

Parking Study

Corvallis Downtown Parking Study

Phase 1: Parking Inventory Analysis

Final Report

Corvallis, Oregon

January 2001

Final Report Issued April 2001

Corvallis Downtown Parking Study

Corvallis, Oregon

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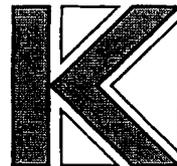
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Section 1

Introduction

Introduction

The *Corvallis Downtown Parking Study* has been initiated in conjunction with the City's goals for achieving a sustainable downtown. The study is a collaborative effort of the City staff, the Parking Commission, and the consultant team. Additionally, public forums were held to obtain input and identify concerns among members of the community. The objective of the study is to enhance opportunities for downtown development through implementation of effective parking and transportation demand management strategies.

Downtown Corvallis is an essential element of the community, contributing to the identity and character of the City; acting as an economic engine for sustainability and growth; and, providing a place where citizens and visitors can come together to live, work, shop, and recreate. Preserving and promoting the downtown has strategic value not just to downtown, but also to the entire City and neighboring communities. The parking and transportation systems that serve downtown are intrinsically linked to the accessibility, attractiveness, and desirability of the area.

This document reports the findings of Phase 1 of the *Corvallis Downtown Parking Study*. The objective of this first phase of the study was to develop a comprehensive understanding of the City's parking system including related policies and past studies, parking fees and revenues, public perceptions about parking and other access modes, and the existing and forecast parking supply and demand characteristics. These findings will support the efforts of Phase 2, which will identify a combination of parking management and parking supply modifications, in combination with alternative access strategies, to best address forecast parking needs in Corvallis, and ultimately recommend a strategy for meeting future parking and access requirements in downtown Corvallis.

The specific tasks documented in this report are: a review of existing policies, related studies, and parking fees and revenues (Section 2); a survey of Downtown Corvallis employees, residents, and visitors (Section 3); a study of existing parking inventory and utilization characteristics (Section 4); and, a forecast of future parking conditions (Section 5).

Section 2

Background Policy and Document Review

Background Policy and Document Review

This section summarizes a review of existing City of Corvallis (the City's) policies and recent studies that relate to parking in downtown Corvallis. A summary of parking fees and current and projected parking revenues is included as well. The following documents were included in this review:

- *Land Development Code (LDC)* requirements related to parking;
- *1997-98 Employee Transportation Task Force Report* on employee travel modes;
- *City of Corvallis Transportation Demand Management Plan*;
- *City of Corvallis 1995 Downtown Parking Study*; and
- Downtown Corvallis Association parking data collected in November 1996.

Draft Land Development Code, City of Corvallis

Parking requirements associated with new developments in Corvallis are contained in Chapter 4.1 of the City's *Land Development Code (LDC)*. Recent code revisions are in draft form. The parking code requirements in the general *LDC*, as well as those specific to the Riverfront area, will be key factors in the evaluation of parking and alternative access solutions during Phase 2 of this study.

The stated purpose of the parking requirements is to ensure "sufficient parking in close proximity to the various uses for residents, customers, and/or employees and to maintain traffic carrying capacity of nearby streets." Although requirements are specified for both vehicles and bicycles, this review deals specifically with vehicle parking requirements.

The parking requirements include minimum requirements for the number of parking spaces that must be included with new developments or redevelopment of existing properties. According to the code:

"...When a building is changed from one use type to another use type, if the new use results in additional parking requirements of two or fewer spaces, no additional parking is required. However, if the new use results in an increase in parking requirement of more than two, the full increase must be provided."

Reductions in the minimum parking requirements may be allowed based on provision of additional bicycle parking or proximity to transit service. However, the code limits the reduction to ten percent of the minimum. Chapter 4.1 indicates that further reduction can be considered for shared parking under the Planned Development process outlined in Chapter 2.5. However, no specific guidelines related to minimum parking requirements were identified in that chapter of the code. The maximum parking allowed under the city code is 130 percent of minimum parking. *The parking requirements for specific land uses can be found in Appendix A.*

In addition to the general City of Corvallis draft *LDC*, specific requirements are being developed for the Riverfront area. The draft parking requirements for the Riverfront District were also reviewed. *That review is provided in Appendix B.*

1997-98 Employee Transportation Task Force Report, Corvallis Chamber of Commerce

The Corvallis Area Chamber of Commerce Business Advocacy Committee and Board of Directors commissioned this study in the fall of 1997. The findings regarding employee mode choice will be useful in evaluating the effectiveness of alternative mode services as part of Phase 2 of this study. The objectives of the study were to:

- Research current and future employee commuting patterns, parking issues, transportation concerns, and mode preferences;
- Explore alternative transportation programs for employees and local employers; and,
- Open communications with other regional organizations.

The survey included all employees from 18 major employers, as well as faculty, staff, and students from Oregon State University. Employers with 100 or more employees were invited to participate. Although survey respondents were grouped into those living within and outside of the Corvallis City limits, no distinctions were made for employees working downtown versus working in the rest of the city. The majority of employers included in the study are not located in the downtown study area.

The study revealed that approximately 84 percent of Corvallis employees usually drive alone to work, with 80 percent indicating that convenient alternative modes were not available. More than half of the survey participants had considered an alternative mode. The top alternative mode considered for those participants living inside the city limits was walking, while participants living outside the city listed carpools as the top mode considered.

Among the questions included in the survey, respondents were asked to rank factors that would increase use of alternative travel modes. For each of the transportation modes identified, the factors listed as most effective to increase usage are shown in Table 1. *The Project Overview from the Employee Transportation Task Force Report, including key findings and draft recommendations, can be found in Appendix C.*

Table 1
Factors Most Likely to Influence Alternative Mode Travel

Mode	Top Two Factors to Increase Usage	
	Residence Inside City Limits	Residence Outside City Limits
Carpool/Vanpool	Employer incentives Preferential parking at work	Employer incentives Car provided at work for travel/ emergency
Bicycle/Walk	Improved bike lanes Safety of bike lanes	Improved bike lanes Employer incentives
Bus	Increased frequency of pick-up Protection from weather at bus stop	On-time service Increased frequency of pick-up

Transportation Demand Management Plan, City of Corvallis

In December 1998, the Corvallis City Council adopted a *Transportation Demand Management (TDM) Plan* as part of an update to the Transportation System Plan for improved pedestrian and bicycle travel. In addition to infrastructure improvement projects, the *TDM* plan listed several actions that “may be appropriate” for the City to undertake to support an “aggressive, voluntary TDM program.” Several of these actions are directly or indirectly related to the City’s parking conditions.

The specific action most relevant to this parking study is the recommendation that reduced parking maximums and minimums be considered, although no specific methods or approaches were identified for determining the reduction. The plan includes several components that should be considered in Phase 2 of this parking study. These components deal with items such as improved facilities for bicycles and pedestrians, preferential carpool parking, and increased transit service.

City of Corvallis 1995 Downtown Parking Study, Walker Parking

In 1995, Walker Parking conducted a parking study in Downtown Corvallis. The study area included 40 blocks bounded by Harrison Boulevard (north), the Willamette River (east), 6th Street (west), and Washington Avenue (south). The overall study area was divided into six subareas, or zones. The parking zone boundaries were set along Jefferson Avenue, Jackson Avenue, and 3rd Street. No specific land-use or neighborhood characteristics were identified in determining the parking zone boundaries.

The study included identification of parking inventory, an evaluation of parking space occupancy and duration of stay, and parking demand forecasts for 10-year and 20-year horizons. Alternatives for developing future parking facilities were also provided.

The parking study conducted by Walker Parking was initiated to assess many issues consistent with the current parking study. However, significant differences in project approach and methodology were identified between the two studies.

For example, the Walker Parking study included 40 blocks, compared to the 54 blocks included in the current study. Moreover, the subarea boundaries in the earlier study were not identified to correspond to particular development patterns or objectives, unlike the current study. Significant differences were also identified in the data collection techniques, as well as methodology for evaluating parking demand. In particular, the Walker study did not differentiate between short-term (customer/visitor) and long-term (employee) parking characteristics.

As a result of these and other differences in project approach and methodology, the findings of the previous study will be of limited or no relevance to the completion of the current study.

Free Customer Parking Study, Downtown Corvallis Association

The Downtown Corvallis Association (DCA) conducted a data collection effort related to use of the Free Customer Parking spaces. License plates of parked vehicles were recorded during one mid-morning and one mid-afternoon observation in March and April of 1997. The license plate data include on-street parking spaces on Madison, Jackson, Adams, Jefferson, and Monroe Avenues, and on 2nd, 3rd, and 4th Streets, as well as spaces at the three Free Customer Parking lots. The data have been provided in summary in hard copies, but no analysis or findings have been provided. These data may be of interest and could be evaluated as a separate task for this parking study.

Parking Rates and Revenue

The City of Corvallis charges for parking on several surface parking lots and at parking meters.} Fees for parking permits increased October 1, 2000. Increased rates for the parking meters went into effect in July 2000, but not all meters have been converted. The previous and increased parking rates for parking meters are summarized in Table 2. The rates are expressed in terms of the rate for the parking time limit and in hourly equivalent rates.

**Table 2
 Metered Parking Rates**

Meter Duration	Previous Rate		New Meter Rate		Percent Increase
	Rate for Maximum Stay	Hourly Equivalent Rate	Rate for Maximum Stay	Hourly Equivalent	
24 minute	\$ 0.25	\$ 0.63	\$ 0.25	\$ 0.63	0
1 hour	\$ 0.30	\$ 0.30	\$ 0.50	\$ 0.50	67
2 hour	\$ 0.50	\$ 0.25	\$ 0.75	\$ 0.38	52
10 hour	\$ 0.50	\$ 0.05	\$ 1.00	\$ 0.10	100

As Table 2 shows, under the increased fees, parking meter charges range from 10 cents per hour at the ten-hour meters, to 63 cents per hour at the 24-minute meters, reflecting increases of zero to 100 percent.

The current and future increased parking fees for permit parking lots are summarized in Table 3. The table shows that the parking permits are scheduled to increase by 47 to 54 percent. The permit fees for the Blue and Green lots are not changing at this time, as it is expected these parking places will be displaced as part of the Riverfront project.

**Table 3
 Permit Parking Fees**

Lot	Location	Previous Monthly Cost	Future Monthly Cost	Percent Increase
Yellow	City Hall Block	\$17	\$25	47%
Red	Fire Station Block	\$13	\$20	54%
Blue*	East of 1 st Street	\$7	NA	NA

*Lots previously designated as "green" permit lots are now managed in combination with the Blue lots.

The operating budget for public parking in the City of Corvallis has been reviewed to identify costs associated with managing the parking system and to generally assess available resources for future parking management activities.

The City of Corvallis has a parking fund that has been in existence since fiscal year 1997-98. Revenues to the fund include revenue from permits, meters, enforcement, and other sources (primarily interest earnings). Operating expenses include support for Community Development, Finance, Police, and Public Works staff and other activities. A summary of the revenues and expenses for three fiscal years (1997-98, 1998-99, 1999-2000) is shown in Table 4. The table shows the average dollar amount, and percentage of the total, for the major categories of operating revenue and expenditures.

**Table 4
 Historic Parking Fund Average Operating Revenues and Expenditures
 Fiscal Years 97-98, 98-99, and 99-00**

Operating Revenues		
Activity	Average*	Percent of Total
License & Permits	\$ 21,276	5%
Charges for service (Meters)	\$111,034	27%
Fines & Forfeitures (Enforcement)	\$242,769	59%
Miscellaneous	\$ 38,405	9%
Total Operating Revenue	\$413,484	100%
Operating Expenditures		
Activity	Average*	Percent of Total
Community Development (e.g. planning activities)	\$ 23,478	7%
Finance (e.g. municipal court activities)	\$ 57,943	16%
Police (e.g. enforcement, administration activities)	\$211,109	60%
Public Works (e.g. maintenance, meter collection)	\$ 29,767	8%
Non-departmental (e.g. administration, overhead)	\$ 31,725	9%
Total Operating Expenditures	\$354,022	100%
Net Operating Income	\$59,462	(14% of revenue)

*Average of Audited FY 97-98, 98-99 and Revised FY 99-00

As Table 4 shows, enforcement (Fines & Forfeitures) is the largest single component of operating revenues, contributing 59 percent of revenues during the three fiscal years of the parking fund history. This corresponds closely to the 60 percent share of expenditures that went to the police department during the same period. On average, just less than \$60,000 was available after expenditures. However, over the course of the three years, the operating surplus ranged from \$109,519 in FY 98-99 to \$9,550 in FY 99-2000.

Although the parking fund has been able to maintain operating revenues in excess of operating expenses during the last three years, the current budget forecast shows negative operating balances for each of the next five fiscal years. Table 5, Forecast Parking Fund Average Operating Revenues and Expenditures Fiscal Years 00-01, 01-02, 02-03, 03-04, and 04-5, shows the five-year budget for parking operations. The table shows that, on average, the forecast expenditures exceed revenues by approximately 16 percent. The individual components of operating revenue and expenditures are expected to remain relatively constant as a proportion of the overall budget.

Table 5
Forecast Parking Fund Average Operating Revenues and Expenditures
Fiscal Years 00-01, 01-02, 02-03, 03-04, and 04-5

Operating Revenues		
Activity	Average	Percent of Total
License & Permits	\$ 28,432	7%
Charges for service (Meters)	\$ 117,144	29%
Fines & Forfeitures (Enforcement)	\$ 240,000	60%
Miscellaneous	\$ 17,106	4%
Total Operating Revenue	\$ 402,682	100%
Operating Expenditures		
Activity	Average	Percent of Total
Community Development	\$ 34,542	7%
Finance	\$ 86,080	18%
Police	\$ 280,166	60%
Public Works	\$ 38,250	8%
Non-departmental	\$ 31,390	7%
Total Operating Expenditures	\$ 470,428	100%
Net Operating Income (Loss)	\$ (67,746)	-16% of Revenue

Table 6 shows a comparison of the first three years and the five-year forecast of the parking fund operating budget. As the table shows, average annual operating revenues are expected to decrease by approximately three percent, while expenditures are expected to increase by approximately 33 percent.

Table 6
Anticipated Change in Operating Revenues and Expenditures

Operating Revenues			
Activity	Average Annual Historic Revenue	Average Annual Forecast Revenue	Percent Change
License & Permits	\$ 21,276	\$ 28,432	34%
Charges for service (Meters)	\$ 111,034	\$ 117,144	6%
Fines & Forfeitures (Enforcement)	\$ 242,769	\$ 240,000	-1%
Miscellaneous	\$ 38,405	\$ 17,106	-55%
Total Operating Revenue	\$ 413,484	\$ 402,682	-3%
Operating Expenditures			
Activity	Average Annual Historic Expenditures	Average Annual Forecast Expenditures	Percent Change
Community Development	\$ 23,478	\$ 34,542	47%
Finance	\$ 57,943	\$ 86,080	49%
Police	\$ 211,109	\$ 280,166	33%
Public Works	\$ 29,767	\$ 38,250	28%
Non-departmental	\$ 31,725	\$ 31,390	-1%
Total Operating Expenditures	\$ 354,022	\$ 470,428	33%
Net Operating Income (Loss)	\$ 59,462	\$ (67,746)	-214%

Table 6 shows that the departments receiving parking fund revenues are forecast to account for expenditure increases of 28 to 49 percent. It should be noted that the forecast does not include the parking fee increases shown in Table 3 and Table 4. No revised estimates of future revenue have been provided reflecting this change. *The five-year plan for the parking fund is provided in Appendix D.*

Section 3

Existing Parking Conditions

Existing Parking Conditions

This section describes the data collection and analysis of existing conditions in the study area and provides a summary of key issues and areas of constraint in the parking system. The study area boundaries are shown in Figure 1. As the figure illustrates, study area boundaries have been established for *principal* and *supplementary* study areas. The principal study area was defined as part of the original scope of this parking study. Figure 1 also illustrates the Free Customer Parking area, which was included in the analysis. The primary elements included in the analysis of existing conditions are described below.

Study Area—Subarea--Designations

The focus of the parking analysis under existing conditions is to: inventory parking throughout the study area, including the number and type of parking spaces available; obtain weekday hourly parking counts throughout the study area and determine current utilization of parking supplies; and, obtain hourly duration/turnover counts on targeted corridors and surface lots in the study area to assess average duration of stay and average parking turnover. The principal study area was divided into five subareas for refined analysis. Boundaries for parking subareas were defined based on the predominant land use characteristics.

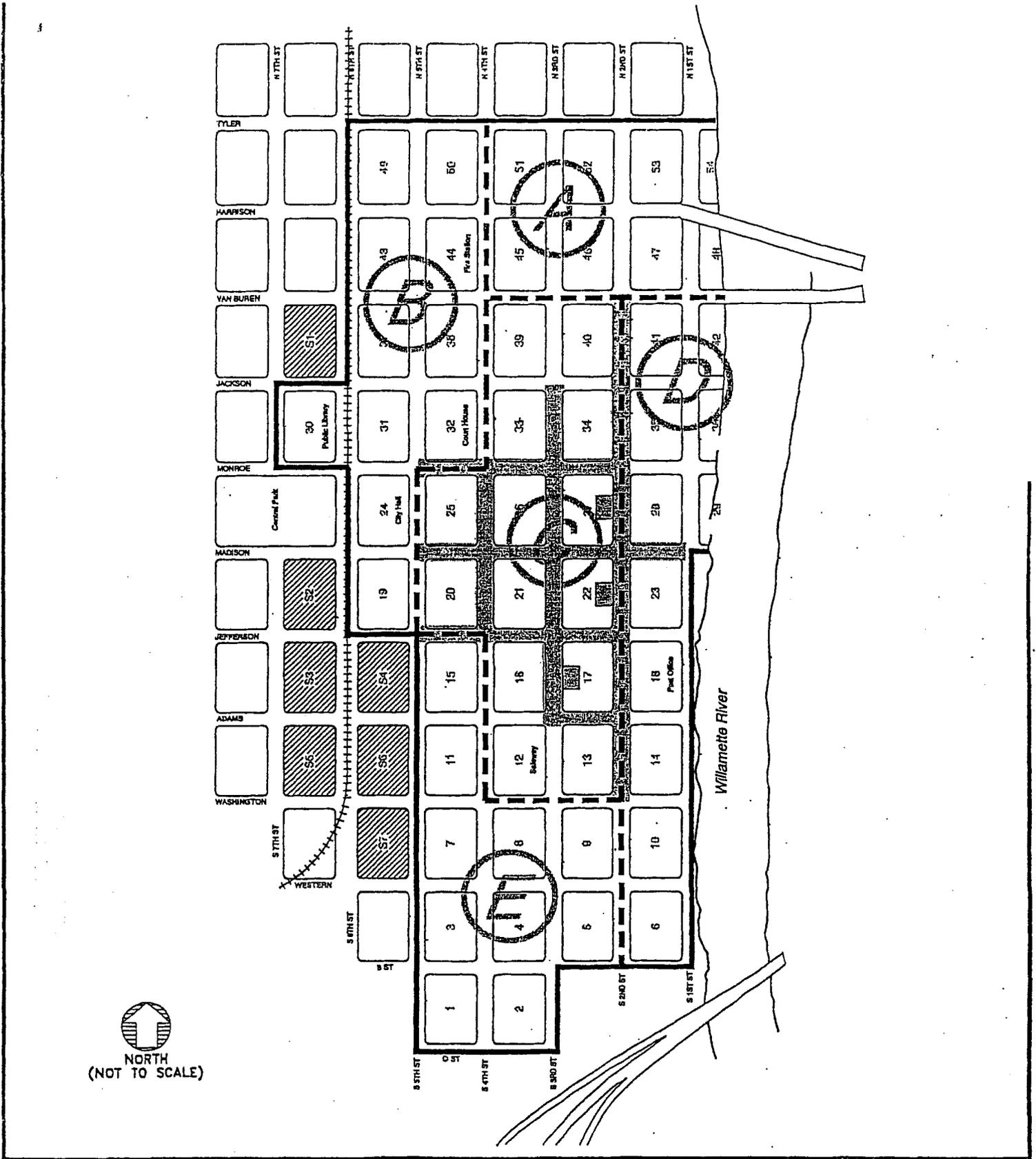
Northern Transition Zone (Subarea A): The northern part of the study area. This subarea includes several large commercial operations, with two hotels and a Hollywood Video store. Other land uses are residential and low-density commercial. Many single-family homes are being/have been converted to small office and/or retail uses.

Civic Neighborhood (Subarea B): Includes City Hall, the Library, the Court House, and the Fire Station, as well as neighboring blocks with relatively low-density, mixed uses.

The Downtown Core (Subarea C): Includes the highest density retail. The Free Customer Parking area is almost entirely within this zone.

Riverfront (Subarea D): All of the blocks east of 2nd Street and South of Van Buren. Subarea D is distinct in that its inventory includes most of the public permit and unrestricted surface lots. The implication is that much of the parking supply in Subarea D is designed to serve parking demand generated outside its boundaries.

