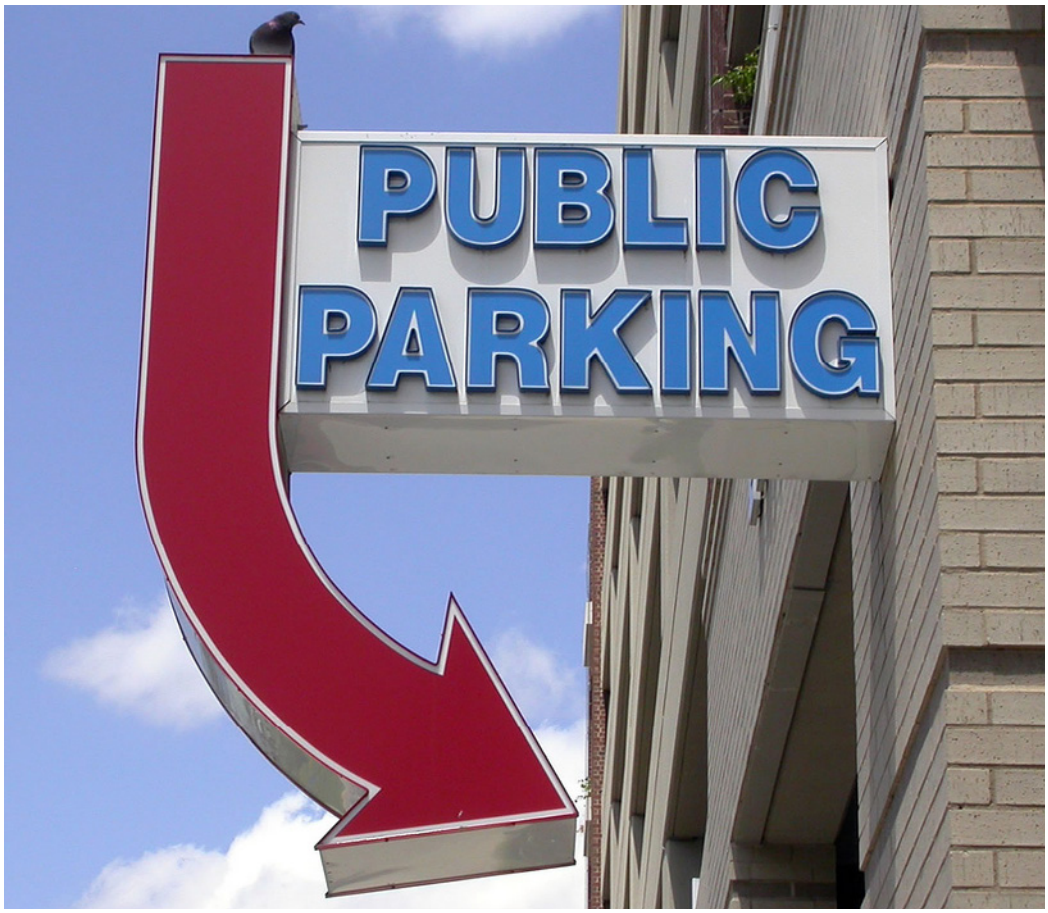

Controlling Congestion Through Parking Policy: Minimums, Maximums, and the Road to an Efficient Future

Fall 2010 • Planning, Public Policy, and Management

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UNIVERSITY OF OREGON

SCI
Sustainable Cities Initiative

Acknowledgements

We would like to thank the City of Salem staff, including Vickie Hardin Woods and Glenn Gross, as well as University of Oregon Assistant Professor Yizhao Yang, for providing the necessary data and information required for this project and for tailoring the Land Use Policy and Growth Management course to include data sets from cities around the nation. This report would not have been possible if were not for the hard work and dedication of the students who performed the individual case studies. In particular, we would like to express sincere gratitude to Claire Otwell and Sara Sellers for extensive use of their analyses in this final report. Through the combined efforts of those mentioned above, the City of Salem may be able determine the next steps for their parking and land use decisions.

About SCI

The Sustainable Cities Initiative (SCI) is a cross-disciplinary organization at the University of Oregon that seeks to promote education, service, public outreach, and research on the design and development of sustainable cities. We are redefining higher education for the public good and catalyzing community change toward sustainability. Our work addresses sustainability at multiple scales and emerges from the conviction that creating the sustainable city cannot happen within any single discipline. SCI is grounded in cross-disciplinary engagement as the key strategy for solving community sustainability issues. We serve as a catalyst for expanded research and teaching, and market this expertise to scholars, policymakers, community leaders, and project partners. Our work connects student energy, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCY

The Sustainable City Year (SCY) program is a year-long partnership between SCI and one city in Oregon, in which students and faculty in courses from across the university collaborate with the partner city on sustainability and livability projects. SCY faculty and students work in collaboration with staff from the partner city through a variety of studio projects and service-learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCY's primary value derives from collaborations resulting in on-the-ground impact and forward movement for a community ready to transition to a more sustainable and livable future. SCY 2010-11 includes courses in Architecture; Arts and Administration; Business Management; Interior Architecture; Journalism; Landscape Architecture; Law; Planning, Public Policy, and Management; Product Design; and Civil Engineering (at Portland State University).

About Salem, Oregon

Salem, the capital city of Oregon and its third largest city (population 157,000, with 383,000 residents in the metropolitan area), lies in the center of the lush Willamette River valley, 47 miles from Portland. Salem is located an hour from the Cascade mountains to the east and ocean beaches to the west. Thriving businesses abound in Salem and benefit from economic diversity. The downtown has been recognized as one of the region's most vital retail centers for a community of its size. Salem has retained its vital core and continues to be supported by strong and vibrant historic neighborhoods, the campus-like Capitol Mall, Salem Regional Hospital, and Willamette University. Salem offers a wide array of restaurants, hotels, and tourist attractions, ranging from historic sites and museums to events that appeal to a wide variety of interests. 1,869 acres of park land invite residents and visitors alike to enjoy the outdoors.

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Executive Summary

This report was created in response to the City of Salem's interest in comparing the off-street parking requirements of their zoning ordinance with those of other similar cities in the United States. The report also focuses on required minimum and maximum parking spaces for multi-family residential housing, with particular attention being given to the issue of whether parking requirements vary between residential developments in core areas and outlying areas.

For the final project in the Land Use Policy and Growth Management course, students performed case study analyses on differences in land use parking standards for various municipalities across the nation. These parking standards are frequently developed by consulting the Institute of Transportation Engineers Parking Generation handbook and by surveying nearby municipalities for land use trends. When analyzed on a comparative basis to that of Salem, Oregon, the general trends suggest a move toward integration and encouragement of multiple modes of transportation.

By reducing the requirement of minimum parking standards, creating design-based mandates, and supporting implementation of a more stable public transit system, the City of Salem may be able to increase the pedestrian transportation mode share, ultimately leading to a reduced need for mandated parking.
The city may want to investigate the long-term effects of the ordinances and mandates presented in this study in order to fully understand the impacts and societal significance of these state-of-the-art practices.

Introduction

Parking standards throughout the United States vary from city to city, yet certain methods to determine these standards are generally accepted across the nation. Through zoning mandates and ordinances, municipalities are able to set minimum and maximum off-street space allocations per dwelling unit, theater seat, office square footage, or other similar measure, in order to alleviate traffic congestion, preserve street capacity, or attract more vehicles to a particular location. These mandates and ordinances are often drafted and implemented after review of various studies, yet a report in 1996 by Richard Wilson states that of 144 cities, the two most frequently used methods for setting these standards was by surveying nearby municipalities' practices, and by consulting the Institute of Transportation Engineers (ITE) handbooks (Wilson, 1996). (Specifically, planners consult the "Parking Generation" publication by the ITE, which reports the parking generation rate for each specified land use.) This report examines (1) issues and impacts related to enforcement and implementation of the current methods for determining parking standards, (2) a summary of parking requirements in various case studies, and (3) an assessment and comparison of Salem, Oregon's off-street parking requirements to those of the comparable municipalities. The report focuses on required minimum and maximum parking spaces for multi-family residential housing. Particular attention will be given to whether parking requirements vary between residential developments in core areas versus outlying areas.

Consideration of the methods used and the impacts of these practices should help Salem understand whether or not it should adopt parking requirements similar to those described in this report.

