

**CITY OF SALEM, OREGON**  
**Urban Development Department**

**2011 Update of Parking Resources**  
**Downtown Parking Zone – Salem, Oregon**  
**EXECUTIVE SUMMARY**

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## 2011 - Salem Parking Inventory Analysis – Executive Summary

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### I. BACKGROUND

The City of Salem completed a comprehensive inventory and capacity study for its downtown parking facilities (on and off-street) in June 2006. That analysis led to development of a detailed Parking Management Plan that was adopted by the Salem City Council in December 2006. In October 2010, the City evaluated an updated set of parking management strategy recommendations in support of the 2006 Parking Management Plan. The 2010 recommendations included considerations for policy actions, code improvement and evaluation of revenue/fee options, garage management, capital planning and public engagement.

Since completion of the 2006 study, the City has implemented significant changes in the format and management of the parking supply it controls in the downtown. This has led to increased operational efficiencies, improved customer access and turnover and more varied parking options for downtown employees. Strategies included elimination of all day on-street parking from the parking district, reductions in 30 minute stalls and better tracking and monitoring of use.

In an effort to remain updated on actual parking activity, the City subsequently commissioned follow up parking utilization studies of the entire downtown in June 2008, 2009 and 2010. In June 2007, the City completed a targeted analysis of the on-street supply in the downtown “core retail zone” as well (a subset of the larger study area). The core retail zone was updated in 2008, 2009 and 2010.

**This Executive Summary outlines key findings and considerations derived from the downtown parking update for 2011.** The full data report and findings are available from the City of Salem.

### II. PURPOSE OF THE PARKING UTILIZATION ANALYSIS

The purpose of a parking utilization study is to derive a comprehensive and objective understanding of actual use dynamics and access characteristics associated with parking in the downtown. To be consistent with previous years and to assure the ability to compare results in an “apples-to-apples” context, the inventory analysis has been conducted in a uniform manner that has used a consistent methodology in each survey year. Important elements of the analysis include:

- (1) Development of an up-to-date inventory template for all parking in the study area.
- (2) A complete survey of parking use on a “typical day” -- a single Thursday on May 26, 2011 (garages and lots) and Thursday, June 9, 2011 (on-street stalls).<sup>1</sup>
- (3) Identification of parking surpluses and constraints in the parking supply (on & off-street).
- (4) Comparative analysis of data between study years.

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<sup>1</sup> These dates were chosen in consultation with the City of Salem and coincided as closely as possible with previous study years. We chose to conduct the survey one week later than previous years to mitigate construction impacts that were scheduled to occur. During the survey days, public schools were still in session and no major events were scheduled for the downtown. The weather was excellent, partly sunny, dry and in the high 60’s.

- (5) Evaluating data findings and strategy recommendations within the context of the adopted 2006 Parking Management Plan.

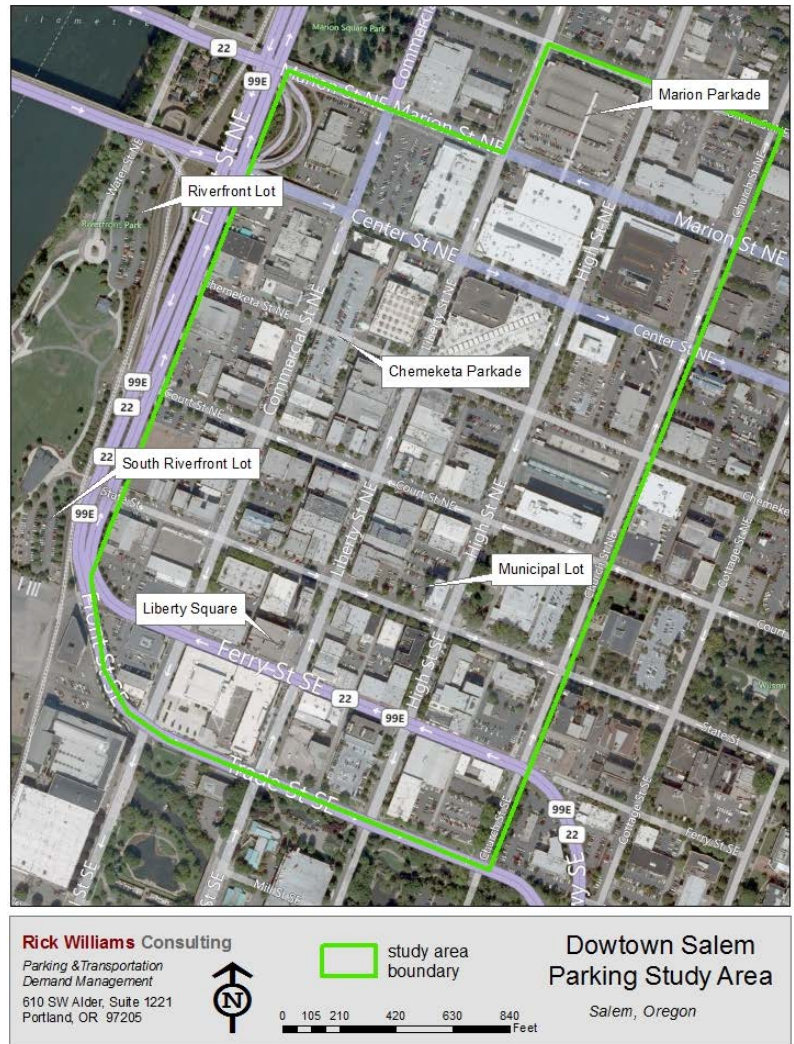
### III. STUDY AREA

The parking inventory study area was determined in the initial project scoping process and in consultation with the City of Salem. The study zone replicates the original 2006 downtown study area and includes the entire commercial area of the downtown generally comprised of the area bounded by Marion Street NE and Union Street NE (on the north), Trade Street SE (on the south), Front Street (on the west) and Church Street (on the east).

