **http://egis.hud.gov/cpdmaps/**. More information about the tool and the data that populate the maps is available in the **CPD Maps Desk Guide**.

These maps reveal a great deal of variation between census tracts. In Seattle, the census tracts with the largest shares of lower-income households (meaning at or below 80 percent of AMI) tend to be in and around Seattle's Downtown, the University District, in Delridge, and along Rainier Valley. A similar pattern applies to neighborhoods to the south, and slightly southeast, of Seattle's city limits, where more than half of the households in many census tracts are lower income (at or below 80 percent of AMI).

There are also some census tracts in North Seattle where relatively large shares of households are lower income (at or below 80 percent of AMI), i.e., in the Broadview/Bitter Lake area and in a grouping of tracts running from the Aurora-Licton Springs neighborhood through Northgate and into Lake City.

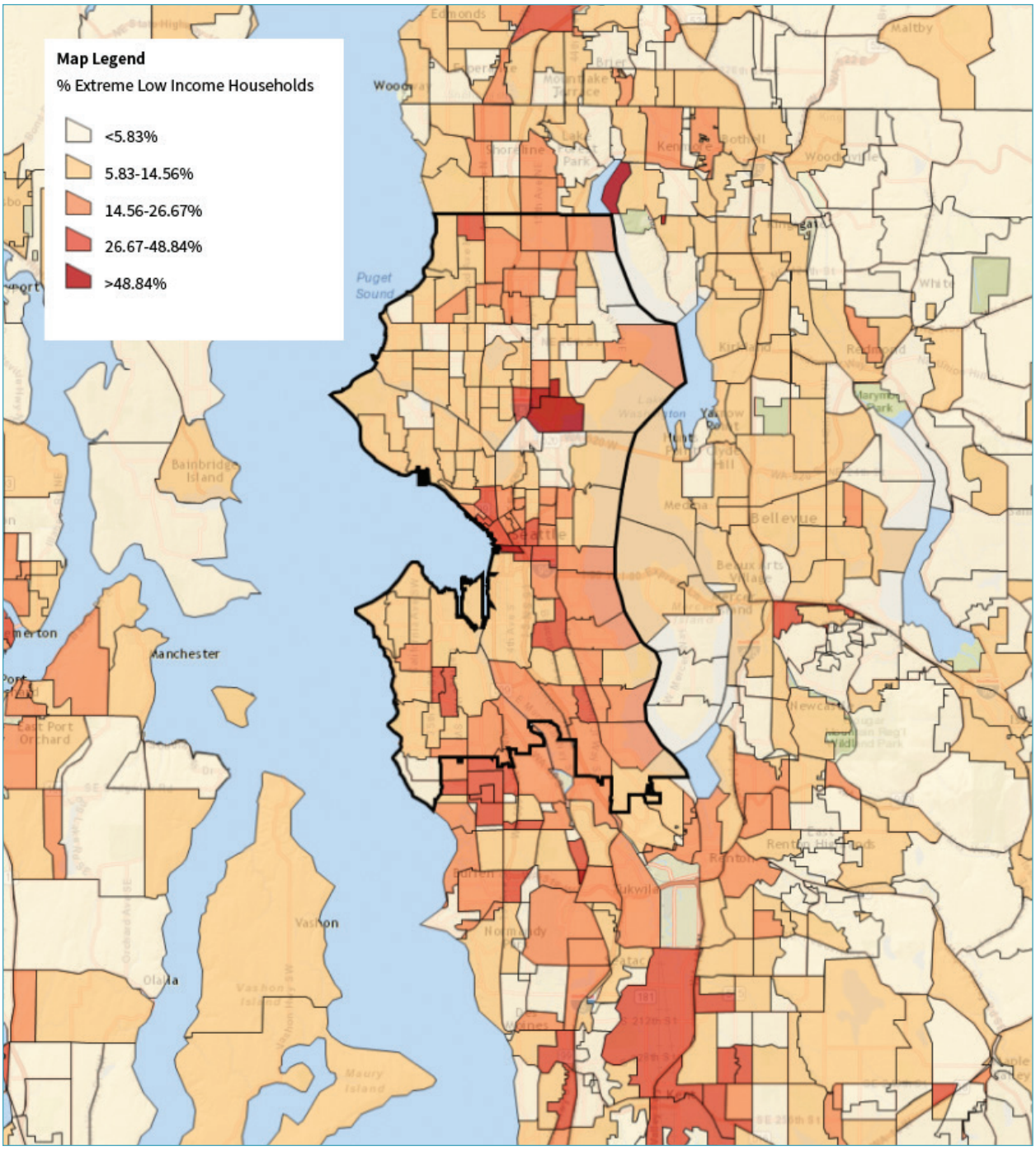
Census tracts where substantial shares of households have incomes no higher than 30 percent of AMI are smaller in number and found in more distinct concentrations in and around Seattle compared to the more diffuse patterns described above.

Prevalence of Housing Cost Burdens by Census Tract

Housing Appendix Figure A-14 shows the estimated percentages of households in each census tract with housing costs that are more than 30 percent of their income. Not surprisingly, high percentages of cost-burdened households are found in many of the census tracts where there are large shares of lower-income households.

Housing Appendix Figure A-11

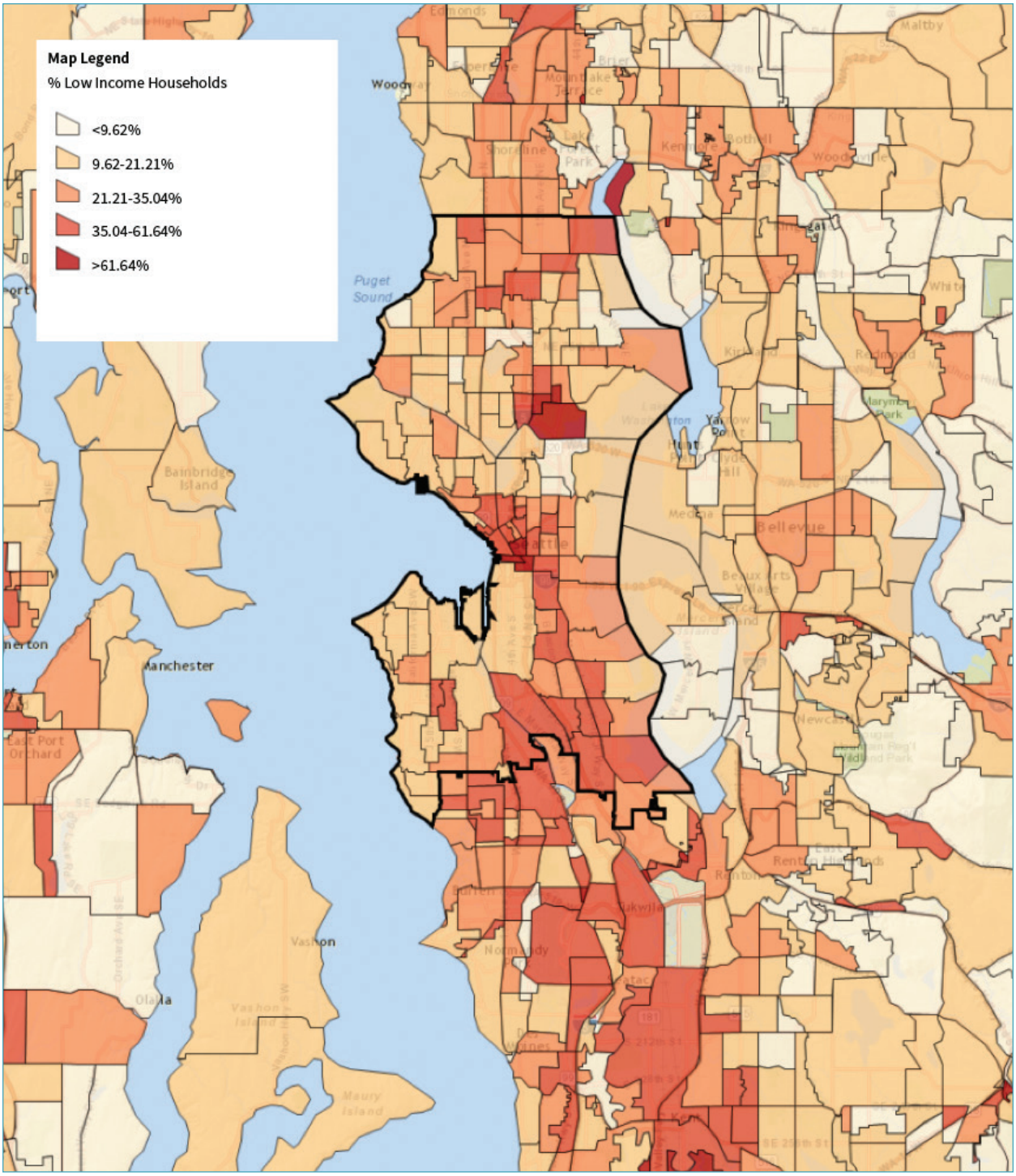
Share of Households with Income at or Below 30 Percent of AMI



Source: CHAS (2007–2011)

Housing Appendix Figure A-12

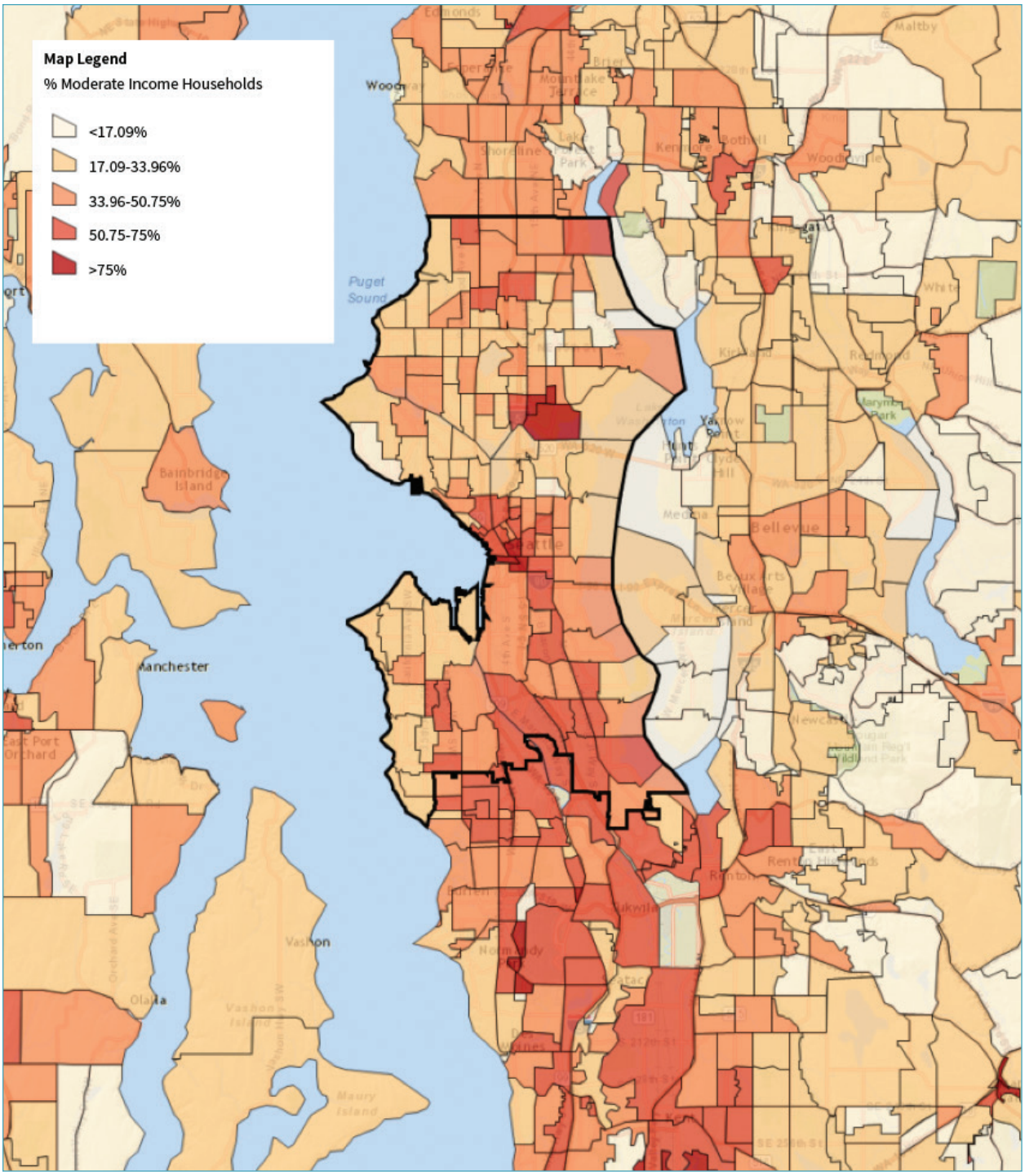
Share of Households with Income at or Below 50 Percent of AMI



Source: CHAS (2007–2011)

Housing Appendix Figure A-13

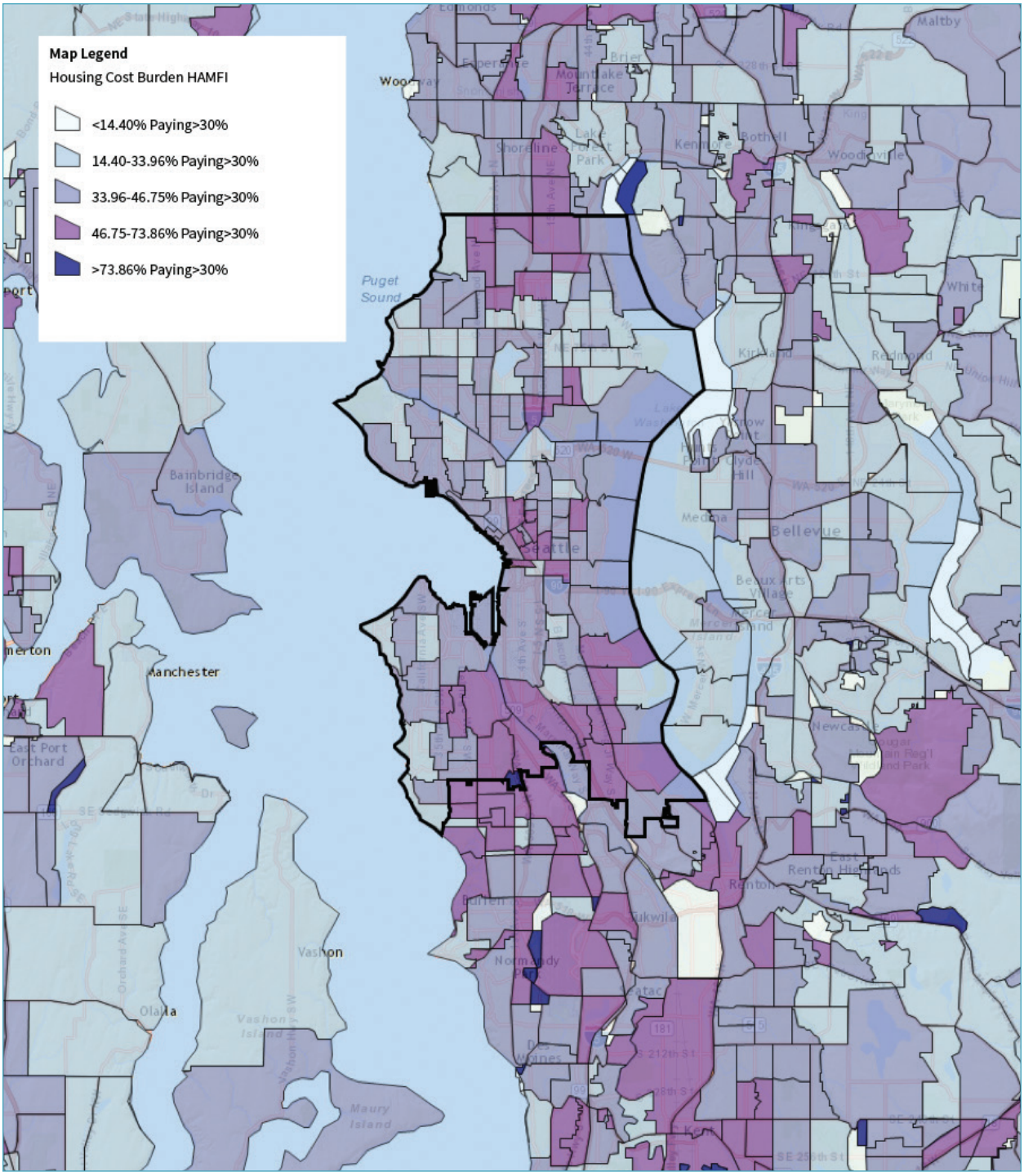
Share of Households with Income at or Below 80 Percent of AMI



Source: CHAS (2007–2011)

Housing Appendix Figure A-14

Share of Households with Housing Cost Burden



Source: CHAS (2007–2011)

Special Needs Populations

The GMA and the CPPs direct cities to address special-needs populations in their Comprehensive Plan housing needs analyses.[12]

Special-Needs Populations in Group Quarters

The decennial Census includes a tabulation of the population residing in group quarters. For example, the 2010 Census enumerated 24,925 people living in group quarters in Seattle.

Many group quarters categories are devoted to serving, or mostly serve, people who can be broadly regarded as special-needs populations. Housing Appendix Figure A-15 shows 2010 Census data for the subset of group quarters categories that have a primary function of serving special-needs populations. Figure A-15 shows the population in this subset to be almost 10,400 people, or about 40 percent of all people living in group quarters. About 2,800 of these 10,400 people were counted in institutional facilities, primarily in nursing facilities, and about 7,600 were counted in noninstitutional facilities. Seniors age sixty-five and over were a large majority of the nursing facilities population.

Emergency and transitional shelters were the largest noninstitutional category (2,550 people). A 2010 Census Special Report on the Emergency and Transitional Shelter Population found that Seattle had the seventh largest emergency and transitional shelter populations among places in the US with a population of 100,000 or more. The Census counted 2,900 people under "other noninstitutional facilities." A large proportion of this population may be homeless.

Housing Appendix Figure A-15

Population in Categories of Group Quarters Associated with Special Needs (2010 Census)

Group Quarters Categories	Estimated Seattle Population
Total	10,371
Institutionalized people	2,823
Juvenile facilities	115

12. PSRC's Housing Element Guide (July 2014) indicates that special-needs housing "refers broadly to housing accommodations for individuals with physical and mental disabilities, seniors, veterans, individuals with mental illness, individuals with chronic and acute medical conditions, individuals with chemical dependency, survivors of domestic violence, and adult, youth, and families who are homeless."

Group Quarters Categories	Estimated Seattle Population
Group homes for juveniles (noncorrectional)	58
Residential treatment centers for juveniles (noncorrectional)	57
Nursing facilities/Skilled-nursing facilities	2,588
Other institutional facilities	120
Mental (psychiatric) hospitals and psychiatric units in other hospitals	53
Hospitals with patients who have no usual home elsewhere	2
In-patient hospice facilities	65
Noninstitutionalized people:	7,548
Emergency and transitional shelters (with sleeping facilities) for homeless people	2,550
Group homes intended for adults	1,387
Residential treatment centers for adults	637
Workers' group living quarters & Job Corps centers	70
Other noninstitutional facilities: • Soup kitchens • Regularly scheduled mobile food vans • Targeted nonsheltered outdoor locations • Living quarters for victims of natural disaster • Religious group quarters • Domestic violence shelters	2,904

Source: 2010 Census

Homeless People from One Night Count and Agency Data

One night each January a count of homeless people is conducted at locations in Seattle and elsewhere in King County to identify the extent and nature of homelessness. The One Night Count has two components: a count of unsheltered homeless, which is conducted by the Seattle/King County Coalition on Homelessness, and a count (by agency staff) of people being served that same night in emergency shelters and transitional housing programs. Agency staff also collect information about those people being served.

Unsheltered Homeless

Housing Appendix Figure A-16 summarizes the gender, age, and location of unsheltered homeless people counted during the January 2016 One Night Count in locations within

Seattle and in King County as a whole. During the three-hour January 2016 street count 4,505 men, women, and children were found without shelter. This is an increase of 19 percent over those found without shelter in January of the previous year. The Seattle/King County Coalition on Homelessness notes that One Night Count estimates are assumed to be an undercount, because volunteers do not count everywhere, and because many unsheltered homeless people try not to be visible. Sixty-five percent of the more than 4,500 unsheltered homeless people counted in King County were in Seattle.

Housing Appendix Figure A-16

One Night Count: Unsheltered Homeless People (January 2016)

	Seattle	King County as a Whole
Total	**2,942**	**4,505**
Age and gender		
Men	827	1,225
Women	153	271
Gender unknown	1,951	2,980
Minor (under 18)	11	29
Location		
Benches	46	57
Parking garages	26	54
Cars/trucks	914	1,608
Structures	533	653
Under roadways	257	290
Doorways	271	297
City parks	24	66
Bushes/undergrowth	37	153
Bus stops	29	64
Alleys	32	41
Walking around	494	579
Other	279	643

Source: Seattle/King County Coalition on Homelessness, www.homelessinfo.org

Sheltered Homeless

At the time this Housing Appendix was being written, the portion of the 2016 One Night Count focusing on the sheltered population had yet to be released. A previous homeless needs assessment, including the sheltered population, was included in the 2014–2017 Consolidated Plan.

As described in that plan, King County Community Services Division tabulates information about the sheltered homeless population for the One Night Count. This information indicated that the two largest demographic segments of the sheltered homeless population in King County are 1) people in families with children and 2) single adult men age twenty-five years or older. While members of families with children comprise the majority (69 percent) of the transitional housing population, single adult men are the majority (57 percent) in emergency shelters. A substantial number of people identified as veterans. Reporting on issues such as disabilities and health conditions is voluntary. The most commonly reported disabilities and health conditions reported were mental illness, alcohol or substance abuse, and physical disability.

During the course of the 2012 Annual Homeless Assessment Report (AHAR) reporting year, Seattle shelters participating in the Safe Harbors system assisted more than 7,486 people in single-individual shelters (for households without children) as well as more than 1,072 people within families with one or more children.

The Consolidated Plan highlights a number of key findings regarding the characteristics of the sheltered homeless population, including:

- *Over half (58 percent) of the individuals in shelters for adults without children report having a disability.*
- *There were more than 643 children under the age of eighteen served in emergency shelters in Seattle, and over 43 percent of these were less than five years old.*
- *More than a third of the people in transitional housing programs for families with children were in a household with five or more people.*
- *People of color, particularly black/African Americans, are disproportionately represented among those who are homeless in the shelter/transitional housing system, representing 28 percent of people served in single-adult emergency shelters and 71 percent of people served in family shelters.*

Seattle Housing Market

Seattle grew by nearly 50,000 housing units between the beginning of 2005 and the end of 2015, the period since the last major update of the Comprehensive Plan in 2004.

Annual housing production in Seattle varied greatly over that period, influenced by broader economic trends including the eighteen-month Great Recession of December 2007 to June of 2009, and the more recent resurgence in the housing market. ***(See Housing Appendix Figure A-17.)***

An initial peak in Seattle's annual housing growth was reached in 2009 with production that year totaling nearly 7,000 net new units. This was followed by a precipitous drop in housing production due to the Great Recession. With recovery of the housing market, annual production accelerated rapidly between 2012 and 2014. In 2014, over 7,500 net new housing units were built, the highest peak recorded in the past twenty years.

Housing Appendix Figure A-17

Housing Units Built, Demolished, and Net New Units by Year (2005–2014)

Year	Units Built	Units Demolished	Net New Units
2005	3,669	(551)	3,118
2006	3,456	(575)	2,881
2007	4,531	(882)	3,649
2008	4,937	(985)	3,952
2009	7,334	(341)	6,993
2010	3,943	(309)	3,634
2011	2,305	(169)	2,136
2012	3,252	(577)	2,675
2013	6,621	(337)	6,284
2014	8,308	(760)	7,548
2015	7,587	(590)	6,997

Source: Citywide Residential Permit Report, OPCD, January 5, 2016

Consistent with Seattle's Urban Village Strategy, the majority of housing units added in the city from 2005 to 2015 were built in urban centers and urban villages. Specifically, an estimated 39,587 units (79 percent of the 49,867 housing units added in the city during that

period) were built in urban centers and urban villages. This includes the addition of 23,186 units (46 percent of the city's total growth) in urban centers and the 16,429 units (33 percent of the city's total growth) in urban villages outside of centers.[13]

Owner Housing Market

Housing Appendix Figure A-18 provides a key to the eight NWMLS market areas in Seattle referred to in Housing Appendix Figures A-19, A-20, and A-21.