Southern Transition Zone (Subarea E): Includes a relatively high proportion of residential uses, including multi-family. Some low-density office, industrial, and retail uses exists as well.



LEGEND

-  Principal Study Area Border
-  Sub Area Border
-  Sub Area Identifiers
-  Free Parking Zone
-  Principal Study Area Block ID
-  Supplemental Study Area Block ID

STUDY AREA

DOWNTOWN PARKING STUDY
 CORVALLIS, OREGON
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FIGURE
 1



The supplemental study area was defined to address concerns about employee parking in the residential neighborhood west of downtown. *The findings of the supplemental study area analysis are provided in Appendix E.*

Parking Inventory Designations

Throughout this study, the types of parking spaces are differentiated in several ways, as described below.

- *Public* and *private* parking distinguishes between parking spaces available to the general public, and those that are restricted to specific users. Permit lots and free customer parking lots are examples of public parking, as defined in this evaluation. Private parking is frequently called *accessory* parking, since it is related to a specific development. Public parking offers the most opportunity for management by public jurisdictions. For that reason, distinctions between public and private parking are emphasized in the analysis of existing conditions.
- *Long-term* and *short-term* parking usually refers to employee and customer/visitor parking, respectively. Long-term (greater than four hours) and short-term (up to four hours) parking needs often represent competing demands. The importance of adequately addressing both long-term and short-term access concerns is frequently a key challenge to establishing parking policies.
- *On-street* and *off-street* parking designations are frequently of interest in parking condition analyses, in part because on-street spaces are typically considered most convenient for customers in a downtown setting.

Existing Parking Management Programs

The City of Corvallis uses several mechanisms to manage the existing public parking supply, including signed and metered time restrictions, designated free customer parking, and employee permit and free parking areas. Other parking areas have been designated for specific users, such as county and police vehicles and library patrons. The City's existing parking programs are summarized below.

Public Long-Term Parking

The City of Corvallis provides several types of parking for long-term use (primarily employees). These include free unrestricted parking lots, permit parking lots, ten-hour on-street parking meters, and on-street uncontrolled parking.

Free unrestricted parking lots are available at several locations east of SW 1st Street. A relatively new surface lot is available south of Western Boulevard; two un-striped, gravel lots are located between Jackson and Harrison Avenues; and new paved parking is available on 1st Street between Van Buren and Tyler Avenues.

The City has a *permit-parking program* that applies to four surface parking lots in Downtown.

Yellow Permit: There are 33 Yellow Permit parking spaces in the parking lot located behind the City Hall. The Yellow Permit costs \$50 for three-months. There is a waiting list for these permits, and according to City staff, the person next on the list has been waiting since around 1992.

Red Permit: The Red Permit lot is located in the northwest quadrant of 4th Street and Van Buren Avenue, south of the fire station. The cost of a permit for one of the 26 parking spaces is \$40 per three-month period. There is a waiting list for Red Permits and the typical turnover is approximately three months.

Blue/Green Permit: Originally, Blue and Green Permit lots were kept separate, but the total of 103 spaces has since been combined, due to the fact that there are no significant distinctions in service. The Blue/Green lots are located east of 1st Street, between Madison and Jackson. The cost is \$20 per quarter. Demand for the Blue/Green Permits has declined since the construction of free parking lots at the north and south ends of the study area. There is no waiting list for these permits.

Approximately 310 *long-term metered* spaces are available in the study area, including ten located in the fire station block. The meters are for ten hours and cost five cents for each hour.

Unrestricted on-street spaces are an option for long-term parking. There are approximately 450 long-term unrestricted on-street spaces in the study area. These are located at the northern and southern portions of the study area, particularly on residential streets.

Public Short-Term Parking

The City of Corvallis has a designated Free Customer Parking area in the commercial core of Downtown. Free customer parking is provided in three surface lots and on-street spaces in the core. The free customer parking restriction is in place between 10:00 a.m. and 4:30 p.m. In addition to the free customer parking, on-street short-term parking in the study area is managed with parking meters and signed restrictions. Short-term parking meters have time limits of two hours or less. Signed time limits include restrictions of 15 minutes, 30 minutes, 1 hour, or 2 hours.

Existing Parking Inventory

The inventory of parking spaces was determined from on-site counts in the study area. The data include on-street and off-street parking spaces¹. All spaces were identified by the location, type of control (e.g. metered, signed, uncontrolled); time limits; associated land uses (if applicable); and other attributes. Special use parking (e.g., handicapped spaces) was identified for the on-street supply only. The inventory of off-street parking spaces does not include special use spaces.

¹ For unmarked parking spaces on the street, the number of parking spaces was determined by assuming 20 to 25 feet per stall, depending on curb cuts and other obstacles, as well as observed occupancy.

The existing parking inventory in the principal study area is summarized in Table 7. Parking Inventory Summary. A map identifying the locations of the parking supply for both principal and supplementary study areas is provided in Figure 2. Wherever multiple private parking lots are located on a single block, they have been combined for the purpose of the analysis.

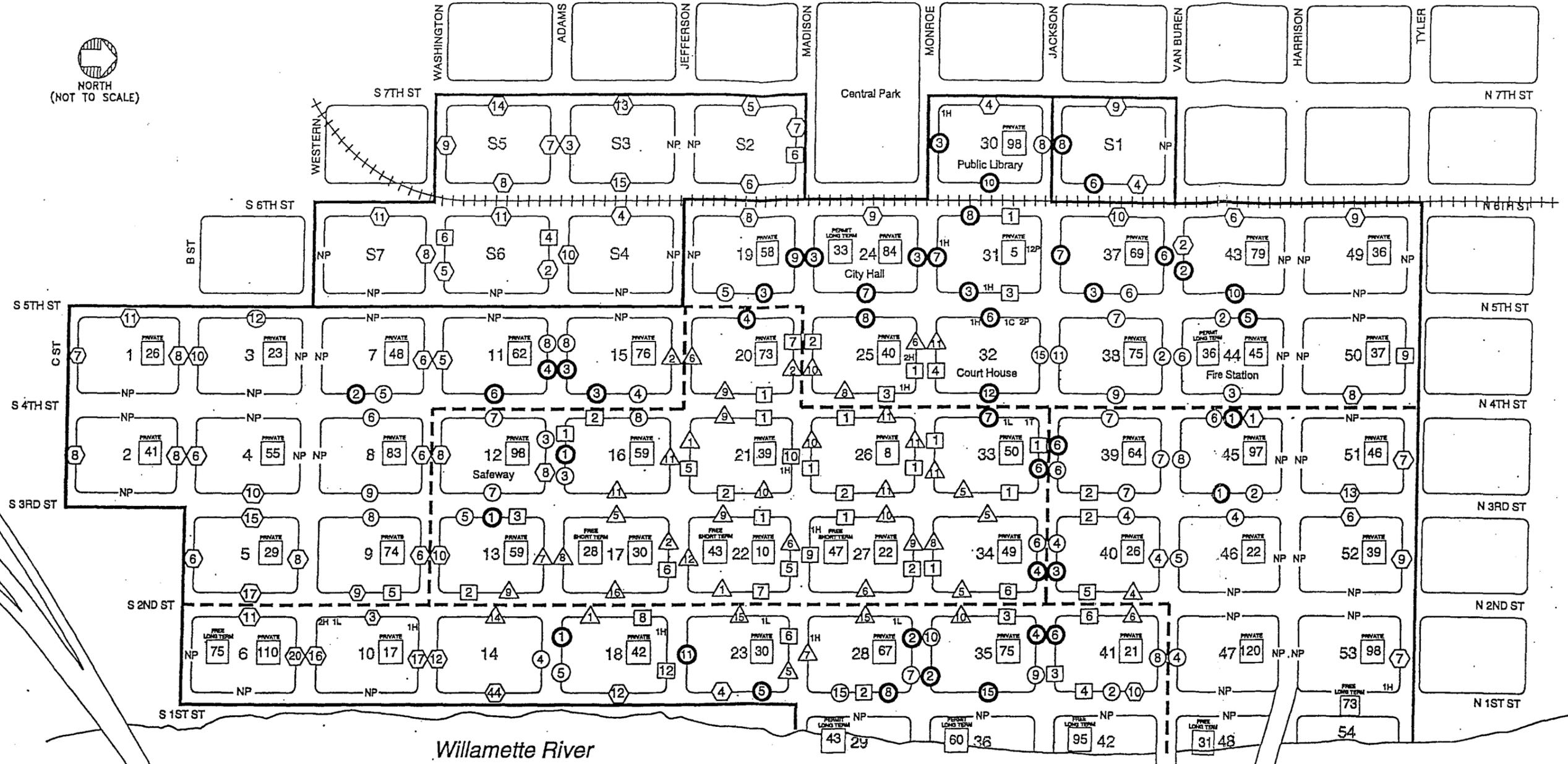
Table 7
Summary of Existing Parking Inventory

Parking Category	Parking Type	Location		Total
		On-Street	Off-Street	
Private	Accessory	--	2,411	2,411
Library (Quasi-Private)	Accessory	--	77	77
Total Accessory		--	2,488	2,488
Short Term, Public	Free Customer Parking	350	118	468
	Short-Term Meter	208	--	208
	Short-Term Signed	161	--	161
Long Term, Public	Uncontrolled Long Term	449	274	723
	Long-Term Permit	--	162	162
	Long-Term Meter	300	10	310
Total General Use		1,468	564	2,032
Special Use, Public	Handicapped	15	--	15
	Loading Zone	4	--	4
	Taxi Space	1	--	1
	Police	14	--	14
	County	1	--	1
Total Special Use		35	--	35
Total		1,503	3,052	4,555

As Table 7 shows, there are approximately 4,555 parking spaces in the principal study area, of which approximately 55 percent (2,488) are accessory and are restricted to customers/visitors/tenants of specific uses, and 45 percent (2,032 spaces) are public short-term and long-term spaces. Special use categories such as handicapped and taxi spaces total approximately 35 spaces. Some of the publicly owned parking spaces are restricted to specific uses (e.g. the library or City Hall employee parking). In the analysis for the Downtown Corvallis Parking Study, these were considered private, accessory parking spaces. Similarly, on-street parking spaces designated for disabled parking, taxi stands, police, and County are reported in the inventory, but are not included in the analysis.

Existing Parking Utilization

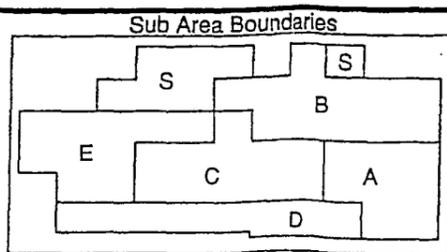
Parking utilization measures the level of occupancy of the parking supply during a given period and is expressed as a percentage of parking supply. Parking in downtown areas is generally considered “effectively full” when it reaches 85 percent utilization. This level of utilization provides a margin for daily and seasonal fluctuations, and provides a parking supply buffer to facilitate the decision-making and implementation process to address parking capacity constraints.



Note: All private off-street facilities have been combined within each block
 Short-term parking is up to four hours, and long-term parking is greater than four hours.

LEGEND

H - Handicapped	□ - Short Term (signed)	# - Off-Street Parking Spaces
L - Loading	● - Short Term (metered)	# - Principal Block ID
T - Taxi	○ - Long Term (metered)	S# - Supplemental Block ID
P - Police	△ - Free Customer	
C - County	○ - Uncontrolled	
NP - No Parking		



EXISTING PARKING INVENTORY

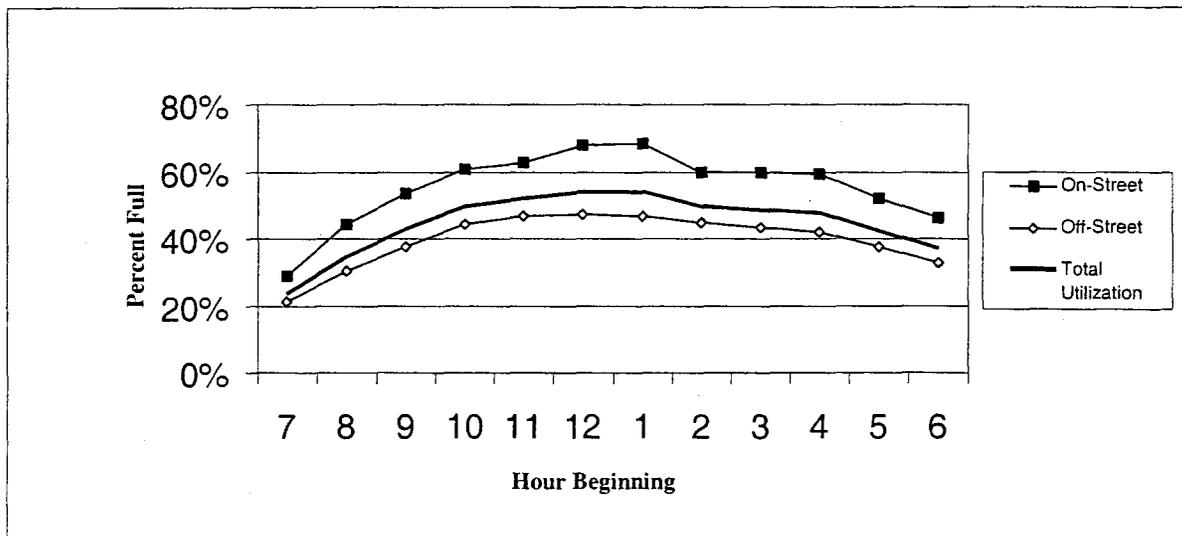
DOWNTOWN PARKING STUDY
 CORVALLIS, OREGON
 AUGUST 2000

FIGURE 2

To assess parking utilization, parking counts were conducted hourly between 7:00 a.m. and 7:00 p.m. throughout the study area on Tuesday, May 9, 2000. Parking counts were scheduled to reflect typical weekday parking conditions. In particular, Mondays and Fridays were excluded from consideration, as were holidays, days adjacent to holidays, and other conditions that might influence typical patterns of use in the downtown. Other criteria that were observed in scheduling data collection activities included: no major events generating unusual parking demand; OSU still in regular session; the study period did not coincide with City of Corvallis Transportation Demand Management events; and, no significant construction in the study area. *An evaluation of daily parking demand fluctuation in the study area is provided in Appendix F.*

The parking counts for the entire study area were summarized for each hour of the study period (7:00 a.m. to 7:00 p.m.). A *parking demand profile* illustrates the changing level of parking demand throughout the day. The hourly parking demand profile for the study area is illustrated in Figure 3, *Areawide On-Street vs Off-Street Weekday Parking Utilization Profile*. In the figure, parking occupancy profiles are depicted for On-street, Off-street, and Total Parking.

Figure 3
On-Street vs. Off-Street Weekday Parking Utilization Profile



As Figure 3 illustrates, parking demand in the study area is highest for two hours between 12:00 noon and 2:00 p.m. During both hours, utilization of on-street spaces was 68 percent and off-street utilization was 47 percent, for an overall occupancy of 54 percent. The peaking characteristics of the subareas are summarized in Table 8. *Appendix G provides a summary of on-street versus off-street parking utilization. Appendix H provides a summary of short-term versus long-term parking utilization. Each appendix provides an overall summary for the entire study area and separate summaries for each subarea.*

Table 8
 Existing Subarea Peak Parking Occupancy

Subarea	Spaces	Peak Hour	Peak Parking Occupancy			2 nd Highest Hour	2 nd Highest Occupancy		
			On-Street	Off-Street	Total		On-Street	Off-Street	Total
A	764	12 to 1	41%	36%	37%	1 to 2	41%	32%	34%
B	896	3 to 4	77%	52%	60%	10 to 11	69%	55%	60%
C	1097	12 to 1	85%	66%	73%	1 to 2	83%	63%	71%
D	1015	1 to 2	77%	51%	61%	12 to 1	79%	50%	61%
E	748	11 to 12	42%	47%	45%	10 to 11	41%	42%	41%

As Table 8 shows, the two highest hours of parking utilization in Subareas A, C, and D are between noon and 2:00 p.m. In particular, on-street parking is at or approaching effective capacity (85 percent full) during the peaks in Subarea C. Free Customer Parking spaces, which are almost entirely within Subarea C, were 85 percent occupied during the peak hour.

The peak hour for Subarea B is unique, in that parking demand peaks during mid-morning (2nd Highest Hour) and mid-afternoon (Peak Hour). This is probably reflective of strong employee parking demand in this Subarea. Overall parking demand in Subarea E shows similar characteristics to Subarea B, reflecting a relatively high proportion of employee parking. However, the utilization of on-street parking is highest between noon and 1:00 p.m., similar to the overall study area.

Based on the utilization profiles for the Subareas, the hour from noon to 1:00 p.m. was identified as the study hour for the parking condition's analysis in the principal study area. Additionally, demand patterns in Subarea B were determined to be sufficiently distinct to warrant a focused analysis for its peak hour of 3:00 to 4:00 p.m.

Existing Weekday Peak Hour Parking Utilization

As indicated above, the analysis of existing parking conditions reveals overall utilization of 54 percent during the peak hour. In itself, this level of utilization does not indicate constrained parking conditions. However, most of the parking supply is private and therefore not available for general use. The utilization of public and private parking is shown in Figure 4. The figure shows that the peak hour utilization of public spaces is significantly higher (64 percent) than for private spaces, which are only 46 percent occupied during the peak hour.

Figure 4
Areawide Public vs Private Parking Supply and Peak Hour Utilization

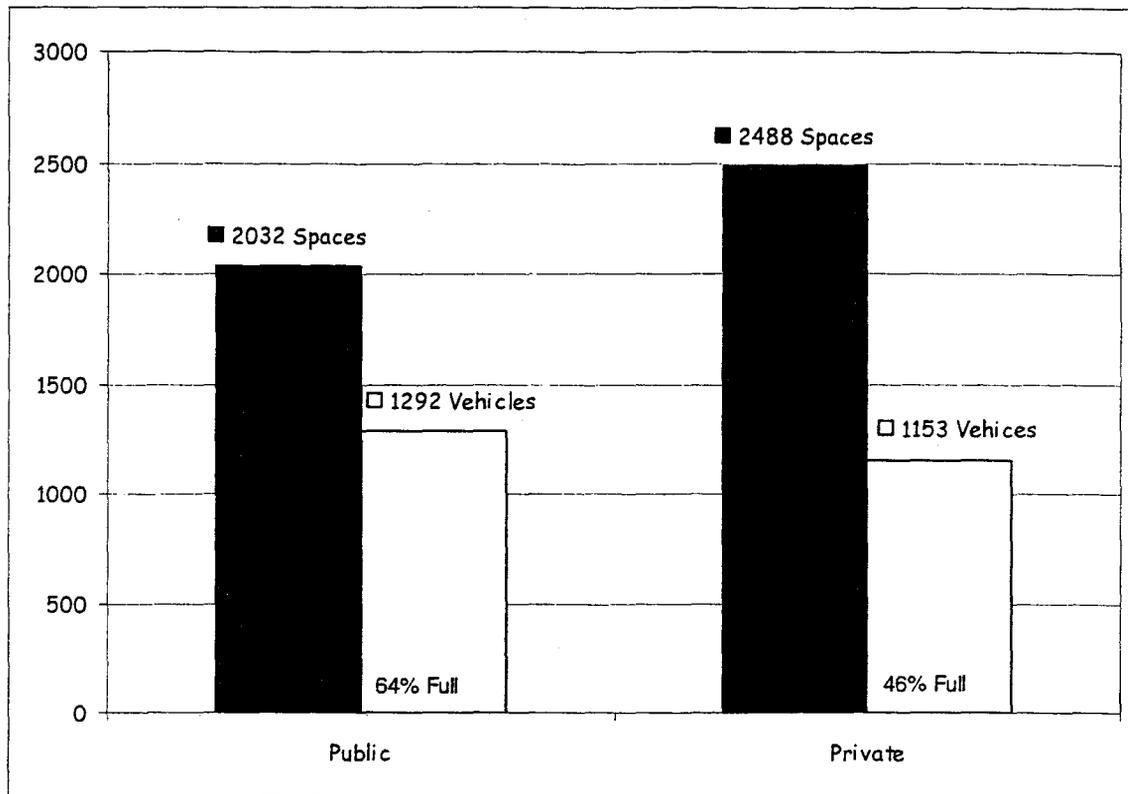
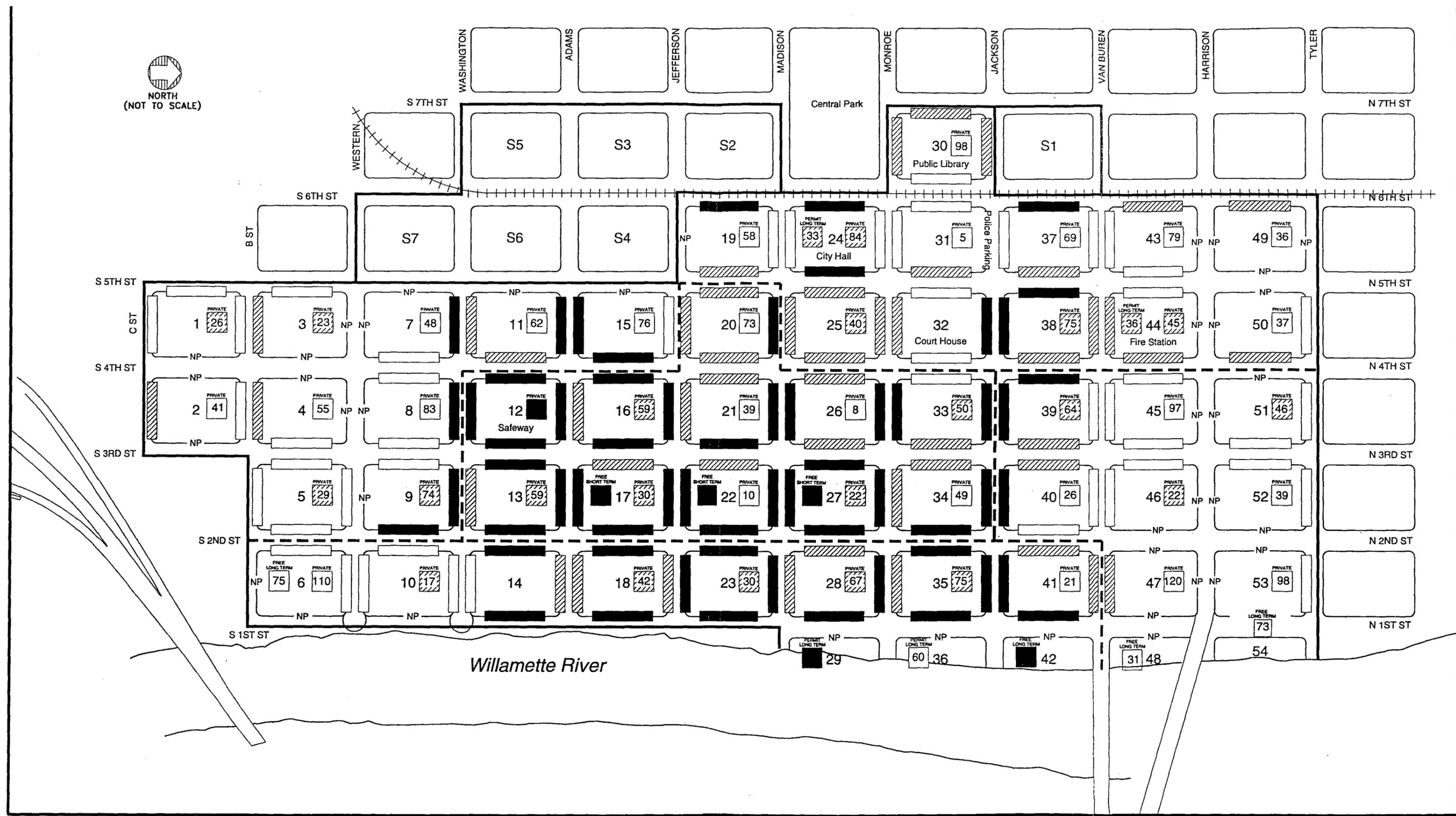