As in past years, an additional “nodal” analysis was conducted in the retail core area. The “Retail Node” evaluated on-street parking activity in the areas bounded by Center Street NE (on the north), State Street (on the south), Commercial Street (on the west) and High Street (on the east). The results of this analysis are included in Section V, below.

**Figure A** summarizes the entire study area examined in the data collection, particularly the area that encompasses the on-street supply (green boundary). The Figure also highlights all of the City’s off-street parking resources, within the parking tax district boundary for which occupancy data was collected.

**FIGURE A**  
**Parking District Study Area**



#### IV. PARKING SUPPLY

A total of **3,415** parking stalls were surveyed within the study area boundaries, which include **1,188** on-street and **2,227** off-street stalls.<sup>2</sup> Parking in the public supply is provided in the form of timed zones and free parking. Employees are able to purchase off-street parking permits for use in the Chemeketa, Marion and Liberty Parkades and other off-street locations.

**Table 1** presents a breakout of all parking surveyed in the 2011 Downtown Study Zone with a comparative column summarizing supply in 2010. Overall, there have been only minor changes in the format of the supply over the past year. The total parking supply surveyed in 2011 is 3,415 stalls versus 3,482 in 2010. The difference of 67 stalls between the two years is a reflection of the closure and relocation of the downtown transit center to accommodate staging buses and losses to streetscape and ADA improvements.<sup>3</sup>

**Table 1  
2011 Downtown Parking Inventory**

<b>Downtown Study Area Parking Stall Breakout</b>			
<i>On-Street Stalls by Type</i>	<b>Number of Stalls 2011</b>	<b>% of Total On-Street Stalls</b>	<i>Comparative Number of Stalls 2010</i>
<b>10 minutes</b>	2	< 1%	0
<b>15 minutes</b>	3	< 1%	4
<b>30 minutes</b>	38	3.2%	50
<b>2 hours</b>	1,115	93.8%	1,171
<b>10 hours</b>	25	2.1%	25
<b>Carpool</b>	5	< 1%	5
<b>Subtotal On-Street Parking Stalls</b>	1,188	100%	1,255
<b>Subtotal Off-Street Parking Stalls<sup>4</sup></b>	2,227		2,227
<b>Total Surveyed Supply</b>	<b>3,415</b>		<b>3,482</b>

As **Table 1** indicates, the downtown Study Zone currently maintains a high percentage of 2-Hour parking stalls, with 94% of the on-street supply made up of this type of stall (including both metered and unmetered 2-Hour stalls). Thirty-eight 30-Minute stalls comprise another 3.2% percent, with the remainder of the on-street supply made up of a small number of 15-Minute, 10-Hour and Carpool spaces.

<sup>2</sup> For purposes of this study handicap/disabled and loading zone stalls were removed from the study results, based on the assumption that such stalls are not readily available to general parking demand. The project team believes that if these stalls were included the study results would artificially overstate surplus supply.

<sup>3</sup> Of the 67 stalls, 42 were the result of the transit center closure and 25 to streetscape and ADA improvement.

<sup>4</sup> The number of public off-street stalled located within the study area (Figure A) is 2,112 located within four facilities, three structures and one surface lot. There are an additional 729 publicly controlled off-street stalls that were surveyed outside of the study area. These stalls were spread across three facilities, one structure and two surface lots.