Assessment of Current Methods

Across the nation, the most common element of zoning ordinances related to parking standards is minimum requirements for off-street parking. These mandates generally specify the number of parking spaces that must be provided with new development and are typically set by dwelling unit size, seats within a structure, building square footage, and intended use. Planners setting these standards use data compiled by transportation engineers (ITE 1999) that survey parking occupancy at locations that offer plenty of free parking and lack convenient access to public transit. These standards do not consider the price of parking when estimating parking generation rates and result in a minimum parking requirement based on peak occupancy, which then becomes a guide for determining the transportation systems that ultimately fill these spaces. By providing copious available parking, this standard method not only increases the demand for vehicular travel, which leads to more traffic congestion, it increases the overall costs for the developer to pass along to the consumer (aboveground structured parking often costs about $10,000 per space (Shoup, 1999, p. 556)), and creates a spatial distribution determined by new construction rather than by demand. This approach also does not consider the overall appearance or design of the off-street parking supply. With the general requirements focused heavily on ratio of parking spaces to square footage, the architectural quality of the required spaces are rarely integrated into the code; in fact, few cities across the nation impose design or form-based requirements on parking areas. It is argued that parking design and placement should be more strongly considered and regulated to enhance cities' streetscape aesthetics and walkability (Shoup, 1999, p. 570). Large parking structures located in between and in front of buildings create long distances between destinations, weakening a sense of a unified streetscape as well as deterring people from walking between destinations due to safety concerns (Mukhija and Shoup 2006, 296). Increased congestion caused by minimum parking requirements provokes remedies like street widening, more highways, and a subsequent increase in parking requirements.

The City of Salem's Current Methods

Salem, with a population of approximately 157,000, has a detailed city parking code (see Appendix A). It specifies a minimum off-street parking requirement for a variety of types of urban land uses including schools, places of worship, retail developments, and residential areas. Minimum parking standards are generally given in number of spaces per floor area of development, although there are some exceptions.

The city has taken a number of steps in accounting for the reduced need for parking when other transportation choices are present. When adjacent to transit service, the number of minimum required parking spaces may be reduced by up to 10% of the minimum requirement (Salem Revised Codes 2009, Chapter

133.040). In addition, nonresidential uses may be satisfied by implementation of a plan whereby the owner or any lessee will provide for or will increase the use of alternate modes of transportation and thereby decrease the need for off-street parking (SRC 2009, 133.150). However, the city's Planning Commission must approve these plans.

New non-residential developments with 60 or more parking spaces shall designate at least 5% of the total parking spaces for car pool or van pool parking (SRC 2009, 133.165). The code also specifies that bicycle parking shall be provided for all new multi-family residential developments (4 units or more) (SRC 2009, 133.110). The city may authorize the joint use of parking areas for facilities whose typical operating hours do not overlap (SRC 2009, 133.130). The city also specifies maximum parking standards by requiring that off-street parking spaces shall not exceed 2.5 times the amount required under Table 133-1 (SRC 2009, 133.100). The parking code contains much stricter requirements for all other building types, including multi-family residential, than it does for single-family residential. For example, the code requires that parking areas for multi-family residential be paved with substances approved by the Director of Public Works, shall be adequately designed, graded, drained, and lit, and shall go through plan approval before construction. According to Table 133-1, multi-family developments with four or more units must have 1.5 spaces per dwelling unit. However, in the Central Business District, this can be reduced to 1 space per unit. A building with three or fewer dwelling units requires at least 2 spaces per dwelling unit.

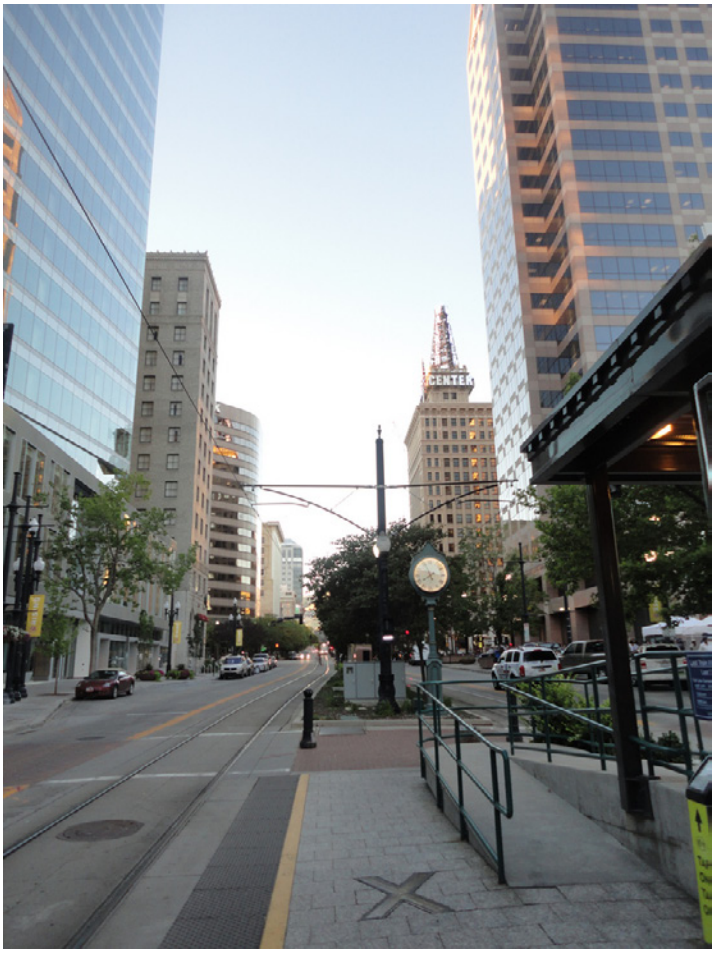
Salem has unique traits that have shaped their parking requirements. Low-density development has created a city in which automobile dependence is the dominant form of transportation. The increased use of vehicles has added an increased need for parking. The increased need for parking has solidified not only the use of automobiles and a dependence on driving, but also on the need and entitlement to free parking. The lack of an adequate public transit system and alternative transportation system has been one of the main causes behind parking problems and requirements in Salem. If Salem had more vibrant public transit, minimum parking requirements could be eased. Reliable public transit would also greatly diminish the need for increases in parking. The expanse of low-density development in Salem has also limited bicycle use and pedestrian-friendly transportation. The miles needed to travel from one area of town to another create a population who feel the need to have automobiles to traverse the distances. These automobiles are driven to different areas of town but then spend the majority of their time parked.

Case Studies

Sixteen students from the University of Oregon, as part of the fall 2010 Land Use Policies and Growth Management course, were asked to conduct case studies of various cities similar in size to that of Salem, in order to compare minimum parking standards for multi-family residential housing. The findings from these reports generated a variety of concerns and recommendations, as well as noting that some of Salem's current requirements are slightly more forward-thinking, detailed, and comprehensive than those of comparable jurisdictions. The examples included in this section explore the two most interesting case studies and highlight some notable parking strategies in nine other cities similar to Salem, then provide analysis and recommendations about whether Salem's parking requirements could or should be adjusted to reflect state-of-the-art practices.

Case Study: Salt Lake City, Utah

Salt Lake City, with a population of approximately 179,000 (Census, 2006), is like many cities in the United States that mandate off-street parking through zoning ordinances. Salt Lake City shares many of the same problems experienced throughout the country. There is an automobile dependency that is embedded in the American culture and has led to urban sprawl and urban cityscapes designed around the use of automobiles. It is this foundation that creates many of the parking issues experienced around the country. In an attempt to accommodate this aspect of American culture, planners have mandated adequate supplies of off-street parking. This leads to the continued use of the current system. Salt Lake City is facing many of the problems associated with parking through the accommodation of automobile dependency. Parking requirements are still established and followed, and they result in a high supply of parking. A positive aspect to Salt Lake City's parking requirements is in how they differentiate different areas of town



and establish varying parking standards for those areas. For example, the downtown area requires less parking for residential dwellings, and there are special minimum and maximum parking standards for different areas of the city. See Appendix B for details of Salt Lake City's parking requirements.

Many cities that have experienced problems with an abundance of parking have moved in a new direction for parking standards. Instead of requiring minimum standards for parking spaces, many cities, including Salt Lake City, now insist on a maximum number of allowable parking spaces. The areas in Salt Lake City that have imposed maximum limits on parking spaces are areas where alternative forms of transportation exist. Salt Lake City, like Salem, is also moving in the right direction by incorporating required bicycle parking to encourage bike riding as an alternate form of transportation.

Consideration of Salt Lake City's Practices

There are many practices from Salt Lake City that could be employed in Salem. The foremost idea would be to reevaluate the requirements for residential parking. A better figure for parking can be calculated by analyzing the number of rooms in a dwelling, the availability of alternative forms of transportation, and the location of the dwelling within the city. As the number of bedrooms increases within a dwelling, the potential number of associated vehicles increases.