Housing Appendix Figures A-19 to A-21 provide data on median sales prices for closed sales from 2005 through 2014 for these areas. The home sales reflected in these Housing Appendix Figures include condominiums as well as other homes. Note that in the Downtown submarket area (#701), condominiums comprise 100 percent of home sales. Prices in all Housing Appendix Figures are inflation-adjusted to 2014 dollars.

Housing Appendix Figure A-18

Key to NWMLS Market Areas in Seattle

#	Area
140	West Seattle
380	Central Seattle SE, Leschi, Mt Baker, Seward Park
385	Central Seattle SW, Beacon Hill
390	Central Seattle, Madison Park, Capitol Hill
700	Queen Anne, Magnolia
701	Downtown Seattle
705	Ballard, Greenlake, Greenwood
710	North Seattle

Source: NWMLS King County statistical report for December 2014

As reflected in Housing Appendix Figure A-19, median sale prices in years following the Great Recession increased more slowly in South Seattle compared to the rest of the city. Median sale prices for 2014 were lower in the NWMLS market areas of West Seattle (area #140), Southeast Seattle (area #380), and Beacon Hill (area #385) compared to their previous peak highs in 2006 or 2007.

13. Source: Urban Center/Village Residential Growth Report, OPCD, January 5, 2016.

Housing Appendix Figure A-19

Median Sales Price for Residential Sales, Including Condos (NWMLS Area)

NWMLS area	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
140	$400K	$382K	$339K	$315K	$374K	$376K	$427K	$459K	$462K	$431K
380	$391K	$361K	$309K	$312K	$354K	$370K	$410K	$456K	$450K	$406K
385	$340K	$326K	$266K	$269K	$322K	$343K	$385K	$434K	$415K	$380K
390	$660K	$630K	$618K	$538K	$562K	$544K	$608K	$673K	$687K	$657K
700	$710K	$663K	$582K	$558K	$636K	$615K	$701K	$770K	$767K	$710K
701*	$-	$728K	$340K	$-	$-	$1.3M	$-	$793K	$1M	$653K
705	$512K	$475K	$438K	$422K	$450K	$435K	$493K	$548K	$533K	$492K
710	$510K	$479K	$456K	$433K	$475K	$465K	$520K	$570K	$549K	$516K

Source: NWMLS King County statistical report for December 2005 through 2014 (December 2014)
**Some data not shown in NWMLS report.*

Housing Appendix Figure A-20 shows how median sale prices for new construction homes compare to the median sale prices for all residential sales in Seattle's submarkets. Based on NWMLS data for total residential sales closing in 2014, most market areas are showing substantially higher median sales prices for new construction homes.

Housing Appendix Figure A-20

New Construction Residential Sales (Compared to All Residential Sales)

NWMLS Submarket Area	New Construction: Median Sale Price Compared to All Residential Sales	New Construction: Share of Total Residential Sales
140	11% higher	11%
380	27% higher	9%
385	42% higher	9%
390	2% lower	11%
700	1% lower	6%
705	19% higher	4%
710	27% higher	11%

Source: NWMLS King County statistical report (December 2014)

Housing Appendix Figure A-21 displays median sales prices for new construction homes (again, including condominiums). Median sales prices for new-construction homes dipped after the Great Recession in all submarkets, but increased substantially in 2013 and 2014 in five of the seven neighborhood market areas outside of Downtown Seattle (area #701). Median sales prices in 2014 were still lower in the Southwest Seattle/Beacon Hill (area #385) and Queen Anne/Magnolia (area #700) market areas compared to 2006 peaks.

Housing Appendix Figure A-21

Median Sales Price by Seattle NWMLS Market Area for New-Construction Residential Sales, Including New-Construction Condominiums

NWMLS Market Area	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
140	$444K	$448K	$309K	$316K	$358K	$354K	$411K	$433K	$444K	$429K
380	$497K	$474K	$350K	$317K	$402K	$401K	$395K	$445K	$468K	$465K
385	$482K	$407K	$313K	$328K	$422K	$387K	$471K	$491K	$498K	$463K
390	$650K	$662K	$586K	$370K	$495K	$522K	$493K	$541K	$551K	$466K
700	$700K	$562K	$590K	$421K	$488K	$596K	$625K	$684K	$782K	$564K
701*	$-	$-	$-	$-	$-	$2.2M	$-	$-	$-	$-
705	$607K	$564K	$531K	$364K	$391K	$381K	$449K	$467K	$514K	$429K
710	$650K	$685K	$457K	$372K	$396K	$416K	$437K	$427K	$580K	$481K

Source: NWMLS King County statistical report for December 2005 through 2014 (December 2014)
**Some data not shown in NWMLS report.*

Rental Housing Market

Average rents for market-rate apartments in Seattle have increased and are substantially higher in fall 2014 compared to 2005. Although they dipped slightly following the Great Recession, average rents resumed rising in 2011. Average rents then rose at an accelerated pace from 2011 to 2014.

One-bedroom apartments are the most common size of apartment unit in Seattle. Between 2005 and 2014, the average rent for one-bedroom apartments increased an estimated 35 percent. In these units, the average rent as measured per net rentable square foot (NRSF) increased an estimated 27 percent ***(see Housing Appendix Figure A-22)***.

Housing Appendix Figure A-22

Seattle Average Rent per Unit and per Net Rentable Square Foot
(1-Bedroom Apartment Units)

Year	Average Rent per 1-BR Unit	Average Rent per NRSF
2005	$1,045	$1.55
2006	$1,047	$1.54
2007	$1,147	$1.65
2008	$1,148	$1.66
2009	$1,130	$1.65
2010	$1,135	$1.62
2011	$1,160	$1.64
2012	$1,206	$1.70
2013	$1,302	$1.83
2014	$1,412	$1.97

Source: D+S Apartment Vacancy Report Fall 2014, City of Seattle

Housing Appendix Figure A-23 shows estimated average market rents for apartment units in the fourteen D+S-defined neighborhood market areas that are wholly within Seattle. For each market area, Housing Appendix Figure A-23 shows overall average rents as well as average rents by number of bedrooms. At approximately $1,070 per unit, average rents are most affordable in the D+S Beacon Hill market area, followed by the Rainier Valley and North Seattle (generally north of 85th Street) market areas at approximately $1,130 per unit. Average market rents in the Downtown and South Lake Union market areas are approximately 28 percent higher than the estimated average market rent of $1,488 for Seattle as a whole.

Housing Appendix Figure A-23

Average Market Rents by Unit Type and Market Area

D+S Market Area	All Units	Studio	1-BR	2-BR/1-B	2-BR/2-B	3-BR/3-B
SEATTLE (city as a whole)	**$1,488**	**$1,169**	**$1,412**	**$1,605**	**$2,156**	**$2,411**
NORTH SEATTLE						
Ballard	$1,563	$1,244	$1,489	$1,696	$2,345	$1,850

D+S Market Area	All Units	Studio	1-BR	2-BR/1-B	2-BR/2-B	3-BR/3-B
Greenlake, Wallingford	$1,557	$1,347	$1,444	$1,599	$2,170	$2,115
North Seattle	$1,130	$988	$1,020	$1,252	$1,407	$1,749
University	$1,361	$1,094	$1,240	$1,441	$1,968	$1,963
CENTRAL SEATTLE						
Belltown, Downtown, South Lake Union	$1,906	$1,301	$1,841	$2,265	$2,918	$4,116
Capitol Hill, Eastlake	$1,462	$1,149	$1,430	$1,836	$2,285	$2,835
Central	$1,446	$1,131	$1,380	$1,534	$1,934	$2,191
First Hill	$1,395	$1,088	$1,409	$1,764	$2,339	$2,728
Madison, Leschi	$1,370	$930	$1,284	$1,577	$1,694	
Magnolia	$1,396	$1,216	$1,248	$1,541	$1,681	$2,144
Queen Anne	$1,525	$1,117	$1,469	$1,767	$2,309	$2,579
SOUTH SEATTLE						
Rainier Valley	$1,128	$1,202	$1,042	$1,174	$1,727	
Beacon Hill	$1,071	$890	$1,055	$1,318	$1,226	
West Seattle	$1,283	$1,188	$1,211	$1,283	$1,843	$2,079

Source: D+S, Apartment Vacancy Report, Fall 2014

In the 14 D+S neighborhood market areas wholly within Seattle, the five-year average vacancy rate has been less than 5 percent. (A vacancy rate of 5 percent is commonly recognized as the equilibrium point signalizing relative balance between supply and demand.) As of fall 2014, market vacancy rates were averaging between 0.4 percent and 3.8 percent of units in complexes with twenty or more units. In Seattle's three most affordable rental market areas—Beacon Hill, Rainier Valley, and North Seattle—vacancy rates were averaging an estimated 2.2 percent.

Housing Appendix Figure A-24 shows average rents per unit for apartment units in D+S's Seattle market areas by age of the apartment complex. Average rents are markedly higher for the newest cohorts of units. Seattle's most affordable rents are in complexes built over a century ago and in the 1970s.

Housing Appendix Figure A-24

Average Rent per Unit by Age of Housing

Age of Housing (Decade in Which Built)	Average Rent
2010 and later	$1,822
2000–2009	$1,731
1990–1999	$1,550
1980–1989	$1,230
1970–1979	$1,083
1960–1969	$1,117
1940–1959	$1,174
1920–1939	$1,137
1900–1919	$1,060

Source: D+S, Apartment Vacancy Report, Fall 2014

Affordability of Seattle's Overall Housing Supply

In an earlier section, this appendix examined CHAS (2006–2010) data on housing cost burdens to provide insights into the challenges that specific types of Seattle households experience in affording the housing in which they live. CHAS data can also be used to describe the affordability of a community's housing supply independently of the households who currently live in the housing units.

This section uses the CHAS (2006–2010) data in this manner in order to describe the affordability of Seattle's housing supply. The CHAS data summarized here categorize the affordability of each housing unit based on the income level that any household would need in order to afford the monthly housing costs associated with the unit. The analysis to produce these tables takes into account the fact that housing needs vary by household size.[14]

As noted in Data Sources above, the CHAS data do not distinguish between housing units that are rent/income-restricted and housing units that are market-rate (i.e., those without regulatory agreements or covenants). The estimates from the ACS CHAS data on the

14. This analysis for Seattle is based on the affordability and availability methodology described in "Measuring Housing Affordability," by Paul Joice, US Department of Housing and Urban Development, *Cityscape: A Journal of Policy Development and Research*, Volume 16, Number 1, 2014. A variety of other entities, including the Philadelphia Federal Reserve bank and the Washington State Affordable Housing Advisory Board, have used similar analyses to assess housing needs at local and state levels.

affordability of Seattle's housing supply refer to affordability in a broad sense; units tabulated as affordable to households at specified income levels may include market-rate as well as rent/income-restricted housing.

Affordability of Owner Units

In order to represent the monthly costs associated with an owner-housing unit in a way that is independent of any household currently in the unit, the CHAS tabulations simulate a situation in which a household has recently purchased the unit and is making payments on an FHA-insured, thirty-year mortgage under prevailing interest rates.[15] In the CHAS tabulations, HUD considers monthly mortgage payments to be affordable at a given income level when these payments consume no more than 31 percent of monthly income. The analytical approach reflected in these tabulations provides a useful, but limited picture of ownership housing affordability in Seattle.[16]

For owner units, the CHAS data estimates the number of owner units affordable with household incomes of 0–50 percent of AMI, 50–80 percent of AMI, 80–100 percent of AMI, and above 100 percent of AMI. Housing Appendix Figure A-25 shows the estimated number of owner units in Seattle that are affordable within each of these affordability categories. Cumulative estimates are also shown for units affordable with household incomes at or below 80 percent AMI, and units affordable at or below 100 percent of AMI. Occupied owner units and vacant for-sale units are shown in separate columns and summed in the third column.

The analysis shows that very small numbers of owner units are affordable within the income categories of 0–50 percent of AMI and 50–80 percent of AMI. On a cumulative basis, only about 4,500 owner units, or 3 percent of the total owner units, are estimated to be affordable at or below 80 percent of AMI. Another 5 percent are estimated to be affordable at 80–100 percent of AMI.

15. CHAS tabulations on affordability of owner units use the home value that respondents provided on the ACS questionnaire. To categorize owner units by affordability, the CHAS tabulations assume that the hypothetical owner has purchased the home at a sales price equal to the home value provided in the ACS, and—as noted—is currently making mortgage payments.

16. CHAS tabulations on affordability of owner housing supply do not capture the ways that accumulation of equity in a home after purchase can affect a home's affordability over time. These tabulations also ignore the question of whether the down payments involved would be affordable to households.

Housing Appendix Figure A-25

Affordability of Owner Units

	Occupied owner units	Vacant for-sale units	Total owner units
Owner units:	136,304	2,955	139,259
By affordability category:			
Affordable with income of 0–50% of AMI	2,410	0	2,410
Affordable with income of 50–80% of AMI	1,939	15	1,954
Affordable with income of 80–100% of AMI	6,920	205	7,125
Affordable with income above 100% of AMI	125,035	2,735	127,770
By affordability level (cumulative):			
Affordable with income at or below 80% of AMI	4,349	15	4,364
Affordable with income at or below 100% of AMI	11,269	220	11,489

Source: CHAS (2006–2010)

Notes: The CHAS tables summarized in Housing Appendix Figure A-25 exclude an estimated 750 owner-occupied and fifty vacant, for-sale housing units in Seattle that lack complete plumbing and kitchen facilities.

Affordability of Rental Units

Rental units are regarded as affordable at a given income level if monthly gross rent, defined as contract rent plus tenant-paid basic utilities, equals no more than 30 percent of monthly gross income.

Housing Appendix Figure A-26 shows the estimated numbers of rental units that are affordable by income category. (The housing affordability categories included in the CHAS data for rental housing differ somewhat from those for owner housing and include more detail in the lowest part of the income spectrum.)

Only 11 percent of the total Seattle rental units have gross rents that are affordable with an income at or below 30 percent of AMI. About 22 percent of rental units are affordable in the 30–50 percent of AMI category. Another 42 percent of rental units are affordable in the 50–80 percent of AMI category.

Housing Appendix Figure A-26

Affordability of Rental Units

	Occupied rental units	Vacant for-rent units	Total rental units
Rental units	139,625	5,305	144,930
By affordability category:			
Affordable at income of 0–30% AMI	16,325	340	16,665
Affordable at income of 30–50% AMI	31,060	1,495	32,555
Affordable at income of 50–80% AMI	59,355	1,790	61,145
Affordable at income above 80% AMI	32,885	1,680	34,565
By affordability level (cumulative):			
Affordable at income at or below 50% AMI	47,385	1,835	49,220
Affordable at income at or below 80% AMI	106,740	3,625	110,365

Source: CHAS (2006–2010)

Notes: A household unit is affordable if rent and basic utilities together cost no more than 30 percent of household income. The analysis in this table assumes the household size to unit size ratios that HUD uses to administer the Low-income Housing Tax Credit program. The CHAS tables summarized in Housing Appendix Figure A-26 exclude the estimated 3,760 occupied rental-housing units that lack complete plumbing and kitchen facilities.

Maps Showing Affordability Levels of Existing Housing

The following maps show census tracts in and around Seattle, with shading indicating the shares of housing units within each tract that are estimated to be affordable at or below a specified household income level. These maps were generated using HUD's CPD maps tool and are based on CHAS (2007–2011) tabulations.

The census tracts in these maps are shaded based on "natural breaks" in the distribution of data in order to highlight variation in and around Seattle. As the map legends indicate, the data categories vary from one map to another; this is important to keep in mind when viewing these maps.

The maps in this series were generated separately for owner housing units and renter housing units. They include:

- *Estimated shares of owner housing units within census tracts that are:*

  - *affordable at or below 80 percent of AMI (Housing Appendix Figure A-27)*
  - *affordable at or below 100 percent of AMI (Housing Appendix Figure A-28)*

- *Estimated shares of rental housing units within census tracts that are*

  - *affordable at or below 30 percent of AMI (Housing Appendix Figure A-29)*
  - *affordable at or below 50 percent of AMI (Housing Appendix Figure A-30)*
  - *affordable at or below 80 percent of AMI (Housing Appendix Figure A-31)*

As reflected in these maps, the affordability of housing varies a great deal between areas within Seattle and surrounding cities.

Shares of Owner Housing Units by Affordability Level

Owner units affordable at or below 80 percent of AMI are very scarce within Seattle and in neighboring cities east of Lake Washington. The vast majority of census tracts in Seattle and these Eastside cities are tracts where only 6 percent or fewer of the owner units are affordable at or below 80 percent of AMI.

Owner units affordable at or below 100 percent of AMI are also scarce in most census tracts within Seattle and Eastside cities. Census tracts to the south of Seattle and to the northeast of Seattle have larger proportions of owner units affordable at or below these income thresholds.

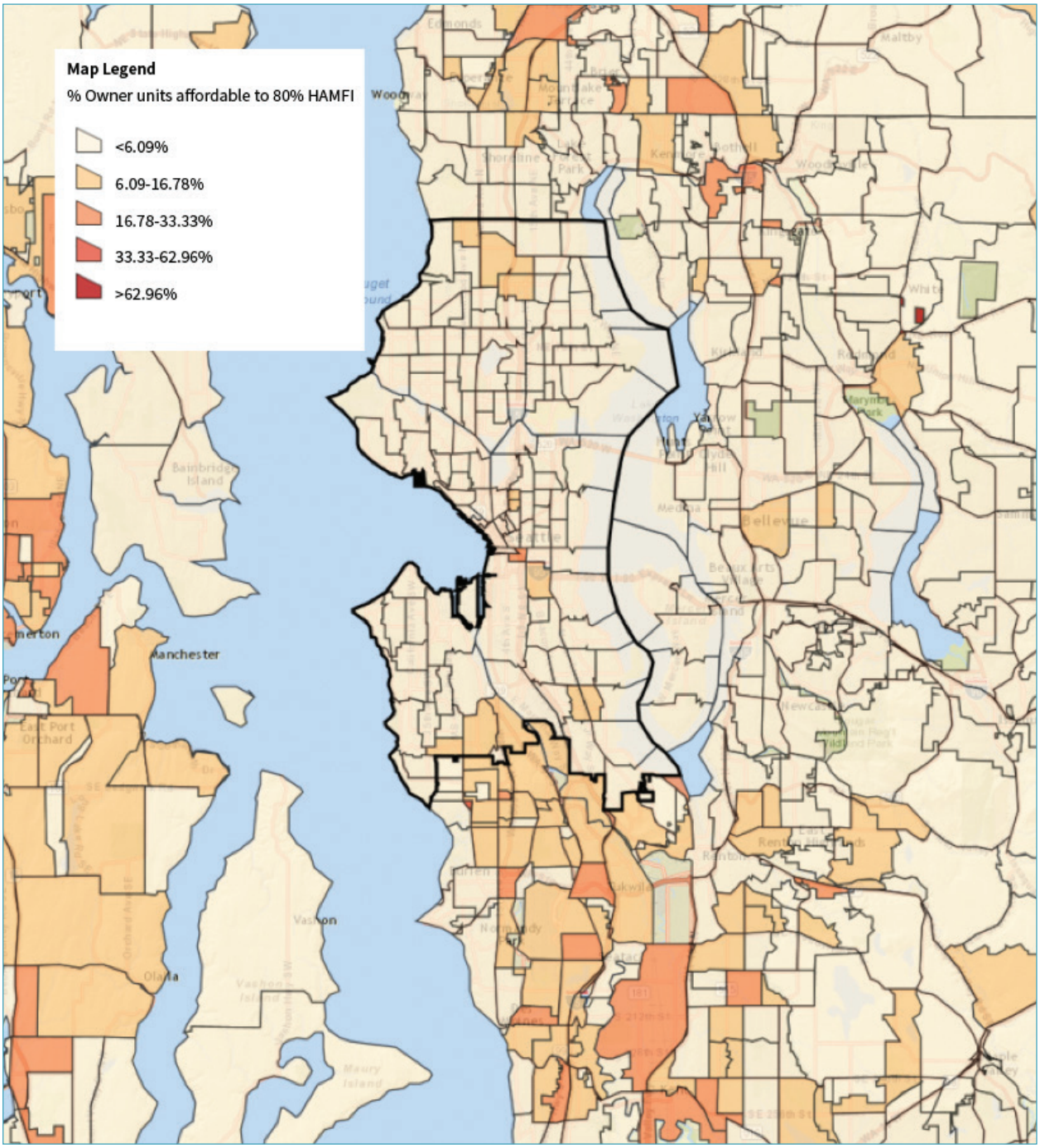
Shares of Rental Housing Units by Affordability Level

The large majority of census tracts in and around Seattle have very low shares of rental units affordable at or below 30 percent of AMI. Rental units affordable at or below 50 percent of AMI make up 21 percent or less of the residential rental units in most Seattle census tracts. Within the mapped area, the largest shares of rental units affordable at or below 50 percent of AMI are primarily found in Southeast Seattle and south of Seattle.

Rental units affordable at or below 80 percent of AMI are notably more common in and around Seattle than are rental units affordable at or below the lower income thresholds. Still, rental units affordable at or below 80 percent of AMI make up well below half of the rental units in portions of Seattle and in large areas of neighboring cities to the east. Furthermore, units affordable at or below 80 percent of AMI make up large majorities of rental units in only a small number of census tracts, most of which are south of Seattle's city limits.