Figure 5 is a map depicting peak hour parking utilization for each block face and for surface parking on each block. In the figure, utilization was divided into three levels:

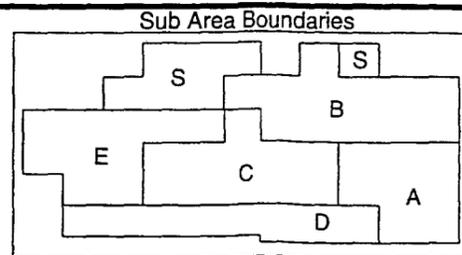
- less than 50 percent full (under utilized);
- between 50 percent and 85 percent; and,
- 85 percent or higher utilization (effectively full).

As Figure 5 shows, on-street parking utilization is effectively full in many areas of the downtown core during the peak hour. Most of the available on-street capacity is north of Van Buren Street and south of Western Avenue. Surface lots in the northern and southern portions of the study area are underutilized, with many lots below the 50 percent utilization level. In the Free Customer Parking area, both on-street parking and the three surface lots for Free Customer Parking (Blocks 17, 22, and 27) were effectively full. On-street parking spaces adjacent to the Free Customer Parking area were also highly utilized.



LEGEND

% Full during Peak Hour	#	Off-Street Parking Spaces
		<50%
		50%-84%
		>84%
		Principal Block ID
		Supplemental Block ID



**EXISTING PARKING UTILIZATION
WEEKDAY PEAK HOUR (NOON TO 1 PM)**

DOWNTOWN PARKING STUDY
CORVALLIS, OREGON
DECEMBER 2000

FIGURE

5



4070/DWGS/SPKG2 (UTIL)

Permit parking in lot 24 (Yellow Permit) was not full during the peak hour, but it was effectively full during the regular workday hours prior to and after the peak. The Red Permit lot was approximately 70 percent full during the study area peak hour and only 76 percent full at its highest level (1:00 to 2:00 p.m.). The Blue/Green Permit lot in Block 29 was 86 percent full during the peak hour, while the Blue/Green lot in Block 42 never exceeded 50 percent full. The only private parking lot that was at or above 85 percent full is the Safeway lot (Block 12).

The generally low utilization levels among private parking supplies are consistent with the typically restrictive nature of private parking availability. This is evident in all areas, including areas where public utilization levels are high. Conversely, public parking supplies are available for general use and have much higher utilization levels.

The parking conditions on the public inventory are the focus of the remainder of the existing conditions analysis for two main reasons: first, the higher utilization levels reflect greater degree of parking constraints; and second, the public parking supplies are under the City's jurisdiction, offering increased opportunities for near-term management.

Subarea Peak Hour Utilization

As explained above, the principal study area was divided into five Subareas A, B, C, D and E. Each subarea was evaluated separately during the areawide peak hour in order to evaluate parking conditions relative to neighborhood characteristics. Key findings for each subarea are summarized below. *The utilization information for each subarea can be found in Appendix I. Appendix I provides peak hour utilization information for long-term parking by type and for short-term on-street versus short-term off-street parking.*

Subarea A: Northern Transition Zone

Approximately two-thirds of the 764 parking spaces in Subarea A are private. Most of the 252 public parking spaces are for long-term or unrestricted parking. This leaves only 24 short-term public spaces in the area. During the peak hour, the utilization for the public spaces is low at 30 percent. The breakdown of public parking utilization during the peak hour in this area is as follows:

- Short-term on-street: 58% occupancy of 24 spaces
- Short-term off-street: None
- Long-term on-street: 38% occupancy of 124 spaces
- Long-term off-street: 14% occupancy of 104 spaces

Subarea B: Civic Neighborhood

Slightly fewer than 900 parking spaces were identified in Subarea B, slightly more than one-third of which are public. Both public and private parking has relatively low peak hour utilization (59 percent and 43 percent respectively). However, long-term parking utilization is approaching capacity. Approximately 78 percent of long-term on-street spaces were occupied during the peak hour, compared to just 38 percent of on-street short term. The breakdown of public parking utilization during the areawide peak hour is as follows:

- Short-term on-street: 38% occupancy of 137 spaces
- Short-term off-street: 45% occupancy of 77 spaces
- Long-term on-street: 78% occupancy of 130 spaces
- Long-term off-Street: 64% occupancy of 69 spaces

Recall that the parking demand profile for Subarea B is distinct in that the peak demand occurs during mid-morning and mid-afternoon. During the subarea peak (3:00 to 4:00 p.m.) long-term on-street spaces were approaching effective capacity at 82 percent utilization. Conversely, on-street short-term spaces in this subarea have relatively low utilization. Only 58 percent of on-street short-term spaces were occupied during the subarea peak.

Furthermore, Figure 5 illustrates that most of the on-street available parking capacity is north of Van Buren Avenue. Due to relatively high traffic volumes, Van Buren and Harrison Avenues create an informal barrier, so parking spaces to the north are underutilized. Excluding blocks north of Van Buren Avenue, 91 percent of the on-street long-term parking spaces are full during the subarea peak hour (3:00 to 4:00 p.m.). However, the short-term on-street spaces south of Van Buren Avenue are underutilized at 65 percent. In fact, several block faces in this subarea show low utilization of short-term metered parking.

Subarea C: Downtown Core

There are approximately 1,100 parking spaces within Subarea C. Slightly more than half of the parking is public, primarily serving short-term demand. This reflects the concentration of retail and other commercial activities in this subarea. During the peak hour, public parking is effectively full in this area, with overall utilization of 86 percent. The breakdown of public parking utilization in this area is as follows:

- Short-term on-street: 83% occupancy of 377 spaces
- Short-term off-street: 90% occupancy of 118 spaces
- Long-term on-street: 94% occupancy of 65 spaces
- Long-term off-street: None

Subarea D: Riverfront

Subarea D has 653 public and 362 private parking spaces. Approximately three-quarters of the public parking supply is for long-term use. These include free, long-term spaces in surface lots (Blocks 6 and 42), and Blue Green Permit lots (Blocks 29 and 36). During the peak hour, the overall utilization was 65 percent. The breakdown of public parking utilization in this area is as follows:

- Short-term on-street: 85% occupancy of 156 spaces
- Short-term off street: None

- Long-term on-street: 71% occupancy of 224 spaces
- Long-term off-street: 48% occupancy of 273 spaces

Subarea E: Southern Transition Zone

There are a total of 748 parking spaces in Subarea E. The majority of the spaces, 69 percent (517 spaces), are private parking spaces. All of the public parking spaces in Subarea E are on-street, including 25 short-term and 206 long-term (or unrestricted). The overall utilization for the peak hour was moderate at 50 percent. The breakdown of public parking utilization in this area is as follows:

- Short-term on-street: 80% occupancy of 25 spaces
- Short-term off-street: None
- Long-term on-street: 46% occupancy of 206 spaces
- Long-term off-street: None

Parking Duration and Turnover

Parking duration and turnover analyses were conducted to evaluate the types of parking demand being served by the existing parking supply, and to assess the degree of parking violations with respect to time limits. Parking duration is defined as the amount of time a car occupies a parking space. Parking turnover refers to the number of times a parking space is used by different vehicles over a period of time. Low utilization, short duration, and low turnover might be observed due to frequent or extended periods of vacancy.

Parking Duration/Turnover Data Collection

Duration and turnover data were collected on Thursday, May 11 for targeted locations in the principal study area. Partial license plate numbers² were collected each hour between 9:00 a.m. and 6:00 p.m. on the downtown corridors of 2nd and 3rd Streets, and Jackson, Madison, and Adams Avenues. These corridors were selected because they span most of the study area, including the Free Customer Parking zone, and because they include a variety of land uses and types of parking control. In addition to these corridors, the Free Customer Parking lot on Block 22 was included in the duration data.

Summary of Duration and Turnover Analysis

Parking duration was evaluated for ten-hour metered parking spaces, two-hour metered spaces, Free Customer Parking on-street, and the Free Customer Parking Lot on 2nd Street. A summary of

² Partial license plate numbers are sufficient to identify vehicles parked for more than one hour, without raising privacy concerns among vehicle owners.

findings is provided in Table 9. For each type of parking space evaluated, the table shows the number of spaces included in the evaluation, the peak observed occupancy level, the total number of vehicles served, the average duration of stay, and the average turnover for each space.

Table 9
 Parking Duration Summary

Parking Type	Spaces Evaluated	Peak Utilization	Average Duration	Average Turnover	Vehicles Served
10-Hour Meter	138	83%	4.14 hours	1.6 per day	221
2 Hour Meter	39	64%	1.47 hours	2.8 per day	109
Free Customer On Street	184	92%	1.41 hours	4.7 per day	868
Free Customer Lot	41	100%	2.05 hours	3.6 per day	149

As Table 9 shows, the parking spaces included in the duration analysis reflect relatively high utilization levels. Parking in the downtown Free Customer Parking area was particularly full, reaching 100 percent occupancy in the surface lot (Block 22). Average duration findings for all categories of parking spaces are consistent with the purpose of the spaces. The high utilization is reflected in the strong inverse correlation between duration and turnover for the Free Customer parking³.

The observed parking duration for metered and free short-term on-street parking indicates very similar average durations of around one and one-half hours. However, the high utilization level for the Free Customer Parking is reflected in the significantly higher turnover rate of 4.7 vehicles per day. While free customer parking would be preferable to parking meters, the distinction is likely a function of proximity to core area activities.

Parking Duration Distribution

The average parking duration for short-term parking spaces indicates that the short-term parking supply is serving the intended users. However, the frequency and severity of extended stays can be lost in reports of averages. Figures 6, 7, and 8 show the duration of stay for all vehicles observed in the three types of short-term parking spaces.

As Figure 6 shows, the majority of parkers using the two-hour meters were parked for one or two hours. There were eleven vehicles with durations of three or four hours, and one vehicle occupied the same two-hour metered space throughout the nine-hour data collection period. Given that 109 vehicles were observed in the two-hour metered spaces, approximately 11 percent of parkers violated the time restriction. Note that in areas of high utilization, a single vehicle parked for nine hours occupies space that could serve six vehicles staying for the average duration of around 1.5 hours.

³ For instance, for the Free Customer On-Street parking, average duration multiplied by turnover (1.41 hours * 4.7 vehicles) yields 6.62. This is the average number of hours each space was occupied during the nine-hour data collection period. However, each metered space was occupied 4.12 hours (1.47 hours * 2.8 vehicles). This reflects higher occupancy over the course of the day for the Free Customer Parking.

Figure 6
Observations of Parking Duration (2-Hour Meters)

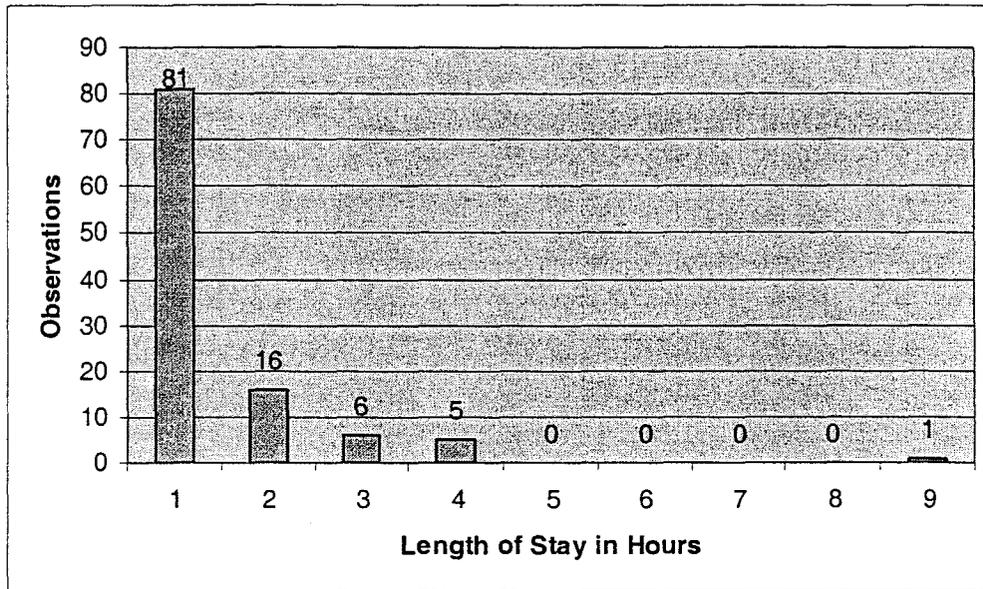
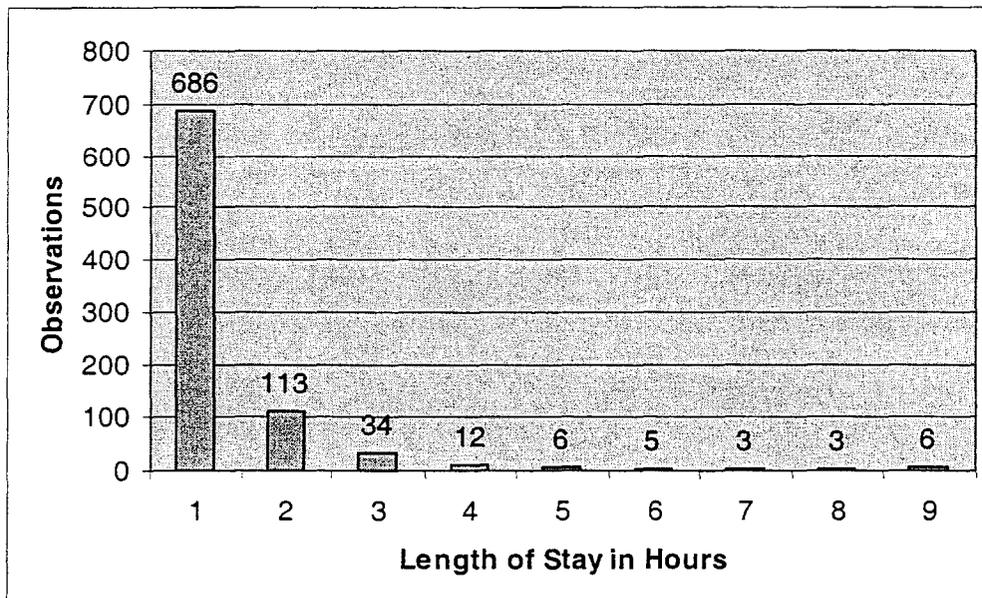


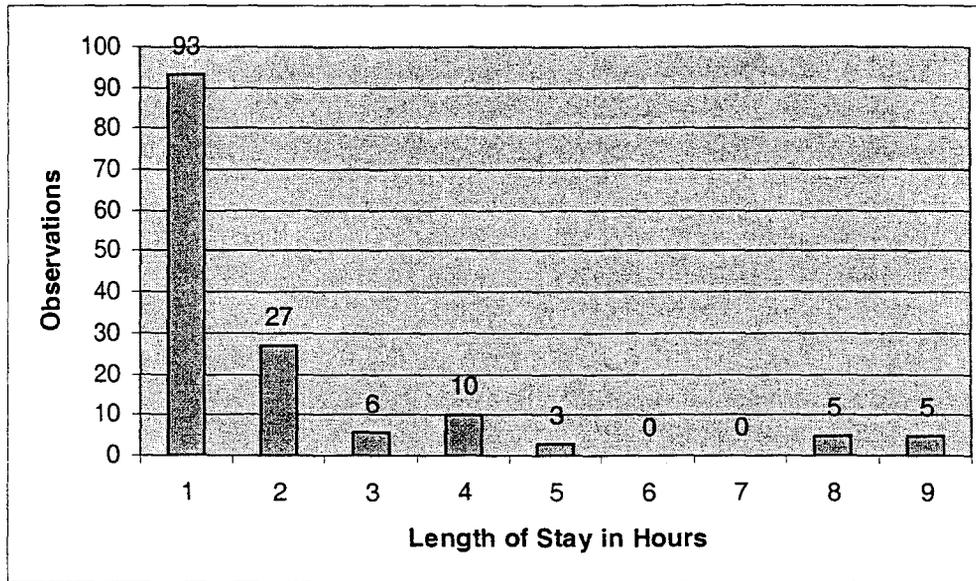
Figure 7 shows the distribution of parking duration for the free, on-street parking in the Free Customer area. The evaluation included 184 such spaces. The figure shows that out of 868 vehicles that used these spaces, 35 vehicles (or around four percent) were parked more than three hours, including nine vehicles that were parked for eight or more hours. Given the very high utilization of these spaces, the long-term parking reflects considerable capacity that is denied to short-term demand.

Figure 7
Observations of Parking Duration (Free Customer On-Street Parking)



Finally, Figure 8 the distribution of parking duration for free customer parking on a surface lot. A total of 149 vehicles were observed parked in the 41-space lot. Most of the vehicles parked for one to three hours. The remaining 23 vehicles (15 percent) were parked for four or more hours, including ten vehicles parked for eight or nine hours. These ten vehicles reflect only seven percent of the total vehicles served, but they occupied 25 percent of the capacity of the lot over the course of the day. Based on the average duration of around two hours, the ten spaces could have served 40 short-term vehicles, instead of ten long-term vehicles.

Figure 8
Observations of Parking Duration (Free Customer Parking Lot)



Summary of Existing Conditions

Parking Supply

There are 4,555 parking spaces identified in the principal study area. About 55 percent (2,488 spaces) are in private ownership and restricted to specific land uses (accessory parking). Most of the remaining spaces are for public use. There were 35 spaces identified for special uses, such as accessible parking, taxi loading zones, and police parking.