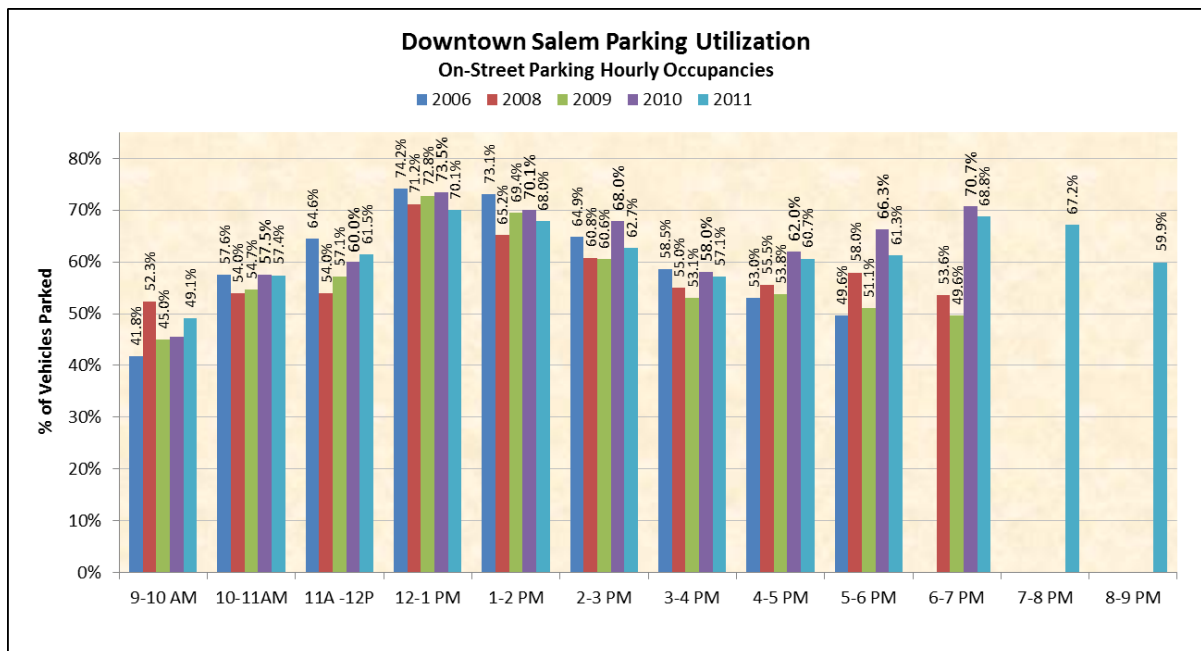
As stated earlier, the surveyed off-street supply within the downtown parking district includes five City-owned facilities, totaling 2,227 stalls. The most significant publicly controlled off-street parking resource is the Marion Parkade, which maintains 1,063 parking stalls. Results for all garage use/occupancy (within the parking district) are summarized in **Section V**, below.

## V. KEY FINDINGS

### A. On-Street Parking – Combined system

**Figure B** and **Table 2** summarize parking activity for the on-street parking supply within the entire study zone.

**Figure B**  
**On-Street Hourly Occupancy Counts (comparative)**



Key findings for the on-street supply include:

- Peak hour occupancy of the supply decreased from 73.5% (2010) to 70.1% (2011). This is the first drop in peak hour occupancy since 2008. Compared to 2010, this decrease represents about 43 fewer cars parked in the peak hour across the entire study area.
- The on-street peak hour is between 12:00 PM and 1:00 PM, consistent with findings in all survey years.
- The average duration of a customer parking on-street increased by 6 minutes to 1 hour and 31 minutes.
- Occupancies in 2-Hour stalls, which represent the bulk of the supply actually *increased slightly*, reaching 74.9%, as compared to 74.6% in 2010 (see **Appendix A**).
- It appears that the “evening” hours (4:00 PM to 6:00 PM) are continuing to show increasing use and remain active between 6:00 PM and 9:00 PM, particularly as compared to 2009 and earlier.

- While the overall “peak occupancy” in downtown has remained consistent, the downtown is seeing increased on-street traffic in all late afternoon and evening hours; this is a positive trend for the downtown.
- Unique vehicles decreased in 2011 versus 2010, from 5,343 to 5,188 (155 cars or 2.9%). Overall, this decrease represents an average drop of about 15 cars per hour over the entire supply from 2010. This is still a significantly higher number of unique vehicles on street than were recorded over a 12 hour day in 2006.
- Violation rates (i.e., exceeding the posted time stay) have decreased from 6.1% (2010) to 4.5% (2011). Salem remains well within industry standards for an efficiently operating enforcement system.
- Turnover remains strong at 6.90 turns per stall per day and puts Salem at the high end of comparable cities (see **Appendix B**).
- Only 4.6% of users are staying in excess of 2 hours, which means that 95.4% of those using the on-street system are easily accommodated in a 2 hour time stay window.

**Table 2**  
**General Characteristics of Use – On-Street Parking Stalls**

USE CHARACTERISTIC	2006	2008	2009	2010	2011	Change 2010 to 2011
Average duration of stay per unique vehicle	1 hour 25 minutes	1 hour 18 minutes	1 hour 20 minutes	1 hour 25 minutes	1 hour 31 minutes	Stays increase by 6 minutes
Actual number of unique vehicles over survey day	5,185 <i>12 hour survey day</i>	5,598 <i>10 hour survey day</i>	5,448 <i>10 hour survey day</i>	5,343 <i>10 hour survey day</i>	5,188 <i>10 hour survey day</i>	-155 vehicles -2.9%
Total vehicle hours parked over study day	7,392 <i>12 hour survey day</i>	7,268	7,265	7,576	7,227	-349 hours -4.6%
Actual turnover rate (number of cars to use a single occupied stall over a 10 hour operating day)	7.04	7.69	7.52	7.05	6.90	-0.15 turns per occupied stall per day
% of vehicles violating the posted time stay	2.1% <sup>5</sup>	4.1%	4.8%	6.1%	4.5%	-1.6%
# of vehicles with time stays of greater than 2 hours	538 10.3% of unique vehicles	243 4.3% of unique vehicles	288 5.3% of unique vehicles	331 6.2% of unique vehicles	267 4.6% of unique vehicles	95.4% of users accommodated within posted 2 hour time stay

*Overall, the data contained in **Table 2** demonstrates that growth in vehicle traffic against the 2006 baseline has improved. However, a slight decrease in total vehicles has occurred in each of the past three years. This may be an impact of the current economic situation in Oregon and the United States*