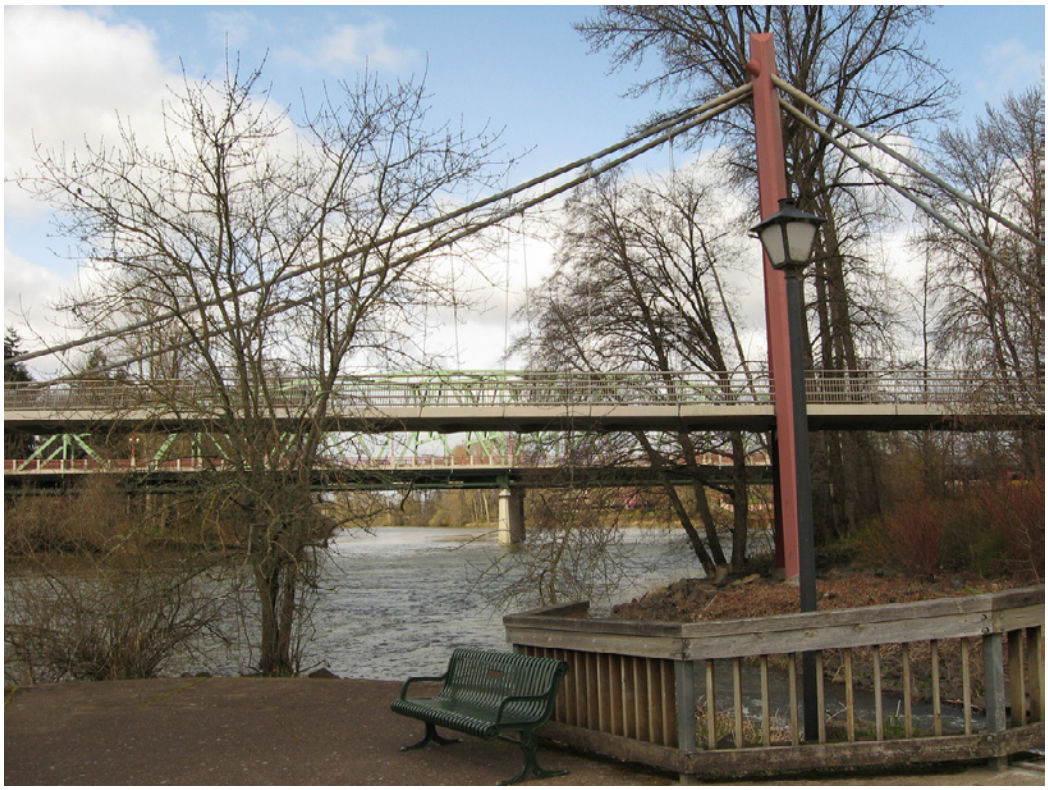
Access to alternative forms of transportation could decrease a given dwelling or development's need for parking. This can be especially true when alternative forms of transportation, like public transit, are paired with dwellings in low-income areas. Downtown areas can be classified in a separate category, with reduced parking requirements. Decreasing parking in downtown areas can result in more pedestrian movement, which may help revitalize a downtown area.

Case Study: Eugene, Oregon

Eugene, with a population of approximately 147,000 (Census, 2006), is an excellent case study to use when evaluating Salem's parking standards, because of the two cities' demographic and geographic similarities. Eugene is a city of comparable size to that of Salem and also has the same state-mandated land use constraints as Salem. Both are located in the Willamette Valley and are served each day with thousands of vehicles traveling north and south along the Interstate 5 corridor.

The Eugene Motor Vehicle Parking Code (see Appendix C) is deliberate and detailed. It specifies a minimum off-street parking requirement for a variety of urban land use types, including schools, places of worship, retail developments, and residential areas. Minimum parking standards are generally given in number of spaces per floor area of development, although there are some exceptions.

For residential developments, Eugene requires one parking spot per single-family dwelling unit and as little as .33 spaces per dwelling in multi-family developments in low-income areas or near the urban core. The lower requirement for low-income housing developments recognizes that many lower-income families are less likely to own cars, and the lower requirements for residential areas near the core is a result of multiple modal transportation options in the core.



One other notable policy in the Eugene parking code is that Eugene specifies a number of design standards in terms of landscaping requirements. In section 9.6415, the code specifically states that (1) Off-street parking areas and vehicle stacking areas shall be landscaped as required by EC 9.6420(3), and (2) all loading areas must be in interior service courts and hidden from public view. There are also a number of landscape specifications in other off-street loading areas (Eugene Code 2010, 9.6420(3)(4)).

Encouragement of Multiple Transportation Means

There are a number of policies in the Eugene Parking Standards that encourage a reduction in total parking per development, thus indirectly encouraging the use of multiple transportation modes. Although minimum parking standards are the norm, the City of Eugene allows developers to apply for a 50% reduction in minimum standards (Eugene Code 2010, 9.6410). The code also specifies that certain districts, such as Downtown and the West University area, are exempt from minimum off-street parking requirements.

These areas of Eugene are quite dense, well served by transit, and have a high pedestrian mode share, so it is fairly easy to live in and access these areas without a car. Downtown Eugene has a significant supply of public parking, both on-street parking and in city-owned garages, so the demand on private businesses to provide parking for employees is significantly reduced. In addition, the City of Eugene has bus rapid transit service and other regular bus routes serving downtown and the surrounding areas. Another policy that encourages a reduction in parking is that the maximum number of spaces cannot be higher than 125% of the minimum requirement.

Notable Findings from other Case Studies

This portion of the report includes some notable findings from the nine remaining case studies. These findings provide additional changes for the City of Salem to consider when investigating possible parking standards.

- San Antonio, Texas: In the downtown core zone and the downtown core / neighborhood transition zone, there is only one parking requirement, the minimum. By regulating the land uses in this zone, the city can regulate how much traffic will be brought into that development area, which in turn allows them to direct parking within the city. Also, because small-scale residential uses are permitted, the city can control how many cars are permanently in the downtown core and how many spaces must be added for commuters. Encouraging residences downtown discourages long-distance automobile commutes and encourages public transportation, leading to lower parking demand in downtown areas.
- Glenville, New York: With the exception of single-family and two-family dwellings, all parking within the core community business and professional residential zoning districts shall be located to one side of the principal building or to the rear of the lot. No more than one-third of the required parking may be located to the side (Glenville NY, 2008). Salem might consider this form-based idea in order to maintain a particular appearance.
- Beaverton, Oregon: Attributes of Beaverton's residential parking requirements include both a difference in requirements for dwellings with varying numbers of bedrooms, and a 5-10% reduction in requirements if a pedestrian plaza (meeting certain requirements and located close to public transit) is provided.
- Vancouver, Washington: Section E in Vancouver's parking requirement code covers reductions that can be made in minimum required vehicle parking for a development if the development meets one or more specific land use conditions. Parking reductions that can be applied need to meet specific criteria in land use developments such as providing bicycle parking, transit supportive plazas, and site design characteristics that benefit pedestrians. One issue with these possible reductions is that they offer small reductions: most offer just 5% reduction in required on-site parking, which is a weak incentive for developers. The condition that provides the most reduction to parking requirements is providing bicycle parking (Section E, 2a). The code states that for every five bicycle parking spaces provided on-site, the minimum parking space requirement may be reduced one space or up to 7% of the total required vehicle parking spaces. This type of incentive could provide savings for developers and would continue the promotion of alternative transportation.
- Louisville, Kentucky: Louisville's land use code also covers reductions that can be made in minimum required vehicle parking, such as a reduction

of 10% of parking requirements for sites within 200 feet of a transit route, reduction of 10% for parking if 25% of a mixed-use development is residential, and a reduction of 20% for parking if a rehabilitated structure is listed on the National Registry of Historic Places.

- Emeryville, California: Salem allows developers to receive a parking variance permit if their nonresidential development plans facilitate access by patrons of public transit and decrease the need for parking. Emeryville provides the same option, and also allows developers the option of an in lieu fee if parking development is not feasible. In Emeryville, these fees fund the city's parking and public transit development. The current in lieu fee is $7,300 per off street parking space that a development is deficient.
- Portland, Oregon: Portland's parking standards stipulate that there is no minimum parking requirement for sites that are located less than 500 feet from a transit route with 20-minute peak hour service. For sites with at least 20 required spaces and where at least one of the street lot lines abuts a transit route, a "transit supportive plaza" may be substituted for up to 10% of the required parking spaces. This may be useful for Salem in order to consider the significance of a vibrant transit system in connection to minimum parking requirements.
- Pittsburgh, Pennsylvania: For residential parking requirements in the core and the outlying area of the city (excluding the multi-family residential classification), the core downtown area has a significant reduction in the mandated parking requirement, similar to that of Eugene, Oregon's downtown requirement. This is a dramatic reduction that Salem could consider if alternative modes of transportation were encouraged and/or provided.
- Cambridge, Massachusetts: Cambridge's minimum parking requirements are organized by land use and zoning code, while Salem's parking standards are organized by Standard Industrial Classification code. This may lead to difficulty in understanding the reasoning behind Salem's standards, since the interpreter of the Salem code is given no spatial reference to understand how the minimum parking requirements apply. In Cambridge, each land use or residential zoning code can be referred to on a map to get a better understanding of certain off-street parking limits and requirements. This is also helpful in understanding whether a city's parking requirements vary between residential developments in core areas versus outlying areas.