The City of Corvallis has approximately 2,032 public parking spaces, including 837 designated for short-term parking. The remaining 1,195 spaces are for long-term parking. Approximately three-quarters of the public parking are on-street spaces. Unrestricted on- and off-street parking are considered long-term because it is an option for employee parking.

The City has several existing programs in place to manage the public parking supply, including Free Customer Parking areas in the core, permit parking lots for long-term (employee) use, unrestricted public parking lots, and parking meters (primarily on-street).

Parking Utilization

Peak parking occupancy in the principal study area occurred for the two-hour period between noon and 2 p.m., when 54 percent of parking spaces were occupied. During this hour, 64 percent of public parking was occupied, while only 46 percent of private, accessory parking was full.

The hourly parking utilization profile in the subareas was generally consistent with the overall study area. The main distinction was in Subarea B, where peak parking demand occurred during the mid-morning and mid-afternoon, reflecting proportionately higher employee demand.

Utilization of long-term public parking in Subarea B is high, with on-street utilization at 78 percent. Both permit lots located in this subarea have waiting lists. Short-term parking has relatively low utilization in the subarea. The 214 public short-term spaces were only 41 percent occupied during the peak hour.

Subarea C (the downtown core) experiences the highest level of utilization, relative to other subareas. Short-term parking was effectively full (85 percent occupied) during the peak hour, and approaching full (at 83 percent) during its second highest hour. The 65 long-term spaces (all on-street) were 94 percent occupied during the peak hour.

In Subarea D, short-term on-street parking (156 spaces) was 85 percent full during the peak hour. On-street long-term parking was 71 percent full. Conversely, surface parking was underutilized. The free unrestricted lot (considered long-term) and the permit lots were less than 50 percent full. These lots are located at the northern and southern portions of the study area.

No significant parking constraints were identified in Subarea E. Public parking was 50 percent full during the peak hour. All public parking spaces in this subarea are on-street.

Parking Duration and Turnover

Average duration findings for all categories of parking spaces are consistent with the purpose of the spaces. Average duration at 2-hour metered spaces and on-street Free Customer Parking spaces was just under 1.5 hours. Average duration in the Free Customer Parking surface lot was just over two hours.

Out of the 109 vehicles that were observed in the two-hour metered spaces, the majority stayed for one or two hours. There were 11 vehicles with durations of three or four hours, and one vehicle occupied the same two-hour metered space throughout the nine-hour data collection period. In other words, 11 percent of parking space users violated the time restriction.

Out of 868 vehicles that used the on-street Free Customer Parking spaces, 35 vehicles were parked for 4 or more hours, including 9 vehicles that were parked for 8 or more hours. Given the very high utilization of these spaces (92 percent in the peak), the long-term parking reflects considerable capacity that is denied to short-term demand.

The Free Customer Parking lot was 100 percent occupied at its peak. Throughout the data collection period, a total of 149 vehicles were observed parked in the 41-space lot. Most of the vehicles (85 percent) parked for one to three hours. The remaining 23 vehicles were parked for four or more

hours, including ten vehicles parked for eight or nine hours. These ten vehicles reflect only seven percent of the total vehicles served, but they occupied 25 percent of the capacity over the course of the day. Based on the average duration of around two hours, the ten spaces could have served 40 short-term vehicles, instead of ten long-term vehicles.

Section 4

Market/User Preference Survey

Market/User Preference Survey

This section summarizes the implementation, statistical validity, and findings of the Downtown Corvallis Market/User Preference Survey. This survey, developed and conducted in May 2000, identifies the parking characteristics of people traveling to Downtown Corvallis, including their mode of access, how close to their destination that people currently park, how close they would prefer to park, and a user rating of Downtown parking. The survey's results will be integrated with the findings from the existing parking conditions analysis and the forecast parking demand analysis to develop parking management strategies for Downtown Corvallis in Phase 2 of this study.

Survey Description

The intercept survey was developed to identify user sensitivity to parking rates, type of parking, and transportation system amenities as well as the attractiveness of alternative modes of transportation and perceptions of the location of parking facilities relative to actual destinations. *A copy of the survey is provided in Appendix J, along with a description of the survey design for statistical validity.* These issues were addressed in the form of thirteen multiple choice and fill-in questions, arranged in the following general categories:

- Trip Purpose and Mode: The reasons for going Downtown and the mode of transportation used to travel to Downtown Corvallis.
- Frequency and Duration: How often patrons go Downtown and how long they stay.
- Parking: Where patrons parked, how many times they parked, and how far away from their destination they actually parked and are willing to park.
- Alternate Mode Improvements: What patrons would like to see the City of Corvallis do to improve the transportation system for pedestrians, bicyclists, and bus riders.
- Parking Perceptions: How patrons perceive Downtown parking and how much they would be willing to pay to park.

Survey Implementation

The survey was implemented on May 25, 2000 between 7:00 a.m. and 6:00 p.m. Throughout the day, the weather was sunny and warm. There were no unusual activities occurring in Downtown Corvallis and Oregon State University (OSU) was in session. The survey was conducted as an intercept survey in which four to seven people⁴ wearing identification stopped people on the street asking them to respond to the survey.

⁴ OSU Students were hired to conduct the intercept survey. Due to class commitments, the number of surveyors varied throughout the day. The surveyors were supervised by a Kittelson & Associates, Inc. employee throughout the duration of the survey.

The surveyors were stationed at the following locations:

- The intersection of 2nd Street and Madison;
- The intersection of 3rd Street and Madison;
- The intersection of 4th Street and Madison;
- The intersection of 3rd Street and Jefferson;
- Outside the Post Office (2nd and Jefferson);
- Outside the New Morning Bakery, (2nd Street between Jefferson and Madison);
- On the Monroe Corridor (between 2nd Street and 5th Street); and
- Outside Starbucks Coffee, on Madison between 4th and 5th Streets.

Survey Findings

The survey findings have been summarized in two categories: all respondents, and respondents who drove to Downtown on the day of the survey. The first section below summarizes the characteristics of all survey respondents. The next section characterizes the travel and parking patterns of respondents who drove Downtown on the day of the survey.

Trip Purpose

The respondents' reasons for traveling to Downtown (trip purpose) are summarized in Table 10. These trip purposes will be used to explore the parking needs of different users. People who work Downtown (28 percent of the survey respondents) are the largest group of Downtown users. The next largest individual user group is shoppers (23 percent of the survey respondents).

Table 10
Trip Purpose

TRIP PURPOSE	Percentage
Work	28%
Shop	23%
Dine out	17%
Business	10%
Entertainment	7%
Live in area	6%
Government	2%
Other	7%

For some of the analyses, the shopping, dining out, entertainment, business, and government services trip purposes were combined to form one group of Downtown users who neither live nor work Downtown. These user types can be combined because their trips tend to have a similar demand for short-term parking. This combined group is referred to as "visitors."

Trip Origin

Of the entire population surveyed, 71 percent responded that they were Corvallis residents. Results were similar when analyzed by group: 69 percent of Downtown employees and 71 percent of visitors are Corvallis residents.

Trip Mode

The most popular mode of transportation to Downtown Corvallis is the private automobile, with 72 percent of respondents driving to Downtown (Table 11). The average vehicle occupancy is 1.2 persons per vehicle (16 percent of the vehicles have more than one occupant). A significant percentage (23 percent) of Downtown users arrives by bicycle or on foot. Only 4 percent of people surveyed arrived by bus.

**Table 11
 Travel Mode**

TRAVEL MODE	Percentage
Drive	72%
Walk	15%
Bike	8%
Transit	4%
Did not respond	1%

The people surveyed were asked how the City could improve services for non-auto modes of transportation. Of those who offered an opinion, many said that the Downtown area needs more bike lanes, especially on 3rd and 4th Streets. Many people also commented that Corvallis needs more and better bus routes, with buses running more frequently. *A list of the comments is included in Appendix K.*

Trip Duration and Arrival Time

Fifty percent of all respondents stayed in Downtown Corvallis for less than two hours, while 34 percent reported spending more than four hours Downtown (Table 12). When analyzed by group, 84 percent of Downtown employees stayed in Downtown for more than four hours, while 73 percent of visitors were Downtown for less than two hours.

**Table 12
 Trip Duration**

TRIP DURATION	Employee	Visitor	All Respondents
< 1 hour	6%	42%	29%
1-2 hours	2%	31%	21%
2-4 hours	7%	17%	14%
> 4 hours	84%	9%	34%
Did not respond	1%	1%	1%

Survey participants were also asked what time they arrived Downtown on the day of the survey. Of all respondents, 48percent arrived Downtown before 10:00 a.m. (Table 13). Of the employee population, 79percent arrived Downtown before 10:00 a.m. The early arrival in Downtown is indicative of the large survey population percentage that works Downtown time. Downtown visitors arrive steadily throughout the day, with a small peak during the midday hours.

Table 13
Arrival Time

ARIVAL TIME	Employees	Visitor	All Respondents
Before 10a.m.	79%	31%	48%
10a.m.-2p.m.	14%	41%	32%
2-6p.m.	4%	27%	16%
Did not respond	3%	2%	3%

Trip Frequency

The trip frequency questions (how often patrons go to Downtown Corvallis) showed that 93percent of those who work or live Downtown travels Downtown at least once every weekday (Table 14). Of the visitor group, 41percent report being Downtown at least every day, while 69percent are there at least two days per week. The survey results show that approximately 61percent of the respondents travel to Downtown Corvallis at least once per weekday. Therefore, the number of daily Downtown users is approximately 30,500 people (61percent of the assumed Downtown user population of 50,000 people). The survey also shows that 72 percent of these people drive, and the average vehicle occupancy is 1.2 people per vehicle. With a potential driver and passenger population of 22,000 and 352 surveys collected from this group, all statistics for the driving populations have comparable statistical validity to statistics based on the entire group of respondents. The following discussion presents the parking characteristics of people who drove to Downtown Corvallis on the day of the survey.

Table 14
Trip Frequency

FREQUENCY	Trip Purpose			All Respondents
	Shop ⁵	Work	Visitor	
< Once a week	19%	2%	15%	10%
Once a week	14%	2%	15%	10%
Twice a week	23%	2%	28%	18%
Every weekday	28%	77%	32%	47%
> Every weekday	15%	16%	9%	14%
Did not respond	1%	1%	1%	1%

5 Respondents shopping downtown are also included in the visitor group.

Parking Distance and Trip Purpose

People who drove Downtown were asked where they parked (on-street versus off-street), how far away from their destination they *actually* parked, and how far away from their destination they were *willing* to park. Of the driving population, 78 percent responded that they park on the street, while 20 percent responded that they park in off-street parking lots.⁶

Table 15 shows the distance that respondents said they parked from their destinations. The majority of the respondents (73 percent) said that they parked their vehicle within one to two blocks of their destination. By trip purpose, 61 percent of the driving employees and 79 percent of driving visitors park within one to two blocks of their destination.

Table 15
Distance Parked from Destination

DISTANCE PARKED FROM DESTINATION	TRIP PURPOSE			All Respondents
	Shop	Work	Visitor	
1-2 blocks	76%	61%	79%	73%
3-4 blocks	18%	23%	15%	18%
5-6 blocks	1%	12%	2%	5%
> 6 blocks	4%	2%	3%	3%
Did not respond	1%	1%	2%	1%

Table 16 shows the distance survey respondents said that they were willing to park from their destination. It is notable that for all respondents, 73 percent are able to park within two blocks of their destination (Table 15), even though 75 percent are willing to park three or more blocks away (Table 16). For employees, 79 percent desire to park within six blocks and 96 percent actually do. For visitors, 58 percent want to park within four blocks and 94 percent actually do. Figure 9 shows the actual distances parked from a destination according to trip purpose. Figure 10 shows the distances that people are willing to park from their destination according to their trip purpose.

Table 16
Distance Willing to Park from Destination

DISTANCE WILLING TO PARK	TRIP PURPOSE			All Respondents
	Shop	Work	Visitor	
1-2 blocks	21%	19%	22%	21%
3-4 blocks	36%	37%	36%	36%
5-6 blocks	24%	23%	23%	23%
> 6 blocks	16%	17%	16%	16%
Did not respond	3%	3%	3%	3%

⁶ Two percent of respondents did not respond to this question.

Figure 9
 Actual Distance Parked from Destination by Trip Purpose

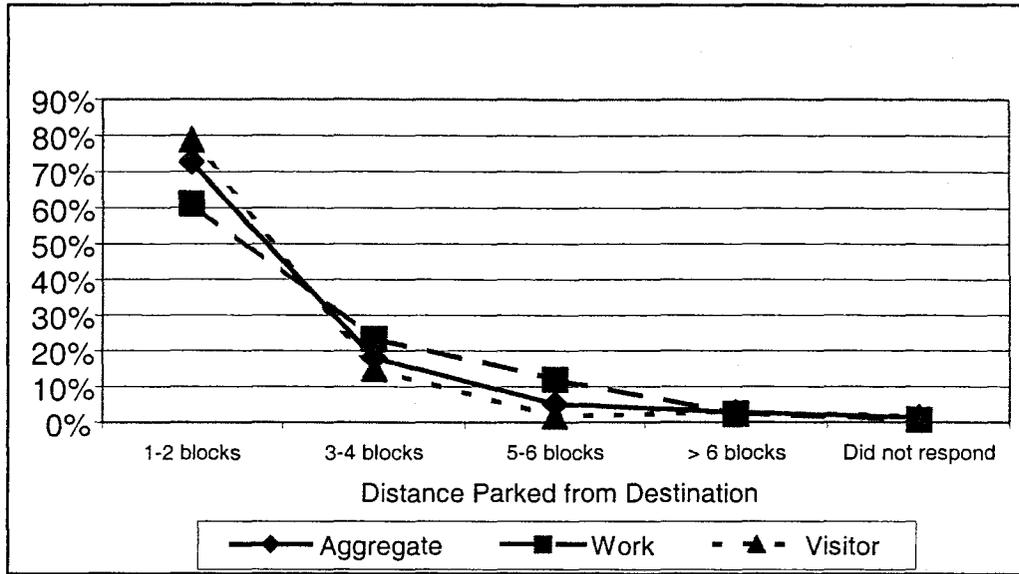
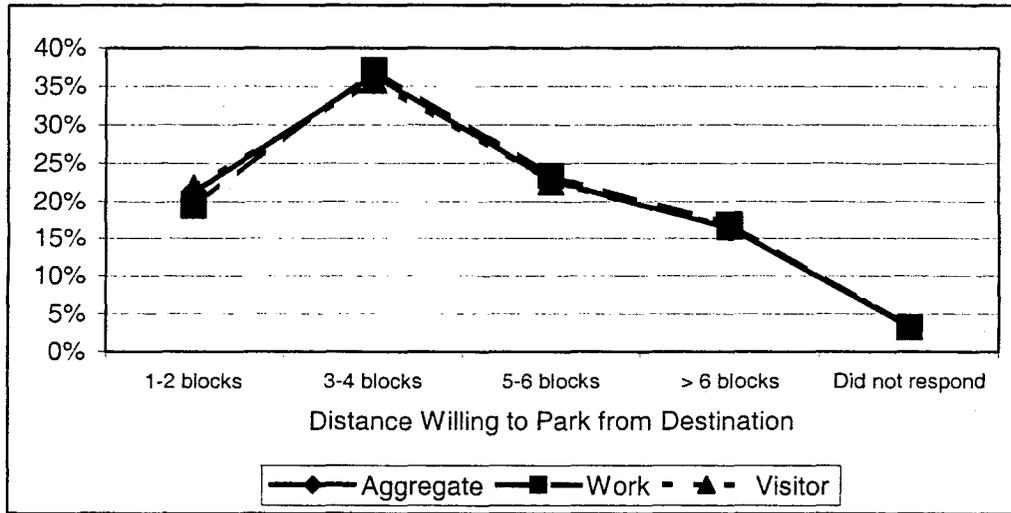


Figure 10
 Distance Willing to Park from Destination by Trip Purpose



Parking Distance and Parking Duration

Table 17 compares parking duration to the distance parked from the users' destination. To accomplish this, parking duration and distance were analyzed for four time periods: less than one hour, one to two hours, two to four hours, and more than four hours. The analysis revealed that 90 percent of users who parked for less than one hour parked within one to two blocks of their destination. As trip duration increased, the percentage of users who parked within one to two blocks steadily decreased to 60 percent. Also, 96 percent of users parking over four hours (typically employees) are able to park within six blocks of their destination.

Table 17
Duration Parked and Parking Distance from Destination

DURATION	DISTANCE PARKED FROM DESTINATION				
	1-2 Blocks	3-4 Blocks	5-6 Blocks	More than 6 Blocks	Did not respond
< 1 hr	90%	7%	1%	1%	2%
1-2 hrs	70%	20%	4%	4%	1%
2-4 hrs	65%	26%	2%	4%	2%
> 4 hrs	60%	24%	11%	3%	1%

Perception of Parking Issues

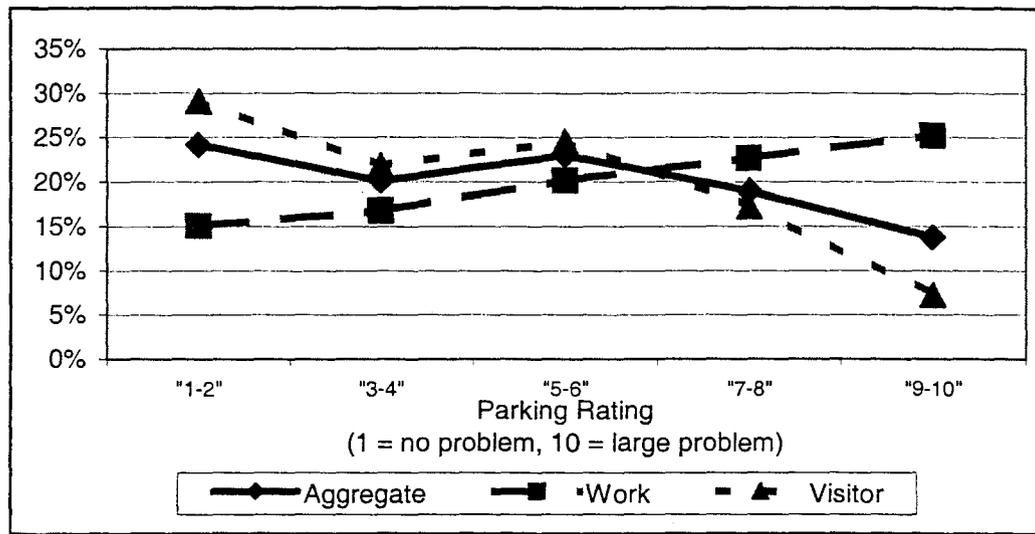
Survey respondents were asked to rate parking conditions in Downtown on a scale of one to ten.⁷ A "one" rating represented no perceived parking problem; a "ten" rating represented a significant perceived problem. As a whole, more users rated the parking between one and four (44 percent), representing little or no problem, than between seven and ten, signifying a large to major problem (33 percent) (see Table 18).

Table 18
Perception of Parking

PARKING RATING		Percentage
1-2	No problems	24%
3-4	Minor problems	20%
5-6	Neutral	23%
7-8	Some problems	19%
9-10	Significant problems	14%

⁷ Parking ratings were combined into groups of two due to the nature of the respondents' ratings. Ratings of one, three, five, seven, and ten were most typical. Ratings of two, four, six, eight, and nine were very uncommon.

Figure 11
Parking Rating By Trip Purpose



As a function of trip purpose, Downtown employees rated the parking situation worse than Downtown visitors did (Table 19). Forty-eight percent of Downtown employees rated parking at seven or worse. Only 24 percent of the visitors rated parking in Downtown Corvallis as seven or worse. In contrast, 32 percent of Downtown employees rated the parking situation at four or better, while 51 percent of visitors gave ratings of four or better.

Table 19
Parking Rating by Trip Purpose

TRIP PURPOSE	PARKING RATING				
	1,2	3,4	5,6	7,8	9,10
Work	15%	17%	20%	23%	25%
Shop	30%	15%	30%	16%	10%
Visitor	29%	22%	25%	17%	7%
All Respondents	24%	20%	23%	19%	14%

Parking Fees

Finally, user willingness to pay for parking was also assessed. Of the survey respondents who drove Downtown, 50 percent said they would be willing to pay to park in the Downtown area, 46 percent said they would not be willing to pay to park, and four percent did not respond. When alternatives are considered, this information will be further analyzed as a function of trip purpose and parking duration. Some survey respondents also provided an estimate of how much they would be willing to pay. *A list of their responses is included in Appendix K.*

Section 5

**Future Parking Forecast and
Analysis**

Future Parking Forecast and Analysis

The parking forecast analysis was conducted to assess future parking conditions, including the extent and locations of parking constraints, under anticipated development in Downtown Corvallis. Future conditions were analyzed for both five-year and ten-year development scenarios. The analysis reflects conditions that would occur in the absence of additional parking facilities and assumes no changes in the City's parking management activities.