Housing Appendix Figure A-27

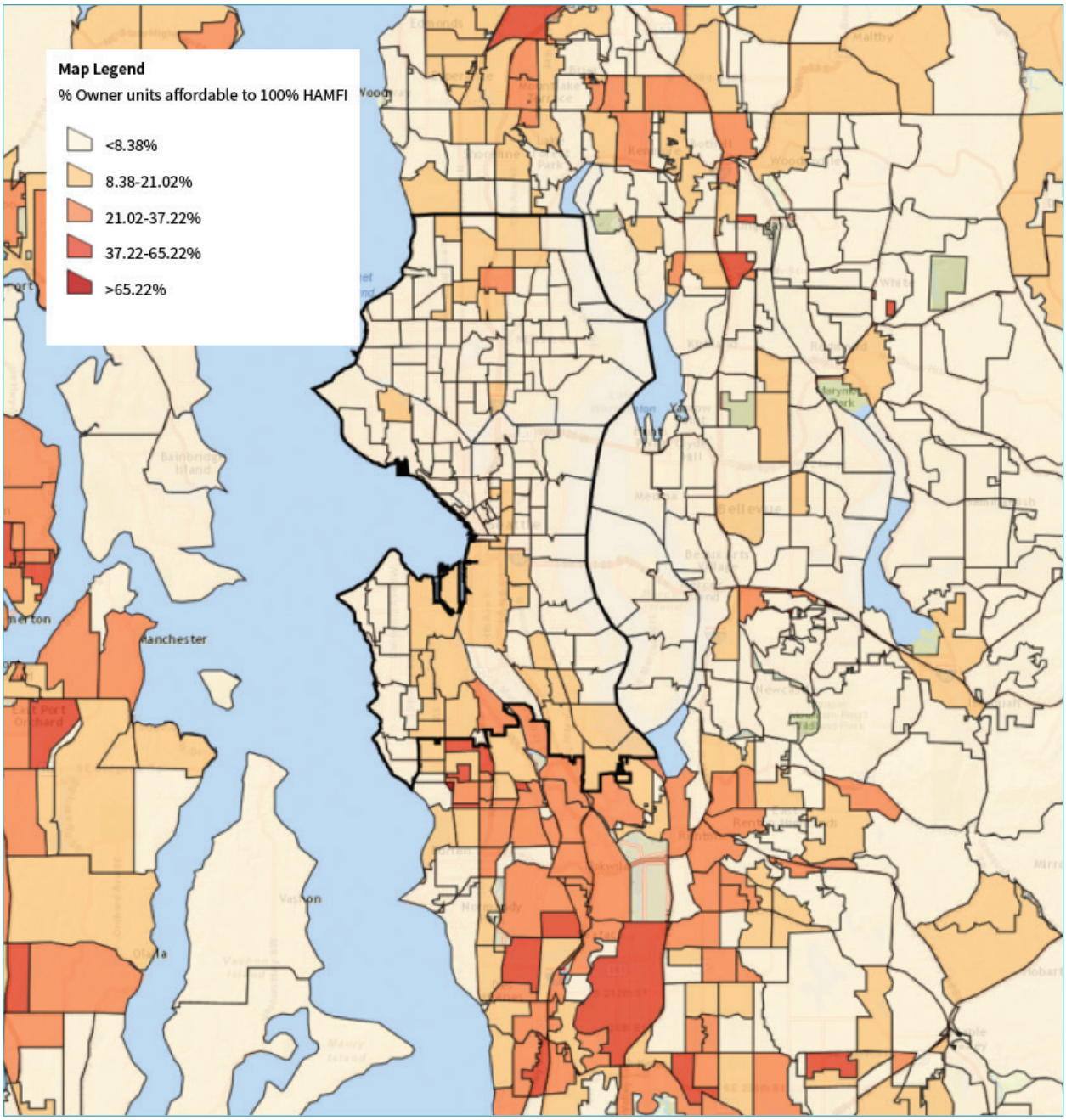
Share of Owner Units Affordable at or Below 80 Percent of AMI



Source: CHAS (2007–2011)

Housing Appendix Figure A-28

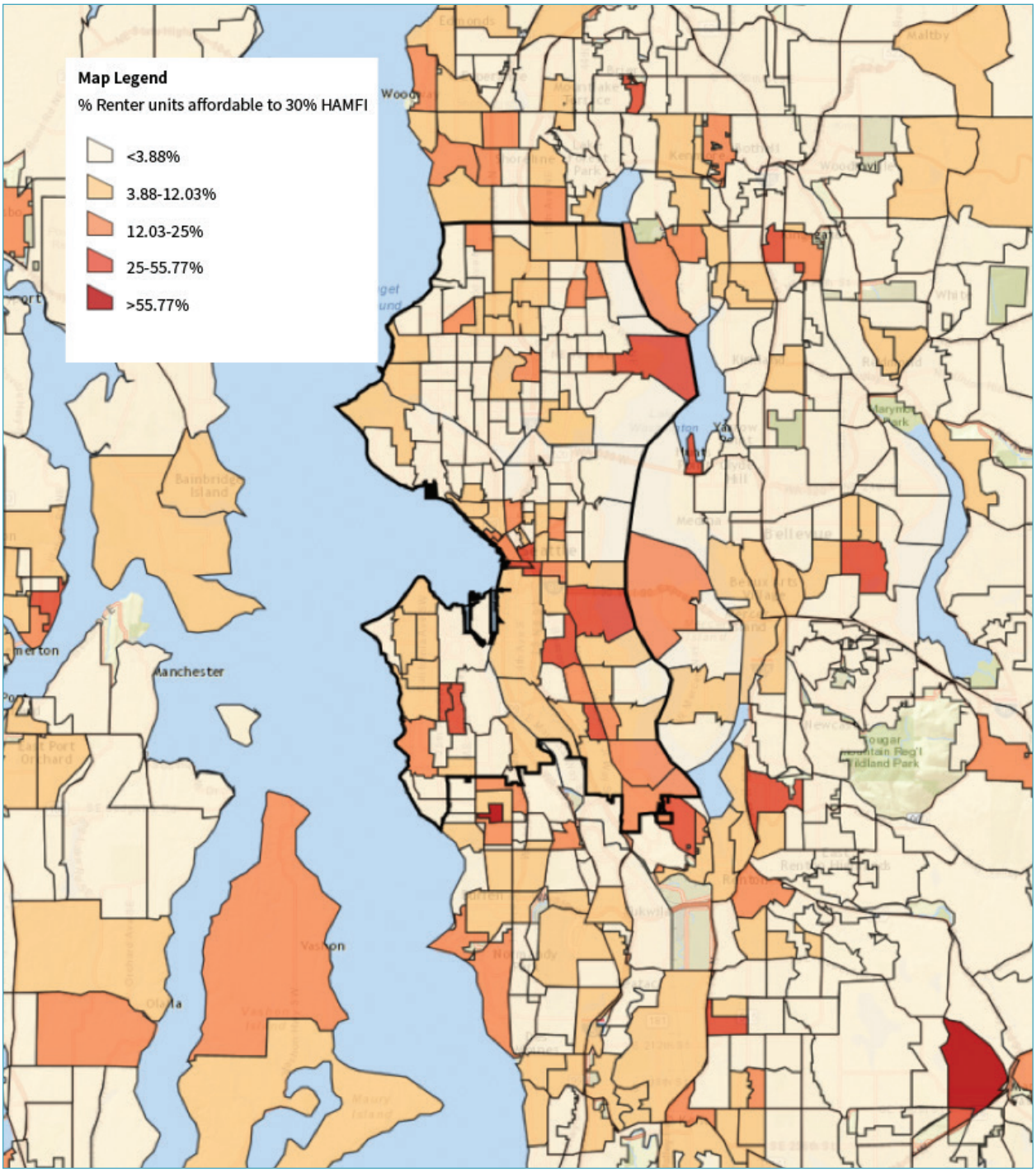
Share of Owner Units Affordable at or Below 100 Percent of AMI



Source: CHAS (2007–2011)

Housing Appendix Figure A-29

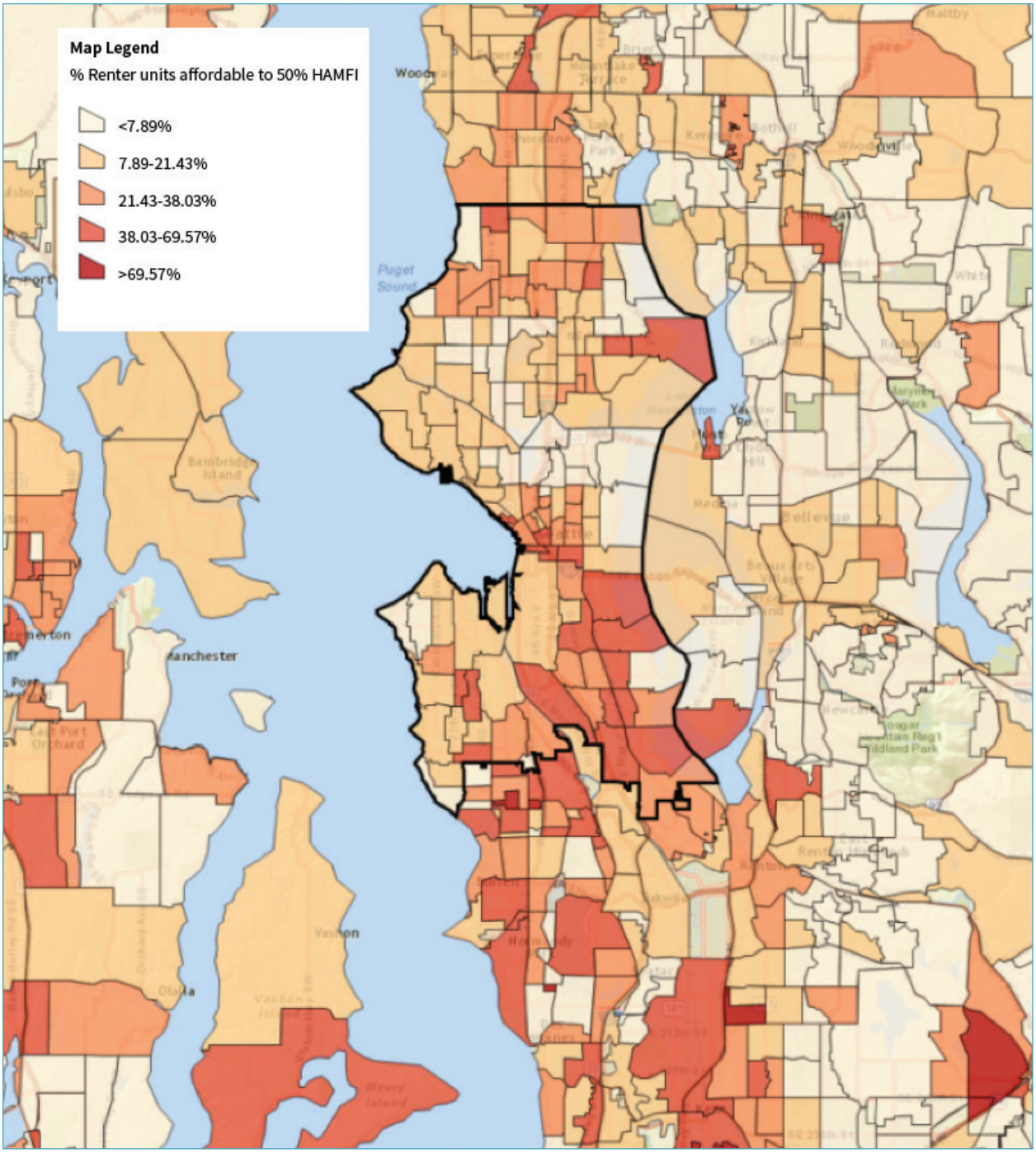
Share of Rental Units Affordable at or Below 30 Percent of AMI



Source: CHAS (2007–2011)

Housing Appendix Figure A-30

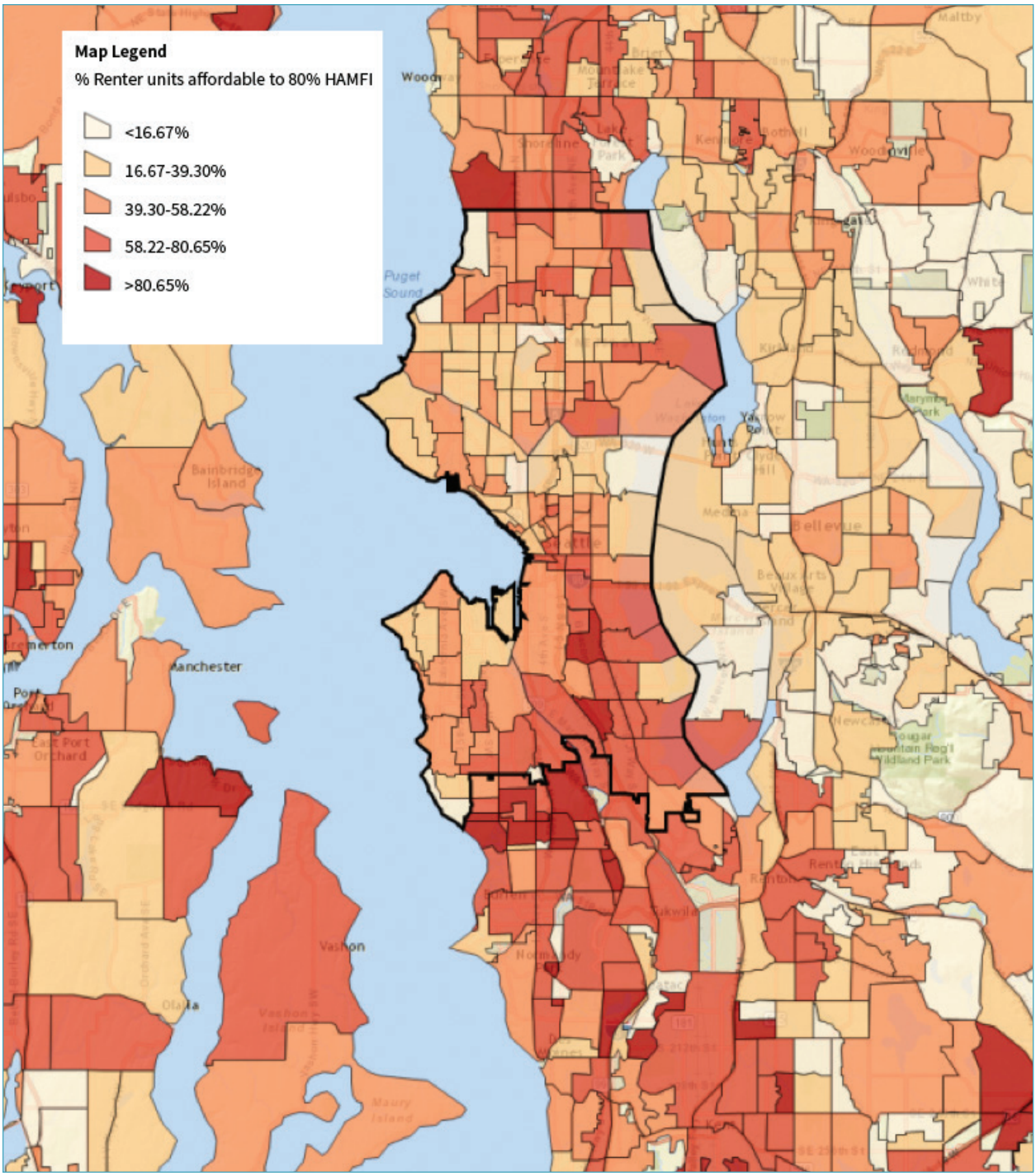
Share of Rental Units Affordable at or Below 50 Percent of AMI



Source: CHAS (2007–2011)

Housing Appendix Figure A-31

Share of Rental Units Affordable at or Below 80 Percent of AMI



Source: CHAS (2007–2011)

Affordability and Availability of Rental Units in Seattle

The city-level analysis of affordability presented earlier in this appendix used the CHAS (2006–2010) tabulations to estimate how much of Seattle's overall rental housing supply is affordable within lower income categories. Those findings provide useful but incomplete information about the degree to which the current affordability profile of rental housing in Seattle meets existing needs.

As previously described, both market-rate and rent/income-restricted housing units are included in the CHAS data used to analyze affordability. This helps provide a broad picture of the affordability of rental housing in the city. At the same time, it is important to consider that market-rate rental units affordable at or below a given income threshold can be occupied by households with incomes higher than that threshold.

Understanding whether rental housing is affordable to renters requires finding out if housing units affordable to households with incomes at or below the 30 percent, 50 percent, and 80 percent of AMI thresholds are actually *available* to households with incomes at or below these thresholds.

Therefore, this section dives deeper into the CHAS data to analyze the number of rental units both affordable *and available* to households at these income levels. In this analysis, units that are affordable are also considered available if they are either vacant or occupied by a household whose income is at or below the specified threshold.

Housing Appendix Figure A-32 shows the total number of renter households in each income category, the number of rental units with rents that are affordable in that category, and the number of those units that are occupied by households in that category. These numbers are used to estimate the effective shortage or surplus of affordable and *available* rental units that exists at or below each of the specified income levels.

For example, 5,300 of the roughly 16,665 (occupied or vacant) units "affordable" at or below 30 percent of AMI are *occupied* by a household with an income that is higher than 30 percent of AMI. Thus, although those 5,300 units are nominally affordable, they are not actually *available* to households with incomes at or below 30 percent of AMI.

That leaves roughly 11,365 affordable *and available* rental units (Housing Appendix Figure A-32, Row G) to serve approximately 34,820 renter households (Row A) and thus an effective shortage of approximately 23,455 units (Row I). This effective shortage is substantially worse than the nominal shortage of approximately 18,155 units (Row H) because the nominal shortage does not account for availability.

These findings can also be expressed in ratios. For example, for every 100 Seattle renter households who have incomes at or below 30 percent of AMI, there are forty-eight affordable units. However, fifteen of these affordable units are occupied by households with incomes above 30 percent of AMI. Thus, for every 100 renter households with incomes at or below 30 percent of AMI, there are estimated to be only thirty-three rental units that are affordable and available.

Housing Appendix Figure A-32

Affordability and Availability of Rental Units at Specified Income Levels

		0–30% of AMI	0–50% of AMI (cumulative)	0–80% of AMI (cumulative)
A	Total renter households with household incomes at or below-income level	34,820	56,835	82,650
B	Occupied rental units that are affordable *and available* (i.e., units with rent affordable to households at the specified income level and occupied by renters at or below that income level)	11,025	30,050	69,685
C	Occupied rental units that are affordable, but *not available* (i.e., rental units with rents are affordable at or below the specified income level but occupied by households above that income level)	5,300	17,335	37,055
D	All occupied rental units that are affordable (i.e., occupied rental units that have rents affordable at the specified income level, ignoring income of current occupant household) (B+C)	16,325	47,385	106,740
E	Vacant for-rent units that are affordable *and available* at or below-income level	340	1,835	3,625
F	Total rental units that are affordable (i.e., total units—occupied or vacant—with rents affordable to households at specified income level) (D+E)	16,665	49,220	110,365
G	Total rental units that are affordable *and available* at or below-income level (B+E)	11,365	31,885	73,310
H	Nominal shortage or surplus of affordable rental units at or below-income level (A–F) when only considering affordability and not availability	Shortage: 18,155	Shortage: 7,615	Surplus: 27,715
I	Effective shortage or surplus of affordable *and available* rental units at or below-income level (A–G) when availability is considered	Shortage: 23,455	Shortage: 24,950	Shortage: 9,340
J	Affordable rental units per 100 renter households at or below-income level (F/A * 100)	48	87	134

		0–30% of AMI	0–50% of AMI (cumulative)	0–80% of AMI (cumulative)
K	Affordable and available rental units per 100 renter households at or below-income level (G/A * 100)	33	56	89

Source: CHAS (2006–2010). Notes: Housing estimated 3,760 occupied rental housing units and 300 vacant for-rent units that lack complete plumbing and kitchen facilities. The household estimates, however, encompass all renter households, including those who live in rental units lacking complete plumbing.

Examining affordability *and availability* reveals substantially larger gaps between existing rental supply and the need for housing at these income levels than the gaps found when considering affordability alone.

However, even this affordability and availability analysis in some ways underestimates unmet needs in Seattle for affordable housing.

- *The estimated shortages of rental housing at each income threshold do not reveal the likely variation in the size of shortages within each of the constituent income ranges under the threshold. For example, the size of the shortage confronted by households at 60 percent of AMI is likely closer to the shortage found at 50 percent of AMI than it is to the shortage at 80 percent of AMI; and this is likely the case even though 60 percent of AMI is under the same income range as 80 percent of AMI.*[17]

- *Rents in Seattle have risen substantially since the 2006–2010 period captured in the analysis summarized by Housing Appendix Figure A-32.*

- *This affordability and availability analysis only addresses rental housing and renter households.*[18] *The information presented in earlier sections on the affordability of owner housing and the high prevalence of housing cost burdens among lower-income households are indicators that, similarly, there is scant availability of owner housing affordable to lower-income households, including households specifically in the low-income category.*

- *The households in the analysis are limited to those living in housing units; as a result, the estimated shortages do not factor in the housing needs of homeless people in Seattle who are living on the streets or in temporary shelters.*

17. Tabulations needed to estimate shortages at finer income increments are not provided in the CHAS dataset. However, other tabulations in the CHAS show that the estimated prevalence of cost burdens and other housing problems tends to be higher for households closer to the bottom than the top of the 30 percent to 50 percent of AMI range as well as closer to the bottom than the top of the 50 percent to 80 percent of AMI income range.

18. Results from a similar analysis of owner housing affordability and availability would be difficult to interpret due to the way that households pay for and consume owner-occupied housing over time, which is very different than the way renters pay for housing.

- *Furthermore, the data used for this analysis—like much of the other data analyzed in this appendix—is only about Seattle households. This excludes households (such as those whose members work in Seattle) who may desire to live inside of Seattle but live in surrounding areas. Some households outside of Seattle likely do so to access housing they can afford.*

Estimated Household Growth and Projected Housing Needs by Income Level

As described earlier in this appendix, the City is planning for the net addition of 70,000 households in the next twenty years. In order to project the amount of housing that will be needed by income level within the planning period, this analysis makes some simplifying assumptions.

Housing Appendix Figure A-33 takes the income distribution of Seattle's existing households, which is based on the income distribution found in the CHAS (2006–2010) estimates, and overlays this income distribution on the planned net new 70,000 households.

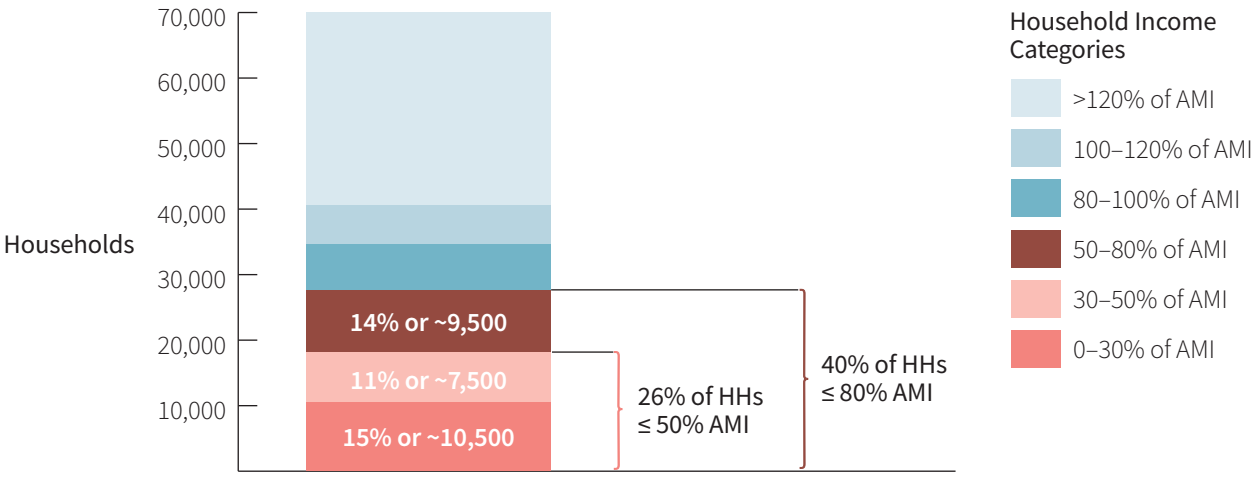
Assuming that the income distribution for the net new households would be the same as for existing Seattle households, Housing Appendix Figure A-33 shows that:

- *approximately 15 percent (or about 10,500) of the 70,000 additional households would have incomes of 0–30 percent of AMI,*
- *an additional 11 percent of the 70,000 (about 7,500) would have incomes of 30–50 percent of AMI, and*
- *14 percent (about 9,500) would have incomes of 50–80 percent of AMI.*

On a cumulative basis, 26 percent (or 18,000) of the net new households would have incomes at or below 50 percent of AMI, and 40 percent (or 28,000) would have incomes at or below 80 percent of AMI.

Housing Appendix Figure A-33

Estimated Household Growth by Income Level



Projecting the amount of affordable housing needed to be affordable at each income level also requires analytical assumptions about how need could be met.

- *If affordability needs are met entirely with rent/income-restricted housing, the estimated amount of housing needed for households with incomes in the 0–30 percent of AMI, 30–50 percent of AMI, and 50–80 percent of AMI income categories will be the same as the number of households in each of these income categories.*

- *If affordability needs within these income categories are met with a combination of rent/income-restricted housing and nonrestricted (i.e., market-rate) units, the amount of affordable housing needed at or below-income thresholds will be higher than the corresponding number of households. This is to address the issue of availability—that is, some of the low cost market-rate units will be occupied by households above income thresholds. Findings from the affordability and availability analysis conducted for Seattle's existing housing supply can provide insight for projecting future need. At each income level analyzed, that analysis found that there are about one and a half affordable units for every affordable and available unit.*[19]

Based on the assumptions and considerations above, the amount of affordable housing needed for the subset of the 70,000 net new households in lower income categories can be expected to be at least the same as the household numbers shown in Housing Appendix Figure A-33, and could potentially be up to one and a half times those numbers.

19. See Housing Appendix Figure A-32 Rows F and G. Figures in Housing Appendix Figure A-32 reflect the existing combination of rent/income-restricted units and market-provided units.