After reviewing the individual case samples included within this report, and the recommendations suggested, Salem might benefit from further study of these highlighted parking regulations. Special attention should be paid to the long-term implications of such practices; discussions with staff from the above cities may help Salem understand the effectiveness of those cities' parking standards. Possible implications and outcomes are discussed in the next section.

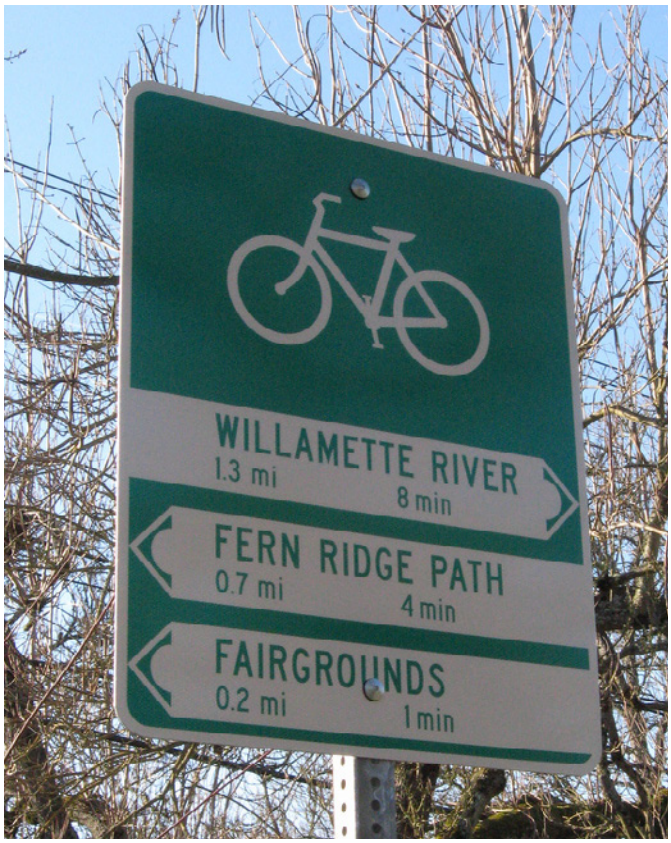
Discussion

In general, the case studies of similar locations included in this report suggest that the City of Salem might benefit from reducing its parking minimums, implementing design- or form-based standards, and further investigating policy modifications that would encourage multiple modes of transportation.

Within this discussion section of the study are some alternate recommendations that the City of Salem might wish to consider, including results of studies performed by Donald Shoup, Professor of Urban Planning at UCLA and a Fellow of the American Institute of Certified Planners.

Importance of Flexibility

A variety of factors influence a city's parking policy and should be used to inform decisions regarding parking standards for individual sites. The off-street parking supply is greatly influenced by the supply of public on-street spaces available. Each city is unique, and each development is unique in its supply, so a full inventory of public parking spaces (both garages and on-street spaces) should inform the decision. In addition, public access to public transportation should be considered, along with the quality of active transportation infrastructure and the distance from necessary amenities (i.e. the walkability of the site). One recommendation would entail shortening the Salem parking code to allow increased parking flexibility depending on the site that is being developed.



Design Standards and Parking

Local governments often have minimum parking requirements that overwhelm the physical landscape with an excessive supply of unattractive parking. There are a number of techniques Salem can use to affect the design of parking lots with conventional zoning regulations to require

that parking be positioned below, behind, or beside buildings, rather than in front, and that buildings be oriented to the sidewalk (Mukhija and Shoup 2006, 299). Salem could add a design standards section to their parking code. As referenced above, Eugene specifies a number of design standards in terms of landscaping requirements; see, for example, Eugene Code section 9.6415.

There are also other ways to improve the design of surface parking. For example, Salem could implement maximum separation of pedestrian and vehicular travel ways, encourage vegetation, or require decorative perimeter walls with integral architectural elements. There are also ways to improve the design of parking structures (Mukhija and Shoup 2006, 299).

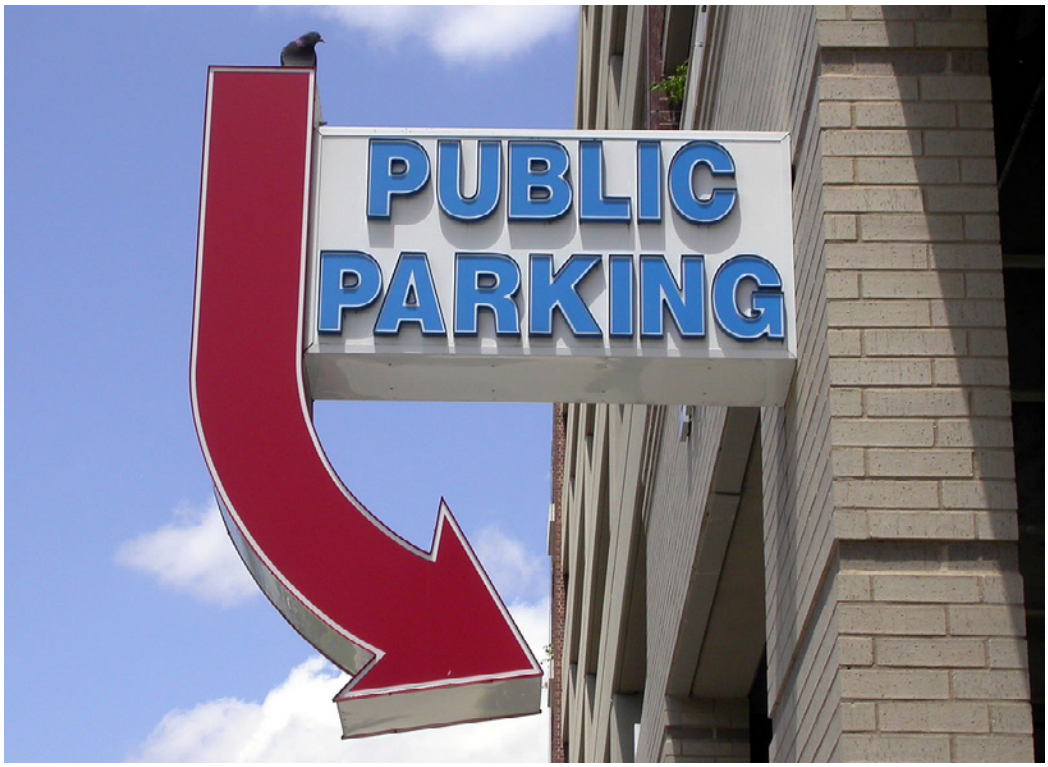
Since there is a high demand for residential parking spaces, Salem might also consider improving the design of residential garages by mandating restrictions on the size of all residential garage doors that face a street or prohibit so-called “snout” houses with protruding garages that take up most of the street frontage.

Minimums to Maximums

Donald Shoup estimates that with all of the minimum parking requirements, the total value of all parking spaces probably exceeds the total value of all vehicles (Shoup 1999, 557). Surface parking areas represent a tremendous amount of high-quality land located in the Salem urban growth boundary (UGB). Since Salem is in the process of determining whether or not they need to expand their UGB, it would be beneficial to consider implementing polices, such as maximum parking standards, that would increase the amount of developable land inside the existing UGB.

Shoup recommends all existing parking standards be changed from minimums to maximums (Manville and Shoup 2005, 245). Minimum parking is more likely to result in the parking spaces being priced below the cost of supplying them (Shoup and Pickrell 1978, 551). Ultimately, minimum parking requirements hurt the economic vitality of the community. It is estimated that it costs developers $10,000 per parking space for an above-ground structure (Shoup 1999, 556). Minimum parking requirements increase the supply and reduce the price, but not the cost, of parking. They bundle the cost of parking spaces into the cost of development, and thereby increase the prices of all the goods and services sold at sites that offer free parking (Shoup 1999, 549).