Parking Supply Survey

The existing conditions evaluation identified approximately 4,500 parking spaces in the downtown study area. Table 20 summarizes the existing parking supply. In the table, parking supplies are identified as *Private Off-Street*, *Public Off-Street*, and *On-Street* (all public). The table also divides the supply into the five subareas defined in Section 4.

Table 20
Summary of Existing Parking Supply

Subarea	Private Off-Street	Public Off-Street	Public On-Street	Total Supply
A Total	512	104	148	764
B Total	483	146	267	896
C Total	537	118	442	1,097
D Total	362	273	380	1,015
E Total	517	0	231	748
Grand Total	2,411	641	1,468	4,520

As indicated in Table 20, approximately 55 percent of the parking supply is private parking. Over two-thirds of the public parking supply is on the street.

Existing Parking Surpluses/Deficits

Table 21 summarizes the parking capacity in the study area based on the occupancy evaluation conducted in the existing conditions analysis. The table shows the existing supply of parking in each subarea, and the effective capacity based on the 85-percent-full occupancy standard. Then, by subtracting the number of occupied spaces observed in the existing conditions evaluation, the number of currently available spaces is determined. The summary is provided for the total parking supply and also for public and private supply separately.

The table shows that under existing parking conditions the area-wide surplus is nearly 1,400 spaces during the peak hour for parking demand. Each subarea in the study area currently has a surplus of parking spaces, ranging from 126 spaces in Subarea C, to 364 spaces in Subarea A. However, more than two-thirds of the surplus is in private parking facilities, which are not available for general public use. Among public parking spaces, the peak hour surplus is approximately 456 spaces area-wide, with a small deficit in Subarea C.

Table 21
 Existing Parking Availability

Location	Public + Private				Public Only				Private Only			
	Existing Spaces	Effective Capacity (85%)	Occupied Spaces	Surplus (Deficit)	Existing Spaces	Effective Capacity (85%)	Occupied Spaces	Surplus (Deficit)	Existing Spaces	Effective Capacity (85%)	Occupied Spaces	Surplus (Deficit)
Subarea A	764	649	285	364	252	214	76	138	512	435	209	226
Subarea B	896	762	440	322	413	351	242	109	483	411	242	169
Subarea C	1,097	932	806	126	560	476	480	(4)	537	456	326	130
Subarea D	1,015	863	618	245	653	555	423	132	362	308	195	113
Subarea E	748	636	296	340	231	196	115	81	517	439	181	258
Area-wide	4,520	3,842	2,445	1,397	2,109	1,792	1,336	456	2,411	2,049	1,153	896

Future Parking Supply

The future parking conditions assume a baseline parking supply, which reflects changes in parking supply that would likely occur during the five- and ten-year analysis timeframes. These changes include redevelopment of private and public parking facilities, as well as several planned changes in on-street parking supplies, primarily associated with the Riverfront District Plan. The baseline parking supply for the five- and ten-year horizons are shown in Tables 22 and Table 23. *Specific locations of parking supply changes are provided in Appendix L.*

The future supply summaries in Tables 22 and 23 do not include new accessory parking associated with anticipated future development. Although the City’s development code requires that new developments provide parking, there are several variables as yet unknown that would be used to specify the exact number of spaces. Furthermore, findings of this study and subsequent activities in Phase 2 may result in some modifications to the City’s parking requirements. For these reasons, the baseline supply for the forecast conditions model includes only planned changes by the City and removal of off-street parking due to redevelopment.

**Table 22
 5-Year Baseline Supply**

Subarea	Private Off-Street	Public Off-Street	Public On-Street	Total Supply
A Total	512	104	148	764
B Total	483	146	267	896
C Total	537	118	442	1,097
D Total	286	75	502	863
E Total	517	0	282	799
Grand Total	2,335	443	1,641	4,419

Table 22 shows that the five-year baseline parking supply would be approximately 4,419 spaces, which is a net reduction in the total parking supply of approximately 100 spaces. There would be an increase of approximately 175 on-street parking spaces, primarily in the Riverfront area. However, public long-term parking lots (approximately 200 spaces) in the northern section of Subarea D would be removed as part of the Riverfront Plan, for a net reduction of approximately 25 public spaces. Approximately 75 private spaces will be removed from private lots being developed to other uses.

The baseline parking supply for the ten-year horizon is shown in Table 23. The table shows that an additional 29 private parking spaces would be removed under the forecast development activities for years six through ten.

**Table 23
 10-Year Baseline Supply**

Subarea	Private Off-Street	Public Off-Street	Public On-Street	Total Supply
A Total	512	104	148	764
B Total	483	146	267	896
C Total	537	118	442	1,097
D Total	257	75	502	834
E Total	517	0	282	799
Grand Total	2,306	443	1,641	4,390

Future Land Uses

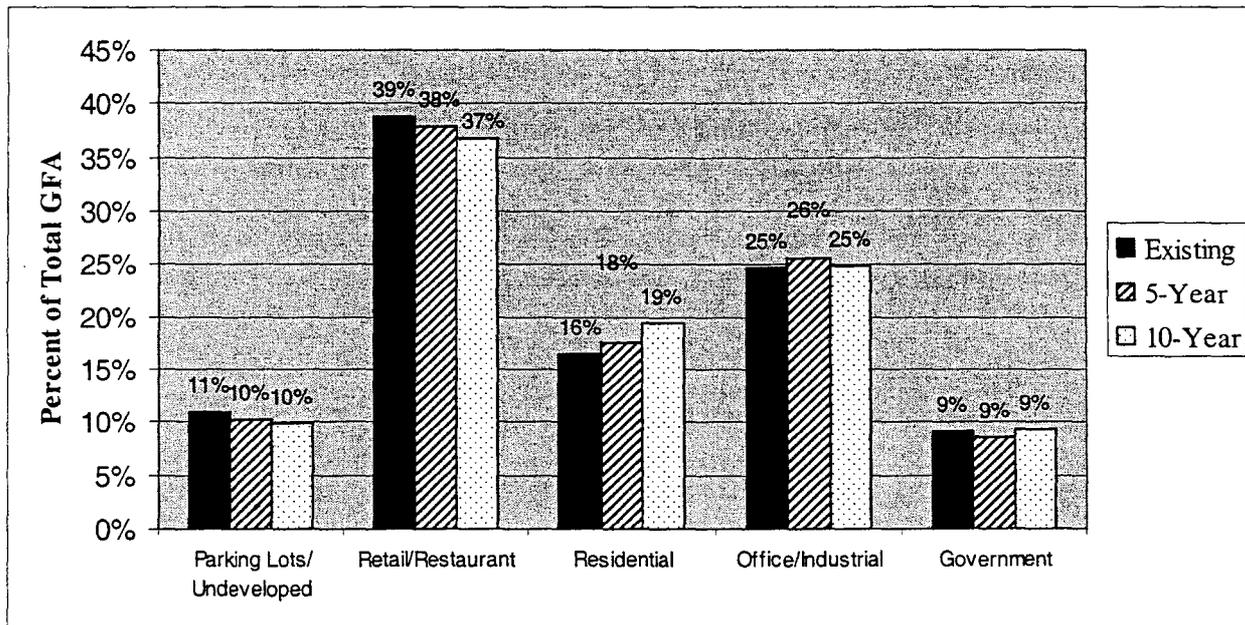
Downtown parking demand is closely related to the types and sizes of developments in the area. As such, anticipated development in the study area was used as a basis for estimating future parking demand. The future conditions evaluation includes relatively large development and redevelopment projects. Smaller redevelopment projects and intensification of existing uses were not included in the analysis.

The City of Corvallis provided existing land use data for each block in the study area. The data were collected on a parcel-by-parcel basis, and included the land use types (i.e., single-family residential, office, government); sizes of existing developments in square feet; and the number of employees. In addition, all vacant properties were identified.

Existing and Forecast Land Uses

Based on the data provided by the City, the existing square footage of development in the study area totals approximately 1,821,000 square feet. The distribution of land uses by square footage is shown in Figure 12 for existing and future scenarios. As the figure shows, the largest share of development includes retail, restaurant, and other non-office commercial uses. These uses currently represent approximately 39 percent of the study area. The development scenarios provided by the City do not indicate any significant shifts in any land use categories, with residential development expected to vary the most by an increase from 16 percent to 19 percent of overall properties.

Figure 12
 Existing and Forecast Distributions of Land Use Types



The vacancy rate among the developed properties was approximately eight percent under existing conditions. Real estate groups and census data were queried for vacancy studies in the area, but none were identified specific to Corvallis. The current vacancies include relatively large parcels, such as the former Lamont's building and Copeland's Lumber. Based on the added development in the forecast scenarios, and assuming occupancy of the Lamont's and Copeland's Lumber buildings, the future vacancy rates for the five-year and ten-year scenarios are estimated at six percent and five percent, respectively. *Details of the land use data analysis are provided in Appendix M.*

Property owners provided forecasts of future development to the City. These do not reflect applications for future development, but they are a reasonable estimation of future activities that may occur. For the most part, anticipated future development will occur between 1st and 2nd Streets, in the area labeled Subarea D. Some additional development is expected north of Harrison Boulevard, in Subarea B. The anticipated new developments in the five- and ten-year scenarios are summarized in Table 24. Because of the spatial distribution of Subarea D, future developments have been identified as north and south of Madison Avenue.

Table 24
Forecast Development Scenarios

Location	Retail	Office	Residential	Museum	All Land Uses
Five-Year Increases in Gross Floor Area (in Square Feet)					
Subarea B	3,500	12,000	0	0	15,500
Subarea D, North of Madison	4,500	0	8,500	0	13,000
Subarea D, South of Madison	23,000	43,000	40,000	0	106,000
Five Year Development Total	31,000	55,000	48,500	0	134,500
Six-to-Ten Year Increases in Gross Floor Area (in Square Feet)					
Subarea D, North of Madison	10,000	20,000	30,000	0	60,000
Subarea D, South of Madison	0	0	26,000	25,000	51,000
Six-to-Ten Year Development Total	10,000	20,000	56,000	25,000	111,000
Grand Total Development	41,000	75,000	104,500	25,000	245,500
* Includes 4,500 square foot office building currently under construction.					

As Table 24 shows, development totaling approximately 135,000 square feet is anticipated in the next five years, primarily in the portion of Subarea D south of Madison Avenue. The new development will include retail, office, and residential uses. In the subsequent five-year period, an additional 111,000 square feet of development is expected, including a 25,000 square foot museum at the former Copeland's Lumber location.

Parking Forecast Methodology

Parking demand rates were obtained from empirical observations as summarized in the Urban Land Institute's *Shared Parking* (Reference 1) and the Institute of Transportation Engineers' *Parking Generation* manual (Reference 2), both standard reference manuals among transportation

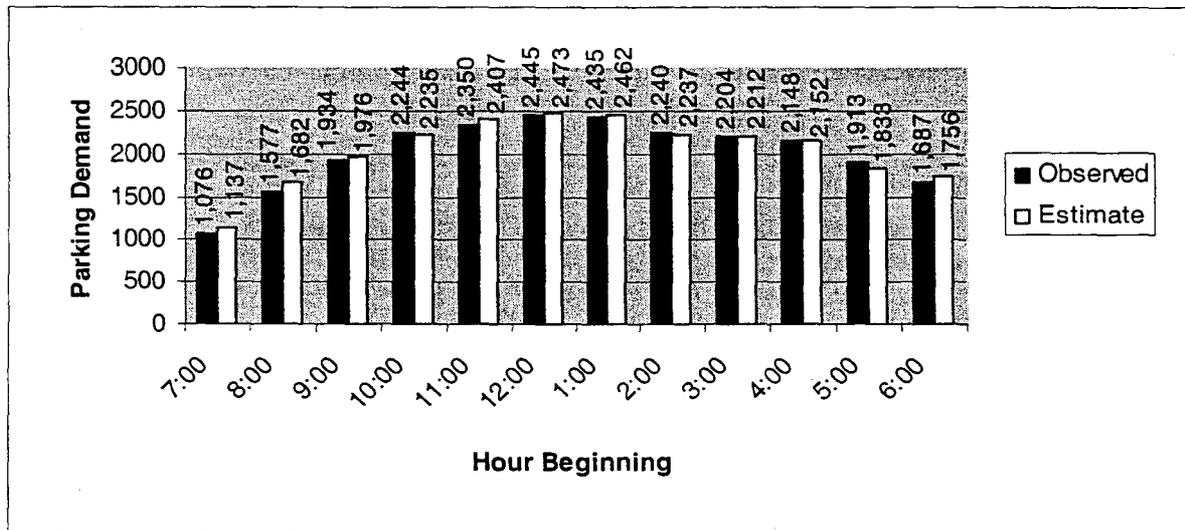
professionals. These manuals provide rates that predict parking demand as a function of occupied building area for specific land uses.

Corvallis Parking Demand Model

The national parking demand references were used to develop the framework of the parking demand model. The model was then calibrated using the extensive data set collected in the study area for the existing conditions evaluation. The model calibration was conducted to estimate existing parking demand based on existing land uses. The estimated hourly parking demand was compared to observed parking demand in the study area. This type of model calibration enables the model to reflect the unique character of the downtown study area.

Calibration of the local demand model included reductions in parking demand for retail and restaurant uses. Because of the strong walking environment in the study area, many retail and restaurant trips are a part of multi-purpose trips. For instance, many downtown employees can and do walk from their place of employment to a nearby restaurant for lunch, or to neighboring retail and government offices for services. This walking environment reduces the overall parking demand associated with each use. Other adjustments were made on a site-specific basis to reflect the characteristics of a particular development and to be consistent with employment data obtained by the City. In addition, parking demand rates for the library, the post office, and hotels were calculated based on data collected in the study area. The area-wide model calibration is depicted graphically in Figure 13.

Figure 13
Calibrated Parking Demand Model



As Figure 13 shows, the estimated parking demand from the model is very close to the observed parking demand in the study area throughout the day. Between 9:00 a.m. and 5:00 p.m., the demand estimate is within two percent of observations. During the peak period between noon and 2:00 p.m., the model estimates parking demand within one percent of field observations. Therefore, the model is a reasonable reflection of parking demand for the study area.

Forecast Parking Conditions Evaluation

The calibrated parking demand model was used to forecast parking demand based on the five- and ten-year land development forecasts. The findings of increased peak hour demand are summarized in Table 25.

Table 25
Forecast Increases in Peak Hour Parking Demand

Location	Existing (Observed)	Five Year Forecast	Six-to-Ten Year Forecast
Subarea A	285	No Change	No Change
Subarea B	440	+33	No Change
Subarea C	806	+55	No Change
Subarea D	618	+189	+108
Subarea E	296	No Change	No Change
Total	2,455	+277	+108

As Table 25 shows, an increase in peak hour parking demand of approximately 277 spaces is anticipated in the five-year horizon. Demand for an additional 108 spaces is expected to occur under the six-to-ten year scenario. While some increases in demand are expected in Subareas B and C, most of the increases will occur with new development in Subarea D. No changes are anticipated in Subareas A and E.

User Type

Most of the increased parking demand will be for long-term parking. The following distribution of long-term and short-term parking demand were applied to the forecast parking demand:

- Retail 50% long term, 50% short term
- Office 85% long term, 15% short term
- Residential 85% long term, 15% short term

Based on this distribution of short-term and long-term parking demand, it was estimated that in Subareas B and D, the approximately 75 percent of the demand associated with anticipated development activities will be for long-term, employee parking. The remaining 25 percent will be for short-term parking. In Subarea C, where the increased demand will result from increased occupancy of existing retail space, the increased demand for 55 spaces will be evenly divided between long-term and short-term users.

Forecast Surpluses and Deficits

The evaluation of forecast parking conditions was conducted to identify future parking issues under the development scenarios for five and ten years. The analysis reflects conditions under which the public parking supply must meet all new or displaced demand. As was previously noted, private parking facilities are not available to serve general parking demand, despite the existing surplus. Furthermore, no increases in parking supply are assumed other than specific projects already identified, such as the Riverfront project.

Tables 26 and 27 summarize the findings of the forecast parking conditions analysis. In the analysis, future demand includes displaced demand from the loss of private surface parking, as well as new demand from anticipated developments (Table 27). Under both five-year and ten-year scenarios, the forecast utilization for each subarea and for the overall study area is shown along with the calculated surplus or deficit.

Table 26
5-Year Forecast Public Parking Availability

Location	Public Supply		Change in Demand				Forecast Public Utilization	Forecast Public Surplus/ (Deficit)
	Forecast Supply	Effective Capacity	Existing Demand	Displaced Demand	New Demand	Forecast Demand		
Subarea A	252	214	76	0	0	76	30%	138
Subarea B	413	351	242	0	33	275	67%	76
Subarea C	560	476	480	0	55	535	96%	(59)
Subarea D	577	490	423	42	189	654	113%	(164)
Subarea E	282	240	115	0	0	115	41%	125
Area-wide	2,084	1,771	1,336	42	277	1,655	79%	116

Table 26 shows that given the anticipated changes in supply, the future effective parking capacity will be approximately 1,771 (based on the 85 percent full standard). New development is expected to generate new demand for approximately 277 parking spaces during the peak demand hour, and an additional 42 spaces will be needed to meet demand currently served by private lots. In the five-year horizon, public parking deficits of 59 and 164 spaces are anticipated in Subareas C and D, respectively.

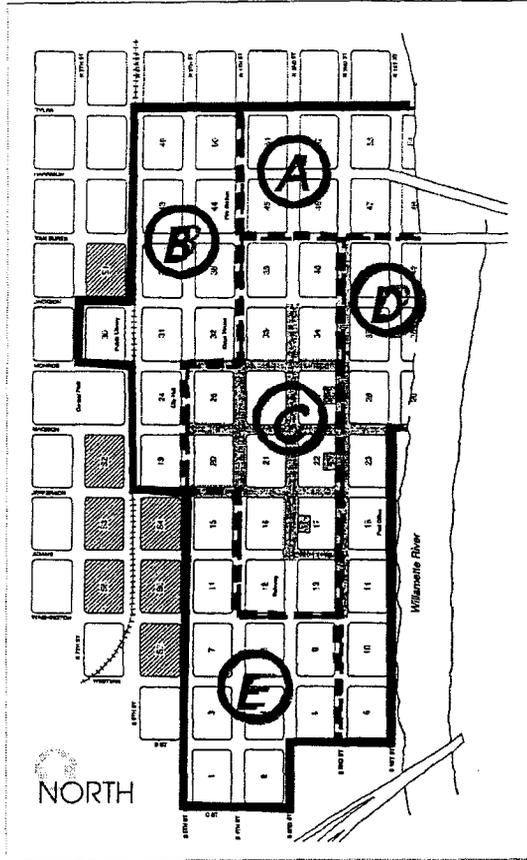
Table 27
Years 6-10 Forecast Public Parking Availability

Location	Public Supply		Change in Demand				Forecast Public Utilization	Forecast Public Surplus (Deficit)
	Forecast Supply	Effective Capacity	Beginning Demand	Displaced Demand	New Demand	Forecast Demand		
Subarea A	252	214	76	0	0	76	30%	138
Subarea B	413	351	275	0	0	275	67%	76
Subarea C	560	476	535	0	0	535	96%	(59)
Subarea D	577	490	654	16	108	778	135%	(288)
Subarea E	282	240	115	0	0	115	41%	125
Area-wide	2,084	1,771	1,655	16	108	1,779	85%	(8)

In the ten-year horizon, increased parking demand associated with new development, along with the further loss of private parking spaces, will lead to an increased parking deficit of approximately 59 and 288 spaces in Subareas C and D, respectively. Overall, public parking throughout the study area would be at capacity, with approximately 85 percent of the public supply occupied during the peak

hour. Figure 14, Forecast Public Parking Surpluses & Deficits, summarizes the estimated parking surplus or deficit for each subarea for the five- and ten-year horizons.

Figure 14
 Forecast Public Parking Surpluses & Deficits



Study area and subarea boundaries

5-Year Forecast				
SUB AREA	Forecast Supply	Effective Capacit	Forecast Demand	Surplus (Deficit)
A	252	214	76	138
B	413	351	275	76
C	560	476	535	-59
D	577	490	654	-164
E	282	240	115	125
Area Wide	2,084	1,771	1,655	116

10-Year Forecast				
SUB AREA	Forecast Supply	Effective Capacit	Forecast Demand	Surplus (Deficit)
A	252	214	76	138
B	413	351	275	76
C	560	476	535	-59
D	577	490	778	-288
E	282	240	115	125
Area Wide	2,084	1,771	1,779	-8

Summary of Forecast Conditions

- The current, available parking capacity in the study area is approximately 1,400 spaces during the peak hour of parking demand. Two-thirds of the parking surplus is in private parking facilities and is not available to the general public. Available public parking capacity is approximately 450 spaces throughout the study area during the peak hour. Subarea C currently has a slight deficit of available public parking (4 spaces).
- Under both the five-year and ten-year scenarios, the overall supply of public parking will be adequate to accommodate increased parking demand; however, Subareas C and D are both forecast to experience shortages during peak demand.
- In the five-year scenario, the net supply of parking in the study area is expected to decrease by approximately 100 spaces. This includes a 25-space reduction in public parking in Subarea D and a 75-space reduction from new development on existing private parking lots.
- New development in the five-year scenario will generate new parking demand totaling approximately 275 spaces during the peak hour. Most of the new demand will occur in Subarea D in long-term public parking spaces. In addition, redevelopment of existing private lots will result in displaced demand for approximately 40 spaces.
- In the six-to-ten year horizon, approximately 29 private spaces will be replaced with development. No further changes in public supply are anticipated. New development is anticipated to generate demand for approximately 95 spaces, resulting in the need for approximately 124 spaces due to displacement or new development.
- Based on the anticipated levels of development and parking supply changes, significant deficits in public parking are expected in Subareas C and D. In Subarea D, deficits of 164 and 288 spaces would occur in the five- and ten-year scenarios, in the absence of additional parking supply and management activities.