Following are the estimated numbers of units at each income level that would be needed in order to address affordability needs associated with the addition of 70,000 households.[20]

- *For households with incomes of 0–30 percent of AMI: 10,500 rent/income-restricted housing units (assumes that all units affordable within this category would be rent/income-restricted housing, given that it would be extremely unlikely that the market would produce new units affordable at this income level without subsidy or regulatory intervention).*

- *For households with incomes of 30–50 percent of AMI: 7,500 rent/income-restricted housing units (with need met entirely by rent/income-restricted housing) or an additional 11,500 affordable units (if need could be met with a combination of rent/income-restricted housing and nonrestricted units[21]).*

- *For households with incomes of 50–80 percent of AMI: 9,500 rent/income-restricted housing units (if need met entirely with rent/income-restricted housing) or 14,500 affordable units (if need could be met with a combination of rent/income-restricted housing and nonrestricted units).*

Summing these figures together indicates that addressing the affordability needs of the 70,000 new households would require production of roughly 27,500 to 36,500 housing units affordable at or below 80 percent of AMI. This is in addition to affordable housing to address existing unmet need.

The foregoing discussion underscores the vital role that subsidized housing and other types of rent/income-restricted housing will continue to play in addressing the affordability needs of lower-income households. Over the next twenty years, the production of rent/income-restricted housing will continue to be essential, especially at the lowest income levels, which the housing market—particularly newly built market-rate housing—rarely addresses.

The following section describes the City's strategies for addressing affordable housing needs. Through these strategies, Seattle responds to local needs within our city and helps address countywide need as required by the CPPs.

20. Figures given for the units needed in each income category assume needs in previous categories are met.

21. The 11,500 figure is provided as a reminder that availability as well as affordability must be factored in when a portion of affordable units are not rent/income-restricted. However, it is unlikely that any sizable number of market-rate units would be affordable in this range.

Strategies for Addressing Housing Needs

The City of Seattle's Office of Housing administers several affordable housing programs, which all help lower income families and individuals to thrive, and enable neighborhoods to provide a full range of housing choice and opportunity. The City's housing programs help build strong, healthy communities. The rent/income-restricted housing achieved through production and preservation of affordable housing, through both capital subsidies and developer incentives, help to stabilize lower-income residents in their neighborhoods and increase opportunities for people to live in our City. These strategies are informed by knowledge of local needs as well as an understanding of the needs in King County as a whole.

Office of Housing Programs: Rental Housing Program

OH's Rental Housing Program provides capital funding for the development of affordable rental housing in Seattle using funds from the Seattle Housing Levy, payments contributed by developers through the incentive zoning program, and federal grants. OH coordinates with other public and private funders to leverage these resources 3 to 1, with the largest sources of leverage coming from low-income housing tax credits and tax-exempt bond investment. Funding is generally provided in the form of low-interest, deferred-payment loans and is awarded on a competitive basis. It is available to parties from both the nonprofit and for-profit sectors, although the former have been the most active in the development and ownership of Seattle's rent/income-restricted housing to date.

- *2014 Funding: $29.6 million, including $17.5 million in Housing Levy, $5.1 million in federal grants, $4.9 million of incentive zoning funds, and $2.1 million in other funding*
- *2014 Production: 445 rent/income-restricted housing units, including 315 new construction units and rehab of 130 units in the existing portfolio*
- *Total Portfolio: Cumulative production of nearly 12,000 rent/income-restricted housing units since 1981, largely funded by voter-approved housing levies*
- *Affordability Term: Minimum fifty years*
- *Income Limits: Generally at or below 60 percent of AMI, with over half of all rent/income-restricted housing units reserved for households with incomes less than 30 percent of AMI. Of actual households served, 76 percent have incomes 0 to 30 percent of AMI, 17 percent have incomes 30 to 50 percent of AMI, and 6 percent have incomes 50 to 80 percent of AMI.*
- *Populations Served: General priorities include formerly homeless individuals and families, seniors and people with disabilities, and low-wage working households.*

- *Web Link:* http://www.seattle.gov/housing/housing-developers/rental-housing-program

Incentive Zoning for Affordable Housing

In certain zones, Seattle's incentive zoning program enables development to achieve extra floor area beyond a base limit when affordable units are provided ("performance option") or when a fee is paid to support the development of affordable housing ("payment option"). With the latter option, the affordable units can be built either in that same neighborhood or in other neighborhoods with light rail or other direct frequent transit connections to areas experiencing employment and residential growth.

- *2014 Production: Fifty-one units produced on-site in six projects, and $21.5 million of in-lieu payments*
- *Total Portfolio: 115 rent/income-restricted housing units in twenty-one projects since 2010, and $52.9 million of in-lieu payments since 2001*
- *Affordability Term: Minimum fifty years*
- *Income Limits: Up to 80 percent of AMI for rental and 100 percent of AMI for owner-occupied housing; in-lieu payments support the Rental Housing and Homeownership Programs*
- *Web Link:* http://www.seattle.gov/housing/housing-developers/incentive-zoning

Multifamily Tax Exemption

Multifamily tax exemption is a voluntary program providing a property tax exemption to property owners on residential improvements for up to twelve years. Until recently, 20 percent of the housing units in participating buildings were required as rent/income-restricted housing. Beginning in November 2015, eligible buildings must set aside 25 percent of all units as rent/income-restricted housing, unless the buildings provide a minimum number of two-bedroom or larger apartments, in which case a 20 percent set-aside is required. The tax exemption is currently available in all multifamily zoned parcels in Seattle. Approximately 40 percent of all eligible projects currently in development are opting to participate in the multifamily tax exemption program. The program complements a separate State property tax exemption for residential development with 75 percent of units serving households at or below 50 percent of AMI.

- *2014 Production: 485 rent/income-restricted housing units in twenty-nine projects approved*

- *Total Portfolio: 3,841 rent/income-restricted housing units in 123 projects since 1998, with another 2,346 units in 106 projects expected to be complete by 2018*
- *Affordability Term: Up to twelve years*
- *Income Limits: Up to 40–90 percent of AMI, depending on the housing type*
- *Web Link:* http://www.seattle.gov/housing/housing-developers/multifamily-tax-exemption

Homeownership Program

OH provides up to $45,000 per household in down payment assistance to low-income first-time homebuyers, typically in the form of low-interest, deferred-payment second mortgages. For resale-restricted homes, OH will provide up to $55,000. The program is marketed through partner nonprofits and lending institutions, who often supplement City funds with subsidies from additional federal and local sources. OH also funds homebuyer counseling and recently launched a foreclosure prevention outreach campaign to connect homeowners with needed resources.

- *2014 Funding: $1.5 million awarded, including $1.3 million in Housing Levy and $124,000 in other funding*
- *2014 Production: Forty homebuyers assisted*
- *Total Portfolio: 982 homebuyers assisted since 2004, largely funded through voter-approved Housing Levies*
- *Income Limits: Up to 80 percent of AMI*
- *Web Link:* http://www.seattle.gov/housing/renters/buy-a-home

HomeWise Weatherization

The HomeWise program provides energy efficiency, and health and safety improvements to houses and apartment buildings with lower-income households. Typical investment ranges from $6,000 to $12,000 per unit.

- *2014 Funding: $3.2 million total, including $112,000 from the State, $1.2 million from utilities, and $1.9 million in federal funds*
- *2014 Production: 499 units, including 191 single-family and 308 multifamily units*

- *Total Portfolio: 16,345 units since 2000*
- *Affordability Term: Three years for rental housing weatherization; no ongoing affordability requirement for homeowners*
- *Income Limits: Eligibility varies depending on source of funding.*
- *Web Link:* http://www.seattle.gov/housing/homeowners/weatherization

Home Repair Loan Program

The Home Repair Loan Program helps low-income homeowners finance critical home repairs. Eligible homeowners apply for a zero percent or 3 percent loan of up to $24,000 (with a maximum lifetime benefit of $45,000) for a term of up to twenty years. The program's goals are to identify and make health, safety, and code-related repairs, increase home energy-efficiency, and help revitalize neighborhoods.

- *2014 Funding: $225,000 total from CDBG*
- *2014 Production: Thirteen loans*
- *Total Portfolio: ~2,900 loans to date*
- *Affordability Term: No ongoing affordability requirement*
- *Income Limits: Up to 80 percent of AMI*
- *Web Link:* http://www.seattle.gov/housing/homeowners/home-repair

Seattle's Rent/Income-Restricted Housing Inventory

OH estimates that Seattle has over 27,000 rent/income-restricted housing units for lower-income households. The middle columns in Housing Appendix Figure A-34 provide a summary of Seattle's approximate rental housing inventory with housing covenants, agreements, or other restrictions by rent/income limit and location of the housing by type of urban center/urban village. This 27,000-unit estimate does not include portable tenant-based Section 8 vouchers.

Housing Appendix Figure A-34

Estimated Rent/Income-Restricted Housing by Income Category and Location

	Rent/Income-Restricted Housing Units by Income Category				
Urban Centers/Villages	**≤ 30% AMI**	**>30 to 60% AMI**	**>60 to 80% AMI**	**Total ≤80% AMI**	**Estimated Total Housing Units**
Outside of Urban Center/Village	2,642	1,357	712	4,711	183,037
Urban Centers	6,403	4,101	1,087	11,591	65,412
Hub Urban Villages	976	2,677	364	4,017	20,886
Residential Urban Villages	2,507	3,318	1,031	6,856	38,377
Manufacturing Industrial Centers	41	1	0	42	345
Grand Total	**12,569**	**11,454**	**3,194**	**27,217**	**308,057**

Sources: Office of Housing: Survey of Rent/Income-restricted Housing 2008 and Multifamily Database 2014; Development Capacity Report, DPD, September 2014, p. 5.

Based on OH rent/income-restricted housing and DPD total housing unit estimates, slightly less than 9 percent of Seattle's total housing units are rent/income-restricted housing. Specifically, 4.1 percent are rent restricted for households with incomes ≤ 30 percent of AMI, 3.7 percent are rent restricted for households with incomes ≤ 60 percent of AMI, and 1.0 percent are rent restricted for households with incomes ≤ 80 percent of AMI. Over 80 percent of Seattle's 27,000-plus rent/income-restricted housing units are located in urban centers and villages helping lower income households with better access to retail, transit, and other services and amenities.

Seattle's estimated rent/income-restricted housing inventory of over 27,000 units includes approximately 15,000 rental units in the City of Seattle's portfolio of housing. Funding for these units comes from OH's Rental Housing Program or Multifamily Tax Exemption Program, incentive zoning programs in which residential building owners have participated, or through other agreements.

A HUD inventory identifies roughly seventy-five buildings totaling 3,500 rent/income-restricted housing units with regulatory agreements that could expire between now and 2035. However, it is important to note that the actual universe of units in Seattle that may be at risk of loss of affordability is smaller for a number of reasons. The actual universe is smaller because the HUD list includes buildings that (a) are located outside of the city of Seattle; (b) have been funded by the Seattle Office of Housing (OH), which routinely monitors the long-term affordability restrictions for OH-funded housing; (c) have mortgage loans insured under Section 221(d)(4), for which affordable housing set asides are not required; and (d) are owned by entities with a mission of providing long-term affordable housing for lower-income households.

Capital Facilities Appendix

The following sections contain the inventory and anticipated needs for various capital facilities. Information for utilities, such as drinking water, drainage and sewer, solid waste, and electricity, is included in the Utilities Appendix. Information for transportation facilities is included in the Transportation Appendix.

Fire Department

Inventory

The Seattle Fire Department (SFD) provides fire protection and emergency medical services throughout the City from thirty-three fire stations, marine facilities, and Harborview Medical Center. SFD headquarters is in an historic building in Pioneer Square. SFD shares the Joint Training Facility with Seattle Public Utilities. Each station provides a full range of fire protective services including fire suppression, emergency medical, and rescue. Each station is equipped with at least one fire engine. Many stations include other equipment and special units. SFD has thirty-three engine companies, twelve ladder truck companies, four fire boats, five aid units, eight paramedic units, and other specialized units including heavy rescue, hazardous materials, and tunnel rescue that provide a broad range of emergency services. Existing fire facilities are shown in Capital Facilities Appendix Figures A-1 and A-2.

Planning Goals

SFD evaluates emergency medical capabilities and staffing or equipment additions and institutes operation changes each year as a part of the budget process. State law requires that fire departments report yearly on established emergency response standards. SFD reports response time for fire response and emergency medical services (EMS), which includes basic life support (BLS) and advanced life support (ALS). Response standards are:

- *Call Processing Time: Sixty seconds for phone answered to first unit assigned, for 90 percent of calls.*

- *Fire Response Time: Arrival within four minutes for first-arriving engine at a fire for 90 percent of calls, and arrival within eight minutes of the full first alarm assignment of fifteen firefighters, for 90 percent of calls.*

- *Basic Life Support: Arrival within four minutes of the first medical unit with two EMTs, for 90 percent of calls.*

- *Advanced Life Support: Arrival within eight minutes for 90 percent of calls.*

Response time is influenced directly by the availability of fire personnel, equipment, traffic conditions, and the number and location of fire stations. Firefighter and equipment requirements indirectly affect station requirements.

The City plans for asset preservation through a capital maintenance program. Minor and major capital facility projects are included in the City's six-year Capital Improvement Plan (CIP).

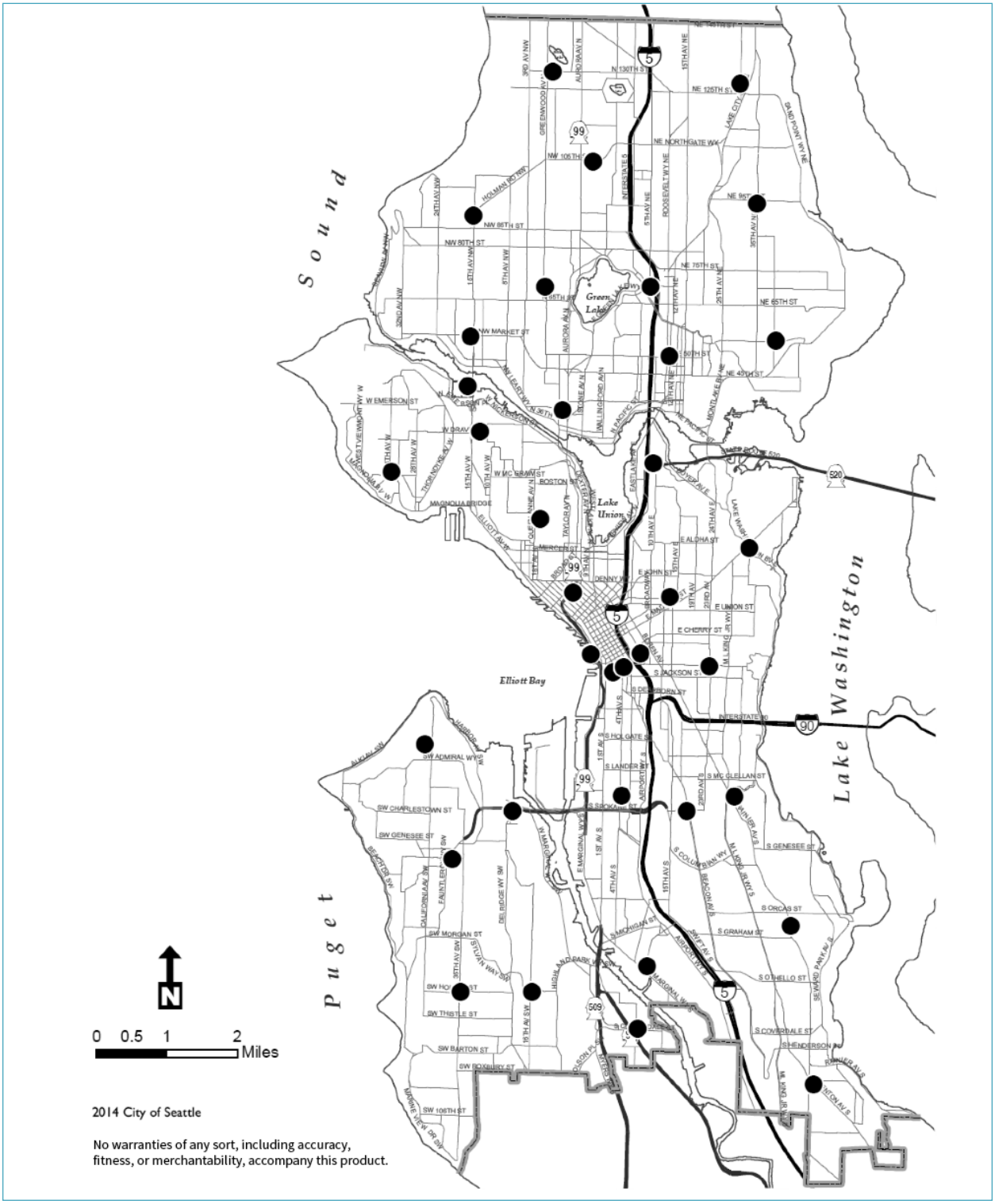
Forecast of Future Needs

The City has added capacity and renovated or replaced many of the fire stations in the past ten years as part of the 2003 Fire Facilities levy, which provided about $167 million to upgrade, renovate, or replace thirty-two neighborhood fire stations, construct a new training facility, and upgrade SFD's Fire Alarm Center, among other things. The new facilities have been built with excess physical capacity.

The City anticipates it will need to replace Fire Station No. 3 and the Fire Marshal office, and replace or expand the commissary and fire garage, as well as continue maintenance on the remaining existing buildings. To support existing operations, a new fire administration building and expanded training facilities are needed. To support SFD's desired goal of timely emergency response in all areas of the city, a new South Lake Union fire station and a freshwater marine fire suppression facility are desired under existing conditions.

Capital Facilities Appendix Figure A-1

Map of SFD Facilities (Fire Stations)



Capital Facilities Appendix Figure A-2

Table of SFD Facilities

Facility Name (* indicates an historic building)	Year Built/ Updated	Size in Sq. Ft.	Area Served	Address
Headquarters*	1908	55,952	Citywide	301 2nd Avenue S
Fire Station 2*	1922 2010	37,740	Belltown	2334 4th Avenue
Fire Station 3	1960	2,760	Ballard	1735 W Thurman
Fire Station 5*	1963 2016	5,688	Waterfront	925 Alaskan Way
Fire Station 6	2013	11,003	Central District	405 Martin Luther King Jr. Way S
Fire Station 8	1964 2013	5,450	Queen Anne	110 Lee Street
Fire Station 9	2013	8,804	Fremont	3829 Linden Avenue N
Fire Station 10	2006	61,156	Int'l District	400 S Washington Street
Fire Alarm Control	2006	Portion of FS10	Citywide	105 5th Avenue S
Fire Station 11	1971 2015	5,610	Highland Park	1514 SW Holden Street
Fire Station 13*	1928 2012	4,329	Beacon Hill	3601 Beacon Avenue S
Fire Station 14*	1927 2013	16,831	SoDo District	3224 4th Avenue S
Fire Station 16*	1927 2013	3,995	Green Lake	6846 Oswego Pl. NE
Fire Station 17*	1929 2010	23,537	University	1020 NE 50th Street
Fire Station 18	1974 2015	16,624	Ballard	1521 NW Market Street
Fire Station 20	2014	6,229	Interbay	2800 15th Avenue W
Fire Station 21	2011	8,783	Greenwood	7304 Greenwood Avenue N

Facility Name (* indicates an historic building)	Year Built/ Updated	Size in Sq. Ft.	Area Served	Address
Fire Station 22	1965 2016	4,110	Roanoke	901 E Roanoke Street
Fire Station 24	1977 2014	3,630	Bitter Lake	401 N 130th Street
Fire Station 25	1969 2014	20,824	Capitol Hill	1300 E Pine Street
Fire Station 26	1970 2014	5,960	South Park	800 S Cloverdale Street
Fire Station 27	1970 2014	5,960	Georgetown	1000 S Myrtle Street
Fire Station 28	2010	13,638	Rainer Valley	5968 Rainer Avenue S
Fire Station 29	1970 2014	5,049	Admiral District	2139 Ferry Avenue SW
Fire Station 30	2011	9,100	Mount Baker	2931 S Mount Baker Blvd.
Fire Station 31	1974 2009	12,452	Northgate	1319 N Northgate Way
Fire Station 32	2016	6.646	West Seattle	3715 SW Alaska Street
Fire Station 33	1971 2010	5,061	Rainer Beach	9645 Renton Avenue S
Fire Station 34	2014	4,625	Madison Park	633 32nd Avenue E
Fire Station 35	2010	11,532	Crown Hill	8729 15th Avenue NW
Fire Station 36	1971 2014	4,676	Delridge/Harbor Island	3600 23rd Avenue SW
Fire Station 37	2010	9,000	West Seattle/High Point	7700 35th Avenue SW
Fire Station 38	2011	8,700	Hawthorne Hills	4004 NE 55th Street
Fire Station 39	2010	9,593	Lake City	2806 NE 127th Street
Fire Station 40	1965 2013	6,500	Wedgwood	9401 35th Avenue NE
Fire Station 41	1936 2010	6,146	Magnolia	2416 34th Avenue W
Fire Marshal	2000	9,462	Downtown	220 3rd Avenue S

Facility Name (* indicates an historic building)	Year Built/ Updated	Size in Sq. Ft.	Area Served	Address
Training Facility	2009	53,402	Citywide	9401 Myers Way S
Commissary	1985	37,606	Citywide	3601 21nd Avenue S
Fire Garage	1975	15,000	Citywide	815 Dearborn Street
Harborview Medical Center		1,000	Citywide	325 9th Avenue
South Lake Union Station			South Lake Union	Not Determined

Police Department

Inventory

The Seattle Police Department (SPD) currently provides law enforcement patrol services to the city from five precincts and the Harbor Patrol Unit, which covers fifty-nine square miles of waterways. SPD also provides for parking and traffic enforcement as well as specialized units including SWAT, gang unit, mounted patrol, and canine. Information on these precincts and facilities is shown in Capital Facilities Appendix Figures A-3 and A-4.

Planning Goals

Uniform patrol law enforcement services are generally allocated based on workload, time, and location. The exact location of facilities is usually not critical to the provision of uniform patrol services since police officers are on patrol in the various sectors and calls for service are dispatched by radio. The location of facilities can be important because the distance traveled at shift change time impacts the availability of officers and because locations can enhance interaction with the community. Because of the many changing factors that affect staffing and space objectives of police departments, there are no universally accepted planning goals for the location and distribution of police facilities.

The City plans for asset preservation through a capital maintenance program. Minor and major capital facility projects are programmed in the City's six-year capital improvement program.