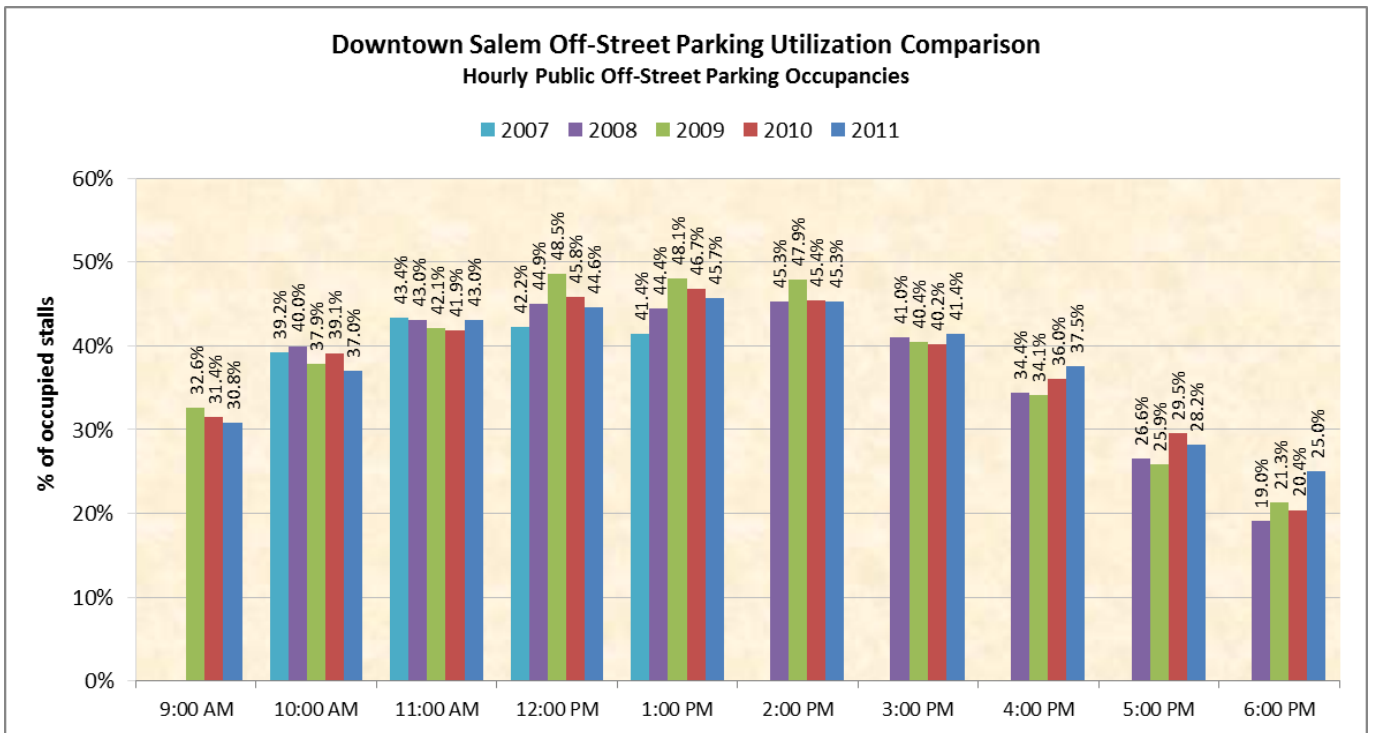
<sup>5</sup> In 2006, 55% of all stalls in the study area were no limit stalls.

and to a certain degree (in 2011) impacts related to the removal of 67 on-street stalls (5.3% of total supply).

**B. Off-Street Parking – Parking Tax District**

Figure C and Appendix C summarize parking activity for the publicly owned off-street parking supply within the parking tax district.

**Figure C<sup>6</sup>**  
**Off-Street Parking Occupancies (Comparative)**



Key findings for the off-street supply include:

- The overall combined peak hour occupancy (45.7%) of the public off-street supply decreased slightly from the previous year (-1.0%) and continues a trend of low utilization over a five year period.
- Currently, 1,529 stalls are empty and available at a combined supply peak hour between 1:00 and 2:00 PM. This contrasts to 1,513 stalls empty and available at the peak hour in 2010.
- There has been a drop in occupancy in morning hours, with flat growth during midday hours, but increases in occupancy between 4:00 PM and 6:00 PM.
- Occupancies increased in the Marion and Chemeketa Parkades, though the Liberty Parkade experienced a significant drop in peak hour usage (see **Appendix C**).
- Occupancies in city owned off-street facilities continue to be underutilized.

<sup>6</sup> In 2007, off-street facilities were only sampled between the hours of 9:00 a.m. and 1:00 p.m. Subsequent evaluations extended the inventory sample to a full operating day.

Of the five facilities surveyed in the parking tax district, two showed an increase in peak hour use: Marion, which increased from 40.4% to 42.1% and Chemeketa, which increased from 48.1% to 55.9%. The 29 stall Municipal Lot remained effectively full at 96.6% (1 available handicapped stall) at the peak hour.

The Riverfront Lot occupancy held constant at 43.7% (same as 2010). Despite offering parking permits, this lot remains heavily underutilized with sub-50% occupancies for the past two years.