Section 6

Conclusions

Conclusions

The conclusions drawn from the findings of Phase 1 of the Downtown Corvallis Parking Study are presented below.

Conclusions from the Review of Background Documents and Policy

The review of existing policies and recent studies resulted in the following conclusions:

The current draft form of the City of Corvallis *Land Development Code (LDC)* sets minimum parking requirements for new developments and changes of use for existing properties. The code allows for reductions in the minimum parking requirement based on provision of additional bicycle parking or proximity to transit service, and potentially for shared parking under the Planned Development process. The maximum parking allowed under the city code is 130% of minimum parking. (Draft C of the *Land Development Code*)

The *1997-98 Employee Transportation Task Force Report* by the Corvallis Chamber of Commerce found that approximately 84 percent of Corvallis employees included in the study usually drive alone to work, with 80 percent indicating that convenient alternative modes were not available. The study participants identified *employer incentives* and *improved bike lanes* as the top factors that would increase carpool/vanpool and bicycle/walk mode shares, respectively. *Increased frequency* and *on-time service* were identified as effective factors to increase travel by transit.

A review of existing Corvallis *Parking Rates and Revenue* found that with the parking fee increases scheduled to have taken effect in October 2000, hourly parking fees at meters range from 10 cents to 63 cents per hour, depending on the maximum time limit allowed. The cost for permit parking lots is \$20 to \$25 per month at the Yellow and Red permit lots, respectively. Permit costs for the Blue/Green lots were not included in the price increase since they will likely be displaced due to Riverfront development. The cost at those lots remains at \$7 per month.

The *Five-Year Plan for the Corvallis Parking Fund* shows that in its first three years, the average annual Operating Revenue for the Fund was \$413,484, and Operating Expenditures totaled approximately \$354,022, yielding Net Operating Income of just under \$60,000. Activities related to enforcement accounted for the largest share (approximately 60 percent) of both Operating Revenue and Operating Expenditures.

Based on current forecasts for the parking fund, Net Operating Losses of approximately \$67,750 are anticipated for the next five fiscal years. The change is in part the result of declining interest earnings, as well as increased expenditures across all departments. Increased revenue due to higher parking fees has not been included in the revenue projections.

Conclusions from the Market/User Preference Survey

The following conclusions were drawn from an intercept survey of Users of Downtown Corvallis conducted on a typical weekday in May 2000:

The survey determined that approximately 34 percent of survey respondents require long-term parking in Downtown Corvallis (28 percent employees and six percent residents). Approximately 40 percent of those surveyed were downtown for shopping or dining out.

Approximately 72 percent of survey respondents traveled downtown by automobile. The bike/walk share was significant, at 23 percent. Approximately four percent used transit. Survey respondents identified *increased bike lanes* and *more frequent transit service* as the desired measures to encourage non-auto travel.

Approximately 93 percent of respondents come to Downtown Corvallis at least once every weekday, which indicates a strong availability of services in the area.

Most people are able to park within two blocks of their destination (73 percent of survey respondents). This is well within the maximum distances that survey respondents indicated they would be willing to park from their destinations.

Overall, perceptions of parking conditions are evenly distributed, with a slight majority (44 percent) reporting little or no parking problems, and approximately 33 percent reporting some or significant problems. However, employees of downtown were more likely to perceive parking problems (48 percent) compared to short-term visitors (24 percent perceive problems).

Users of Downtown Corvallis are divided in their expressed willingness to pay for parking. Approximately 50 percent indicate that they are willing to pay for parking, compared to 46 percent who are not willing to pay.

Conclusions from the Existing Conditions Analysis

The following conclusions reflect findings from an analysis of observed parking conditions on a typical weekday in May 2000:

More than half of the parking supply in the Downtown Corvallis study area are privately owned, and therefore are not available to meet general public demand.

The areawide utilization of parking spaces does not indicate an overall shortage of parking, but there were significant differences in utilization of public and private parking supplies. The public parking spaces were nearly two-thirds occupied during the peak hour, while only 46 percent of private spaces were occupied.

In Subarea B, long-term parking for employees is constrained, particularly south of Van Buren Avenue. There is some capacity north of Van Buren Avenue and Harrison Street, but the relatively high volume roadways act as pedestrian barriers. Short-term parking has

relatively low utilization in this area, with several two-hour metered spaces operating at less than 50 percent utilization during the peak hour.

In Subarea C, the free customer parking lots were observed at or near capacity during the peak hour, and much of the on-street parking is effectively full as well. Average parking duration is consistent with the short-term use intended for customer parking, but a few parkers stay for eight or nine hours. This suggests potential for some added capacity, albeit limited, through increased enforcement.

Significant capacity exists in the public parking lots on 1st Street north of Van Buren Avenue and south of Western Boulevard.

Conclusions from the Forecast Conditions Analysis

The evaluation of forecast parking conditions was conducted to identify future parking issues under the development scenarios for five and ten years. Additional parking supplies that will be required with new development are not included in this *baseline* analysis. Furthermore, the analysis reflects conditions under which the public parking supply must meet all new or displaced demand.

The implications of the findings for each subarea are described below.

Subareas A and E

No significant changes are expected in these subareas.

Subarea B

No significant changes are expected within Subarea B. Overall utilization of public parking is currently low during the peak hour, but the existing conditions evaluation determined that long-term parking is constrained during mid-morning and mid-afternoon periods, especially south of Van Buren Avenue. To the extent that the long-term public lots in Subarea D accommodate parking demand from Subarea B, changes to the Riverfront parking supply may indirectly impact employees in Subarea B.

Subarea C

Higher parking demand is anticipated in Subarea C, due to occupancy of existing vacant retail space. This will increase demand for short-term parking, which is already constrained in Subarea C. Under the five-year forecast, public parking occupancy is expected to reach 95% during the peak hour.

Subarea D

The most significant changes in parking supply and demand are expected in Subarea D. A total of 168 public parking spaces will be lost due to development, including two highly utilized long-term parking lots north of Madison and Jackson. Additionally, highly utilized on-street parking on 1st Street between Washington and Jefferson will also be removed. Most of the parking will be replaced with other facilities or on-street parking, for a net loss

of 68 public spaces. Also, parking is available at new public facilities north of Van Buren and south of Western.

To the extent that the existing lots serve spillover demand from Subareas B and C, these parking locations may represent considerable increases in walking distance. The additional walking distance will be a deterrent to utilization and may contribute to reduced customer satisfaction in downtown parking availability, and encroachment in adjacent neighborhoods.

Technical Appendix

Corvallis Downtown Parking Study

Phase 1: Parking Inventory Analysis

Corvallis, Oregon

Appendix A

**Land Development Code (LDC)
Requirements Related to Parking**

Appendix B

**Evaluation of Draft Riverfront Parking
Standards**

Section 4.1.30 - OFF-STREET PARKING REQUIREMENTS

a. Residential Uses Per Building Type:

1. Single Detached and Single Attached (Zero Lot Line), and Manufactured Homes:

Vehicles: 2 spaces per dwelling unit

Bicycles: None required

2. Duplex, Attached, and Multi-Dwelling:

Vehicles:

Studio or Efficiency Unit - 1 space per unit

1 Bedroom Unit - 1 space per unit

2 Bedroom Unit - 1.5 spaces per unit

3 Bedroom Unit - 2.5 spaces per unit

Bicycles:

Studio or Efficiency Unit - 1 space per unit

1 Bedroom Unit - 1 space per unit

2 Bedroom Unit - 1.5 spaces per unit

3 Bedroom Unit - 2 spaces per unit

The required bicycle parking may be located within a structure, in accordance with the provisions of Section 4.1.70.

3. Group Residential:

Vehicles:

a. Fraternities, sororities, cooperatives, and boarding houses: 3 spaces for each 5 occupants at capacity (capacity to be based on criteria set forth in the Oregon Structural Specialty Code).

b. Retirement homes, intermediate care facilities, and halfway houses: 1 space for each 3 persons for which sleeping facilities are provided to be based on the maximum number of people to be accommodated.

Bicycles:

a. Fraternities, sororities, cooperatives, and boarding houses: 3 spaces for each 5 occupants at capacity (capacity to be based on criteria set forth in the Oregon Structural Specialty Code).

b. Retirement homes, intermediate care facilities, and halfway houses: 10 percent of required vehicle parking, or 2 spaces, whichever is greater.

4. Group Care:

Vehicles: 1 space per 1,000 sq. ft of gross floor area

Bicycles: 10 percent of required vehicle parking, or 2 spaces, whichever is greater

b. Civic Use Types:

Unless otherwise noted, the figures given refer to vehicle parking requirements. Unless a specific bicycle parking figure is given, required bicycle parking shall be 10 percent of required vehicle parking or 2 spaces, whichever is greater. However, where less than 3 vehicle spaces are required, then only one parking space shall be required.

1. **Administrative Services** - 1 space per 400 sq. ft of gross floor area
2. **Community Recreation Buildings**- 1 space per 200 sq. ft of gross floor area
3. **Cultural Exhibits and Library Services**
 - Vehicles: 1 space per 200 sq. ft of gross floor area
 - Bicycles: 30 percent of required vehicle parking
4. **Day Care/Small Schools** - 2 spaces for each classroom
5. **Hospitals** - 1 space per 1,000 sq. ft of gross floor area
6. **Lodge, Fraternal, and Civic Assembly** - For that area without eating or drinking facilities - 1 space for each 4 fixed seats (18 24 lineal inches of bench shall be considered 1 seat). For that area with eating or drinking facilities - 1 space per 4 fixed seats or stools and one space for each 50 sq. ft of dining or drinking area where there are no fixed seats.
7. **Public Safety Services** - 2 spaces per bed (sleeping accommodations) or as per administrative service requirements.
8. **Religious Assembly** - 1 space for each 4 fixed seats (18 24 lineal in. of bench shall be considered 1 seat) and 1 space for each 50 sq. ft of public assembly area where there are no fixed seats.
9. **Schools:**
 - (a) **Vehicles:**
 - (1) **Preschool/Kindergarten** - 2 spaces per teacher
 - (2) **Elementary** - 2 spaces per classroom
 - (3) **Middle School/Junior High** - 3 spaces per classroom
 - (4) **Senior High, Vocational (or similar institutions), or University** - 6 spaces per classroom
 - (b) **Bicycles:**
 - (1) **Preschool/Kindergarten** - 10 percent of required vehicle parking
 - (2) **Elementary** - 8 spaces per classroom
 - (3) **Middle School/Junior High** - 8 spaces per classroom
 - (4) **Senior High** - 8 spaces per classroom
 - (5) **Vocational (or similar institutions), or University** - 8 spaces per classroom, plus 25 percent of required vehicle parking

c. Commercial Use Types (for accompanying office and indoor service areas):

Unless otherwise noted, the figures given refer to vehicle parking requirements. Unless a specific bicycle parking figure is given, required bicycle parking shall be 10 percent of required vehicle parking or 2 spaces, whichever is greater. However, where less than 3 vehicle spaces are required, then only one parking space shall be required.

1. **Administrative and Professional Services** - 1 space per 400 sq. ft
2. **Agricultural Sales** - 1 space per 400 sq. ft of gross floor area for accompanying office and

- indoor service area
3. Agricultural Services - 1 space per 400 sq. ft of gross floor area
 4. Animal Sales and Services:
 - (a) Auctioning - 1 space per 50 sq. ft of gross floor area
 - (b) Grooming - 1 space per 400 sq. ft of gross floor area
 - (c) Horse Stables - exempt
 - (d) Kennels - exempt
 - (e) Stockyards - 1 space per 5,000 sq. ft of gross floor area
 - (f) Veterinary - 1 space per 400 sq. ft of gross floor area
 5. Automotive and Equipment:
 - (a) Cleaning - 1 space per 400 sq. ft of gross floor area
 - (b) Fleet Storage - 1 space per 400 sq. ft of storage area
 - (c) Repairs/Heavy Equipment - 1 space per 800 sq. ft of gross floor area
 - (d) Repairs/Light Equipment - 1 space per 400 sq. ft of gross floor area
 - (e) Sales/Rentals, Farm Equipment - 1 space per 500 sq. ft of gross floor area
 - (f) Sales/Rentals, Heavy Equipment - 1 space per 800 sq. ft of gross floor area
 - (g) Sales/Rentals, Light Equipment - 1 space per 400 sq. ft of gross floor area
 - (h) Storage, Nonoperating Vehicles - 1 space per 400 sq. ft of gross floor area
 - (i) Storage, Recreational Vehicles and Boats - 1 space per 400 sq. ft of gross floor area
 6. Building, Maintenance and Services - 1 space per 400 sq. ft of gross floor area
 7. Business Equipment Sales and Services - 1 space per 400 sq. ft of gross floor area
 8. Business Support Services - 1 space per 400 sq. ft of gross floor area
 9. Communication Services - 1 space per 400 sq. ft of gross floor area
 10. Construction Sales and Service - 1 space per 400 sq. ft of gross floor area
 11. Convenience Sales and Personal Services - 1 space per 400 sq. ft of gross floor area
 12. Eating or Drinking Establishments - 1 space per 4 fixed seats or stools (18 24 lineal inches of bench shall be considered one seat) and 1 space for each 50 sq. ft of dining or drinking area where there are no fixed seats
 13. Explosive Storage - 1 space per 5,000 sq. ft of gross floor area
 14. Financial, Insurance, and Real Estate Services - 1 space per 400 sq. ft of gross floor area
 15. Food and Beverage Retail Sales - 1 space per 400 sq. ft of gross floor area
 16. Funerals and Interment Services:
 - (a) Crematory and Undertaking - 1 space for each 4 fixed seats (18 24 lineal inches of bench shall be considered 1 seat) and 1 space for each 50 sq. ft of public assembly area where there are no fixed seats
 - (b) Interring and Cemeteries - exempt
 17. Fuel Sales - 1 space per 400 sq. ft of gross floor area
 18. Laundry Service - 1 space per 400 sq. ft of gross floor area
 19. Medical Services - 1 space per 200 sq. ft of gross floor area
 20. Participant Sports or Recreation:

Vehicles:

Indoor:

Bowling areas - 3 spaces per alley and 5 spaces as required for eating and drinking area

All others - 1 space per per 4 fixed seats (24 lineal inches of bench shall be considered one seat) for visitor seating and one space per four participants

based on projected participant capacity 50 sq. ft of gross floor area

Outdoor:

1 space per 4 fixed seats (18 24 lineal inches of bench shall be considered one seat) for visitor seating and one space per four participants based on projected participant capacity

Bicycles: 20 percent of required vehicle parking

21. Personal Services, General - 1 space per 400 sq. ft of gross floor area
22. Regional Shopping Center - 1 space per 300 sq. ft of gross floor area
23. Repair Services, Consumer - 1 space per 400 sq. ft of gross floor area
24. Research Services - 1 space per 300 sq. ft of gross floor area
25. Retail Sales, General - 1 space per 400 sq. ft of gross floor area
26. Retail Sales, Bulky Merchandise (examples: furniture or motor vehicles) - 1 space per 800 sq. ft of gross floor area
27. Scrap Operations - 1 space per 400 sq. ft of gross floor area
28. Spectator Sports and Entertainment:
 - Vehicles: Limited - 1 space per 4 fixed seats (18 24 inches of bench shall be considered one seat) and 1 space per 50 sq. ft where there are no fixed seats
 - Bicycles: 20 percent of required vehicle parking.
29. Swap meets - Limited: 1 space per 4 fixed seats (18 24 inches of bench shall be considered one seat) and one space per 50 sq. ft where there are no fixed seats
30. ~~Transient Habitation~~ Lodging Services:
 - Vehicles:
 - (a) Campground - 1 space per designated camping space
 - (b) Lodging - 1 space per guest room or suite
 - Bicycles:
 - (a) Campground - Exempt
 - (b) Lodging - 10 percent of required vehicle parking.
31. Wholesaling, Storage, and Distribution - 1 space per 5,000 sq. ft of gross floor area

d. Industrial Use Types:

Unless otherwise noted, the figures given refer to vehicle parking requirements. Unless a specific bicycle parking figure is given, required bicycle parking shall be 10 percent of required vehicle parking or 2 spaces, whichever is greater. However, where less than 3 vehicle spaces are required, then only one parking space shall be required.

1. Limited Manufacturing - 1 space per 400 sq. ft of gross floor area or 1 space per employee on the largest shift, whichever is greater.
2. Technological Production, General Industrial, Intensive Industrial - 1 space per 1,000 sq. ft of gross floor area or 1 space per employee on the largest shift, whichever is greater.

e. Agricultural Use Types: exempt

**MELVIN MARK DEVELOPMENT COMPANY
PARKING & TRANSPORTATION DEMAND MANAGEMENT**

MEMORANDUM

Date: November 9, 2000 **Project #:** 4070.D
To: Beth Wemple and Judith Gray, Kittelson & Associates
From: Rick Williams, Melvin Mark Development Company
Project: Downtown Corvallis Parking Study
Subject: Review of Riverfront Parking Standards

INTRODUCTION

As per your request, I have reviewed the Riverfront Parking Standards contained in Draft A, Chapter 3.15, RF (Riverfront) Zone. For additional background, I have also reviewed a packet of information related to the issue of Riverfront Parking Standards provided to us by Ken Gibb. This packet contained numerous memoranda, draft code language, community meeting minutes, the Riverfront Commission's recommended development standards, and other useful information. The purpose of this review is to assess the parking implications that may result from the new standards being proposed.

I reviewed the standards with the following assumptions in mind. The proposed standards are intended to:

- Attract new development to this area of the downtown;
- Not act as a barrier to redevelopment of existing buildings;
- Create simplicity and certainty for both those who implement them and for developers who must comply with them; and
- Result in the pedestrian-friendly, multi-use neighborhood that is envisioned for this area.

Finally, I grounded my review in the context of information recently generated in our Task 1-D: Forecast Conditions Analysis, outlined in Memorandum #6 from you to the Parking Commission Subcommittee and Ken Gibb (dated October 9, 2000). Memorandum #6 was very useful in that it establishes a base for understanding current parking dynamics and future demand characteristics over a ten-year horizon. I attempted to analyze the proposed standards with this data in mind.

CURRENT & FORECAST CONDITIONS

Memorandum #6 reveals several important facts.

- There are currently 1,015 parking stalls located within parking Subarea D of the downtown. This Subarea comprises the majority of the Riverfront Zone.
- Existing observed peak hour demand in Subarea D is 618 parking stalls.
- Over the course of 10 years, if no new off-street spaces were provided, the total supply of parking in this zone would be reduced to 834 stalls through redevelopment and displacement of existing lots, and increases in on-street supply.
- Over the course of 10 years, the City projects new mixed-use development totaling approximately 220,000 square feet within the Riverfront Zone.
- Additional peak hour parking demand generated by this new development will be approximately 297 parking stalls over current peak hour parking demand.
- Overall peak hour demand in Subarea D will increase from 618 stalls to 916 stalls over 10 years.

RIVERFRONT PARKING STANDARDS

BASELINE PARKING STANDARDS

The parking standards outlined in the Draft Riverfront Parking Standards would result in a minimum parking requirement for any new development built in the Riverfront Zone. Based on the assumptions delineated in the Forecast Conditions analysis, a total of 313 new parking stalls would be required to accommodate the new and displaced demand associated with the estimated 220,000 square feet of mixed-use development. Table 1 provides a breakout of required parking based on the estimated development provided by the City.¹

Table 1
10-Year Development Forecast
Riverfront Parking Minimums Assumed

Type of Development	Square Footage	Minimum Parking Required
Office	63,000	126 (@ 1 per 500 SF)
Retail	37,500	57 (@ 1 per 650 SF)
Residential	104,000	130 (@ 1 per living unit) ²
Total	220,000	313 parking stalls

The Draft Riverfront Parking Standards would require the addition of 313 parking stalls to the future supply. As Memorandum #6 indicates, under a static scenario, the parking supply will

¹ For purposes of this discussion, it is assumed that the reduction in the minimum standard allowed for incorporating residential development into office and retail developments, is not exercised.