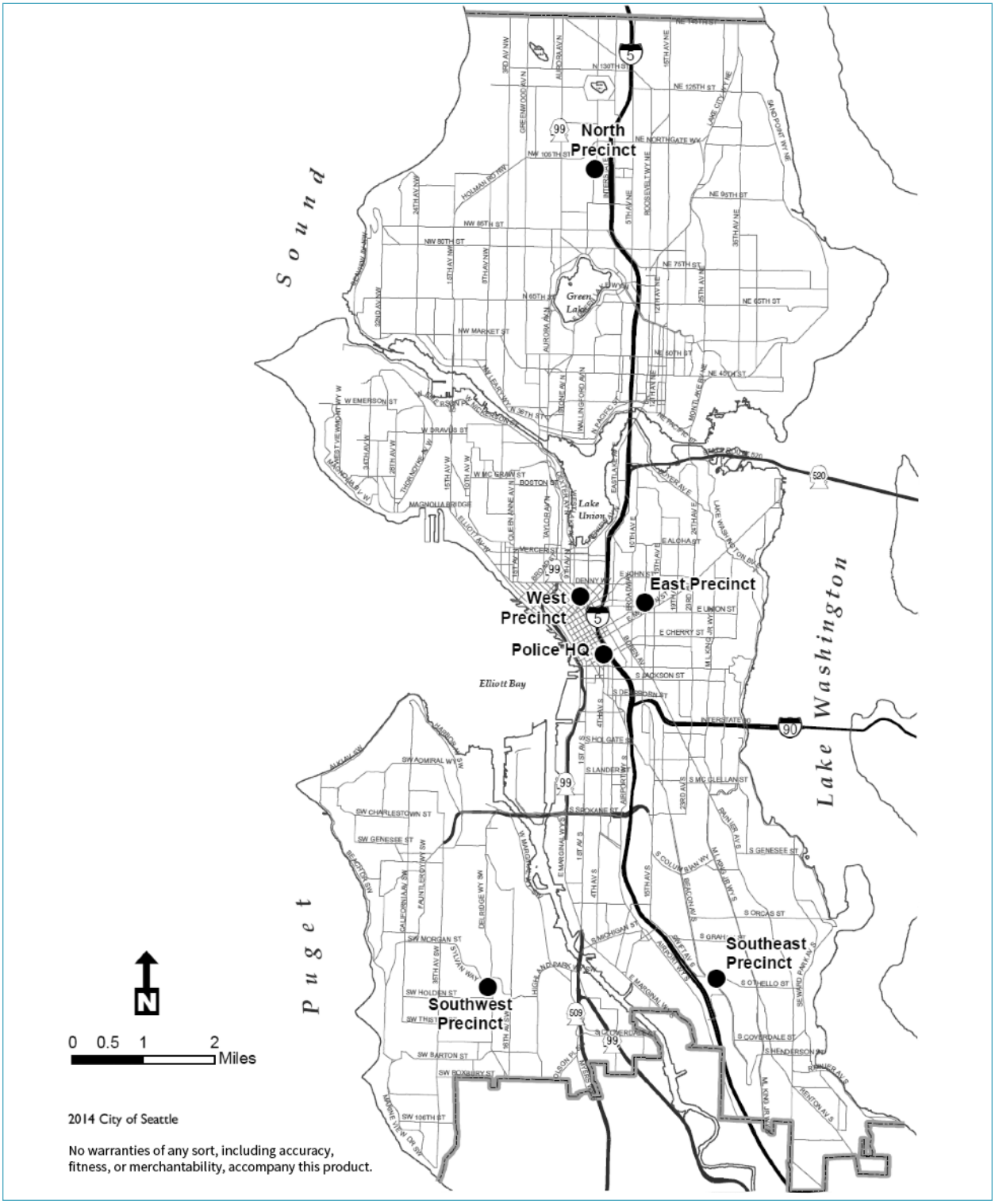
Forecast of Future Needs

The City is expected to maintain, replace, or expand some police facilities as shown in Capital Facilities Appendix Figure A-4. To support existing police operations citywide, SPD expects that it may upgrade, expand, or replace Harbor Patrol, rifle range, and training

facilities. The existing North Precinct is currently overcrowded and does not meet the needs of precinct personnel; therefore, a new consolidated facility is proposed to be built. The City has purchased property for a new North Precinct. In the next twenty-year period, the City may also elect to build its own correctional facility, rather than to continue leasing space from King County at its jail.

Capital Facilities Appendix Figure A-3

Map of Current SPD Precinct Stations (Police Precincts)



Capital Facilities Appendix Figure A-4

Table of Police Department Facilities

Facility Name	Year Built/ Updated	Size in Sq. Ft.	Description	Area Served	Address
Police Headquarters	2002		Police Headquarters shares Justice Center building	Citywide	610 5th Avenue
Justice Center	2005	310,490	Justice Center includes municipal courts	Citywide	600 5th Avenue
Professional Accountability	1970	6,300	Leased space in Pacific Building	Citywide	712 3rd Avenue
North Precinct	1984	16,434	Serves area north of the Ship Canal to city limits	Northgate	10049 College Way N
Emergency Operations Center/911 Call center	2006	61,156	Shared facility with Fire Alarm Center and FS 10	Citywide	400 S Washington Street
North Precinct Annex	1983	4,474	Leased office space	Northgate	10303 Meridian Avenue N
West Precinct	1999	50,960	Serves Queen Anne, Magnolia, the Downtown core, and the area west of I-5	Downtown	810 Virginia Street
West Precinct Garage	1948	53,336	Condo garage located in adjacent building	Capitol Hill	2021 9th Avenue
East Precinct	1926 1985	61,580	Serves the area north of I-90 to the Ship Canal and east of I-5, Eastlake Community	East Precinct	1519 12th Avenue
East Precinct Garage	2014	29,058	Garage located under 12th Avenue Arts building	Capitol Hill	1624 12th Avenue
South Precinct	1983	13,688	Serves area south of 1–90 to city limits and west of Duwamish	Beacon Hill	3001 S Myrtle Street
Southwest Precinct	2002	28,531	Serves West Seattle and Duwamish Industrial area	Delridge	2300 SW Webster
Mounted Patrol	2001	39,041	12 full-time horse stalls and related equipment	Citywide	9200 8th Avenue SW
Police Training Center			Practice range is an open-air range	Citywide	11026 E Marginal Way S

Facility Name	Year Built/ Updated	Size in Sq. Ft.	Description	Area Served	Address
K-9 Kennel		6,464	Houses 6 dogs and 2 pups and related equipment and supplies	Citywide	11026 E Marginal Way S
SPD Parking Enforcement		10,268	Office and Warehouse (leased)	Northwest	1330 N 131st Street
Harbor Patrol	1928 1986	3,706	Offices, shops, docks, and maintenance buildings	Citywide	1717 Northlake Pl.
Warehouse		5,400	Vehicle storage	Citywide	923 S Bayview Street
Police Support Facility	1985	145,158	Airport Way Center Police Support Facility	Citywide	2203 Airport Way S
Warehouse		21,800	Storage	Citywide	4735 E Marginal Way S
Correctional Facilities	NA		City leases space from King County Jail	Citywide	

Parks and Recreation

Inventory

Seattle Parks and Recreation (Parks) manages a 6,200-acre park system, including 465 parks and extensive natural areas. Parks provides athletic fields, tennis courts, play areas, specialty gardens, and more than 25 miles of boulevards and 120 miles of trails. The system covers about 11 percent of the City of Seattle's land area. Parks also manages many facilities, including community centers, swimming pools, environment learning centers, small craft centers, golf courses, an outdoor stadium, skate parks, and more. Parks and open areas owned by the City and their respective capacities are shown in Capital Facilities Appendix Figures A-5 through A-7.

Capital Facilities Appendix Figure A-5

Table of Parks by Type

Park Type	Size of Facility
Boulevards/Green streets/Greenways	348 acres
Community Parks	699 acres

Park Type	Size of Facility
Downtown Parks	23 acres
Greenbelts/Natural Areas	1,492 acres
Mini Parks/Pocket Parks	58 acres
Neighborhood Parks	568 acres
Regional Parks/Large Urban Parks	1,446 acres
Special-Use Parks/Specialty Gardens	1,366 acres

Capital Facilities Appendix Figure A-6

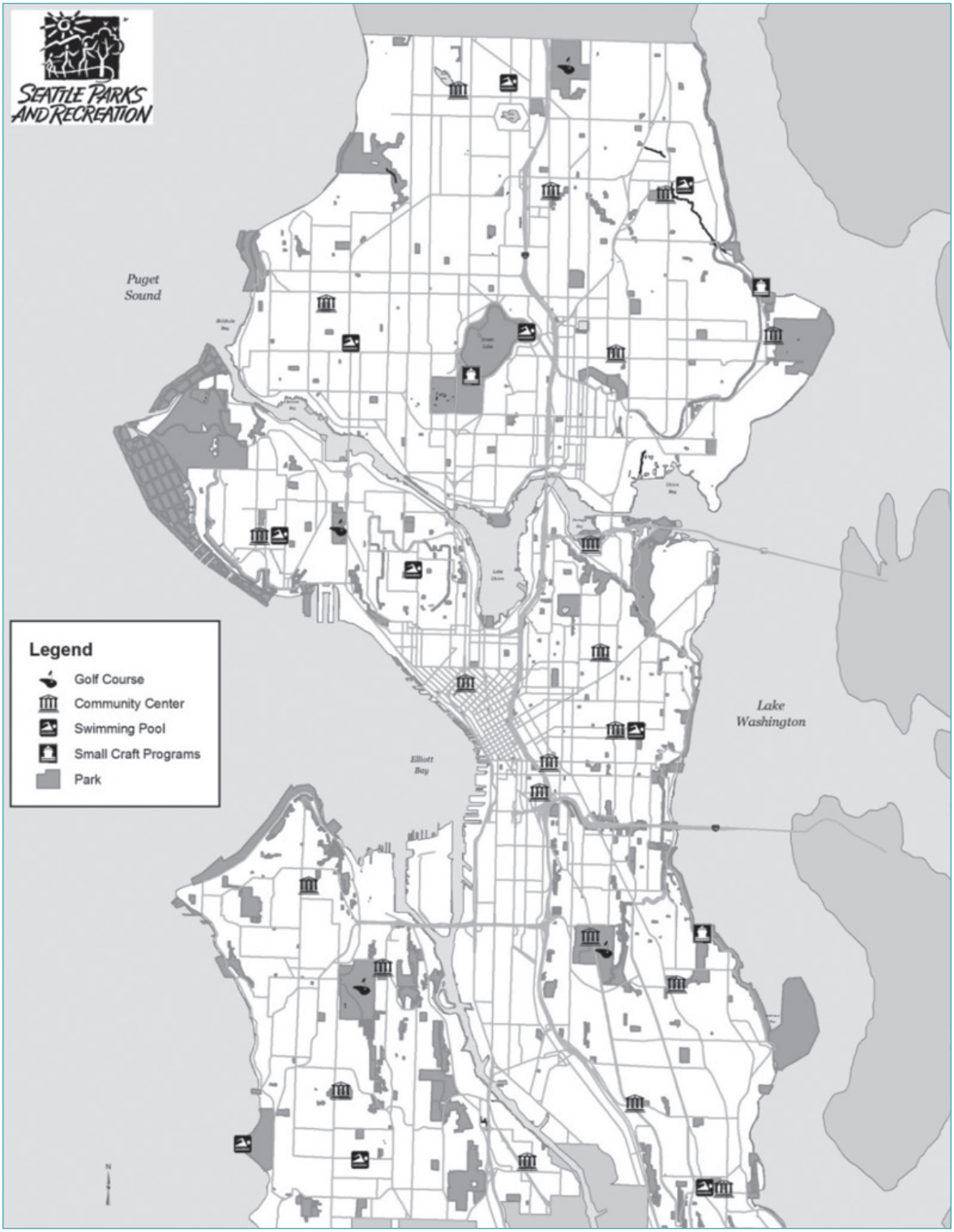
Table of Recreational Facilities by Type

Number	Facility Type
26	Community centers
10	Swimming pools, including two outdoor pools
32	Wading pools and spray parks
1	Aquarium
1	Zoo, including 45 major exhibits, 145 buildings and structures on 92 acres
1	Stadium
1	Indoor tennis center
144	Outdoor tennis courts, 17 of which have lighting, plus two multi-use courts for dodgeball, bike polo, and roller hockey
207	Athletic fields, including 19 sites with synthetic fields and lighting
11	Skate parks, comprising district parks, skate spots, and skate dots
4	Golf courses, including three driving ranges and a pitch/putt facility
2	Rowing, sailing, and small craft centers
4	Environmental learning centers
6	Performing and visual art facilities
54	Landmarked buildings (overlaps with other categories, since some community centers, the Asian Art Museum, concessions, a bathhouse, and other structures are landmarked)
118	Comfort stations

Number	Facility Type
40	Rentable picnic shelters
20	Administrative offices and headquarters
2	Museums
5	Amphitheaters
90	Miscellaneous—storage, maintenance, warehouses

Capital Facilities Appendix Figure A-7

Map of Parks and Recreation Facilities



Forecast of Future Needs

The City has a robust citywide park system, which is available and accessible for use by all of the City's residents. To enhance Seattle's quality of life, the City seeks to add parks and open space to the City's system as additional amenities for all of the City's residents. To that end, the City continues to fund park acquisition with the primary goals of:

1. *pursuing usable open space acquisition in areas where the acreage and distribution of parks is lowest on a per capita basis. These are mostly found within urban centers and villages;*

2. *acquiring properties that can complete or expand existing parks; and*

3. *providing access to open space and recreation activities for marginalized populations and in areas that have been traditionally underserved.*

Park acquisitions are opportunity-driven. Additions to the park facilities would enhance the City's quality of life. However, such additions are not necessary to accommodate new households in urban centers, urban villages, or citywide.

Planned investments in the maintenance of existing facilities are provided in the CIP and updated annually according to asset management priorities and available funds.

General Government

Inventory

The Department of Finance and Administrative Services (FAS) provides facility management and planning for general government facilities. These facilities include vehicle repair shops, office space, warehouses, communication facilities, social services facilities, and the animal shelter. The City also owns property that is leased to social service organizations. Capital Facilities Appendix Figures A-8 and A-9 show an inventory of existing general government facilities.

Planning Goals

The City does not have general planning goals for general government facilities, which are instead driven by the needs of specific departments and programs. These governmental facilities are not related to or necessary for future growth. The City plans for asset

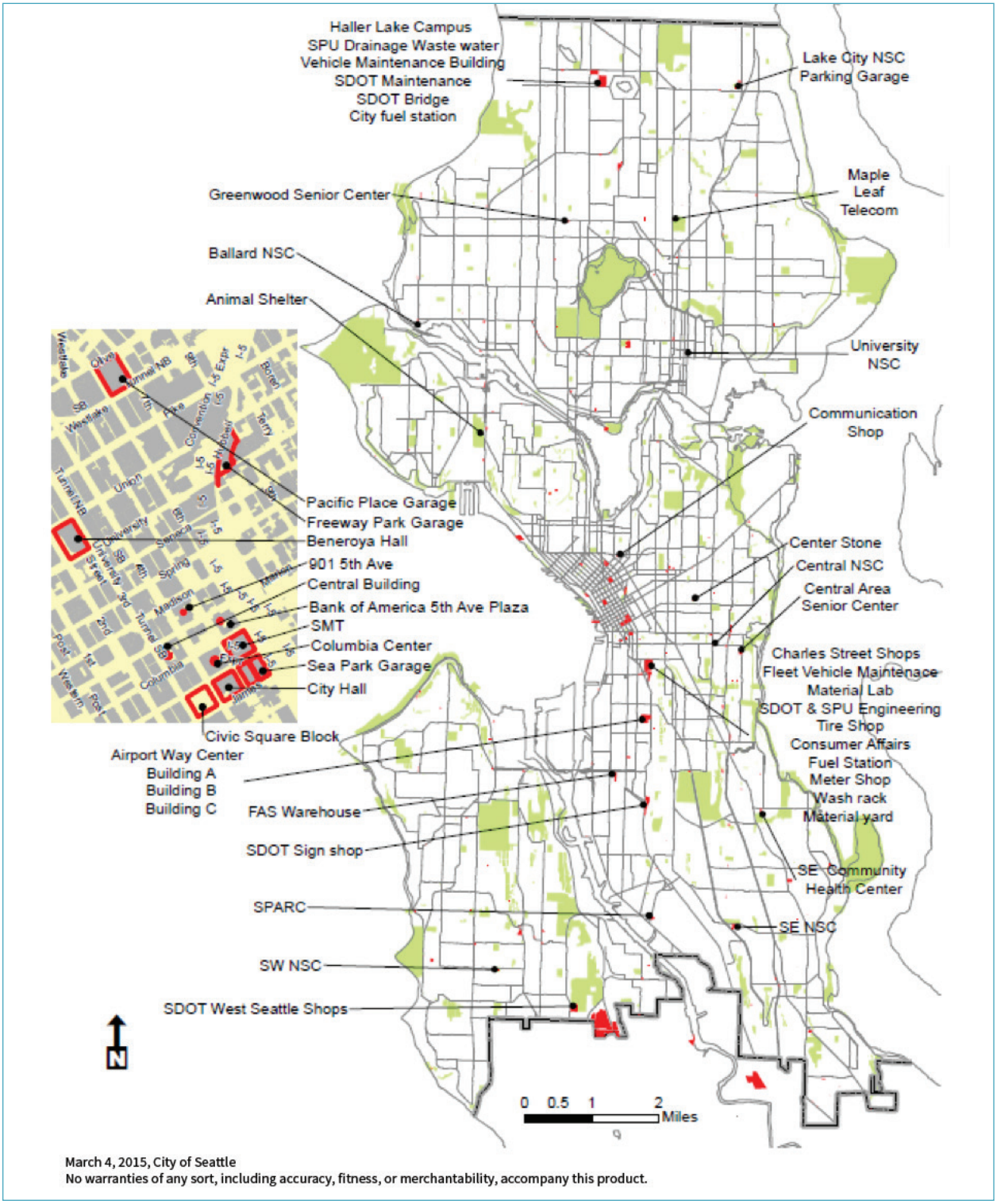
preservation through a capital maintenance program. Minor and major capital facility projects are programed in the City's six-year CIP.

Forecast of Future Needs

FAS has identified a need for expanded facilities that support vehicle maintenance and department operations over the twenty-year planning horizon. Additional warehouse and office space may be needed as the City grows; this need is driven primarily by budget revenue and departmental priorities. Additional space needs can be accommodated through leasing as well as building new space. General facilities that support citywide functions such as the animal shelter and Consumer Affairs need new and expanded facilities to enhance quality of life.

Capital Facilities Appendix Figure A-8

Map of General Government Facilities



Capital Facilities Appendix Figure A-9

Table of General Government Facilities

Facility Name	Year Built /Updated	Size in Sq. Ft.	Description	Area Served	Address
Seattle Municipal Tower	1989	1,223,577	Administrative offices	Citywide	700 5th Avenue
SMT/Parking Garage	1989	193,891	SMT parking	Citywide	700 5th Avenue
City Hall	2003	153,502	Council and Mayor offices	Citywide	600 4th Avenue
Sea Park Garage	1993	213,346	Parking garage for City Campus	Downtown	609 6th Avenue
Columbia Center		9,294	Leased office	Citywide	400 4th Avenue
Central Building		28,523	Leased office	Citywide	810 3rd Avenue
Bank of America Building 5th Ave Plaza		42,578	Leased office	Citywide	800 5th Avenue
901 5th Ave Building		28,721	Leased office	Citywide	901 5th Avenue
Pacific Building		6,800	Leased office	Citywide	720 3rd Avenue
FAS Warehouse		21,898	Records and surplus	Citywide	3807 2nd Avenue
Airport Way Center Bldg. A	1944 1981	102,075	Office building	Citywide	2203 Airport Way S
Airport Way Center Bldg. B	1985	16,800	FAS shop space	Citywide	2203 Airport Way S
Airport Way Center Bldg. D	1985	22,803	FAS paint shops	Citywide	2203 Airport Way S
Seattle Animal Shelter	1981	1,567	Animal shelter and spay and neuter clinic	Citywide	2189 15th Avenue W
West Seattle Shops	1956	5,122	SDOT Street Maintenance	Citywide	9200 8th Avenue SW
	1980	1,200	SDOT Urban Forestry trailer	Citywide	9200 8th Avenue SW

Facility Name	Year Built /Updated	Size in Sq. Ft.	Description	Area Served	Address
Haller Lake Campus	1975	2,436	SPU Drainage Waste Water buildings	North	12600 Stone Avenue N
	1958	24,588	Vehicle Maintenance Building A	North	12555 Ashworth Avenue N
	1998	5,979	SPU Hazardous Waste buildings	North	12550 Stone Avenue N
	1996	6,725	SDOT Street Maintenance Building B	North	12599 Ashworth Avenue N
	1973	3,640	SDOT equipment storage	North	12535 Ashworth Avenue N
	1973	3,724	SDOT bridge maintenance and paint shop buildings	Citywide	1328 & 1324 N 125th Street
	1975	1,991	Fuel station	North	12600 Stone Avenue N
Charles Street Campus	1950 2008	67,356	Fleet Vehicle Maintenance	Citywide	805 Charles Street
	1973	7,400	Materials Testing Lab (SPU)	Citywide	707 S Plummer
	1974	21,315	SPU and SDOT Engineering	Citywide	714 Charles Street
	1967	5,450	Fleet Tire Shop	Citywide	814 8th Avenue S
	1950	1,624	Weights and Measures	Citywide	805 Charles Street
		2,000	Equipment wash rack	Citywide	1011 8th Avenue S
	1994	200	Fuel station	Citywide	1040 7th Avenue S
	1967	22,058	Meter Shop, bridges	Citywide	1010 8th Avenue
	1960	20,000	Material yard	Citywide	717 S Plummer Street
	1960	185,046	Yard and parking	Citywide	1099 S Airport Way
SDOT Sign Shop	1960 1970	45,036	SDOT Sign Shop	Citywide	4200 Airport Way S
DOIT Com. Shop	1951	4,964	Communications Shop	Denny Triangle	1933 Minor Avenue
NE Telecom Building	2014	6,000	Communications building	Northeast	8526 Roosevelt Way NE

Facility Name	Year Built /Updated	Size in Sq. Ft.	Description	Area Served	Address
Ballard Service Center	2005	3,100	Neighborhood Service Center	Ballard	5604 22nd Avenue NW
Lake City Service Center and Garage	2005	12,409	Neighborhood Service Center and parking garage	Lake City	12525 & 12509 28th Avenue NE
Central Service Center	1980	2,235	Central Area Service Center	Central	2301 S Jackson Street
SW Service Center	1975	400	Neighborhood Service Center	Junction	2801 SW Thistle Street
SE Service Center	2003	1,500	SE Neighborhood Services Center	Southeast	3815 S Othello Street
University Service Center		1,400	University Neighborhood Service Center	University	4534 University
Pacific Place Garage	1999	526,850	Condo ownership of garage portion of Pacific Place	Downtown	600 Pine Street
Freeway Park Garage	1975	63,750	Leased to Washington State Convention Center	Downtown	609 9th Avenue
Central Area Senior Center	1959	9,478	Central Area Senior Center	Central	500 30th Avenue S
Greenwood Senior Center	1950	9,587	Greenwood Senior Center	Greenwood	525 N 85th Street
Northwest Senior Center	1950	8,400	Northwest Senior Center	Ballard	5431 32nd Avenue NW
Center Stone	1908	15,360	Lease to social services agency	Central	722 18th Avenue
SPARC	1919	5,848	South Park Community Center	South Park	8201 10th Avenue S
Benaroya Hall			Ground lease	Citywide	200 University

Public Library

Inventory

The Seattle Public Library (SPL) operates the Central Downtown Library, twenty-six neighborhood libraries, and a fleet of four bookmobiles. The State-funded Washington Talking Book and Braille Library (WTBBL) is also administered by SPL. SPL rents space for three facilities it does not own. Capital Facilities Appendix Figures A-10 and A-11 show SPL facilities.