The most notable drop was at the Liberty Square garage, which dropped from 61.6% in 2010 to 50.8% in 2011. In terms of vehicles, this represents about 41 fewer cars parked in Liberty Square at the peak hour.<sup>7</sup>

Findings from the 2011 inventory for each of the three major Parkades in the parking district are as follows (**Appendix C** provides a detailed summary of all City off-street facilities – in and outside the parking tax district):

a. Marion (1,063 stalls)

- 2011 peak hour occupancies (42.1%) are up 1.7 percentage points compared to 2010 (40.4%) and up significantly from the 2007 baseline (21.4%).
- There are approximately 616 empty stalls in the 2011 peak hour. This is in contrast to 835 in 2007, meaning 219 more vehicles are parked per day at Marion than in 2007.
- The peak hour was extended from 1:00 – 2:00 PM to 1:00 and 3:00 PM spanning an additional hour.

b. Chemeketa (642 stalls)

- The Chemeketa Parkade experienced a nice bump in peak hour occupancy as compared to (2010), rising from 48.1% to 55.9%.
- There are 297 empty stalls in the 2011 peak hour, representing an increase of 36 vehicles per day at the peak over the past year.
- The peak hour at this garage is 1:00 – 2:00 PM.

c. Liberty (378 stalls)

- Peak hour occupancy decreased 10.8 percentage points over the past 12 months, from 61.6% (2010) to 50.8% (2011). This is the lowest occupancy in this facility since the original 2007 survey and shows a relatively consistent yearly decline in overall occupancies at Liberty.
- There are approximately 186 empty stalls in the 2011 peak hour, 41 less vehicles than in 2010.
- The peak hour transitioned from 2:00 – 3:00 PM (2010) to 11:00 AM – 12:00 PM (2011).

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<sup>7</sup> This is somewhat off-set by the increase in occupancy at Chemeketa, which showed 36 more vehicles parked at the peak hour.

### C. Sub Area Analysis – Core Retail Node

The “core retail node” is that area bounded by Center Street NE (on the north), State Street (on the south) Commercial Street (on the west) and Church Street (on the east)<sup>8</sup>. **Figure D** provides a map of this nodal zone.

**Figure E** and **Table 4** summarize parking activity for the on-street parking supply within the entire study zone.

Key findings for the Core Retail Node include:

- Activity in the core retail node continues to remain strong and reflects a consistent trend over five years of peaks over 85% in this core node.
- Peak occupancy reached 89.9% between 12:00 and 1:00 PM, a reduction from 2010 (92.6%). At this time, only 45 stalls are empty and available at the peak.
- The retail node continues to generate very strong peak hour demand. The average length of stay is 1 hour and 27 minutes, as contrasted to 1 hour and 31 minutes for the larger on-street study area.
- As with the larger on-street system, increasing visitor growth is being recorded in the late afternoon and early evening hours.

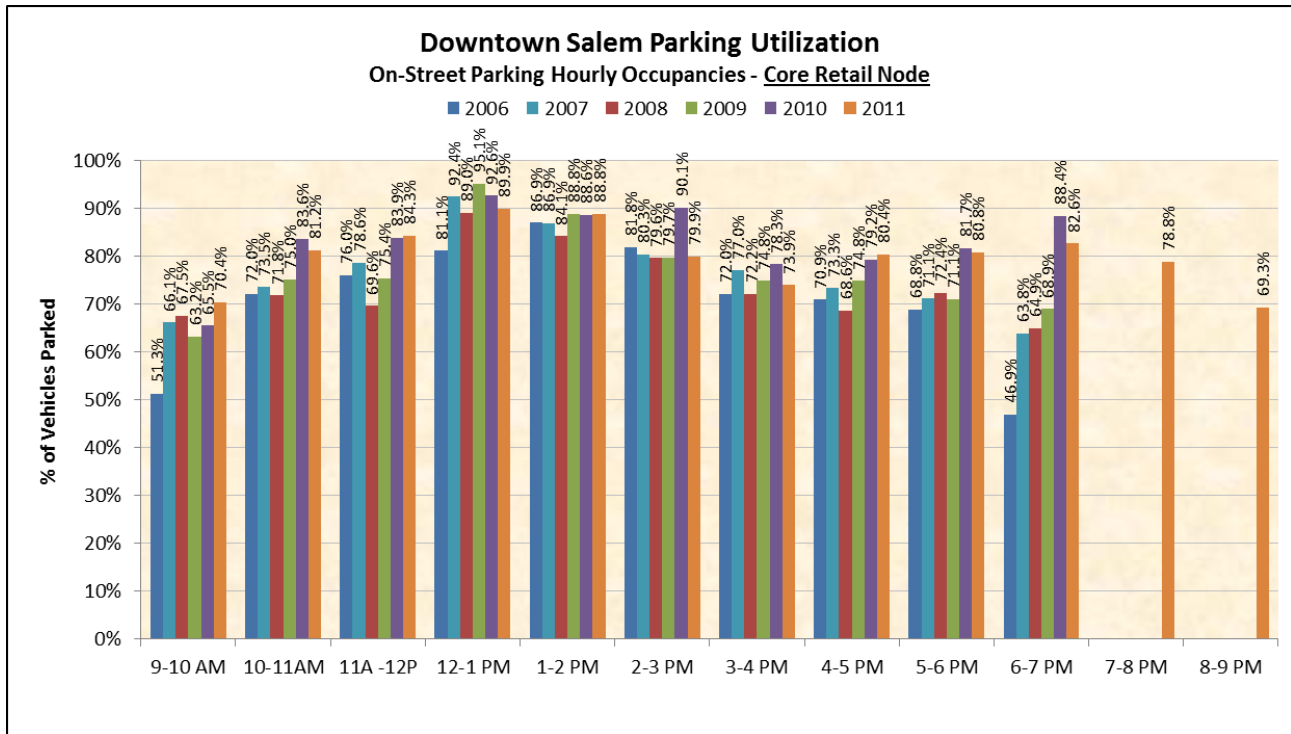
Most notable in **Figure E** is the growth in use of the downtown in all survey hours from 3:00 PM forward. This is a very positive trend for downtown, indicating (a) strong mid-day peak use and (b) growing activity in the late afternoon and into the evening, with three consecutive hours (4-5 PM, 5-6 PM and 6-7 PM) exceeding 80% occupancy.