Minimum parking requirements “externalize” the cost of parking, so that you cannot reduce what you pay for parking. In this way, minimum parking requirements bypass the free market system (Shoup 1999, 557). To address



the spillover concern that many people living in residential developments in the central business district may have, Shoup suggests providing residents with on-street parking permits to ensure that they have a place on the street to store their vehicle. This option may reduce the capital cost of development and encourage the use of public parking as well as alternate modes of transport.

Deregulation

An ample supply of off-street parking makes traffic congestion worse and inhibits street life. Shoup argues that the private market will often do a better job at ensuring an adequate supply of parking. He argues that if there is a demand for parking downtown, the private market will tend to supply it (Shoup and Pickrell 1978, 551). The best parking policies seem to be those that do not specify a minimum or maximum density and allow market forces to determine what is needed for the community. Salem might consider easing regulations and observing what the private market produces in terms of parking amenities in different areas of town. This will likely be a good indicator of the real demand for parking.

Conclusion

The dependence Americans have on automobile use has helped shape our environment. Automobile use has led to urban sprawl and a landscape that has fostered automobile use as the prime transportation method. Off-street parking is required through zoning ordinances in an effort to address the effects of our transportation choices. The abundance of parking has had negative effects and has deepened the feeling of entitlement to free parking. Altering and lowering the minimum parking requirements and encouraging alternate forms of transportation can help to reshape our environment and create cityscapes that prioritize the needs of people over those of the automobile. We hope that this report has provided the necessary assessment and analysis in order to help the City of Salem's evaluate its current parking policies and future parking needs.

References

Donald Shoup, “Truth in Transportation Planning,” Journal of Transportation and Statistics, Vol. 6, No. 1, 2003, pp. 1-16.

Cullingworth and Caves, Planning in the USA: Policies, issues, and Processes. 3rd Edition, 2009.

Mukhija, Vinuit and Donald Shoup, “Quantity versus Quality in Off-Street Parking Requirements,” Journal of the American Planning Association, Vol. 72, No. 3, Summer 2006, pp. 296–308.

Manville, Michael and Donald Shoup, “People, Parking, and Cities,” Journal of Urban Planning and Development, Vol. 131, No. 4, December 2005, pp. 233-245.

Donald Shoup and Don Pickrell, “Problems with Parking Requirements in Zoning Ordinances,” Traffic Quarterly, Vol. XXXII, No. 4, October 1978, pp. 545–563.

Donald Shoup, “The Trouble with Minimum Parking Requirements,” Transportation Research Part A, Vol. 33A, Nos.7-8, September/November 1999, pp. 549-574.

Salem, Oregon, “Salem Revised Codes, Chapter 133: Off-Street Parking, Loading and Driveways”, 2009. http://www.cityofsalem.net/Departments/Legal/Salem%20Revised%20Codes/Off-Street%20Parking,%20Loading%20and%20Driveways.pdf

Eugene, Oregon, “Section 9 (9.6-25): Table 9.6410 Required Off-Street Motor Vehicle Parking, Residential” http://www.eugene-or.gov/portal/server.pt?open=18&objID=222266&parentname=CommunityPage&parentid=2&mode=2&in_hi_userid=2&cached=true

Salt Lake City, Utah, “Chapter 21A.44: Off Street Parking and Loading” http://www.slcgov.com/ced/buildzone/pdfs/parkcalc.pdf

Glenville, New York, “Chapter 270. Zoning Article X. Off-Street Parking and Loading” http://www.ecode360.com/ecode-back/getSimple.jsp?guid=6962373

Willson, R., 1996. Local jurisdiction parking requirements: a survey of policies and attitudes. Working Paper, Department of Urban and Regional Planning, California State Polytechnic University, Pomona, California.

Vancouver, Washington. “Section 20.945.070, Off-street Parking Requirements” http://www.cityofvancouver.us/MunicipalCode.asp?menuid=10462&submenuID=10478&title=title_20&chapter=945&VMC=070.html

U.S. Census Bureau. “Fact Sheet, 2005-2009” http://factfinder.census.gov/servlet/ACSSAFFFacts

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Appendix A: Salem Parking Requirements (Salem Revised Codes, Chapter 133)

TABLE 133-1
MINIMUM PARKING SPACE REQUIREMENTS

USE (Standard Industrial Classification)	Minimum Number of Automobile Spaces	Minimum Number of Bicycle Parking Spaces
1. Dwelling Units:		
A. Building containing no more than three dwelling units, except two family shared housing	Two spaces per dwelling unit	NA
B. Building containing no more than three dwelling units inside the CSDP area, except two family shared housing.	One space per dwelling unit	NA
C. Two family shared housing	Three parking spaces per dwelling	NA
D. Multifamily dwelling containing four or more dwelling units	One and one-half spaces per dwelling unit	The greater of 4 spaces or .1 spaces per dwelling unit
E. Multifamily dwelling containing four or more dwelling units inside the CSDP area	One space per dwelling unit	The greater of 4 spaces or .1 spaces per dwelling unit
F. Low Income Elderly Housing	One space per four dwelling units	The greater of 4 spaces or .1 spaces per dwelling unit
G. Retirement Centers	One space per two dwelling units	The greater of 4 spaces or .1 spaces per dwelling unit
2. SIC Division A: Agriculture, Forestry and Fishing (SIC 01, 01, 07, 08, 09) except:	Five spaces when retail sales are involved	For each use in Division A: 2 spaces when retail sales are involved
A. Veterinary Services (SRC 074); Animal Services, Except Veterinary (SIC 075)	One space per 400 square feet of gross floor area	
3. SIC Division B: Mining: (SIC 10, 12, 13, and 14)	The greater of the following:	For each use in Divisions B and C:
Division C. Construction: (SRC 15, 16 and 17)	(1) .75 spaces per employee (see SRC chapter 111 for definition of "employee")	4 spaces
Division D. Manufacturing: (SIC 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39)	(2-a) 0-49, 999 square feet of gross floor area - one space per 5,000 square feet (2-b) 50,000-99,999 square feet of gross floor area - one space per 10,000 square feet	For each use in Division D and E: The greater of 4 spaces or From 0-49,999 square feet of gross floor area - one space for 10,000 square feet
Division E: Transportation, Communications, Electric, Gas and Sanitary Services (SIC 40, 41, 42, 43, 44, 45, 46, 47, 48 and 49) except:	(2-c) 100,000 or greater square feet of gross floor area - one space per 15,000 square feet	Plus, from 50,000-99,999 square feet of gross floor area - one space for 20,000 square feet Plus, from 100,000 or greater square feet of gross floor area - one space for 30,000 square feet.
A. Water Transportation Services, not elsewhere classified - Marinas Only (SIC 4499)	One space per boat berth or docking space	2 spaces

4.	SIC Division F: Wholesale (SIC 50 and 51)	One space per 1,500 square feet gross floor area	1 space per 15,000 square feet gross floor area
5.	Building Materials, Hardware, garden Supply and Mobile Home Dealers (SIC 52); Automotive Dealers and Gasoline Service Stations (SIC 55); Furniture, Home Furnishings and Equipment Stores (SIC 57)	One space per 900 square feet of gross floor area	The greater of 4 spaces or From 0-49,999 square feet of gross floor area - one space for 10,000 square feet Plus, from 50,000-99,999 square feet of gross floor area - one space for 20,000 square feet Plus, from 100,000 or greater square feet of gross floor area - one space for 30,000 square feet.
6.	General Merchandise Stores (SIC 53); Food Stores (SIC 54); Apparel and Accessory Stores (SIC 56); Miscellaneous Retail (SIC 59)	One space per 200 square feet of gross floor area	The greater of 4 spaces or From 0-49,999 square feet of gross floor area - one space for 10,000 square feet. Plus, from 50,000-99,999 square feet of gross floor area - one space for 20,000 square feet. Plus, from 100,000 or greater square feet of gross floor area - one space for 30,000 square feet.
7.	Eating and Drinking Places (SIC 58)	One space per 250 square feet of gross floor area	The greater of 4 spaces or 1 space per 1,000 square feet gross floor area
8.	Depository Institutions (SIC 60); Nondepository Credit Institutions (SIC 61)	One space per 500 square feet of gross floor area	The greater of 4 spaces or 1 space per 3,000 square feet gross floor area
9.	Security and Commodity brokers, Dealers, Exchanges and Services (SIC 62); Insurance Carriers (SIC 63); Insurance Agents, Brokers and Service (SIC 64); Real Estate (SIC 65); Holding and Other Investment Offices (SIC 67); Business Services (SIC 73); Miscellaneous Repair Services (SIC 76); Legal Services (SIC 81); Corresponding Schools and Vocational Schools (SIC 824); Schools and Educational Services not elsewhere classified (SIC 829);	One space per 350 square feet of gross floor area	The greater of 4 spaces or From 0-49,000 square feet of gross floor area - one space for 3,500 square feet Plus, from 50,000-99,999 square feet of gross floor area - one space for 7,000 square feet Plus, for 100,000 or greater square feet of gross floor area - one space for 14,000 square feet
10.	Hotels, Rooming Houses, camps and other Transient lodging places (SIC 70)	One space per guest room or suite	The greater of 4 spaces or 1 space per 50 rooms
11.	Personal Services (SIC 72) except:	One space per 350 square feet of gross floor area	The greater of 4 spaces or 1 space per 3,500 square feet gross floor area
A.	Laundry, Cleaning and Garment Services (SIC 721);	One space per 1,000 square feet of gross floor area	1 space per 10,000 square feet gross floor area
B.	Funeral Service and Crematories (SIC 726)	One space per five seats or 10 feet of bench length in chapels	1 space per 50 seats or 100 feet bench length
12.	Automobile Repair, Services and	One space per 900 square feet of gross floor	1 space per 9,000 square feet gross floor