² Assumes average living unit of 800 square feet.

likely be reduced from 1,015 to 863 as a result of removals of existing parking and displacement due to new development. As such, overlaying the 313 parking stalls required, would cover new demand of 297 stalls and raise the actual supply from 863 to 1,176, a net increase of 161 stalls over today’s supply (or about 16%).

Given that the Riverfront Zone would benefit from the creation of 220,000 square feet of new office, retail and residential development, the minimum standards appear fairly reasonable when viewed (1) over a ten-year horizon, (2) without consideration of incentives that might reduce the actual minimum required number built, and (3) without consideration of parking management practices that could further optimize the overall supply of parking in this subarea and in the downtown.

Another perspective for analyzing the base minimum standards is to compare them to the “built ratio” of parking and the actual “use ratio” (demand) of parking in the Riverfront subarea. The built ratio of parking is derived as a factor of the number of parking spaces available to a site per 1,000 square feet of built area. The use (demand) ratio is the actual number of parking spaces per 1,000 square feet of built area that are occupied in the peak hour. **Table 2** summarizes data from Memorandum #6 to derive built and use (demand) ratios for the Riverfront Zone (Sub Area D). These are compared with similar ratios for Sub Area C and the combined average total for the downtown.

Table 2
Comparison of Built Ratio to Peak Hour Use Ratio for Parking

Location	ksf *	Built Ratio, Total		Built Ratio, Private Only		Use Ratio	
		Spaces	Spaces/ksf	Spaces	Spaces/ksf	Demand	Demand/ksf
Subarea C	510	1,097	2.15	560	1.10	480	0.94
Subarea D	449	1,015	2.26	653	1.45	423	0.94
Total Downtown	1683	4,520	2.69	2,109	1.25	1,336	0.79

* ksf excludes single family residential

Table 2 indicates that the Riverfront area (Subarea D) has developed parking at a ratio of 2.26 parking stalls per 1,000 square feet of development including public spaces. The private parking supply has been developed at a ratio of 1.45). These are slightly higher than Subarea C and below the average of parking built for the downtown. The actual peak hour use (or demand) for parking averages 0.94 stalls per 1,000 square feet, or 41% of the actual supply.

The Draft Riverfront Minimum Parking Standards are approximately 2.00 per 1,000 square feet. This is about 37% higher than what has historically been built by private development in the Riverfront area, and 60 % higher than private parking development in the overall downtown. If peak demand for parking remains at approximately 0.94 parking stalls per 1,000 square feet, the Draft Riverfront Parking Standards still provide a sizable cushion of supply.

The next phase of the parking study should examine the possible impact that proposed incentives and more aggressive parking management could have on the actual amount of parking built and optimization of the overall supply.

INCENTIVES

Reduction in minimums for residential

The idea seems good, but it is unlikely that a developer would exercise this option given that most residential parking is difficult to share with commercial uses, particularly office. For instance, if a developer reduces the amount of parking for his/her office development to provide for shared use opportunities with residential (which comes with its own requirement), the office actually loses parking to meet its own demand. Assuming even a 50% reverse commute for residential users, residential cars would be parked in the parking facility during the office user's most critical peak periods (i.e., 8 a.m. – 5 p.m.). This would limit the amount of actual shared use that an office developer could depend upon or would assume available. Similarly, if the residential is above market or condominium, the residential parking may need to be secured and segregated from the commercial parking to make it "marketable," further reducing what a developer or lender may perceive as necessary to accommodate demand.

A similar limitation comes with the restaurant standard given that the restaurant's need for "peak" parking may come in the evenings when the residential tenants are fully utilizing their spaces, again limiting the amount of shared use that theoretically incents a reduction in parking.

Nonetheless, there are limited situations and specific development projects that might be able to incorporate the intended benefit of such a standard into their project. It is unlikely that this will be perceived as a significant incentive that will ultimately reduce and/or optimize the utilization of parking. Our work in other cities (i.e., Seattle, Portland, Olympia and Vancouver) has shown how difficult it is to create shared parking opportunities when they are viewed in the context of minimum standards. It is important to remember that minimum requirements are generally set below actual demand, thereby constraining the parking supply.

Finally, it may be useful to clarify in the existing code the conditions under which accessory parking can be made available to "non-accessory uses." In other words, strengthen the City's intent, in the code or policy that shared uses are a priority and encouraged. In many cases where parking is "accessory" to a use, the reality or perception of owners is that the parking can only be operated to serve the specific use of the site. As such, the overall parking supply is underutilized and shared use agreements are not feasible.

Technical Memorandum #6 indicates a current surplus of parking in this subarea (i.e., 618 spaces of demand in a supply of 1,015 spaces). Much of this identified surplus was in private facilities, which may be limited by the reality or perception related to an accessory designation and the uses to which the parking can be applied. If this is the case in Corvallis, the effectiveness of incentives overall, such as sharing is actually limited. This issue should be further explored in the next phase of the parking study.

Transit adjacency incentive

This is an attractive standard but I would suggest a change in terminology from “can be reduced by 20%” to “*will be* reduced by 20%.” Allowing the reduction outright eliminates the need for a developer to come in and (1) justify the reduction and (2) not know if the City will actually allow the reduction in the end. Developers want incentives that are certain and actually result in a reduction in process and discretion.

Bike parking incentive

I am not aware of a bike parking incentive which trades auto parking for bike spaces, that works to any significant degree. A better incentive may be to (1) reduce SDC's/fees based on increasing bike access and infrastructure above a certain minimum standard or (2) give bonus FAR in return for infrastructure improvements. For instance, Portland gives a 40:1 square footage bonus for developments that incorporate shower and locker facilities for bicyclists and pedestrians. In other words, for every 1 square foot of area devoted to on-site shower and locker space, the developer receives a bonus of 40 feet above the base FAR for the site. The last three developments through the permit window have exercised this option.

Parking garage incentives (above and below grade)

The incentives suggested here could actually be prohibitive. The examples cited figure the full cost of construction of either an above grade (\$10,000 per stall) or below grade (\$15,000 per stall) facility. What the example doesn't consider is the impact this could have on redevelopment of existing properties or on properties with site constraints. For instance, if a re-development could not cost effectively put its total minimum requirement on its own site, it would be forced to pay a fee to the city for parking in an undetermined “structured” location.

In the case of new development, the cost of structured parking may not be economically viable for a project. If the minimum parking requirement cannot be met for reasons of financing structured parking, the option to reduce the minimum through a fee based on structured parking is useless.

In both cases, the developer will likely (1) question why the parking needs to be in a structure, particularly if the City owns surface facilities, (2) demand unlimited access and leasing rights into the spaces “purchased” at full cost through the fee, (3) question the need to put parking underground at the higher fee, or (4) find that the cost of paying the fee exceeds the ability of the project to be financed.

Similarly, the City would need to be prepared to move forward with a facility at the time of the first project that either elects or is forced into the fee. Given that most projects in Corvallis will be of small to moderate size, the developers right to parking will likely be in small amounts (i.e., 20 – 75 stalls). As such, the City will need to be able to develop and front end a garage of approximately 300 – 400 spaces in a location that adequately serves all projects that could be subject to this allowance in the future.

Overall, this incentive tends to suggest a fee-in-lieu. Most successful fees-in-lieu are offered to developers at a rate below the actual cost of providing the parking themselves. This is often done

by cities to create a true incentive that (1) attracts new development by “buying down” the cost of development, (2) consolidates parking to increase overall land use density in the downtown, and (3) puts cities in greater control and management of a municipal parking supply to influence alternative mode option goals and objectives.

The issue of fees-in-lieu, the City’s role and the goals and objectives for developing commercial parking should be further explored in the next phase of the parking study.

Parking garage lease incentive

This is a very good incentive. If developers can present valid lease agreements that demonstrate that they have “entitlements” to parking within existing supplies, the overall supply is more effectively utilized and development costs are reduced. It is my assumption that this incentive would apply to both new and existing developments. The issue of accessory parking limitations, referred to above, will also be relevant to this incentive.

There will be some administrative burden placed on the City to ensure that the lease agreements are real and enforced. However, the opportunity to use such an incentive is truly a benefit to a developer if exercised. It would clearly reduce overall development costs associated with a minimum parking requirement.

General comment

At the request of staff, I reviewed the Riverfront Commission’s Recommended Development Standards. These standards differ from those incorporated in the Riverfront District Standards Draft A, requiring less parking (50% less) for office, retail and restaurant uses in a commercial development that incorporates housing. These standards are more reflective of actual demand ratios outlined in Table 2, above, and may facilitate mixed use development given that developers will not be required to build unnecessary parking. As long as the developer has the option to build more than the minimum, the Riverfront Commission’s Recommended Development Standards may be more conducive to the economic challenges associated with mixed-use development.

SUMMARY FINDINGS

1. The base minimum parking standards appear reasonable and will result in an effective and adequate level of parking necessary to meet projected demand. Similarly, net new parking supply will increase at a reasonable rate over time. Further evaluation of incentives and parking management should be pursued to assure that minimum parking standards fully optimize the built supply.
2. The incentive options, with the exception of the parking garage lease incentive, are likely to be perceived by the development community as cumbersome and as an administrative burden by staff. Our experience in other cities, with similar “incentives,” is that they are infrequently exercised as an option by developers.

3. We suggest further review of incentives (i.e., FAR bonuses for bikes, fee credits/reductions and additional incentives related to transit) that will achieve intended City goals while being more attractive to developers.

4. A fee-in-lieu option should be explored that (a) defines the City's role in the provision, management and fiscal liability for "commercial parking," (b) creates a true incentive to developers to exercise the option, (c) contributes to larger policy goals for transportation, and (d) can be timed to coincide to the planned construction of a publicly owned facility.

5. Further evaluation of "accessory parking" designations should be pursued to garner an understanding of how such designations may limit shared use opportunities. The City's code, policy and intent for accessory parking should be reviewed for clarification, refinement and possible amendment.

Appendix C

**Employee Transportation Task Force
Report (Overview)**

PROJECT OVERVIEW

BACKGROUND

The Federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 set forth a national focus to reduce reliance on the automobile. Oregon's State Transportation Planning Rule (TPR) 12 is modeled after the federal legislation and mandates communities state-wide to implement measures which will reduce reliance on the automobile. The City of Corvallis Transportation Plan (adopted in 1995) is modeled after the State TPR and focuses on the development of alternative modes, rather than relying solely on building roads. According to that plan, the vision for transportation in Corvallis is:

*"the motorized vehicle and street traffic and circulation system for Corvallis will provide transportation corridors to move people, goods and services safely and efficiently by a variety of modes. By accommodating pedestrian, bicycle and transit modes in a manner which encourages their use, a reduction in the reliance on the automobile can be achieved."*¹

The issue of employee transportation has been addressed through the City of Corvallis Transportation Demand Management planning process over the past two years. The Draft TDM Plan will be reviewed by City Council on June 1, 1998. One significant portion of the TDM Plan recommends that employers voluntarily implement measures to reduce reliance on the automobile. The Chamber was concerned that employers would be asked to implement TDM programs void of any information from the customer: the commuter. Although the vision of reduction of reliance on the automobile is commendable, is it feasible? Even with Corvallis employers expressing concern that a growing number of their employees are commuting from other communities to work, it was unclear exactly how many employees are commuting, why they're commuting and if they would have interest in increased usage of alternative modes.

In the fall of 1997, the Corvallis Area Chamber of Commerce Business Advocacy Committee and Board of Directors commissioned the Employee Transportation Task Force to study issues related to employee transportation in Corvallis. The purpose of the task force was threefold:

- To conduct primary research regarding current and future employee commuting patterns, parking issues, transportation concerns and mode preferences.
- To explore effective options for transportation alternative programs that would be effective for employees and local employers
- To open communications with other regional organizations regarding commuting issues.

1998 TRANSPORTATION SURVEY

The 1998 Transportation Survey was conducted by the Oregon State University Survey Research Center from January through March, 1998. The population from which the sample was selected includes all employees from 18 major employers and faculty, staff and students from Oregon State

¹ Corvallis Transportation Plan, adopted (August 5, 1996, p. 3-3.)

University. The total population size was approximately 29,214, about 16,000 employees and 13,200 OSU students. OSU students were included in the survey since they are also using our transportation system. All Corvallis employers with 100 employees or more were invited to participate. We recognize that this population does not include representation from small employers. However, in order to conduct the survey in a timely and cost effective manner, this approach was considered the best alternative. A sample of employees was selected from each employer so that there would be a 95% confidence that the estimates obtained from each company are within +/-10% of the actual population values. The survey was distributed to a sample size of 2,646 employees with 1,876 surveys returned for an adjusted response rate of 71.96%. Each employer received a copy of their individual results so that internal strategies could be explored. A more complete explanation of the survey methodology is contained in the Appendix of this report.

KEY FINDINGS

QUESTION/ISSUE	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
Percent who usually drive alone	54.69%	83.76%
Top reason for driving alone	Flexibility to arrive late/leave early: 70.62%	No convenient alternative mode available: 79.51%
Percent who have considered using an alternative mode	69.03%	55.32%
Top alternative mode considered	Bicycle: 66.49%	Carpool: 84.23%
Top reason for not using alternative mode	Poor weather: 81.44%	Distance too far to walk or bike: 91.85%
Most often used alternative mode	Walk	Carpool
Percent who said time of year or weather is a factor in choosing alternative modes	58.52%	46.48%
(For those who use alternative modes) Top reason for using alternative modes	Exercise: 84.92%	Cost Savings: 92.79%
Percent who have ever telecommuted	22.18%	19.28%
Top factor that would increase usage of carpool/vanpool	Employer Incentives: 30.38%	Employer Incentives: 41.68%
Top factor that would increase usage of bicycle/walk	Improved bike lanes/walkways: 49.47%	Improved bike lanes/walkways: 16.45%
Top factor that would increase usage of bus	Increased frequency of pick-up: 47.1%	On-time service: 31.01%
Percent who live inside/outside city limits	59%	41%
Top reason for not living in Corvallis:	N/A	Cost of home/land too expensive: 32.88%
Average number of miles (one-way) to work	2.65 miles	19.05 miles
Percent using State highways	HWY 99W: 14.26% HWY 20: 7.46% HWY 34: 4.68%	HWY 99W: 30.35% HWY 20: 50.03% HWY 34: 44.24%

DRAFT RECOMMENDATIONS FOR DISCUSSION

The following recommendations are not considered the final position of the Chamber. These recommendations will be discussed during the Open Forum on May 5 and at subsequent Chamber Board meetings prior to final adoption.

The Employee Transportation Task Force had hoped to produce "An Employer's Transportation Plan for the Future" that could be integrated into current City of Corvallis Transportation Demand Management (TDM) Plan. This report will not serve as that future plan, but rather as the first step in developing such a plan.

- The Chamber, in conjunction with governmental entities, should consider establishing a Transportation Management Association (TMA) that would develop plans, goals and funding strategies to address employee transportation issues. The TMA might manage specific transportation programs, develop future plans, support transportation funding proposals and cooperate with other regional entities.
- Future plans should be focused on effective solutions for the commuter and the employer as determined by effective customer research.
- The Chamber supports the City of Corvallis TDM plan as written with one exception. The current version of the plan reads, "offer disincentives: additional fees, additional requirements for those not meeting TDM goals". This should be eliminated. However, the Chamber is supportive of voluntary compliance for employers.
- An ongoing assessment tool, such as the transportation survey, should be conducted on a bi-annual basis to measure use of alternative modes, customer interests and employer participation.
- A well-balanced plan for Corvallis' transportation system includes a variety of strategies including TDM, road construction and effective land use planning.

Appendix D

Five-Year Plan for the Parking Fund

PARKING FUND FIVE-YEAR PLAN BUDGETARY BASIS	AUDITED		ADOPTED		ADOPTED				
	FY 97-98	FY 98-99	FY 99-00	REVISED FY 99-00	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05
BEGINNING FUND BALANCE AVAILABLE FOR APPROPRIATIONS	0	678,220	695,027	780,325	751,650	302,920	251,490	179,500	84,330
OPERATING REVENUES:									
1 LICENSE AND PERMITS	24,298	21,049	29,320	18,480	24,880	29,320	29,320	29,320	29,320
2 CHARGES FOR SERVICE	111,187	114,866	107,050	107,050	115,060	115,990	117,100	118,220	119,350
3 FINES & FORFEITURES	213,969	274,239	225,020	240,100	240,000	240,000	240,000	240,000	240,000
4 MISCELLANEOUS	33,533	38,283	32,890	43,400	36,320	17,840	15,190	10,930	5,250
TOTAL OPERATING REVENUES	382,987	448,437	394,280	409,030	416,260	403,150	401,610	398,470	393,920
TOTAL RESOURCES	382,987	1,126,657	1,089,307	1,189,355	1,167,910	706,070	653,100	577,970	478,250
OPERATING EXPENDITURES:									
5 COMMUNITY DEVELOPMENT	11,306	12,398	6,730	46,730	113,460	13,660	14,400	15,180	16,010
8 FINANCE	51,993	53,447	70,820	68,390	79,750	83,130	88,060	89,120	92,340
7 POLICE	189,846	218,171	254,950	225,310	248,400	277,910	295,780	283,510	297,230
8 PUBLIC WORKS	27,431	29,739	54,590	32,130	48,690	32,740	34,570	36,550	38,700
9 NON-DEPARTMENTAL	43,091	25,163	28,450	26,920	29,270	30,290	31,350	32,450	33,590
TOTAL OPERATING EXPENDITURES	323,667	338,918	415,340	399,480	517,570	437,730	462,160	456,810	477,870
TOTAL OP. REVENUE LESS OP. EXPENDITURES	59,320	109,519	-21,060	9,550	-101,310	-34,580	-60,550	-58,340	-83,950
NON-OPERATING RESOURCES (USES)									
10 RESIDUAL EQUITY TRANSFER	651,227	0	0	0	0	0	0	0	0
11 TRANSFER OUT - CAPITAL PROJECTS	0	0	-315,000	-30,000	-315,000	-30,000	-30,000	-30,000	-30,000
BEGINNING VEH/EQUIP RESERVES	0	32,327	37,860	39,740	47,970	72,140	58,990	40,430	47,260
12 CONTINGENCIES	0	0	-7,890	0	-8,250	0	0	0	0
TOTAL NON-OPERATING RESOURCES (USES)	651,227	32,327	-285,030	9,740	-275,280	42,140	28,990	10,430	17,260
TOTAL RESOURCES LESS TOTAL USES	710,547	820,066	388,937	799,615	375,060	310,480	219,930	131,590	17,640
13 ENDING OPERATING BALANCE	678,220	780,325	360,487	751,645	302,920	251,490	179,500	84,330	-36,560
14 ENDING VEHICLE RESERVES	32,327	39,741	28,450	47,970	72,140	58,990	40,430	47,260	54,200

Appendix E

Survey Design and Instrument

Intercept Survey Statistical Validity

Determining statistical validity is important in understanding how closely the sample mirrors the characteristics of the population from which it comes. The important factor in this is knowing how small the difference is between the calculated values based on the survey responses and the true values (which are never known) that would be obtained if the entire population were to be surveyed. For this survey, a random sample was needed that would be large enough that similar samples would yield the same results 95 percent of the time (i.e., a confidence level of 95 percent). The survey also had a target margin of error of 5 percent, meaning that a calculated statistic was desired to be within 5 percent of the true value. Thus, the combination of a 5 percent margin of error and a 95 percent confidence level means that, for example, the true value of a statistic calculated at 60 percent would be within the range 55-65 percent, 95 percent of the time sampled.

The potential Downtown user population was estimated at 50,000 people. This estimate considers that not all Corvallis residents use Downtown, and that some people come to Downtown from areas outside Corvallis. With a user population of 50,000, the minimum number of surveys required to obtain a 95 percent confidence level with a 5 percent margin of error is 381.¹ In total, 860 people were asked to respond to the survey. Of these people 487 participated². This is a 56 percent response rate, and all survey results have a 95 percent confidence level with a 5 percent margin of error.

¹ Calculated using the Riley Research Sample Size Calculator (<http://www.rileyresearch.com>).

² A total of 471 responses were received in person, and 16 responses were received by mail.

Downtown Corvallis Access and Parking Survey

Survey #0001

Kittelsohn & Associates is conducting a Downtown Corvallis access and parking survey for the City of Corvallis to assess how people travel to downtown, and the availability of parking for those that are driving. Do you mind taking a few minutes to answer some questions? It should only take about 5 minutes, and your comments will be used to help us assess the future of parking in Downtown.

Thanks for your time. Your answers to the following questions will be confidential and used for statistical purposes only.