**Figure D**  
**Downtown Salem Retail Core Node**



<sup>8</sup> The boundary line bisects the streets listed in the node description; only the block faces on the node side of the boundary are included, the opposite sides of the streets are excluded from the nodal analysis results.

**Figure E**  
**Occupancies by hour of Day – Retail Core Node (comparative)**



New data for the 7-8 PM and 8-9 PM hours show some decline but nearly 70% occupancy 8-9 PM. The last three hours of the survey day in the Retail Core Node maintain occupancies that are substantially higher than the average for the downtown (e.g., 82.5% vs. 68.8% at 6-7 PM; 69.3% vs. 59.9% at 8-9 PM).

**Table 4**  
**Retail Core Node Performance Comparison ('06, '07, '08, '09, '10 & '11)**

	2006 Survey <sup>9</sup>	2007 Survey	2008 Survey	2009 Survey	2010 Survey	2011 Survey
<b>Peak Hour</b>	1 – 2 pm	12 – 1 pm	12 – 1 pm	12 – 1 pm	12 – 1 pm	12 – 1 pm
<b>Peak Occupancy</b>	86.9%	92.4%	89.0%	95.1%	92.6%	89.9%
<b>Ave. Length of Stay</b>	1 hr. / 19 min	1 hr. / 19 min	1 hr. / 13 min	1 hr. / 17 min	1 hr. / 22 min	1 hr. / 27 min
<b># of Unique Vehicles (% of All UV)</b>	N/A	2,631 (N/A) <sup>10</sup>	3,080 (50.4%)	3,019 (55.4%)	2,734 (51.2%)	2,629 (50.8%)
<b># of Vehicle Hours Parked</b>	N/A	3,433	3,772	3,935	3,714	3,538
<b>Turnover</b>	N/A	7.57	8.19	7.81	7.36	6.90

<sup>9</sup> The 2006 survey of the Core Retail Zone did not include an assessment of these characteristics as were compiled in subsequent study years.

<sup>10</sup> The 2007 survey of the downtown on-street system was only of the core node. As such, total unique vehicles in the entire study area (larger downtown) were not available.

<b>% of Time Stay Violations</b>	N/A	3.8%	3.4%	3.6%	5.0%	4.2%
<b># of vehicles w/ stays &gt; 2 hours<sup>11</sup></b>	N/A	90 (3.4%)	97 (3.1%)	110 (3.6%)	133 (4.9%)	118 (4.0%)
<b># of vehicles w/ stays &gt; 3 hours</b>	N/A	26 (1.0%)	22 (0.7%)	22 (0.7%)	24 (0.9%)	27 (0.9%)

## VI. CONSIDERATION AND RECOMMENDATION

### A. Consideration

Overall, parking activity within the downtown parking system continues to operate similarly to previous years. This is evidenced in three areas:

1. On-street peak occupancies (combined system) remain within the 70% - 74% range over the past six years (see **Figure B**).
2. Off-street occupancies remain low to moderate, ranging over six years from 42% - 49% in the peak hour (see **Figure C**).
3. Activity in the Core Retail Node remains very strong, with peak occupancies consistently between 87% and 95% year in and year out.

In short, while peak hour occupancies have varied within the ranges summarized above, the overall system has operated in a manner that has not reflected significant growth in overall visits to the downtown. A way to look at this trend is within the context of the total combined vehicle hours parked (VHP) within the system, which blends the on and off-street systems together.

To this end, **Table 5** quantifies total vehicle hours parked in off-street facilities and pairs them with on-street figures to provide a holistic look at downtown utilization over the years.

**Table 5**  
**General Characteristics of Use – Off-Street Parking Stalls**

USE CHARACTERISTIC	2006	2008	2009	2010	2011
<b>Off-Street total vehicle hours parked (10 hours)</b>	8,700	7,390	7,647	8,004	8,164
<b>On-Street total vehicle hours parked (10 hours)</b>	6,724 <sup>12</sup>	7,268	7,265	7,576	7,227
<b>Combined total On &amp; Off-Street vehicle hours parked (10 hours)</b>	<b>15,424</b>	<b>14,658</b>	<b>14,912</b>	<b>15,580</b>	<b>15,391</b>

<sup>11</sup> Percentages for number of vehicles staying in excess of two and three hours were calculated using number of unique vehicles.

<sup>12</sup> This number is lower than in **Table 2**, above, as it has been normalized to a 10 hour survey day to provide an apples-to-apples comparison with succeeding study years.