	Garages (SIC 75)	area	area
13.	Motion Picture (SIC 78) except:	One space per 350 square feet of gross floor area	The greater of 4 spaces or 1 space per 3,500 square feet gross floor area
A.	Motion Picture Theaters (SIC 783)	One space per five seats for 10 feet of bench length	1 space per 50 seats or 100 feet of bench length
14.	Amusement and Recreation Services, Except Motion Pictures (SIC 79) except:	One space per 100 square feet of gross floor area	For each use in Division N: The greater of 4 spaces or
A.	Commercial Sports (SIC 794)	One space per five seats or 10 feet of bench length or 25 square feet of floor area of assembly space	1 space per 500 square feet gross floor area 1 space per 50 seats or 1 space per 100 feet of bench length
B.	Golf Courses, Private or Public	Four spaces per tee	4 spaces
C.	Tennis Courts, Racquetball Courts, or Handball Courts	Three spaces per court plus one space per 10 feet of bench length or five seats plus one bicycle rack space per court	1 space per court
D.	Amusement Parks (SIC 7996)	Set by special public hearing by Planning Commission	Set by special public hearing by Planning Commission
E.	Dance Studios and Schools (SIC 791) for Children 18 Years and Under	One space per 350 square feet of gross floor area	1 space per 3,500 square feet gross floor area
15.	Health Services (SIC 80) except:	One space per 350 square feet of gross floor area	For use in Division O The greater of 4 spaces or 1 space per 3,500 square feet gross floor area
A.	Nursing and Personal Care Facilities (SIC 805)	One space per three beds	1 space per 30 beds
B.	Hospitals (SIC 806)	One and one-half spaces per bed	1 space per 30 beds
16.	Elementary Schools (SIC 821)	Two spaces per classroom	8 spaces per classroom
17.	Secondary Schools (SIC 821)	One space per six students for which the school is designed to accommodate	8 spaces per classroom
18.	Colleges, Universities, Professional Schools and Junior Colleges (SIC 822)	One space per four students for which the school is designed to accommodate	The greater of 4 spaces or 1 space per 10,000 square feet of gross building floor area
19.	Libraries and Information Centers (SIC 823)	One space per 400 square feet of gross floor area	The greater of 4 spaces or From 0-49,999 square feet of gross floor area - one space for 3,500 square feet. Plus, from 50,000-99,999 square feet of gross floor area - one space for 7,000 square feet. Plus, from 100,000 or greater square feet of gross floor area - one space for 14,000 square feet.

20.	Museums, Art Galleries, Botanical and Zoological Gardens	One space per 400 square feet of gross floor area	The greater of 4 spaces or From 0-49,999 square feet of gross floor area - one space for 3,500 square feet; Plus, from 50,000-99,999 square feet of gross floor area - one space for 7,000 square feet; Plus, from 100,000 or greater square feet of gross floor area - one space for 14,000 square feet.
21.	Membership Organizations (SIC 86)	One space per 350 square feet of gross floor area	
A.	Religious Organizations (SIC 866)	One space per five seats or 10 feet of bench length	1 space per 50 seats or 100 feet of bench length
22.	SIC Division J. Public administration (SIC 91, 92, 93, 94, 95, 96 and 97) except:	One space per 500 square feet of gross floor area	1 space per 5,000 square feet gross floor area
A.	Correctional Institutions (SIC 9223)	One space per 2,000 square feet of gross floor area	1 space per 50 beds
23.	For any uses not listed above, the parking space requirement shall be determined as provided in SRC 133.100(c).		For any uses not listed above, the parking space requirement shall be determined as provided in SRC 133.100(b).

(Ord No. 71-91; Ord No. 62-95; Ord No. 99-96; Ord No. 36-2004)

Appendix B: Salt Lake City Parking Requirements

Table 21A.44.060F SCHEDULE OF MINIMUM OFF STREET PARKING REQUIREMENTS

Each principal building or use shall have the following minimum number of parking spaces:

Residential

Bed and breakfast establishment	1 parking space per room
Congregate care facility	1 parking space for each living unit containing 2 or more bedrooms 3/4 parking space for each 1 bedroom living unit
Fraternity, sorority or dormitory	1 parking space for each 2 residents, plus 1 parking space for each 3 full-time employees. Note: The specific college or university may impose additional parking requirements
Group home	1 parking space per home and 1 parking space for every 2 support staff present during the most busy shift
Hotel or motel	1 parking space for each 2 separate rooms, plus 1 space for each dwelling unit
Multiple-family dwellings	(1) 2 parking spaces for each dwelling unit containing 2 or more bedrooms (2) 1 parking space for 1 bedroom and efficiency dwelling (3) 1/2 parking space for single room occupancy dwellings (600 square foot maximum) (4) 1/2 parking space for each dwelling unit in the R-MU, D-1, D-2 and D-3 Zones
Rooming house	1 parking space for each 2 persons for whom rooming accommodations are provided
Single-family attached dwellings (row and townhouse) and single-family detached dwellings	1 parking space for each dwelling unit in the SR-3 Zone 1 parking space for each dwelling in the D-1, D-2 and D-3 Zones 2 parking spaces for each dwelling unit in all other zones where residential uses are allowed 4 outdoor parking spaces maximum for single-family detached dwellings
Transitional treatment home/halfway house	1 parking space for each 4 residents and 1 parking space for every 2 support staff present during the most busy shift
Two-family dwellings and twin home dwellings	2 parking spaces for each dwelling unit

Institutional

Assisted living facility	1 parking space for each 4 employees, plus 1 parking space for each 6 infirmary or nursing home beds, plus 1 parking space for each 4 rooming units, plus 1 parking space for each 3 dwelling units
Auditorium; accessory to a church, school, university or other institution	1 space for each 5 seats in the main auditorium or assembly hall
Daycare, child and adult	2 spaces per 1,000 square feet of gross floor area
Funeral services	1 space per 4 seats in parlor plus 1 space per 2 employees plus 1 space per vehicle used in connection with the business

Hospital	1.80 parking spaces per hospital bed
Places of worship	1 parking space for each 5 seats in the main auditorium or assembly hall
Sanitarium, nursing care facility	1 parking space for each 6 beds for which accommodations are offered, plus 1 parking space for each 4 employees other than doctors, plus 1 parking space for each 3 dwelling units

Schools

K-8th grades	1 parking space for each 3 faculty members and other full-time employees
Senior high school	1 parking space for each 3 faculty members, plus 1 parking space for each 3 full time employees, plus 1 parking space for each 10 students
College/university, general	1 parking space for each 3 faculty members, plus 1 parking space for each 3 full time employees, plus 1 parking space for each 10 students
Vocational/trade school	1 space per 1 employee plus 1 space for each 3 students based on the maximum number of students attending classes on the premises at any time
Homeless shelters	1 parking space for each employee

Recreation, Cultural, Entertainment

Art gallery/museum/house museum	1 space per 1,000 square feet gross floor area
Bowling alley	2 spaces per lane
Club/lodge	6 spaces per 1,000 square feet of gross floor area
Dance/music studio	1 space for every 1 employee
Gym/health club/recreation facilities	3 spaces per 1,000 square feet of gross floor area
Library	1 space per 1,000 square feet of gross floor area
Sports arena/stadium	1 space per 10 seats
Swimming pool, skating rink or natatorium	1 space per 5 seats and 3 spaces per 1,000 square feet of gross floor area
Tennis court	2 spaces per court
Theater, movie and live	1 space per 4 seats