Planning Goals

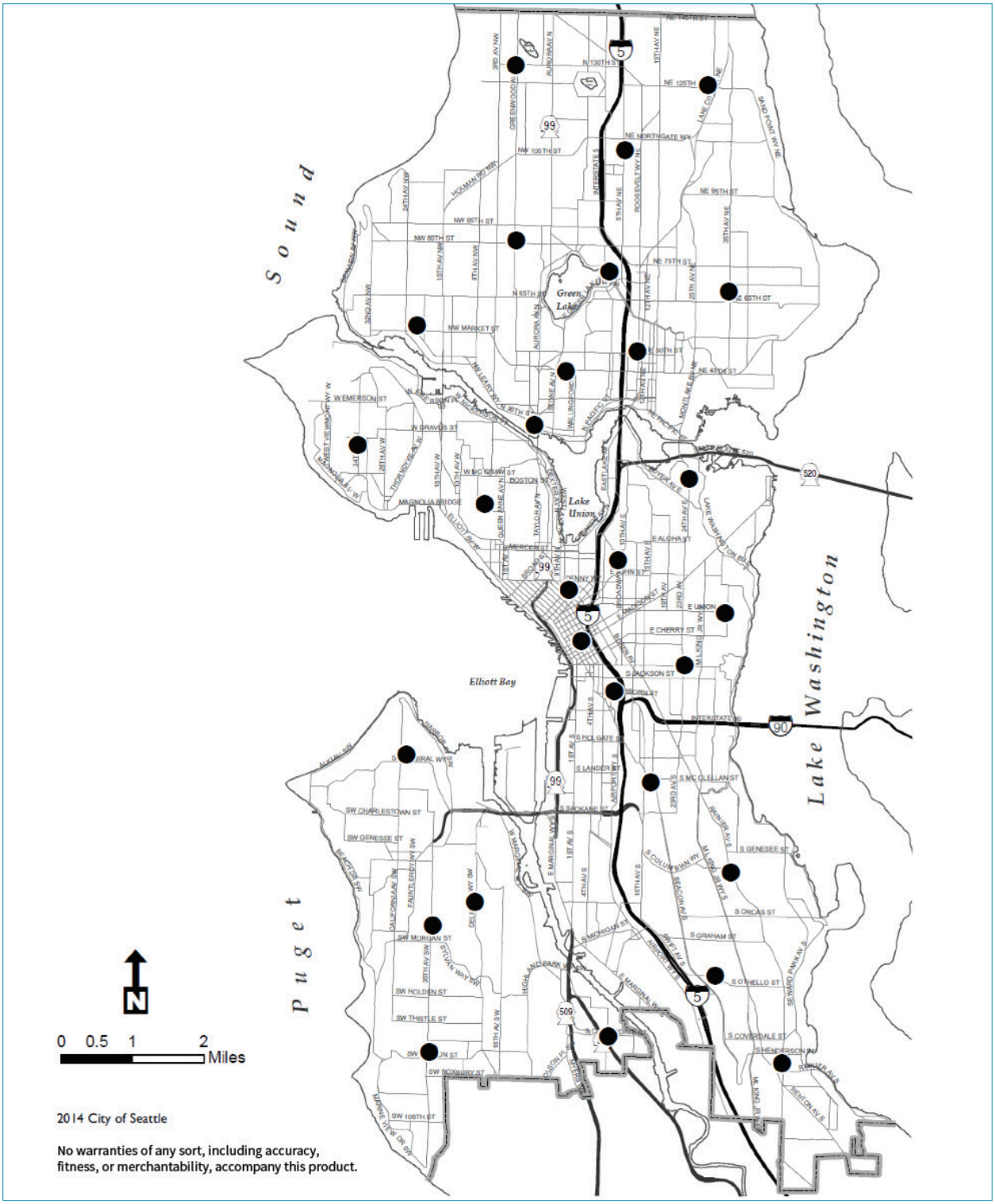
In 2009, SPL completed a decade of building renewal and expansion. The voter-approved Libraries for All capital program renovated or replaced all twenty-two branches that were in the system as of 1998, added four new branch libraries, and built the new Central Library. The expansion also allowed for an increase in the number of public access computers, large community meeting areas, and study rooms. The focus has shifted from buildings to services as provided in the 2011 Library Strategic Plan.

Forecast of Future Needs

The Seattle Public Library will need maintenance and support facilities to support the existing library facilities.

Capital Facilities Appendix Figure A-10

Map of Library Facilities



Capital Facilities Appendix Figure A-11

Table of Library Facilities

Branch Name	Address	Size in Sq. Ft.
Ballard	5711 24th Avenue NW	7,296
Beacon Hill	2519 15th Avenue S	10,800
Broadview	12755 Greenwood Avenue N	8,405
Capitol Hill	425 Harvard Avenue E	11,615
Central	1000 4th Avenue	363,000
Columbia*	4721 Rainier Avenue S	12,420
Delridge	5423 Delridge Way SW	5,600
Douglass-Truth*	2300 E Yesler	8,008
Fremont*	731 N 35th Street	6,060
Green Lake*	7364 E Green Lake Dr. N	8,090
Greenwood	8016 Greenwood Avenue N	7,085
High Point	6302 35th Avenue SW	7,000
Lake City*	12501 28th Avenue NE	9,013
Madrona-Sally Goldmark‡	1134 33rd Avenue	1,701
Magnolia*	2801 34th Avenue W	5,859
Mobile Services	2025 9th Avenue	5,056
Montlake	2300 24th Avenue E	1,574
New Holly	7058 32nd Avenue S	4,000
Northeast*	6801 35th Avenue NE	15,000
Queen Anne*	400 W Garfield Street	7,931
Rainier Beach	9125 Rainier Avenue S	15,000
Southwest	9010 35th Avenue SW	7,557
University*	5009 Roosevelt Way NE	8,104
Wallingford	1501 N 45th Street	2,000
Wash. Talking Book and Braille Library‡	2021 9th Avenue	10,000

Branch Name	Address	Size in Sq. Ft.
West Seattle*	2306 42nd Avenue SW	8,970

**City of Seattle Landmark or located in City landmark/special review district*
‡City historic resource survey properties

Seattle Center

Inventory (See Capital Facilities Appendix Figure A-12)

Seattle Center serves as an extraordinary arts, civic, and public family gathering place for our region, located on a seventy-four-acre campus in the middle of the Seattle urban core. Over thirty cultural, educational, sports, and entertainment resident organizations at Seattle Center, together with a broad range of public and community programs, offer 5,000 events attracting twelve million visits each year. Seattle Center's purpose is "to create exceptional events, experiences, and environments that delight and inspire the human spirit to build stronger communities." Seattle Center activities generate $1.15 billion of business activity and $387 million of labor income a year.

The center is home to twelve theater spaces ranging in capacity from 200 seats in the Center Theatre to 2,900 at Marion Oliver McCaw Hall and totaling nearly 6,000 seats for theatrical performances. Sports facilities include the Key Arena with a capacity of 17,000 and Memorial Stadium with a capacity of 12,000 for field events. There are three schools on the campus—a ballet school, a school for 3-D animation and gaming, and a public high school. There are ten fountains on the grounds and approximately 40 acres of landscaped and green open space and pedestrian ways. There are also active outdoor spaces, including a children's playground and a skate park. Seattle Center's outdoor open spaces, gardens, and fountains are a major urban oasis for active or passive and individual or group enjoyment.

The center owns and manages two surface parking lots and three parking garages totaling more than 3,500 spaces. The center is served by multiple King County Metro bus routes and by the Monorail, which runs between Downtown and Seattle Center and carries more than 2 million riders a year over a 0.9-mile route.

Notable buildings and facilities on the Seattle Center campus include: KEXP; Seattle Center Armory; Key Arena; the Space Needle; International Fountain; Chihuly Garden and Glass; Experience Music Project; Memorial Stadium; Pacific Science Center; KCTS; McCaw Hall; Phelps Center and Ballet School; Seattle Children's Theatre; Seattle Repertory Theatre; Seattle Children's Museum; Fisher Pavilion; SIFF Film Center; The VERA Project; Pottery Northwest; the Northwest Rooms; Center Playground; Mercer Arena, and the Seattle Center Pavilion.

Capital Facilities Appendix Figure A-12

Table of Seattle Center Facilities

Facility	Address	Size in Sq. Ft.
Armory (formerly Center House)	305 Harrison Street	278,500
Blue Spruce	158 Thomas Street	14,036
Central Plant	324 Republican Street	10,072
Chihuly Garden and Glass	305 Harrison Street	30,000
EMP	200 2nd Avenue N	283,324
Exhibition Hall	225 Mercer	52,000
Fifth Avenue N Garage	516 Harrison Street	356,390
First Avenue N Garage	220 First Avenue N	173,000
Fisher Pavilion	200 Thomas Street	21,018
International Fountain		122,000
International Fountain Pavilion	2nd Avenue N & Republican Street	4,681
KCTS	401 Mercer Street	
Key Arena	334 First Avenue N	368,000
Kobe Bellhouse		600
Maintenance Shop—Leased (5.5 Building)	621 2nd Avenue N	30,720
Marion Oliver McCaw Hall	321 Mercer Street	295,000
Memorial Stadium		238,920
Memorial Stadium Parking Lot		101,489
Mercer Arena	363 Mercer Street	108,000
Mercer Street Garage	300 Mercer Street	511,424
Monorail Office and Gift Shop	370 Thomas Street	4,592
Monorail Terminal		19,563
Mural Stage		3,200
NASA Building	102 Thomas Street	8,400
Next 50 Pavilion		5,285

Facility	Address	Size in Sq. Ft.
Northwest Rooms	354 First Avenue N	35,240
Pacific Science Center		141,681
Park Place	232 First Avenue N	7,200
Phelps Center/Pacific NW Ballet	225 Mercer Street	49,680
Playhouse Theatre (without courtyard)	201 Mercer Street	33,424
Playhouse Theatre Rehearsal Hall		4,333
Pottery Northwest	226 First Avenue N	7,200
Restroom Pavilion	303 2nd Avenue N.	1,219
Seattle Center Pavilion		7,580
Seattle Center Skatepark		18,825
Seattle Center Warehouse (under N. Stadium Stands)	369 Republican Street	20,774
Seattle Children's Theatre	240 Thomas Street	46,300
Seattle Children's Theatre Tech Pavilion		29,112
Seattle Repertory Theatre	151 Mercer Street	65,000
SIFF (Seattle International Film Festival)		11,776
Space Needle		4,400
The Vera Project		9,536
West Court Building	312 First Avenue N	10,596

Seattle Public Schools

Inventory

Public schools in Seattle are owned and operated by the Seattle school district. As of October 2015, 53,872 students are enrolled in Seattle Public Schools (SPS), in ninety-eight facilities (including twelve high schools, ten middle schools, ten K-8 schools, six service schools, and sixty elementary schools). In addition, SPS has 18 sites with closed or vacated school sites and has reactivation plans for some of these. SPS also owns various athletic, administrative, and support buildings. Existing school locations are shown

in Capital Facilities Appendix Figure A-13. (https://www.seattleschools.org/cms/one.aspx?portalId=627&pageId=665322)

Facilities Master Plan and Forecast of Future Needs

Capital facility planning is driven by a number of factors, including projected student population, curriculum goals, educational specifications (including classroom size and necessary facilities), and specialized needs of specific students.

The SPS 2012 Facilities Master Plan is the latest plan. It provides planning information for a period of ten years through school year 2021–22. The plan guides future facilities improvements based on a needs analysis at the level of individual school service area. According to the 2012 plan, by 2022, over 57,000 students are projected to attend schools that have a present capacity of approximately 51,700. A facilities prioritization plan was adopted in 2015.

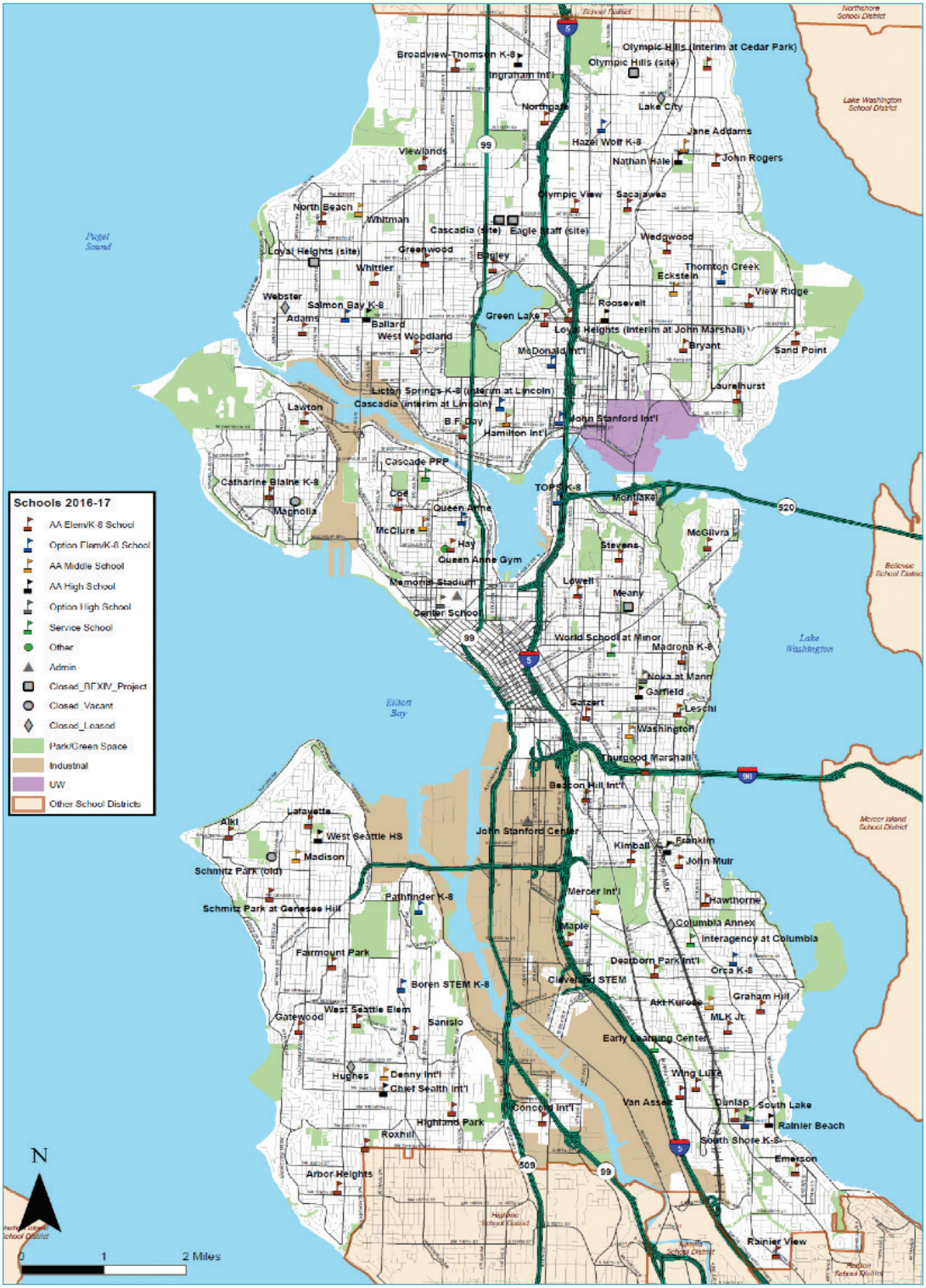
Strategies to Address Future Needs

For the majority of funding for facility construction and renovation, SPS relies on two voter-approved capital levies. These run on alternating six-year schedules and are called Building Excellence (BEX) and Buildings, Technology and Academics (BTA). BEX funds the renovation and replacement of schools, and BTA provides capital monies to repair existing building envelopes, replace roofs, improve mechanical/electrical/life-safety systems, and provide technology improvements.

Because capacity management continues to be an SPS priority, BEX and BTA help fund strategies to address capacity needs. These strategies include repurposing existing spaces, opening new schools, and adding portables. For example, some preschools are being reopened, as is Lincoln High School. BTA IV was approved by Seattle voters in February 2016. It will provide funding for capacity improvements to four elementary schools, two middle schools, and one high school. Future BEX and BTA levies are planned through 2037, consistent with the 2035 horizon year of this Comprehensive Plan.

Capital Facilities Appendix Figure A-13

Seattle School District Schools



Public Health

Public Health—Seattle & King County (Public Health) is a joint enterprise of the City of Seattle and King County and is responsible for the supervision and control of all public health and sanitation affairs in Seattle and King County. Public Health maintains a system of personal health, environmental health, health promotion, and disease prevention services through health centers/clinics and other service sites located in Seattle. The capacity and ownership of individual facilities are listed below.

Capital Facilities Appendix Figure A-14

Table of Public Health Facilities

Health Facility	Size in Sq. Ft.	Tenancy
Chinook Building (Administration)	114,839	Owned
Columbia Health Center	28,094	Owned
Downtown Clinic	25,497	Leased
Harborview: STD Clinic	13,197	Owned
Harborview: Medical Examiner	34,147	Owned
Harborview: Public Health Laboratory	5,003	Owned
Harborview: TB Clinic	4,205	Owned
Lake City Dental Clinic	3,370	Leased
North District Health Center*	16,067	Owned
Rainier Beach Teen Clinic	800	Leased

**Scheduled for demolition in 2016*

Facilities Serving Urban Centers

Following is an inventory of facilities that serve urban centers. Facilities do not have to be located within the boundaries or potential boundaries of the centers or villages in order to serve those areas.

Downtown Urban Center

Facility Type	Name	Location
Fire Station	Headquarters	301 2nd Avenue S
Fire Station	Fire Station 5	925 Alaskan Way
Fire Station	Fire Station 2	2334 4th Avenue
Fire Station	Fire Station 25	1300 E Pine Street
Police Station	East Precinct	1519 12th Avenue
Library	Central Library	1000 4th Avenue
Park	Alaskan Way Boulevard	Alaskan Way Blvd.
Park	Bell Street Boulevard	Bell Street Blvd. from 1st Avenue to 5th Avenue
Park	Belltown Cottages	2520 Elliott Avenue
Park	Boren-Pike-Pine Park	Boren Avenue & Pike Street
Park	City Hall Park	450 3rd Avenue
Park	Denny Park	100 Dexter Avenue
Park	Denny Playfield	Westlake Avenue & Denny Way
Park	Dr. Jose Rizal Park	1008 12th Avenue S
Park	East Duwamish Greenbelt	2799 12th Avenue S
Park	Freeway Park	700 Seneca Street
Park	Harborview Park	778 Alder Street
Park	Hing Hay Park	423 Maynard Avenue S
Park	Int'l Children's Park	700 S Lane Street
Park	Kobe Terrace	221 6th Avenue S
Park	McGraw Square	Stewart Street & Westlake Avenue N
Park	Myrtle Edwards Park	3130 Alaskan Way W
Park	Occidental Square	Occidental Avenue S & S Main Street
Park	Plymouth Pillars Park	Boren Avenue & Pike Street
Park	Piers 62 and 63	1951 Alaska Way
Park	Pioneer Square	100 Yesler Way

Facility Type	Name	Location
Park	Prefontaine Place	3rd Avenue & Yesler Way
Park	Regrade Park	2251 3rd Avenue
Park	Seattle Aquarium	Pier 59
Park	Seattle Center	Denny Way & Republican Street (1st Avenue N to 5th Avenue N)
Park	Sturgus Park	904 Sturgus Avenue S
Park	Tillicum Place	5th Avenue & Denny Way
Park	Union Station Square	Jackson & 3rd Avenue S
Park	Victor Steinbrueck Park	2001 Western Avenue
Park	Waterfront Park	1301 Alaskan Way
Park	Westlake Park	401 Pine Street
Park	Westlake Square	1900 Westlake Avenue N
Park	Yesler Terrace Community Center grounds	Yesler Way & Broadway Avenue
Schools	Gatzert and Lowell Elementary Schools	
	McClure and Washington Middle Schools	
	Garfield High School	

Overall, City facilities are sufficient to accommodate expected twenty-year growth.

A replacement of the Fire Department's headquarters building is expected for reasons other than as a result of development (the SFD headquarters is located in the urban center).

The City may seek to increase park space in the urban center to meet desired goals. While additions to the park facilities would enhance the City's quality of life, such additions are not necessary to accommodate new households in urban centers or citywide.

Some of the schools serving this urban center are projected to exceed their capacity, given existing attendance area boundaries and other factors. Given that Seattle Public Schools has planned investments to meet citywide capacity needs, capacity issues could potentially be solved by modifying attendance area boundaries, allowing more students to transfer to other schools, or other strategies. Seattle Public Schools is also evaluating the creation of a Downtown elementary school. This could help create a local school option as well as assist with capacity issues.

First Hill/Capitol Hill Urban Center

Facility Type	Name	Location
Fire Station	Fire Station 25	1300 E Pine Street
Fire Station	Fire Station 10	301 2nd Avenue S
Fire Station	Fire Station 22	901 E Roanoke Street
Fire Station	Fire Station 6	101 23rd Avenue S
Library	Capitol Hill Branch	425 Harvard Avenue E
Library	Central Library	1000 4th Avenue
Library	Douglass Truth Branch	2300 E Yesler Way
Community Center	Yesler Playfield & Community Center	903 Yesler Way
Park	12th & E James Street Park	12th Avenue & E James Street
Park	Bellevue Place	Bellevue Pl. E & Bellevue Avenue E
Park	Belmont Place	Belmont Pl. E & Belmont Avenue E
Park	Boren Place	Broadway & Boren Avenue S
Park	Boren-Pike-Pine Park	Boren Avenue & Pike Street
Park	Boylston Place	Broadway Avenue & Boylston Avenue E
Park	Cal Anderson Park	1635 11th Avenue
Park	Federal & Republican	Federal Avenue & Republican Street
Park	First Hill Park	University Street & Minor Avenue E
Park	Freeway Park	700 Seneca Street
Park	Harborview Park	778 Alder Street
Park	Horiuchi Park	156 Boren Avenue
Park	Kobe Terrace	221 6th Avenue S
Park	McGilvra Place	E Madison Street & Pike Street
Park	Miller Playfield	400 19th Avenue E
Park	Plymouth Pillars	Boren Avenue & Pike Street
Park	Seven Hills	1514 E Howell Street
Park	Spring Street Mini Park	E Spring Street & 15th Avenue

Facility Type	Name	Location
Park	Spruce & Squire Park	156 Boren Avenue
Park	Summit Place	Belmont Avenue E & Bellevue Pl. E
Park	Tashkent Park	511 Boylston Avenue
Park	Thomas Street Mini Park	306 Bellevue Avenue E
Park	Volunteer Park	1247 15th Avenue E
Park	Volunteer Parkway	14th Avenue E (E Prospect Street to E Roy Street)
Park	Williams Place	15th Avenue E & E John Street
Police Station	East Precinct	1519 12th Avenue
Schools	Gatzert, Lowell, Madrona, and Stevens Elementary Schools	
	Meany and Washington Middle Schools	
	Garfield High School	

Overall, City facilities are sufficient to accommodate expected twenty-year growth. The City may seek to increase park space in the urban center to meet desired goals. While additions to the park facilities would enhance the City's quality of life, such additions are not necessary to accommodate new households in urban centers or citywide.

Some of the schools serving this urban center are projected to exceed their capacity, given existing attendance area boundaries and other factors. Meany Middle School is proposed to be reconfigured to accommodate more students. Given that Seattle Public Schools has planned investments to meet citywide capacity needs, capacity issues could potentially be solved by the Meany reconfiguration and modifying attendance area boundaries, by allowing more students to transfer to other schools, or by other strategies. Seattle Public Schools is also evaluating the creation of a Downtown elementary school. This could help create a local school option as well as assisting with capacity issues.

University Community Urban Center

Facility Type	Name	Location
Fire Station	SFD 17	1050 NE 50th Street
Fire Station	SFD 38	5503 33rd Avenue NE
Library	Northeast Branch	6801 35th Avenue NE
Library	University Branch	5009 Roosevelt Way NE
Park	17th Ave NE Centerstrip	17th Avenue NE (NE 45th Street to NE Ravenna Blvd.)

Facility Type	Name	Location
Park	Burke-Gilman Trail	8th Avenue NW to NE 145th Street
Park	Christie Park	NE 43rd Street & 9th Avenue NE
Park	Cowen Park	5849 15th Avenue NE
Park	North Passage Point Park	600 NE Northlake Way
Park	Ravenna Boulevard	NE Ravenna Blvd. (E Green Lake Way N to 20th Avenue NE)
Park	Ravenna Park	5520 Ravenna Avenue NE
Park	University Heights	University Way NE & NE 50th Street
Park	University Playground	9th Avenue NE & NE 50th Street
Police Station	North Precinct	10049 College Way N
Schools	Greenlake and Bryant Elementary Schools	
	Eckstein and Hamilton Middle Schools	
	Roosevelt High School	

Overall, City facilities are sufficient to accommodate expected twenty-year growth. Construction of a new north precinct is planned to deal with existing overcrowding.

Some of the schools serving this urban center are projected to exceed their capacity given existing attendance area boundaries and other factors. Given that Seattle Public Schools has planned investments to meet citywide capacity needs, capacity issues could potentially be solved by modifying attendance area boundaries, by allowing more students to transfer to other schools, or by other strategies.

Northgate Urban Center

Facility Type	Name	Location
Fire Station	Fire Station 31	1319 N Northgate Way
Police Station	North Precinct	10049 College Way N
Schools	Olympic View Elementary	
	Jane Addams Middle School	
	Nathan Hale High School	
Library	Lake City Branch	12501 28th Avenue NE

Facility Type	Name	Location
Park	Hubbard Homestead Park	11203 5th Avenue NE
Park	Mineral Springs Park	10556 Meridian Avenue N
Park	Northgate Park	10510 5th Avenue NE
Park	Thornton Creek Park #6	5th Avenue NE & NE 103rd Street & Roosevelt Way NE & NE 107th Street
Park	Victory Creek Park	1059 Northgate Way

Overall, City facilities are sufficient to accommodate expected twenty-year growth. Construction of a new north precinct is planned to deal with existing overcrowding.