Through this lens 2010 actually shows the most robust parking activity of the 5 year comparison with 15,580 total vehicle hours parked (VHP). Figures from 2011 are not far behind with 15,391 vehicle hours parked over the course of the 10 hour survey day (1.2% reduction or 189 VHP).

Findings from **Table 5** indicate that Salem's parking system has remained very consistent over the past several years in total vehicle hours parked (VHP); with variations in how those hours of occupancy distribute between on and off-street supply. However, overall growth in user hours has, for the most part, remained constant. This suggests:

- Salem has been successful in maintaining a fairly strong and consistent user base throughout the past five years, particularly given the volatility of the national economy.
- *On-street* VHP growth has been positive over the 5 year data period, rising 7.5% between 2006 and 2011, indicating that more people are using the on-street system (which turns over at a high rate per industry standards).
- At the same time, *off-street* use as measured by VHP has dropped by approximately the same amount. As such, fluctuations that are seen in the off-street system over the years may not be reflecting new users or lost users, but the fluidity of movement between the on and off-street system.

## **B. Recommendation**

Moving forward, it is recommended that the parking strategies recommended by the 2006 Plan and in the 2010 Strategy Recommendations report continue to be implemented, *with additional strategies developed and directly targeted to growing the downtown user base (e.g., downtown event programming, marketing, communications and promotions, commercial/retail recruitment, etc.)*. In short, the parking system is supportive of growth and has capacity (particularly off-street) to absorb growth, but parking itself cannot be relied upon as a generator of new downtown trips.

## **VI. SUMMARY**

Salem's downtown public parking system has performed well over the past several years, maintaining a consistent customer base. Activity in the Core Retail Node is very active and commendable given the precarious nature of the State and National economy. Also, trends in increased activity across the downtown in late afternoon and early evening hours are promising.

With numerous years of data, the 2011 survey of parking has begun to demonstrate that while parking operates efficiently across a number of indices (e.g., occupancy, turnover, rates of violation, etc.); growth in vehicle hours parked is fairly flat. This indicates that many of the yearly fluctuations in "peaks" (up or down) are most likely influenced by trends in moving the same number of vehicle hours around and within the system, with no significant change in total users of the system.

To this end, it is recommended that the parking management strategies delineated in the adopted 2006 Parking Management Plan continue to be developed and implemented as it is apparent that the changes that have been made since plan adoption have brought consistency to the system and supported a stable level of use and access amid rough economic times. Salem's system has performed very well when contrasted to significant drops in activity in other municipal systems regionally and nationally.

Additionally, new strategies targeted less to parking and more to influencing and growing the downtown user base must be developed. The parking system is well positioned to absorb new growth and has become more efficient and better managed since 2006. However, the management strategies associated with the parking system are not in and of themselves capable of generating new trips to the downtown.

## APPENDICIES

**APPENDIX A**  
**On-Street Parking Summary (2006 – 2011 Comparative)**

<b>Entire Study Area – All On-street Stalls</b>					
Type of Stall	# of Stalls	Peak Hour	Peak Occupancy	Stalls Available (empty)	Average Length of Stay
<b>2011 All Stalls</b>	<b>1,188</b>	<b>12 – 1 pm</b>	<b>70.1%</b>	<b>348<sup>13</sup></b>	<b>1 hr / 31 min</b>
<b>2010 All Stalls</b>	<b>1,255</b>	<b>12 – 1 pm</b>	<b>73.5%</b>	<b>318</b>	<b>1 hr / 25 min</b>
<b>2009 All Stalls</b>	<b>1,260</b>	<b>12 – 1 pm</b>	<b>72.8%</b>	<b>343</b>	<b>1 hr / 20 min</b>
<b>2008 All Stalls</b>	<b>1,261</b>	<b>12 – 1 pm</b>	<b>71.2%</b>	<b>368</b>	<b>1 hr / 18 min</b>
<b>2006 All Stalls</b>	<b>1,266</b>	<b>12 – 1 pm</b>	<b>74.2%</b>	<b>327</b>	<b>1 hr / 25 min</b>
<b>Usage by Time Stay (2011)</b>					
10 minutes	2	N/A	0%	2	N/A
15 minutes	3	1 – 2 pm	50.0%	1	N/A
30 minutes	38	6 – 7 pm	73.0%	10	N/A
2 hours	1,115	12 – 1 pm	74.9%	256	1 hr / 29 min
10 hours	25	2 – 5 pm	40.0%	15	4 hr / 24 min
Carpool	5	1 – 4 pm	100.0%	0	4 hr / 33 min
<b>Usage by Time Stay (2010)</b>					
15 minute	4	N/A	N/A	N/A	N/A
30 minutes	50	6 – 7 pm	62.5%	18	N/A
2 hours	1,171	Noon – 1 pm	74.6%	284	1 hr / 25 min
10 hours	25	11 am – Noon	80.0%	5	3 hr / 29 min
Carpool	5	9 am – 4 pm	80.0%	1	8 hr / 30 min
<b>Usage by Time Stay (2009)</b>					
10 minutes	2	N/A	N/A	N/A	N/A
15 minute	2	N/A	N/A	N/A	N/A
30 minutes	52	1 – 2 pm	58.0%	21	N/A
2 hours	1,171	Noon – 1 pm	74.1%	304	1 hr / 17 min
10 hours	28	1 – 2 pm	64.3%	10	2 hr / 46 min
Carpool	5	Noon – 4 pm	80.0%	1	6 hr / 30 min
<b>Usage by Time Stay (2008)</b>					
10 minutes	2	N/A	N/A	N/A	N/A
15 minute	2	N/A	N/A	N/A	N/A
30 minutes	49	Noon – 1 pm	63.3%	18	N/A
2 hours	1,177	Noon – 1 pm	72.7%	326	1 hr / 18 min
10 hours	26	9 – 10 am	30.8%	18	2 hr / 12 min
Carpool	5	10 am – 3 pm	100.0%	0	5 hr / 54 min
<b>Usage by Time Stay (2006)</b>					
10 minutes	1	N/A	N/A	N/A	N/A
15 minute	5	N/A	N/A	N/A	N/A