Commercial/Manufacturing	
Bus facility	1 space per 2 employees plus 1 space per bus
Durable goods, furniture, appliances, etc.	1 space per 500 square feet gross floor area
General manufacturing	1 space per 3 employees plus 1 space per company vehicle
Radio/TV station	3 spaces per 1,000 square feet
Warehouse	2 spaces per 1,000 square feet of gross floor area for the first 10,000 square feet plus 1/2 space per 2,000 square feet for the remaining space. Office area parking requirements shall be calculated separately based on office parking rates
Wholesale distribution	1 space per 1,000 square feet of gross floor area for the first 10,000 square feet, plus 1/2 per 2,000 square feet floor area for the remaining space. Office area parking requirements shall be calculated separately based on office parking rates
Retail Goods And Services	
Auto repair	1 space per service bay plus 3 stalls per 1,000 square feet for office and retail areas
Car wash	3 stacked spaces per bay or stall, plus 5 stacking spaces for automated facility
Drive through facility	5 stacking spaces on site per cashier, teller or similar employee transacting business directly with drive through customers at any given time in addition to the parking required for that specific land use
Outdoor display of live plant materials	1 parking space per 1,000 square feet of display area
Outdoor display of merchandise for sale, other than live plant materials	2 parking spaces per 1,000 square feet of display area
Restaurants, taverns and private clubs	6 spaces per 1,000 square feet gross floor area
Retail goods establishment	3 spaces per 1,000 square feet gross floor area
Retail service establishment	2 spaces per 1,000 square feet gross floor area
Retail shopping center over 55,000 square feet GFA	2 spaces per 1,000 square feet gross floor area
Office And Related Uses	
Financial establishments	2 spaces per 1,000 square feet
General office	3 spaces per 1,000 square feet gross floor area for the main floor plus 1 1/4 spaces per 1,000 square feet gross floor area for each additional level, including the basement
Medical/dental offices	5 spaces per 1,000 square feet gross floor area
Offices, research related	3 spaces per 1,000 square feet gross floor area
Miscellaneous	
Kennels (public) or public stables	1 space per 2 employees
All other uses	3 spaces per 1,000 square feet

Appendix C: Eugene Parking Requirements

Table 9.6410 Required Off-Street Motor Vehicle Parking	
Uses	**Minimum Number of Required Off-Street Parking Spaces**
Agricultural, Resource Production and Extraction	
Agricultural Use and Community and Allotment Garden	-0-
Display and Sale of Agricultural Products, primarily based on products raised or grown on the premises	1 per each 660 square feet of floor area.
Horticultural Uses. Examples include field crops, orchards, berries, and nursery or flower stock.	1 per each 660 square feet of floor area.
Eating and Drinking Establishments	
Bar and Tavern	1 per each 66 square feet of seating floor area plus 1 for each 440 square feet of non-seating floor area.

continued on next page...

Table 9.6410 Required Off-Street Motor Vehicle Parking	
Uses	**Minimum Number of Required Off-Street Parking Spaces**
Delicatessen	1 per each 66 square feet of seating floor area plus 1 for each 440 square feet of non-seating floor area.
Restaurant	1 per each 66 square feet of seating floor area plus 1 for each 440 square feet of non-seating floor area.
Specialty Food and Beverage. Examples include a bagel, candy, coffee, donut, and ice cream store. Products manufactured on-site shall comply with manufacturing allowances for food and beverage products.	1 per each 66 square feet of seating floor area plus 1 for each 440 square feet of non-seating floor area.
Education, Cultural, Religious, Social and Fraternal	
Artist Gallery/Studio	1 per each 275 square feet of floor area.
Ballet, Martial Arts, Dance and Gymnastics School/Academy/Studio	1 per each 80 square feet of dance area.
Church, Synagogue, and Temple, including associated residential structures for religious personnel	1 per 4 fixed seats, 1 per 8 feet of bench length, or 1 per every 28 square feet in areas where no permanent seats are maintained in the main auditorium (sanctuary or place of worship). If religious services operate concurrently with other activities, user may include additional parking at 1 per 40 square feet for the space used concurrently.
Club and Lodge of State or National Organization	1 per 4 fixed seats, 1 per 8 feet of bench length, or 1 per every 28 square feet where no permanent seats or benches are maintained in the main auditorium.
Community and Neighborhood Center	1 per 4.5 seats or 1 per 28 square feet of assembly area where there are no fixed seats.
Library	1 per each 275 square feet of floor area.
Museum	1 per each 275 square feet of floor area.
School, Business or Specialized Educational Training (excludes driving instruction)	1 per every 3.5 classroom seats.
School, Driving (including use of motor vehicles)	1 per each 2000 square feet of floor area
School, Public or Private (Elementary School)	1 space per 8 students of design capacity as determined by the school.
School, Public or Private (Middle School)	1 space per 9 students of design capacity as determined by the school.
School, Public or Private (High School)	1 space per 3.5 students of design capacity as determined by the school.
University or College	1 per every 3.5 full time equivalent students.
Entertainment and Recreation	
Amusement Center (Arcade, pool tables, etc.)	1 per each 80 square feet of floor area.
Arena (Both indoors & outdoors)	1 per each 4.5 seats.
Athletic Facilities and Sports Clubs	
-- Playing Court	1.8 per each playing court.

Table 9.6410 Required Off-Street Motor Vehicle Parking	
Uses	**Minimum Number of Required Off-Street Parking Spaces**
-- Viewing Area	1 per each 4.4 seats, 9.6 feet of bench length, or 31 square feet of gross floor area.
-- Locker Room, Sauna, Whirlpool, Weight Room, or Gymnasium	1 per each 83 square feet of gross floor area.
-- Lounge or Snack Bar Area	1 per each 66 square feet of gross floor area.
-- Pro Shops or Sales Area	1 per each 330 square feet of gross floor area.
-- Swimming Pool	1 per each 220 square feet of pool surface area.
Athletic Field, Outdoor	-0-
Bowling Alley	5.4 per each bowling lane.
Equestrian Academy and Stable	1 per 3.5 classroom seats or 1 per every 3 stables.
Equestrian Trail	-0-
Golf Course, Miniature Indoor	1 per each 80 square feet of floor area.
Golf Course, Miniature Outdoor	1 per each 80 square feet of floor area.
Golf Course, with or without country club	1 per 3 golf holes plus 1 per each 2 employees.
Golf Driving Range	1 per each 80 square feet of floor area.
Park and Playground	-0-
Race Track, including drag strip and go-cart track	1 per 4.5 seats
Theater, Live Entertainment	1 per 4.5 seats.
Theater, Motion Picture	1 per 4.5 seats.
Financial Services	
Automated Teller Machine (ATM)	-0-
Bank, Savings and Loan Office, Credit Union	1 per each 330 square feet of floor area.
Government	
Government Services, not specifically listed in this or any other uses and permits table	1 per each 330 square feet of floor area.
Information Technology Services	
All uses in this category	1 per each 275 square feet of floor area.
Lodging	
Bed and Breakfast Facility	1 per guest bedroom for facilities with 5 or more guest rooms.
Homeless Shelter in existence as of January 1, 1984	1 per 40 beds
Homeless Shelter not in existence as of January 1, 1984	1 per 40 beds
Hotel, Motel, and similar business providing overnight accommodations	1 per guest bedroom.
Recreational Vehicle Park, may include tent sites (See EC 9.5600)	1 per each 660 square feet of floor area.
Manufacturing	
All Uses in this category, excluding storage	1 per each 550 square feet of floor area.
Storage	1 per each 1650 square feet of floor area.
Medical, Health, and Correctional Services	
Blood Bank	1 per each 330 square feet of floor area.