Some of the schools serving this urban center are projected to exceed their capacity given existing attendance area boundaries and other factors. Seattle Public Schools is developing a new Wilson Pacific Elementary school nearby this area. While the school is not planned to serve this urban center directly, its development will directly increase local capacity. Given that Seattle Public Schools has planned investments to meet citywide capacity needs, capacity issues could potentially be solved by modifying attendance area boundaries, by allowing more students to transfer to other schools, or by other strategies.

South Lake Union Urban Center

Facility Type	Name	Location
Fire Station	Fire Station 2	2334 4th Avenue
Fire Station	Fire Station 22	901 E Roanoke Street
Police Station	East Precinct	1519 12th Avenue
Police Station	West Precinct	810 Virginia Street
Library	Capitol Hill Branch	425 Harvard Avenue E
Library	Central Library	1000 4th Avenue
Park	Cascade Playground	333 Pontius Avenue N
Park	Denny Park	Westlake Avenue & Denny Way
Park	Denny Playfield	Westlake Avenue & Denny Way
Park	Eastlake Triangle	Eastlake Avenue E & E Prospect Street
Park	Fairview Walkway	Fairview Avenue N & E Galer Street
Park	South Lake Union Parks	1000 Valley Street

Facility Type	Name	Location
Park	Bellevue Place	Bellevue Pl. E & Bellevue Avenue E
Park	NE Queen Anne Greenbelt	1920 Taylor Avenue N
Schools	Lowell Elementary School	
	McClure Middle School	
	Garfield and Ballard High Schools	

Overall, City facilities are sufficient to accommodate expected twenty-year growth. To support the SFD's desired goal of timely emergency response in all areas of the city, a new South Lake Union fire station is needed under existing conditions.

Some of the schools serving this urban center are projected to exceed their capacity given existing attendance area boundaries and other factors. Given that Seattle Public Schools has planned investments to meet citywide capacity needs, capacity issues could potentially be solved by modifying attendance area boundaries, by allowing more students to transfer to other schools, or by other strategies. Seattle Public Schools is also evaluating the creation of a Downtown elementary school. This could help create a local school option as well as assisting with capacity issues.

Uptown Urban Center

Facility Type	Name	Location
Fire Station	Fire Station 8	110 Lee Street
Fire Station	Fire Station 2	2334 4th Avenue
Police Station	West Precinct	810 Virginia Street
Library	Queen Anne Branch	400 W Garfield
Library	Central Library	1000 4th Avenue
Community Center	Queen Anne Community Center	1901 1st Avenue W
Park	Alaskan Way Boulevard	Alaskan Way Blvd.
Park	Counterbalance Park	Queen Anne Avenue N & Roy Street
Park	Elliott Bay Park	Pier 86
Park	Kinnear Park	899 W Olympic Pl.
Park	Bhy Kracke	1215 5th Avenue N
Park	Kerry Park	211 W Highland Dr.

Facility Type	Name	Location
Park	Myrtle Edwards Park	3130 Alaskan Way W
Park	Northeast Queen Anne Greenbelt	1920 Taylor Avenue N
Park	Seattle Center	Denny Way & Republican Street (1st Avenue N to 5th Avenue N)
Park	SW Queen Anne Greenbelt	W Howe Street & 12th Avenue W
Park	Ward Springs Park	Ward Street & 4th Avenue N
Schools	Hay Elementary School	
	McClure Middle School	
	Ballard High School	

Overall, City facilities are sufficient to accommodate expected twenty-year growth.

Some of the schools serving this urban center are projected to exceed their capacity given existing attendance area boundaries and other factors. Given that Seattle Public Schools has planned investments to meet citywide capacity needs, capacity issues could potentially be solved by modifying attendance area boundaries, by allowing more students to transfer to other schools, or by other strategies. Seattle Public Schools is also evaluating the creation of a Downtown elementary school. This school could help create a local school option as well as assisting with capacity issues.

Potential Future Discretionary Projects

Besides the facilities in the City's CIP, there are a number of prospective capital projects that the City might undertake or fund in the future. They are listed below to provide a broad view of the City's potential future capital spending. Projects are not listed in any priority order. Funding for these projects may not yet be identified and decisions may not yet have been made to go forward with funding these projects.

Fire

- *South Lake Union Fire Station development*
- *Freshwater Marine Station relocation*
- *Fire Marshal's Office relocation*
- *Warehouse Space replacement*
- *Joint Training Facilities expansion*

Police

- *North Police Precinct replacement*
- *Harbor Patrol Building replacement*
- *Parking Enforcement facilities*
- *Police Training Center*
- *Municipal Correctional Facility*
- *Airport Way Center parking expansion*

General Facilities

- *City building maintenance facilities upgrades*
- *City vehicle maintenance facilities replacement*
- *Animal Shelter replacement*
- *Weights and Measures building replacement*
- *Communications Shop relocation*
- *Consumer Protection Division facility upgrades*
- *Office space consolidation*
- *Social Services facilities*
- *Civic Square development*
- *Energy efficiency improvements*
- *Urban Forestry facilities expansion*
- *Roadway Structures facility consolidation*
- *Street Maintenance facility improvements*
- *Streetcar Maintenance facility improvements*
- *BNSF property acquisition at SDOT sign shop*
- *Material storage facilities*
- *Municipal Broadband*

Seattle Center

- *Memorial Stadium relocation**
- *Memorial Stadium site redevelopment*
- *Key Arena enhancement*
- *North Parking Lots redevelopment*

Parks

- *Seattle Aquarium Master Plan implementation*
- *Washington Park Arboretum improvements*
- *Downtown parks improvements*
- *Warren G. Magnuson Park building and site improvements*

- *Regional and neighborhood park improvements*
- *Waterfront improvements*

Library

- *Facility shops relocation*

(At the time of publication, project with an * is owned or sponsored by another government agency or private organization. The City might participate in funding this project.)

Utilities Appendix

City Utilities: Inventory, Capacity, and Future Needs Assessment

Seattle City Light: Electricity

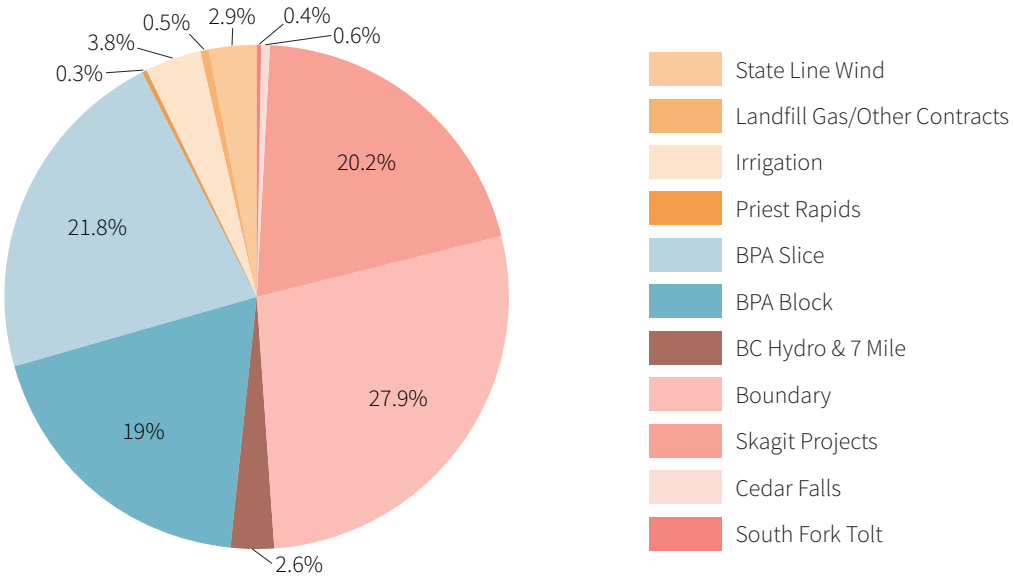
Seattle City Light (SCL) is the City-owned electric utility serving all of Seattle and some portions of other cities and unincorporated King County north and south of the city limits.

Seattle City Light: Inventory & Capacity

SCL supplies power from a portfolio of sources that includes self-generated assets and purchased power. SCL typically purchases 50 percent of all power delivered to its customers. Utilities Appendix Figure A-1 below shows the sources of power.

Utilities Appendix Figure A-1

Sources of Electrical Generation



Owned Generation: 49.1% Treaty: 2.6% BPA: 40.8% Purchased Generation: 7.5%

Source: City Light, 2015

The current resource portfolio includes SCL-owned generation resources; long-term contract resources supplemented with power exchange agreements, near-term purchases, and sales made in the wholesale power market; and conservation. City Light–owned generation facilities include the Boundary Project, on the Pend Oreille River in northeast Washington, and the Skagit Project, which consists of three hydroelectric dams (Ross, Diablo, and Gorge) on the Skagit River. The Newhalem Hydroelectric Plant on Newhalem Creek, the Cedar Falls Dam on the Cedar River, and the South Fork Tolt Dam on the South Fork Tolt River are also smaller generating facilities owned by SCL.

In addition to these power sources, SCL purchases power from a variety of other sources including:

- *the Bonneville Power Administration (BPA), including firm amounts under the Block Product and a share in the output from the Federal System (Slice Product), which depends on water conditions*
- *British Columbia Hydro*
- *Lucy Peak, a hydro project located near Boise, Idaho*
- *Priest Rapids, a hydro project within the Grant County Public Utility District*

- *Grand Coulee Project Hydroelectric Authority, a share in the State Line Wind Project located in Southeast Washington and Northeast Oregon*

- *Biomass and landfill gas through Burlington Biomass, Columbia Ridge Landfill Gas Project, and King County West Point Wastewater Treatment Plant.*

Under an exchange agreement with the Northern California Power Agency, City Light delivers energy to NCPA in the summer and in exchange NCPA delivers energy to City Light in the winter.

SCL owns and maintains approximately 657 miles of transmission lines, which carry power from the Skagit and Cedar Falls generating facilities to fourteen principal substations. SCL is dependent on other transmission line owners, i.e., the Bonneville Power Administration (BPA), to bring power from its Boundary Dam hydroelectric plant and from other contracted resources, to serve its load in Seattle. The transmission grid interconnection with other utilities also provides additional reliability to meet load requirements. Power is distributed from SCL's principal substations via high voltage feeder lines to numerous smaller distribution substations and pole transformers, which reduce voltage to required levels for customers. SCL owns and maintains 2,428 circuit miles of distribution lines within Seattle that deliver power from the fourteen principal substations to approximately 365,200 customers ***(see Utilities Appendix Figures A-2 and A-3)***.

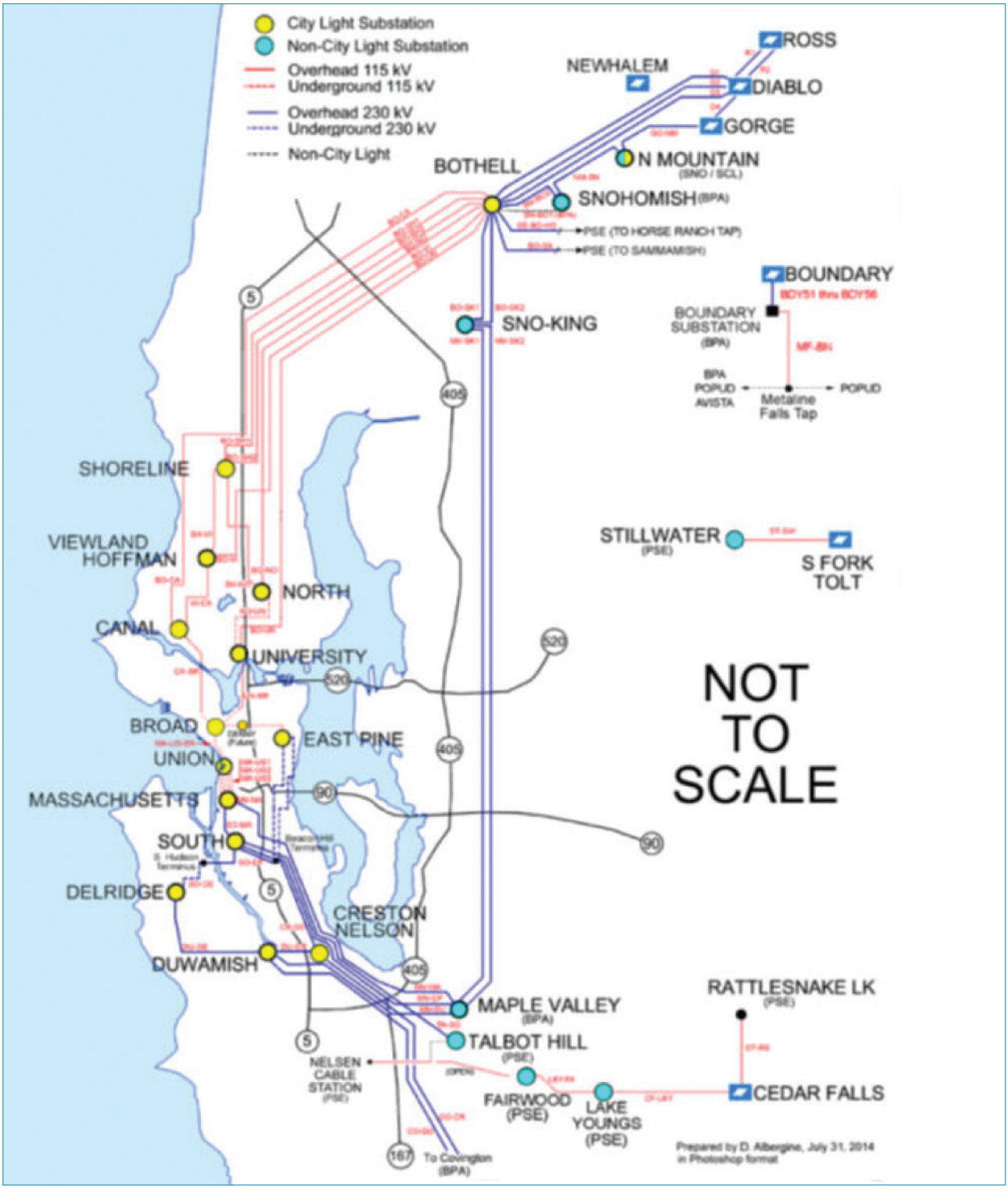
Utilities Appendix Figure A-2

Electrical Generation Resources

Source: City Light, 2015

Utilities Appendix Figure A-3

Electrical Transmission and Substation System



Source: City Light, 2014

SCL's current generation capability (owned and contracted) is adequate to serve existing customers. Because of the nature of City Light's hydroelectric system, the utility is not presently constrained by its ability to meet peak loads (typically referred to as capacity). At times, the system may be constrained in its ability to carry load over periods of heavy load hours (6 a.m. to 10 p.m.) during the winter. On an average monthly basis, City Light currently has sufficient resources to meet expected customer load in the next few years, even under serious drought conditions.

SCL sells on the wholesale energy markets the energy it does not need to meet customer load. The utility also buys energy in the wholesale markets to enhance the value of its resource portfolio and to meet occasional short-term energy deficits.

Seattle City Light: Future Needs Assessment

New resources will be needed to meet load growth and to comply with I-937 over the next twenty years. The timing of resource acquisition depends on the rate of load growth, hydro volatility, together with the I-937 schedule for acquiring renewable resources and/or renewable energy credits.

For the transmission and distribution components of SCL's system, projected growth will be accommodated by planned transmission and distribution capacity additions. The pending addition of a Downtown substation will meet the load growth in Denny Triangle and South Lake Union.

Capacity would also be expanded at the North, Duwamish, Shoreline, University, and Creston substations. New substations also may be built in the next five to twenty years in Interbay, SODO, and the Highline area, depending on load growth projections and emerging real construction. Substations in the northeast and northwest parts of the City may also be built in the twenty-year period. City Light owns properties for the Interbay, Northeast, and Northwest substations.

Seattle Public Utilities: Drinking Water

Seattle Public Utilities (SPU) provides drinking water to a service area population of 1.3 million within the greater Seattle metropolitan region of King County and portions of southern Snohomish County. SPU provides retail water service to customers in the City of Seattle, and portions of the cities of Shoreline, Lake Forest Park, and Burien, as well as portions of unincorporated King County south of the City of Seattle. SPU also provides retail water service to Shorewood Apartments on Mercer Island and Seattle Tacoma International Airport. In addition, SPU sells wholesale water to nineteen municipalities and special-purpose districts, plus Cascade Water Alliance, who in turn provide the water to their own retail customers ***(see Utilities Appendix Figure A-4)***. SPU operates under an annual operating permit issued by

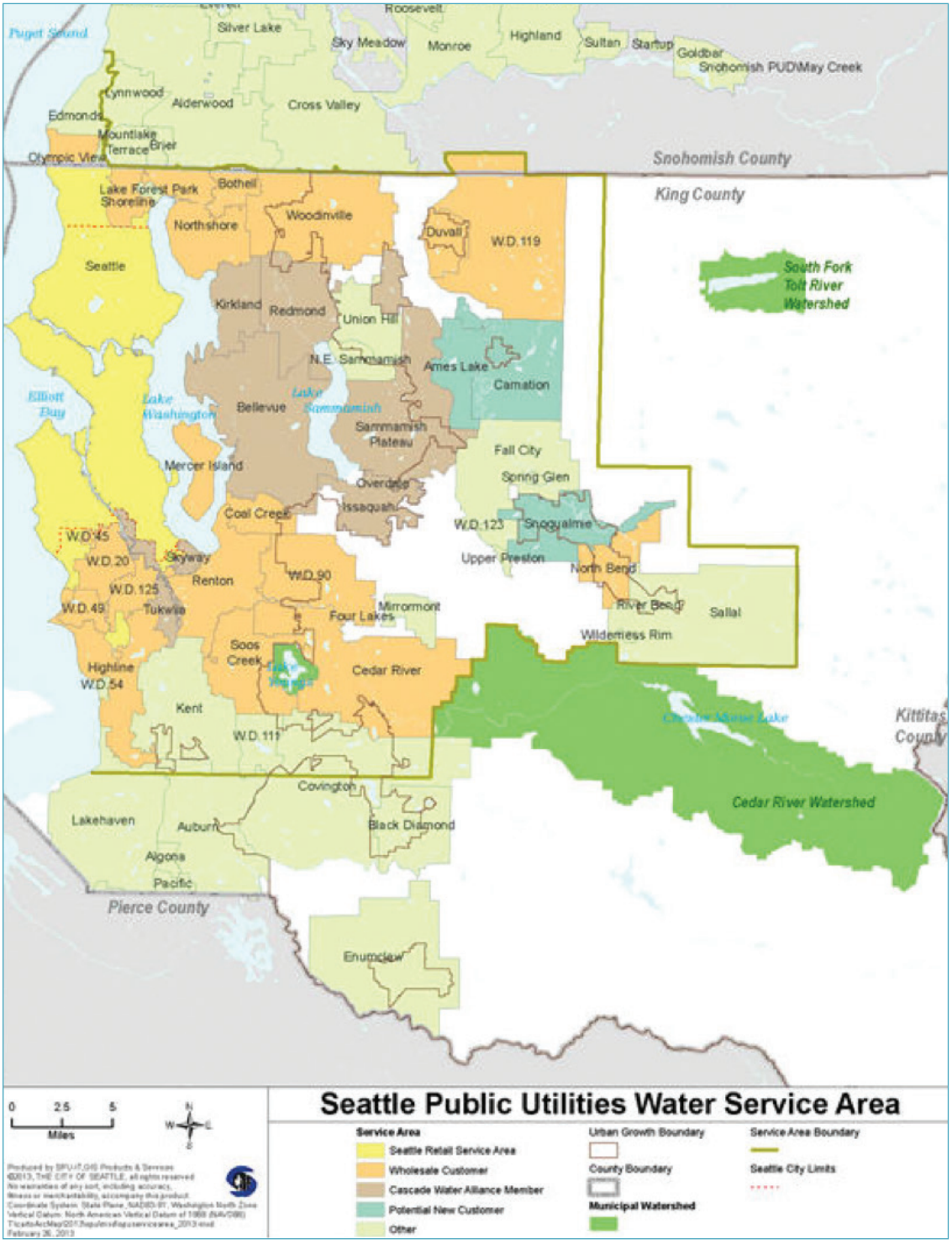
the Washington State Department of Health. More information about the water system can be found in Seattle's latest Water System Plan.

Seattle Public Utilities: Inventory & Capacity

SPU supplies drinking water from two major water supply sources, the Cedar River Watershed and the South Fork of the Tolt River Watershed, both on the western slopes of the Cascade Mountains. In addition, a small amount of water from Seattle Well Fields, which are located north of Seattle Tacoma International Airport, is available to provide drought and emergency supply. In total, these sources can supply up to 172 million gallons of water per day on an average annual basis. Water from these sources is treated to meet drinking water quality regulations. The treated water is then delivered to Seattle retail and wholesale customers through a network of approximately 1,880 miles of transmission and distribution system pipelines, 400 million gallons of treated water storage facilities (reservoirs, tanks, and standpipes), and thirty-one pump stations. System-wide treatment and transmission capacity is 310 million gallons per day ***(see Utilities Appendix Figure A-4)***.

Utilities Appendix Figure A-4

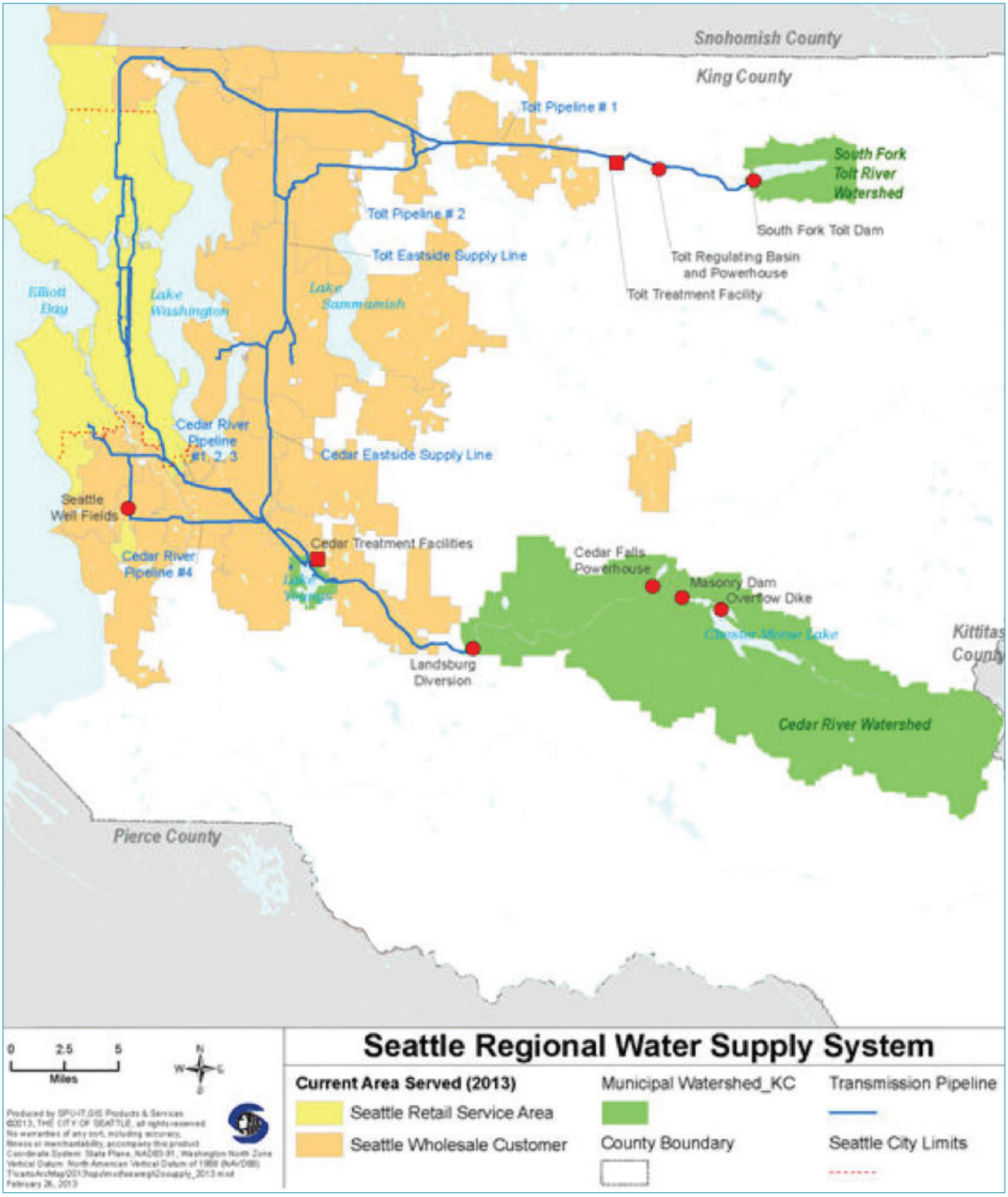
Drinking Water Service Area



Source: Seattle Public Utilities

Utilities Appendix Figure A-5

Drinking Water Facilities and Transmission Pipelines



Source: Seattle Public Utilities

Seattle Public Utilities: Future Needs Assessment

SPU expects water supply to be adequate to serve the City's existing and forecast population for at least the next twenty years. This assessment considered an analysis of future climate change impacts on both supply and demand. That analysis indicated that, although available supply could be reduced by as much as 4 percent in 2025 and 6 percent in 2050 under the warmest climate change scenario analyzed, this reduced supply would still exceed climate-impacted demands in those time periods.