<sup>13</sup> Construction work in downtown limited the overall parking availability. The number of stalls “under construction” varied slightly over the course of the day, ranging from a high of 30 to a low of 2. The average number of stalls unavailable due to construction work over the course of the survey day was 21 stalls, which had a small effect on overall hourly occupancies as well as the number of available stalls in the peak hour. Construction, if known in advance by users, may have affected the choice to come downtown on the survey day, though it is not possible to estimate if there was some “latent impact” on use caused by the construction.

30 minutes	202	1 – 2 pm	68.8%	62	N/A
2 hours	308	Noon – 1 pm	60.4%	122	1 hr / 32 min
10 hours	29	11 - noon	58.6%	12	1 hr / 55 min
Carpool	5	1 – 2 pm	60.0%	2	1 hr
No limit	697	11 – noon	85.6%	101	1 hr / 27 min

**APPENDIX B**  
**Rates of Turnover – Peer City Comparison**

<b>City</b>	<b>Number of On-Street Stalls</b>	<b>Rate of Turnover</b>
Beaverton, OR	990	4.20
Bend, OR	720	7.60
Everett, WA	1,955	5.12
Hillsboro, OR	924	4.90
Hood River, OR	582	6.06
Kirkland, WA	329	8.60
Milwaukie, OR	370	6.00
Oregon City, OR	392	4.70
Redmond, WA	731	3.23
<b>Salem, OR</b>	<b>1,188</b>	<b>6.90</b>
Spokane, WA	1,965	6.36
Springfield, OR	647	2.87
Vancouver, WA	654 (core)	5.68

**APPENDIX C**

**Off-Street Individual Peak Hour Occupancies Comparison ('07, '08, '09, '10 & '11)**

**All Surveyed City Off-street Facilities (In and outside of Parking District)**

Off-Street Parking Structure Occupancies – Individual Peak Hours							
	Garage/Lot	Criteria	2007 Survey	2008 Survey	2009 Survey	2010 Survey	2011 Survey
Downtown Parking District	<b>Marion Parkade</b> (1,063 stalls)	<i>Peak Hour</i>	1 – 2 pm	2 – 3 pm	2 – 3 pm	1 – 2 pm	1 – 3 pm
		<i>PH Occupancy</i>	21.4%	34.2%	38.1%	40.4%	42.1%
		<i>Stalls Available</i>	835	699	658	634	616
	<b>Chemeketa Parkade</b> (642 stalls)	<i>Peak Hour</i>	12 – 1 pm	2 – 3 pm	2 – 3 pm	2 – 3 pm	1 – 2 pm
		<i>PH Occupancy</i>	57.2%	50.6%	53.1%	48.1%	55.9%
		<i>Stalls Available</i>	275	317	301	333	297
	<b>Liberty Parkade</b> (378 stalls)	<i>Peak Hour</i>	11 am -	2 – 3 pm	1 – 2 pm	2 – 3 pm	11 a – 12 p
		<i>PH Occupancy</i>	76.2%	64.0%	66.9%	61.6%	50.8%
		<i>Stalls Available</i>	90	136	125	145	186
	<b>Municipal Lot</b> (27 stalls)	<i>Peak Hour</i>	N/A	10 – 11 am	9 am – 1 pm	1 – 2 pm	9 a – 12 p
		<i>PH Occupancy</i>	N/A	100%	100%	100%	96.6%
		<i>Stalls Available</i>	N/A	0	0	0	1
	<b>Riverfront Surface Lot</b> (167 stalls)	<i>Peak Hour</i>	11 am –	10 – 11 am	Noon – 1	Noon – 1	10 – 11 am
		<i>PH Occupancy</i>	33.5%	61.1%	71.3%	43.7%	43.7%
		<i>Stalls Available</i>	111	65	48	94	94
Outside District	<b>Pringle Garage</b> (490 stalls)	<i>Peak Hour</i>	10 am – 11	Noon – 1	Noon – 1	1 – 2 pm	11 a – 12 p
		<i>PH Occupancy</i>	54.5%	58.2%	51.2%	46.9%	41.4%
		<i>Stalls Available</i>	223	205	239	260	287
	<b>South Riverfront Park</b> (72 stalls)	<i>Peak Hour</i>	11 am –	6 – 7 pm	Noon – 1pm	10 – 11 am	5 – 6 pm
		<i>PH Occupancy</i>	70.8%	98.6%	97.2%	93.1%	68.1%
		<i>Stalls Available</i>	21	1	2	5	23