Table 9.6410 Required Off-Street Motor Vehicle Parking	
Uses	**Minimum Number of Required Off-Street Parking Spaces**
Correctional Facility, excluding Residential Treatment Center	1 per 5.5 beds.
Hospital, Clinic or other Medical Health Treatment Facility (including mental health) in excess of 10,000 square feet of floor area	1 per each 200 square feet of floor area or 1.35 per bed.
Hospital, Clinic or other Medical Health Treatment Facility (including mental health) 10,000 square feet or less of floor area	1 per each 200 square feet of floor area or 1.35 per bed.
Laboratory--Medical, Dental, X-Ray	1 per each 330 square feet of floor area.
Meal Service, Non Profit	1 per each 330 square feet of floor area.
Nursing Home	1 per 4 beds.
Plasma Center, must be at least 800 feet between Plasma Center	1 per each 330 square feet of floor area.
Residential Treatment Center	1 per 5.5 beds.
Motor Vehicle Related Uses	
Car Wash	-0-
Motor Vehicle Sales/Rental/Service, excluding motorcycles, recreational vehicles and heavy trucks	1 per each 330 square feet of floor area.
Motorcycle Sales/Rental/Service	1 per each 330 square feet of floor area.
Parking Area not directly related to a primary use on the same development site	N/A
Parts Store	1 per each 330 square feet of floor area.
Recreational Vehicle and Heavy Truck, Sales/Rental/Service	1 per each 440 square feet of floor area.
Repair, includes paint and body shop	1 per each 660 square feet of floor area.
Service Station, includes quick servicing	1 per each 660 square feet of floor area.
Structured Parking, up to two levels not directly related to a primary use on the same development site	N/A
Structured Parking, three or more levels not directly related to a primary use on the same development site	N/A
Tires, Sales/Service	1 per each 660 square feet of floor area.
Transit Park and Ride, Major or Minor, only when shared parking arrangement with other permitted use	N/A
Transit Park and Ride, Major or Minor	N/A
Transit Station, Major or Minor	N/A
Office Uses	
All Uses in this category	1 per each 330 square feet of floor area
Personal Services	
Barber, Beauty, Nail, Tanning Shop	1 per 330 square feet of floor area.
Day Care Facility (Not associated with a residence)	.9 per employee.
Dry Cleaner	1 per each 660 square feet of floor area.
Film, Drop-off/Pick-up	1 per each 660 square feet of floor area.
Locksmith Shop	1 per each 660 square feet of floor area.

Table 9.6410 Required Off-Street Motor Vehicle Parking	
Uses	**Minimum Number of Required Off-Street Parking Spaces**
Laundromat, Self-Service	1 per each 330 square feet of floor area.
Mailing and Packaging Service	1 per each 660 square feet of floor area
Shoe Repair Shop	1 per each 330 square feet of floor area.
Tailor Shop	1 per each 330 square feet of floor area.
Residential	
Dwelling	
One-Family Dwelling	1 per dwelling.
One-Family Dwelling - Flag Lot	2 per dwelling.
Secondary Dwelling (Either attached or detached from primary one-family dwelling on same lot)	1 per dwelling.
Rowhouse (One-Family on own lot attached or adjacent residence on separate lot with garage or carport access to the rear of the lot)	1 per dwelling.
Duplex (Two-Family attached on same lot)	1 per dwelling.
Triplex (Three-Family attached on same lot)	1 per dwelling.
Four-Plex (Four-Family attached on same lot)	1 per dwelling.
Multiple-Family (3 or more dwellings on same lot) not specifically addressed elsewhere in this Table.	1 per dwelling
Multiple-Family in the R-3 and R-4 zones within the boundaries of the City recognized West University Neighbors and South University Neighborhood Association	1 space for each studio, 1 bedroom or 2 bedroom dwelling 1.5 spaces for each 3 bedroom dwelling* * .5 spaces required for each additional bedroom beyond a 3 bedroom dwelling. Fractions of .5 or more are rounded up to the next whole number. Rounding shall occur after the total number of minimum spaces is calculated for the multi-family development. One tandem space shall be counted as two parking spaces. Tandem spaces shall not be allowed for studio or 1- or 2-bedroom dwellings.
Multiple-Family Subsidized Low-Income Housing in any area (see (5) below)	.67 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Senior Housing in any area (see (5) below)	.33 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Disabled Housing in any area (see (5) below)	.33 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Senior Housing Partial in any area (see (5) below)	.67 per dwelling or 3 spaces, whichever is greater
Multiple-Family Subsidized Low-Income Specialized Housing in any area (see (5) below)	.33 per dwelling or 3 spaces, whichever is greater
Manufactured Home Park	1 per dwelling.
Controlled Income and Rent Housing (CIR) where density is above that usually permitted in the zoning, yet not to exceed 150%	1 per dwelling.

Table 9.6410 Required Off-Street Motor Vehicle Parking	
Uses	**Minimum Number of Required Off-Street Parking Spaces**
Assisted Care & Day Care	
-- Assisted Care (5 or fewer people living in facility and 3 or fewer outside employees on site at any one time)	1 for each 4 beds.
-- Assisted Care (6 or more people living in facility)	1 for each 4 beds.
-- Day Care (3 - 12 people served)	.9 for each employee not living in home on site at the same time.
-- Day Care (13 or more people served)	.9 for each employee not living in home on site at the same time.
Rooms for Rent	
-- Boarding and Rooming House	1 per guest room.
-- Campus Living Organizations, including Fraternities and Sororities	1 for each 3 occupants for which sleeping facilities are provided.
-- Single Room Occupancy	1 per dwelling (4 single rooms are equal to 1 dwelling).
-- University and College Dormitories	1 for each 3 occupants for which sleeping facilities are provided.
Trade (Retail and Wholesale)	
Agricultural Machinery Rental/Sales/Service	1 per each 440 square feet of floor area.
Appliance Sales/Service	1 per each 660 square feet of floor area.
Boat and Watercraft Sales/Service	1 per each 660 square feet of floor area.
Building Materials and Supplies	1 per each 660 square feet of floor area.
Convenience Store	1 per each 330 square feet of floor area.
Equipment, Light, Rental/Sales/Service	1 per each 440 square feet of floor area.
Equipment, Heavy, Rental/Sales/Service- includes truck and tractor sales	1 per each 440 square feet of floor area.
Furniture and Home Furnishing Store	1 per each 660 square feet of floor area.
Garden Supply/Nursery	1 per each 660 square feet of floor area.
General Merchandise (includes supermarket and department store)	1 per each 330 square feet of floor area.
Hardware/Home Improvement Store	1 per each 660 square feet of floor area.
Healthcare Equipment and Supplies	1 per each 330 square feet of floor area.
Liquor Store	1 per each 330 square feet of floor area.
Manufactured Dwelling Sales/Service/Repair	1 per each 330 square feet of floor area.
Office Equipment and Supplies	1 per each 330 square feet of floor area.
Outdoor Merchandise Display	-0-
Plumbing Supplies and Services	1 per each 660 square feet of floor area.
Regional Distribution Center	1 per each 660 square feet of floor area.
Retail Trade when secondary, directly related, and limited to products manufactured, repaired, or assembled on the development site	1 per each 330 square feet of floor area.
Shopping center with at least one supermarket or variety store and 50,000 square feet of gross floor area	1 per each 330 square feet of floor area.
Specialty Store (An example includes a gift store)	1 per each 330 square feet of floor area.
Storage Facility, Household/Consumer Goods	1 per each 330 square feet of floor area of the office space.

Table 9.6410 Required Off-Street Motor Vehicle Parking	
Uses	**Minimum Number of Required Off-Street Parking Spaces**
Wholesale Trade (excluding regional distribution center)	1 per each 1650 square feet of floor area.
Utilities and Communication	
Amateur Radio Antenna Structure (See EC 9.5050)	-0-
Broadcasting Studio, Commercial and Public Education	1 per each 330 square feet of floor area.
Electrical Substation	-0-
Fiber Optic Station	-0-
Pump Station	-0-
Telecommunication Facility (Refer to EC 9.5750)	-0-
Water Reservoir, elevated above ground level	-0-
Other Commercial Services	
Building Maintenance Service	1 per each 550 square feet of floor area.
Catering Service	1 per each 550 square feet of floor area.
Cemetery, Includes crematoria, columbaria, or mausoleums	1 per each full-time employee.
Collection Center, Collection of Used Goods (See EC 9.5150)	-0-
Garbage Dump, sanitary landfill	1 per each 550 square feet of floor area.
Heliport and Helistop	Parking requirements determined based on a Type III review.
Home Occupation (See EC 9.5350)	-0-
Kennel	1 per 550 square feet of floor area.
Model Home Sales Office (See EC 9.5450)	1 per 330 square feet of floor area.
Mortuary	1 per 4 fixed seats or 8 feet of bench length or every 28 square feet in main auditorium where no permanent seats or benches are maintained (sanctuary or place of worship).
Photographers' Studio	1 per each 550 square feet of floor area.
Picture Framing and Glazing	1 per each 550 square feet of floor area.
Printing, Blueprinting, Duplicating	1 per each 550 square feet of floor area.
Publishing Service	1 per each 550 square feet of floor area.
Temporary Activity (See EC 9.5800)	-0-
Train Station	Parking requirements determined based on a Type II or Type III review.
Upholstery Shop	1 per each 550 square feet of floor area.
Veterinarian Service	1 per each 250 square feet of floor area.
Wildlife Care Center	1 per each 660 square feet of floor area.