One reason for this outlook is the anticipated continued reduction in per capita water use in SPU's service area. Total water use in SPU's regional water system declined by 15 percent from 2000 to 2013 while the population served has grown by 30 percent. The regional water conservation program administered by SPU for the Saving Water Partnership—a collaborative program run by Seattle and eighteen of SPU's wholesale customers—has been a contributor to this reduction in water use. For the 2013–2018 period, the Saving Water Partnership has set a goal to reduce per capita water use from current levels so that total average annual retail water use of members of the Saving Water Partnership is less than 105 million gallons per day despite forecasted population growth.

Distribution and storage facilities that serve Seattle residents and businesses have adequate capacity to serve the city. There are, however, a few areas where SPU's water system has hydrants that cannot provide fire flows to existing buildings as required under current codes for new buildings. This can be caused by a combination of factors including pipes with small diameters or areas with low water pressure due to older design standards, or pipes whose interiors have been reduced by deposits. There are also areas that were originally built to now-obsolete fire codes. Depending on the location and type of development, parts of SPU's water distribution system may need to be upgraded to meet current fire flow standards for the planned development. Additionally, there are also parts of the retail service area in which water mains need to be extended to serve a particular parcel. SPU will work with developers to have needed water infrastructure in place for the development.

In addition to the distribution system improvements needed to support new development, investments are needed to replace aging infrastructure that has reached the end of its economic life. SPU is currently applying an asset management assessment to determine which facilities would be replaced using the funds available in the six-year CIP instead of being repaired.

Seattle Public Utilities: Drainage & Sewer

Seattle Public Utilities is charged with managing drainage and sewer systems to meet public safety, water quality, and resource protection goals. SPU's drainage and sewer service area covers the City of Seattle. King County is responsible for operating the sewage

treatment plants that treat all City of Seattle sewage as well as the interceptor lines that deliver sewage to these facilities.

Seattle Public Utilities: Inventory & Capacity

Although a few small areas are still served by septic systems, almost all areas of the city are served by sewer. Three types of drainage and sewer systems are used in Seattle:

- *combined drainage and sewer (a single set of pipes carries water from drainage water and sewage)*
- *separate drainage sewer systems (the pipes carrying drainage are completely separate from the pipes carrying sewage), and*
- *partially separated drainage and sewer (one set of pipes carries sewage and some drainage water—generally from street runoff—while the other set carries only drainage water).*

The SPU system collects residential, commercial, and industrial sewage and delivers it to interceptor lines operated by the regional sewage treatment agency (King County). While King County operates a regional system including various treatment plants, sewage from Seattle is primarily treated at the West Point Sewage Treatment Plant before being discharged into Puget Sound ***(see Utilities Appendix Figure A-5)***. The West Point Treatment Plant is a secondary treatment facility, with a monthly average capacity of 133 million gallons per day (MGD) and daily peak flow capacity of 440 MGD. Of the daily peak flow capacity, 300 MGD would receive secondary treatment and the remainder would receive primary treatment. The West Point Treatment Plant serves 1.3 million people including residents of Seattle, King County north of Seattle, and South Snohomish County.

The capacity of the drainage and sewer system in some areas is limited during peak storm events. During or following intense or prolonged periods of rainfall, some of the systems cannot accommodate the combined drainage and sewage flows, resulting in combined sewer overflows (CSOs) being discharged into area waters. CSOs occur in both the regional and the City systems. There are two "wet weather" treatment facilities, Alki and Carkeek, that partially treat a portion of this overflow, but in many areas the overflows discharge completely untreated water.

The City of Seattle has prepared a comprehensive strategy, called The Plan to Protect Seattle's Waterways, to reduce overflows and discharge of pollutants from combined sewers and the storm drain system. This plan identifies areas of Seattle where projects are needed to reduce CSOs, evaluates alternatives for reducing CSOs in these areas, and recommends a schedule for designing and constructing projects.

Seattle Public Utilities: Future Needs Assessment

Generally, the City-operated drainage and sewer facilities in Seattle have been planned and sized to serve the maximum or build-out conditions under zoning at the time and will be adequate to serve the level of increased growth proposed in the plan. The capacity of the sewer system is limited in confined areas of the city, where there have been historic hydraulic and system backup problems. In addition, there are areas of drainage deficiencies and water quality issues in the city. These problems are being addressed through developer-funded facility upgrades and by Seattle Public Utilities' Capital Improvement Program (CIP).

Seattle Public Utilities: Solid Waste

Various state and local regulations and guidelines influence Seattle's solid waste planning. Chief among the regulations is the State of Washington's 1969 legislation Revised Code of Washington (RCW) 70.95 requiring local solid waste plans. Seattle Public Utilities manages this responsibility by regularly reviewing and updating Seattle's Solid Waste Plan. The Plan has a twenty-year horizon and provides strategies for future solid waste management needs.

Seattle Public Utilities: Inventory & Capacity

A network of public and private service providers and facilities collect, transfer, process, and landfill Seattle's discards. All Seattle's municipal solid waste that is not recycled or composted is, by law, under city control.

SPU contracts with private firms to collect residential garbage, recyclables, and yard and food waste (organics). The same contractors collect commercial garbage. Open-market providers collect commercial recycling and organics. Businesses may choose to "self-haul" their solid waste materials.

Transfer and recycling processing facilities consolidate collected solid waste materials and route them to their next destination. Garbage and organics collected by the city's contractors go to the transfer stations owned and operated by the city. Recycling picked up by the city's contractors goes to the city's contracted recycling processing facility. Recycling picked up from businesses may go to a recycling processor or one of the many local businesses specializing in recycled materials. Other collected materials go to the city's transfer stations, or private transfer stations or processors. Occasionally, residential garbage is taken to private transfer facilities, such as when a city station temporarily needs to close.

At the transfer stations, garbage is loaded into rail containers and trucked to Seattle's contracted rail yard. Assembled trains of containers are hauled to the city's contracted landfill.

Processed recyclables go to various materials markets. Organics go to the City's contracted organics contractor to be processed into compost.

SPU also runs two moderate-risk waste (MRW) collection facilities. Seattle provides this service as a partner in the Local Hazardous Waste Management Program (LHWMP) in King County.

Except for the two City-owned transfer stations, the equipment and facilities necessary to operate Seattle's solid waste system are provided by contracted services.

Seattle Public Utilities: Collection

Two collection companies collect all residential solid waste materials and commercial garbage. Current contracts started in March 2009 and run until at least 2017. The companies provide all aspects of collection, including trucks, truck yards, and labor. Service areas and routes are planned to ensure efficient use of collection vehicles and to collect consistent amounts of material each day so that the daily capacity of each transfer station is not exceeded. Transfer and processing facilities need an even, predictable inflow to avoid having to stockpile incoming materials.

Seattle Public Utilities: Transfer Stations

The city owns and operates two transfer stations: North Transfer Station in the Wallingford neighborhood, and South Transfer Station in the South Park neighborhood. Two private transfer stations supplement city facilities.

The city's transfer facilities now serve a variety of vehicles and customers and receive a range of discarded materials that include garbage, recyclables, and compostables. In addition to transferring materials delivered by collectors, the stations play an important role in accepting materials unsuitable for curbside collection. Residents with large, bulky items or excess quantities can bring these materials to the stations for recycling or disposal. The stations also serve businesses that choose to self-haul their waste and recyclable materials.

In 2007, the Seattle City Council decided to proceed with improvements to the two city-owned stations, which were originally built in the 1960s. SPU completed construction of the new South Transfer Station in 2013. The new North Transfer Station will be complete in 2016. Demolition of the old South Recycling and Disposal Station and redevelopment of that site is scheduled to be complete in 2018.

The two private transfer facilities are located in the industrial area south of Downtown Seattle.

Seattle Public Utilities: Recycling and Composting

SPU contracts with Rabanco Recycling Center for traditional recycling (newspaper, glass bottles, tin cans, etc.). It is located in the Duwamish Manufacturing/Industrial Center.

Most commercial recycling is provided by private arrangements. Vendors collect both mixed and source-separated materials, and take them to a variety of processors in the Seattle area. Which processor they use depends on the material and any agreements haulers and processors may have.

For organics composting, SPU implemented new contracts in 2014 with two vendors: Lenz Enterprises, Inc., and PacifiClean Environmental of Washington, LLC. Lenz Enterprises is mainly responsible for taking organics from SPU's Seattle's North Transfer Station to its processing facility in Stanwood, Washington. PacifiClean takes mainly organics from SPU's South Transfer station to their processing facility that will be located in central Washington. Both companies have guaranteed access to backup facilities.

Seattle Public Utilities: Disposal

The City of Seattle contracts with Waste Management of Washington for rail haul and disposal of all nonrecyclable waste at Columbia Ridge Landfill in Gilliam County, Oregon. After it has been compacted into shipping containers at transfer facilities, garbage is hauled to the Argo rail yard and loaded onto the train. The Argo Yard is owned and operated by the Union Pacific Railroad, and is located in the Duwamish Manufacturing/Industrial Center. Trains leave Seattle six times a week, stacked two-high. Waste Management of Washington owns the containers. The Columbia Ridge Landfill and Recycling Center is owned and operated by Oregon Waste Systems, a division of Waste Management.

Seattle Public Utilities: Future Needs Assessment

As the City of Seattle contracts with private service providers for recycling processing, organics composting, and landfill long-haul and disposal, any programmatic changes would be made through those contracts. Since Public Health—Seattle & King County regulates all solid waste handling facilities in their jurisdiction, their approval is required for any new public or private facilities for the transfer, recycling, composting, and landfilling of solid waste materials.

Although the overall amount of waste generated in the city will increase with projected residential and employment growth over the twenty-year plan horizon, the percentage of waste that will be directed to disposal is expected to decrease. Seattle's overall municipal solid waste generation (MSW) has generally followed the ups and downs of economic trends, even as population has steadily increased. Total generation saw a prolonged downward

trend after 2007 through the Great Recession and through 2012. SPU expects overall waste generation to increase gradually over the next two decades, not rising to pre-recession levels of about 850,000 tons of material per year until about 2027 or after.

Seattle's diversion goal is to recycle or compost 70 percent of the city's MSW by 2022. In 2012 Seattle recycled or composted 56 percent of its MSW. Seattle recently set an additional goal to recycle 70 percent of the city's construction and demolition (C&D) waste by 2020. The majority of C&D waste is managed in the private sector, from generation through processing and disposal.

Shifts in consumer patterns change over time. Likewise, new materials and combinations of materials continue to enter the consumption cycle. SPU will conduct waste composition analyses frequently enough to be able to respond to these changes. For example, SPU will continue to work with processors to designate additional recyclable materials, and modify collection programs as needed.

Future Needs Assessment

Collection

Seattle will continue with its strategy to competitively contract for collection services. The contractors will adjust to changing service needs, such as more recycling, over time.

Transfer

The capacity provided by the rebuild of Seattle's two transfer facilities, in conjunction with private transfer capacity, is projected to satisfy Seattle's solid waste transfer needs for at least as long as the fifty-year expected life of the rebuilt facilities. Seattle's new facilities are purposely designed for flexibility in response to a changing mix of solid waste materials over time.

Recycling & Composting

Recycling capacity at private facilities is considered adequate for at least two decades, and Seattle will continue to contract for these services. Seattle's current contract is guaranteed through 2019. In 2014, Recology Cleanscapes opened a new high-capacity mixed-material recycling facility in the Duwamish Manufacturing/Industrial Center. Furthermore, the Washington State Department of Ecology currently lists more than 280 recycling facilities in King, Pierce, and Snohomish Counties. In addition to the new Recology Cleanscapes facility, at least three of these are large facilities that process mixed recycling and are within twenty

miles of Seattle. SPU expects that many other private recyclers that handle limited ranges of materials will continue their presence in the local market.

Current composting capacity is adequate for the twenty-year planning horizon. However, statewide there is concern about future capacity as more cities and counties divert more organics. Seattle's two organics contracts are guaranteed, and may be extended through 2024. As regional demand for composting increases, composting service providers are researching and developing new technologies, for example anaerobic digestion.

Disposal

Columbia Ridge landfill, Seattle's current contracted landfill, projects that it will be able to receive material beyond the current contract's guaranteed 2028 end date. Seattle plans to continue with contracting for this service. Although Seattle's disposal alternatives are restricted through the life of the contract, the City will continue monitoring emerging alternate technologies. Rail-haul capacity has not been an issue. The contract provides for alternate transportation if rail lines become unavailable.

City Communications Facilities

The City Department of Information Technology, in collaboration with City Light and other departments, jurisdictions, and institutions, installs, owns, and/or operates an extensive radio and broadband information and communications technology (ICT) infrastructure, including radio for emergency services and fieldwork, and fiber optic for transmission of voice, video, and data for delivery of city services. The City leases some services from private providers, but has steadily increased the network of public infrastructure to city buildings. The City has a fiber-sharing agreement with other public agencies that enables joint installation and maintenance of an extensive network of conduit and which minimizes cost, digging, and installation of broadband infrastructure. The City also leases excess fiber capacity to private providers.

Investor-Owned Utilities

Natural Gas

Puget Sound Energy (PSE) provides natural gas service to more than 780,000 customers in six Western Washington counties: Snohomish, King, Kittitas, Pierce, Thurston, and Lewis. As of 2014, it is estimated that PSE serves over 140,000 customers within the City of Seattle.

Natural gas comes from gas wells in the Rocky Mountains and in Canada and is transported through interstate pipelines by Williams Northwest Pipeline to Puget Sound Energy's gate stations.

Supply mains then transport the gas from the gate stations to district regulators where the pressure is reduced to less than 60psig. Distribution mains are fed from the district regulators, and individual residential service lines are fed by the distribution mains.

PSE does not have any major projects planned in Seattle, but new projects may be developed in the future at any time due to:

- *New or replacement of existing facilities to increase capacity requirements due to new building construction and conversion from other fuels.*
- *Main replacement to facilitate improved maintenance of facilities.*
- *Replacement or relocation of facilities due to municipal and state projects.*

Cable

The FCC provides limited regulatory authority to local jurisdictions to enable franchise agreements with providers of cable television. As of 2014, the City of Seattle had cable franchise agreements with two companies: Comcast and Wave Broadband. Comcast is the city's largest provider, serving approximately two-thirds of the city. These companies also provide telephone and broadband Internet services. As of 2014, Wave also owns CondoInternet, which offers gigabit Internet service in a limited, but growing area of Seattle.

The franchise agreements provide for consumer protection and public benefits, such as delivery of cable television and public Internet access to City community centers, public housing, and nonprofits providing Internet access and skills training to technology-disadvantaged residents. The companies are allowed to compete, though overlapping service areas have been minimal as of 2014. The franchise agreements have generally been for ten-year periods with some adjustment when companies are sold. See seattle.gov/cable/franchises.htm for more detail.

Landline Telephone

CenturyLink, which purchased QWEST Communications, is the largest telephone company providing local landline telephone and related retail and wholesale communications services throughout the entire city. They maintain a number of poles, transmission lines, and network architecture. Additionally, there are a number of small companies that provide limited telephone service, often by paying for the use of another company's infrastructure.

Wireless and Cellular

Seattle is served by numerous companies providing wireless and cellular services. These communications utility companies tend to own wireless and cellular transmission facilities as well as fiber backbone to relay the data received in the transmission facilities. Common wireless technologies include point-to-point microwave as well as Wi-Fi internet services. Microwave antennas require location for line-of-sight transmission. Cellular and Wi-Fi transmitters have limited transmission radius and are also dependent on the strength of the antenna in users' mobile devices. As the number of users and the demand for higher data transfer (e.g., for watching or sending video) grows, the infrastructure will also require expansion. Greater distribution of fiber optics through the city enables higher bandwidth connections to these antennas. The industry is continuing to evolve, so the city is likely to see continued demand for placement of antennas, though technology developments may also result in some reduction of the number required.

Radio and Broadcast Television

Seattle is also served by a number of radio and television broadcast facilities who maintain antennas and transmission equipment in the city, which, like cellular equipment, may be located and operated on company sites, or placed on other public or private buildings through leasing arrangements. Some of these companies also operate other communications hosting or networking services. The FCC issued a limited number of low-power FM construction licenses to nonprofit entities, starting in 2014, that require siting of small antennas and will enable local information distribution.

District Energy

Enwave Seattle is a district energy utility franchised by the City. Enwave produces heat at a centralized plant and distributes steam to commercial, residential, and institutional customers for space and water heating, along with other uses, by underground lines. Its service area encompasses roughly a square-mile area of the Central Business District, extending from Blanchard Street to King Street and from the waterfront to 14th Avenue, crossing over First Hill.

Enwave Seattle is a privately owned utility that provides heat to approximately 200 buildings in Seattle's Central Business District and First Hill neighborhoods. Enwave Seattle's mission is to deliver a reliable, cost-effective, and efficient source of heat that benefits its customers, the environment, and the Seattle community.

Two steam-generating plants supply the piping network. The primary plant is located on Western Avenue at University Street. The secondary plant is located on Western Avenue near Yesler Way—the site of the original plant built in 1893. Total steam generation capacity

is 670,000 pounds per hour, with boilers designed to burn renewable biomass, natural gas, or diesel oil if natural gas is not available. The network of insulated steel pipe encompasses a total length of over eighteen miles beneath city streets and currently serves approximately 200 buildings.

The City is also working to establish district energy utility systems in South Lake Union, Denny Triangle, and First Hill. Systems for these neighborhoods are in varying planning stages, but each, if established, would likely be a closed-loop water-based utility system providing heating, hot water, and potentially cooling services to building owners. Energy sources for the utility system would largely comprise waste heat already in the neighborhood, including waste heat from data centers, sewer lines, and condensate from the nearby Enwave system.

Legislative History of the Comprehensive Plan

The Comprehensive Plan was first adopted on July 25, 1994, by Ordinance 117221.

Comprehensive Plan Amendments

Adoption Date	Ordinance Number	Nature of Amendments
12/12/94	117436	1994 Capital Improvement Program
7/31/95	117735	1995 Comprehensive Plan amendments
11/27/95	117906	Adoption of a new Human Development element
11/27/95	117915	1995 Six-Year CIP amendments
7/01/96	118197	Response to 4/2/96 Growth Management Hearings Board remand. Repealed policy L-127 of Ord. 117735
9/23/96	118408	Addition of Shoreline Master Program to Plan
11/18/96	118388	1996 CIP amendments
11/18/96	118389	1996 annual amendments
6/16/97	118622	Policies for the reuse of Sand Point Naval Station
9/8/97	118722	Response to 3/97 GMHB remand
11/13/97	118820	1997 Six-Year CIP amendments
11/13/97	118821	1997 annual amendments; addition of Cultural Resources element
6/22/98	119047	Adoption of the Ballard/Interbay Northend Manufacturing/Industrial Center neighborhood plan

Adoption Date	Ordinance Number	Nature of Amendments
8/17/98	119111	Adoption of the Crown Hill/Ballard neighborhood plan
10/26/98	119207	1998 annual amendments
11/02/98	119217	Adoption of the Wallingford neighborhood plan
11/02/98	119216	Adoption of the Central Area neighborhood plan
11/16/98	119231	Adoption of the Pioneer Square neighborhood plan
11/16/98	119230	Adoption of the University neighborhood plan
11/23/98	119264	1998 Six-Year CIP amendments
12/07/98	119322	Adoption of the Eastlake neighborhood plan
12/14/98	119298	Adoption of the MLK@Holly neighborhood plan
12/14/98	119297	Adoption of the Chinatown/International District neighborhood plan
1/25/99	119356	Adoption of the South Park neighborhood plan
2/08/99	119365	Adoption of the Denny Triangle neighborhood plan
3/15/99	119401	Adoption of the South Lake Union neighborhood plan
3/15/99	119403	Adoption of the Queen Anne neighborhood plan
3/22/99	119413	Adoption of the Pike/Pine neighborhood plan
3/22/99	119412	Adoption of the First Hill neighborhood plan
5/10/99	119464	Adoption of the Belltown neighborhood plan
5/24/99	119475	Adoption of the Commercial Core neighborhood plan
6/07/99	119498	Adoption of the Capitol Hill neighborhood plan
7/06/99	119524	Adoption of the Green Lake neighborhood plan
7/06/99	119525	Adoption of the Roosevelt neighborhood plan
7/09/99	119538	Adoption of the Aurora-Licton neighborhood plan
7/21/99	119506	Adoption of the West Seattle Junction neighborhood plan
8/23/99	119615	Adoption of the Westwood/Highland Park neighborhood plan
8/23/99	119614	Adoption of the Rainier Beach neighborhood plan
9/07/99	119633	Adoption of the North Neighborhoods neighborhood plan
9/07/99	119634	Adoption of the Morgan Junction neighborhood plan
9/27/99	119671	Adoption of the North Rainier neighborhood plan

Adoption Date	Ordinance Number	Nature of Amendments
10/04/99	119685	Adoption of the Broadview/Bitter Lake/Haller Lake neighborhood plan
10/04/99	119687	Adoption of the Fremont neighborhood plan
10/11/99	119694	Adoption of the Columbia City neighborhood plan
10/25/99	119713	Adoption of the North Beacon Hill neighborhood plan
10/25/99	119714	Adoption of the Admiral neighborhood plan
11/15/99	119743	Adoption of the Greenwood/Phinney Ridge neighborhood plan
11/15/99	119744	1999 annual amendments
11/22/99	119760	1999 Six-Year CIP amendments
12/06/99	119789	Adoption of the Delridge neighborhood plan
2/07/00	119852	Adoption of the Georgetown neighborhood plan
6/12/00	119973	Adoption of the Greater Duwamish Manufacturing/Industrial Center neighborhood plan
11/13/00	120158	Response to Growth Management Hearings Board remand; Greenwood/Phinney Ridge neighborhood plan
12/11/00	120201	2000 five-year Comprehensive Plan review amendments
10/15/01	120563	2001 annual amendments
12/09/02	121020	2002 annual amendments
12/13/04	121701	2004 ten-year Update to Comprehensive Plan
10/10/05	121955	2005 annual amendments
12/11/06	122313	2006 annual amendments
12/17/07	122610	2007 annual amendments
10/27/08	122832	2008 annual amendments
3/29/10	123267	2010 annual amendments
4/11/11	123575	2011 annual amendments
4/10/12	123854	2012 annual amendments
5/20/13	124177	2013 annual amendments
5/2/14	124458	2014 annual amendments
10/16/15	124886, 124887, 124888	2015 annual amendments

Resolutions Related to Vision for City of Seattle Comprehensive Plan

Passage Date	Resolution	Nature of Legislation
7/25/94	28962	1994 Vision for the Comprehensive Plan
11/27/95	29215	Updated 1994 Vision to reflect addition of Human Development element in Comprehensive Plan (Ord. 117906)
12/11/00	30252	Updated Vision to reflect Cultural Resources and Environment elements and adoption of neighborhood plans
12/13/04	30727	Updated Vision in conjunction with the 2004 ten-year Update to the Comprehensive Plan
5/15/15	31577	Confirmed race and social equity as a core value of the Comprehensive Plan