1. Why did you come downtown today (*circle all that apply*)?

a. For work -Where do you work (*nearest cross-streets*)

b. To shop -What is your main destination (*nearest cross-streets*)

c. Live in the area -Where (*nearest cross-streets*)

d. To dine out -What is your main destination (*nearest cross-streets*)

e. For entertainment downtown (e.g. movies, music) -What is your main destination (*nearest cross-streets*)

f. On business - What is your main destination (*nearest cross-streets*)

g. For government/public services -What is your main destination (*nearest cross-streets*)

h. Other _____

i. Did not respond

2. How often do you come Downtown
a. Less than once a week
b. Once a week
c. Twice a week
d. Every weekday
e. More than once every weekday
f. Did not respond

3. Where do you live?
a. In Corvallis?

Would you give us the major cross-streets near your home (e.g. NW Tyler Avenue/NW 15th Street)

b. Elsewhere
- What city, town or rural area?

c. Did not respond

4. How did you travel to Downtown today?

a. Walk
b. Bike
c. Transit
d. Drive
e. Did not respond

- If you drove to downtown how many were in your car?

5. What time did you arrive in Downtown?

a. _____
b. Did not respond

6. How long will you be spending in Downtown today?

a. Less than 1 hour
b. 1 to two hours
c. 2 to 4 hours
d. More than 4 hours
e. Did not respond

7. If there were one action the City could take to improve transportation in the downtown area for pedestrians bicyclists, and people riding the bus what would it be?

a. _____
Prompt if necessary: Would you suggest that the City add more transit service, parking lot shuttles, better pedestrian and bicycle access for crossing the street, covered bike racks...

b. Did not respond

If the respondent DID NOT drive downtown ask for any ADDITIONAL COMMENT (Question 14) then the survey is complete.

If the respondent DID drive downtown then continue with the survey

8. If you drove Downtown, where did you park?

a. On the street
-Name the location _____
(e.g. on 3rd Street between Van Buren and Monroe)

-Was it a metered or un-metered location?

b. In a parking lot
-Name the parking lot location _____

c. Did not respond

9. How many blocks was this from your destination?

Prompt if necessary with primary destination.

a. 1 - 2 blocks
b. 3 - 4 blocks
c. 5 - 6 blocks
d. More than 6 blocks
e. Did not respond

Appendix F

Survey Results

PURPOSE

Why did you come to downtown today?

a work	28%	Establishes a reason for making the trip downtown.
b shop	23%	
c live in area	6%	
d dine out	17%	
e entertain.	7%	
f business	10%	
g gov't.	2%	
h other	7%	
i Did not respond	0%	
100%		

2 If you do not drive downtown, why do you come downtown?

a work	21%	Includes people riding the bus, walking, and biking.
b shop	16%	
c live	13%	
d dine	10%	
e entertainment	6%	Establishes trip purpose for non-drivers.
f business	13%	
g government	2%	
h other	19%	
i did not respond	0%	
100%		

FREQUENCY

3 How often do you come downtown?

a <once a week	10%
b once a week	10%
c twice a week	18%
d every weekday	47%
e > every weekday	14%
f Did not respond	1%

4 If you work downtown, How often do you come downtown?

a <once a week	2%
b once a week	2%
c twice a week	2%
d every weekday	77%
e > every weekday	16%
f Did not respond	0%
100%	

5 If you shop downtown, How often do you come downtown?

a <once a week	19%	Determines whether shopping trips are significantly frequent and establishes to what degree perception and frequency will have a relationship.
b once a week	14%	
c twice a week	23%	
d every weekday	28%	
e > every weekday	15%	
f Did not respond	1%	
100%		

6 If you live in the area, How often do you come downtown?

a <once a week	0%
b once a week	4%
c twice a week	4%
d every weekday	37%
e > every weekday	56%
f Did not respond	0%

100%

7 If you dine downtown, How often do you come downtown?

a <once a week	10%
b once a week	7%
c twice a week	25%
d every weekday	45%
e > every weekday	12%
f Did not respond	1%

100%

8 For purposes other than work or living,
How often do you come downtown?

a <Once a week	15%
b Once a week	15%
c Twice a week	28%
d Every weekday	32%
e > Every weekday	9%
f Did not respond	1%

This group is referred to as visitors and includes all non-residents and non-employees such as customers, people doing business, government services, entertainment, and dining.

100%

DOWNTOWN USER LOCATIONS

9 Where do you live?

a In Corvallis?	71%
b Elsewhere	26%
c Did not respond	2%

100%

10 If you work downtown, Where do you live?

a In Corvallis	69%
b Elsewhere	29%
c Did not respond	1%

Establishes whether employees are more regional because of the businesses and county/city offices that exist downtown.

100%

11 If you shop downtown, Where do you live?

a In Corvallis	74%
b Elsewhere	24%
c Did not respond	2%

100%

2 If you come to downtown for other than work or living, Where do you live?

- a In Corvallis 71%
- b Elsewhere 26%
- c Did not respond 3%

This group is referred to as visitors and includes all non-residents and non-employees such as customers, 100% people doing business, government services, entertainment, and dining.

1P TIME AND DURATION

13 What time did you arrive in downtown?

- a Time given 97%
- b Did not respond 3%

14 Time of arrival

3-4am	0%	Before 10am	48%	
4-5am	0%	10am-2pm	32%	
5-6am	0%	2-6pm	16%	
6-7am	1%	did not respond	3%	100%
7-8am	12%			
8-9am	18%	Establishes an arrival pattern for the downtown community.		
9-10am	16%			
10-11am	11%			
11-12pm	7%			
12-1pm	6%			
1-2pm	7%			
2-3pm	6%			
3-4pm	5%			
4-5pm	3%			
5-6pm	2%			
6-7pm	0%			
Did not respond	3%	100%		

15 If you are visiting Downtown, What time did you arrive?

3-4am	0%	a Before 10am	31%	
4-5am	0%	b 10am-2pm	41%	
5-6am	0%	c 2-6pm	27%	
6-7am	1%	d Did not respond	2%	100%
7-8am	5%			
8-9am	10%			
9-10am	15%			
10-11am	12%			
11-12pm	9%			
12-1pm	10%			
1-2pm	11%			
2-3pm	11%			
3-4pm	7%			
4-5pm	5%			
5-6pm	3%			
6-7pm	1%			
Did not respond	2%	100%		

16. If you work Downtown, What time did you arrive?

3-4am	0%	a Before 10am	79%	
4-5am	0%	b 10am-2pm	14%	
5-6am	1%	c 2-6pm	4%	
6-7am	1%	d Did not respond	3%	100%
7-8am	26%			
8-9am	29%			
9-10am	22%			
10-11am	10%			
11-12pm	3%			
12-1pm	1%			
1-2pm	0%			
2-3pm	3%			
3-4pm	1%			
4-5pm	1%			
5-6pm	0%			
6-7pm	0%			
Did not respond	3%			100%

17 How long will you be spending in downtown today?

a < 1 hour	29%		
b 1-2 hours	21%	Establishes a trip duration.	
c 2-4 hours	14%		
d > 4 hours	34%		
e Did not respond	1%		100%

18 If you work downtown, How long will you be spending in downtown today?

a < 1 hour	6%		
b 1-2 hours	2%		
c 2-4 hours	7%		
d > 4 hours	84%		
e Did not respond	1%		100%

19 If you are a downtown visitor, How long will you be spending in downtown today?

a < 1 hour	42%		
b 1-2 hours	31%		
c 2-4 hours	17%		
d > 4 hours	9%		
e Did not respond	1%		100%

TRAVEL MODE

20 How did you travel to downtown today?

		Establishes a mode split.	
a Walk	15%		
b Bike	8%	Ave. Occupancy / Vehicle	1.20
c Transit	4%	Total No. of Vehicles	337
d Drive	72%	No. of Single Occupancy Vehicles	284
e Did not respond	1%		
			100%

PARKING CHARACTERISTICS

22 How many times did you park your car downtown today?

a Once	69% *	
b Twice	17% *	
c Three times	7% *	
d > three times	3% *	
e Did not respond	4% *	
		100%

23 If you drove, where did you park?

a on street	78% *	
b parking lot	20% *	
c Did not respond	2% *	
		100%

* Group of drivers plus walkers, bikers, and/or transit riders wishing to respond.

PARKING DISTANCES & PURPOSE

23 How many blocks was this from your destination?

a 1-2 blocks	73% *	
b 3-4 blocks	18% *	
c 5-6 blocks	5% *	
d > 6 blocks	3% *	
e Did not respond	1% *	
		100%

24 What is the furthest you would be willing to park from your destination?

a 1-2 blocks	21% *	Allows a comparison between how far people are currently parking from their destinations and how far they are willing to park from their destinations.
b 3-4 blocks	36% *	
c 5-6 blocks	23% *	
d > 6 blocks	16% *	
e Did not respond	3% *	
		100%

25 If you work downtown, How many blocks are you parked from your destination?

a "1-2"	61% *	Establishes the difference in parking characteristics among people employed in the downtown area and people doing other activities.
b "3-4"	23% *	
c "5-6"	12% *	
d More than 6	2% *	
e Did not respond	1% *	
		100%

26 If you work downtown, How many blocks are you willing to park from your destination?

a "1-2"	19% *	
b "3-4"	37% *	
c "5-6"	23% *	
d More than 6	17% *	
e Did not respond	3% *	
		100%

27 If you are shopping downtown,
How many blocks are you parked from your destination?

a "1-2"	76% *
b "3-4"	18% *
c "5-6"	1% *
d More than 6	4% *
e Did not respond	1% *
	100%

28 If you are shopping downtown,
How many blocks are you willing to park from your destination?

a "1-2"	21% *
b "3-4"	36% *
c "5-6"	24% *
d More than 6	16% *
e Did not respond	3% *
	100%

29 If you are downtown for reasons other than work or residing downtown,
How many blocks are you parked from your destination?

a "1-2"	79% *	This group is referred to as visitors and includes all non-residents and non-employees such as customers, people doing business, government services, entertainment, and dining.
b "3-4"	15% *	
c "5-6"	2% *	
d More than 6	3% *	
e Did not respond	2% *	
	100%	

30 If you are downtown for reasons other than work or residing downtown,
How many blocks are you willing to park from your destination?

a "1-2"	22% *	This group is referred to as visitors and includes all non-residents and non-employees such as customers, people doing business, government services, entertainment, and dining.
b "3-4"	36% *	
c "5-6"	23% *	
d More than 6	16% *	
e Did not respond	3% *	
	100%	

Note limited difference between shoppers and non-employees/non residents.

* Group of drivers plus walkers, bikers, and/or transit riders wishing to respond.

PARKING DISTANCES & DURATION

31 If you are parked less than 1 hr,
How many blocks are you parked from your destination?

a "1-2"	90%	Establishes effective parking distance from destination and length of trip relationship.
b "3-4"	7%	
c "5-6"	1%	
d More than 6	1%	
e Did not respond	2%	
	100%	

32 If you are parked 1-2 hrs,
How many blocks are you parked from your destination?

a "1-2"	70% *	Establishes effective parking distance from destination and length of trip relationship.
b "3-4"	20% *	
c "5-6"	4% *	
d More than 6	4% *	
e Did not respond	1% *	

100%

33 If you are parked 2-4 hrs,
How many blocks are you parked from your destination?

a "1-2"	65% *	Establishes effective parking distance from destination and length of trip relationship.
b "3-4"	26% *	
c "5-6"	2% *	
d More than 6	4% *	
e Did not respond	2% *	

100%

34 If you are parked more than 4 hrs,
How many blocks are you parked from your destination?

a "1-2"	60% *	Establishes effective parking distance from destination and length of trip relationship.
b "3-4"	24% *	
c "5-6"	11% *	
d More than 6	3% *	
e Did not respond	1% *	

100%

* Group of drivers plus walkers, bikers, and/or transit riders wishing to respond.

PARKING OPINIONS

35 Would you be willing to pay to park in downtown Corvallis?

a Not willing	47% *
b Willing	50% *
c Did not respond	4% *

100%

COMMENTS At end of Appendix B.

36 On a scale of 1 (no problem) to 10 (big problem),
Did you perceive a problem parking downtown?

a Offered response	96%
b Did not respond	4%

100%

37 How do you rate the parking?

1	18% *	Overall perception of the parking conditions.	
2	7% *		
3	12% *		
4	8% *		
5	16% *		
6	7% *	"1-2"	24%
7	10% *	"3-4"	20%
8	9% *	"5-6"	23%
9	3% *	"7-8"	19%
10	10%	100% "9-10"	14% 100%

38 If you work downtown, How do you rate the parking?

1	12% *	Establishes the employee population's perception of parking conditions.	
2	3% *		
3	10% *		
4	7% *		
5	18% *		
6	2% *	"1-2"	15.13%
7	8% *	"3-4"	16.81%
8	14% *	"5-6"	20.17%
9	6% *	"7-8"	22.69%
10	19% *	"9-10"	25.21%
		100%	

39 Employees Who Rate The Parking 1-3, Where do they live?

a In Corvallis	69%	Determines whether employees in and out of Corvallis have a different perception.
b Elsewhere	31%	
c Did not respond	0%	
		100%

40 Employees Who Rate The Parking 7-10, Where do they live?

a In Corvallis	68%
b Elsewhere	30%
c Did not respond	2%
	100%

41 If you shop downtown, How do you rate the parking?

1	18% *	Establishes the shopping population's perception of parking conditions.	
2	11% *		
3	10% *		
4	5% *		
5	17% *		
6	13% *	"1-2"	29.55%
7	9% *	"3-4"	14.77%
8	7% *	"5-6"	29.55%
9	1% *	"7-8"	15.91%
10	9% *	"9-10"	10.23%
		100%	

* Group of drivers plus walkers, bikers, and/or transit riders wishing to respond.

42 If you are downtown for reasons other than work or residing downtown, How do you rate the parking?

1	21% *	This group is referred to as visitors and includes all non-residents and non-employees such as customers, people doing business, government services, entertainment, and dining.	
2	8% *		
3	14% *		
4	8% *		
5	15% *		
6	9% *	"1-2"	29.09%
7	10% *	"3-4"	21.82%
8	7% *	"5-6"	24.55%
9	2% *	"7-8"	17.27%
10	5%	100% "9-10"	7.27%

PEDESTRIAN, BICYCLIST, AND TRANSIT IMPROVEMENTS

One action the city could take to improve things for bicyclists, pedestrians, and transit riders.

- a Action described 42%
- b Did not respond 58%

100%

COMMENTS

extend bus schedule
 curb extensions
 increase bus frequency
 More bike lanes
 Free bus service
 Better bike lanes
 more bike lanes in downtown
 more bike lanes
 more bike lanes
 more buses
 ped accessibility; curb extensions
 more bike lanes
 more buses
 more bike lanes
 more bike racks
 Keep the shuttles
 safety for cyclists
 more buses
 cyclist education
 ped protection
 increase bus frequency
 bus access by riverfront
 ped safety when crossing street; no right on red
 longer walk signals
 smoother sidewalks
 mark 1-way streets
 Enforce speeding
 reduce speed limit for cars
 bus outreach
 More bike lanes
 promote bus riding
 more bike lanes
 more buses
 more bike lanes
 like to see bike lanes through town
 bike lanes on 3rd & 4th
 more bike lanes
 Covered bike racks
 more bike lanes
 more bike lanes
 covered bike racks
 enforce 'no bikes on sidewalks'
 more bike lanes
 extend bus schedule
 more bike racks
 more covered bike racks
 remove bike restrictions from sidewalks

more buses
 lengthen bus schedule
 bus outreach
 improve bike lanes
 need safer bike lanes
 increase bus frequency
 more bike lanes
 extend bus schedule
 add traffic circles
 more transit marketing
 more bike lanes
 better bus system
 better bus system
 reduce access to cars
 close section off to vehicles
 More bike lanes
 Cyclist education; more ped walk space
 more buses
 better crosswalks
 add bike lanes to 3rd and 4th
 more bike lanes
 more transit downtown
 Bus outreach
 More bike lanes
 More bike lanes
 More bike lanes
 Park & Ride lot
 Trip planning service for buses
 Limit bike access
 Limit car access
 Limit car access
 more bike lanes
 more buses
 more bike lanes
 more bike lanes
 bus outreach
 maintain bike paths
 make a ped mall
 better bike/ped access
 more bike lanes
 awnings for peds
 More bike lanes
 increase bus frequency
 like to see bus routes; more bike lanes
 smaller buses
 more bus stops along routes
 bicyclists need to follow road rules

more bike lanes; improve transit
bike racks in front of store
ped awareness
more bike lanes
bike lane on 3rd St.
more bike lanes
more bike lanes
bike lanes on 3rd & 4th
better E-W bike facilities
Maintain bike lanes
Improve bike lanes
more bike lanes
covered bike racks
more bike lanes
more buses
more covered bike racks
lengthen bus schedule
improve bus system
more buses
extended bus service on wknds
increase bus frequency
less transferring between buses
more evening buses
Parking lot (with) shuttles
remove bike lanes behind diagonal parking- hard to see
need to make bike lanes safer
shuttle
increase bus frequency
increase bus frequency
More bike lanes
Bus outreach
longer bus running times
More bike lanes
increase bus frequency
Better bus service
More bike lanes
Better bike lanes
downtown shuttle & bike lanes
better bike/ped access for crossing the street
more buses
downtown shuttle
more bike lanes; bus outreach
add bike lanes on 3rd & 4th
more bike lanes
extend bus schedule for shuttle from Albany
increase bus frequency
Bus outreach
awnings over sidewalks
More bike lanes
Remove meters

bus routes too long/not frequent enough
increase bus frequency
Close some streets to cars
One-way streets unnecessary
Bus outreach
More bike lanes
more buses
more bike lanes
enforce 'no bikes on sidewalk'
curb extensions
better bike lanes
more bike lanes
more bike lanes
more bike racks and lanes
close section off to vehicles
increase bus frequency
Advertise bus tickets; route info
more ped amenities
more frequent to/from Philomath/Corvallis
keep signs in good condition for elderly
more bike lanes
covered bike racks
finish the bypass
more bike lanes
close section off to vehicles
shuttles from parking lots
path for peds on 1st
more ped access
shuttle around downtown
bus outreach
more bike lanes
better transit
extend bus schedule
better bus service to S. Corvallis
need enforcement of skateboards
greater ped safety
enforce skateboards on sidewalks
more bike lanes
parking lot shuttles
bus to/from Philomath
more bike lanes
increase bus frequency
Madison
more buses
Bike routes
bicyclists need to stop at signs
more bus stops along routes
more shuttles
Drunk bus back (weekends)
covered bike racks

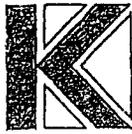
PARKING FEES

12 If willing to pay to park in Downtown, How much are you willing to pay?

\$0.05/hr	\$0.25/hr	\$0.50/day	\$1.00/day	\$2.00/hr	\$40/qtr
\$0.10/hr	\$0.25/hr	\$0.50/day	\$1.00/day	\$2.00/hr	\$80/qtr
\$0.10/hr	\$0.25/hr	\$0.50/day	\$1.00/day	\$2.50/day	minimal amount
\$0.10/hr	\$0.25/hr	\$0.50/day	\$1.00/day	\$2.50/day	minimal amount
\$0.10/hr	\$0.25/hr	\$0.50/day	\$1.00/hr	\$3.00/day	no meters
\$0.25/hr	\$0.25/hr	\$0.50/day	\$1.00/hr	\$3.00/day	
\$0.25/hr	\$0.25/hr	\$0.50/day	\$1.00/hr	\$3/day	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.00/hr	\$4/day	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.00/hr	\$5/day	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.00/hr	\$10/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.00/hr	\$10/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.00/hr	\$10/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.00/hr	\$10/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.25/hr	\$10/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.50-\$2.00/day	\$15/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.50/day	\$20/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1.50/day	\$20/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/day	\$20/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/day	\$20/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/day	\$20/qtr	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/day	\$25/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/day	\$25/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/hr	\$25/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/hr	\$25/mo	
\$0.25/hr	\$0.25/hr	\$0.50/hr	\$1/hr	\$30/mo	
\$0.25/hr	\$0.25/hr	\$1-\$2/day	\$1/hr	\$30/mo	
\$0.25/hr	\$0.30/hr	\$1-\$2/day	\$2.00/day	\$30/mo	
\$0.25/hr	\$0.50/10hr	\$1.00/day	\$2.00/day	\$35/mo	
\$0.25/hr	\$0.50/10hr	\$1.00/day	\$2.00/day	\$35/mo	
\$0.25/hr	\$0.50/10hr	\$1.00/day	\$2.00/day	\$40/mo	

Appendix G

Supplemental Study Area



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION PLANNING/TRAFFIC ENGINEERING

610 SW ALDER, SUITE 700 • PORTLAND, OR 97205 • (503) 228-5230 • FAX (503) 273-8169

MEMORANDUM #3

Date: August 4, 2000

Project #: 4070

To: Parking Commission Subcommittee
Ken Gibb, City of Corvallis

From: Judith Gray
Katherine Belmore
Elizabeth Wemple, P.E.

Project: Downtown Corvallis Parking Inventory and Analysis

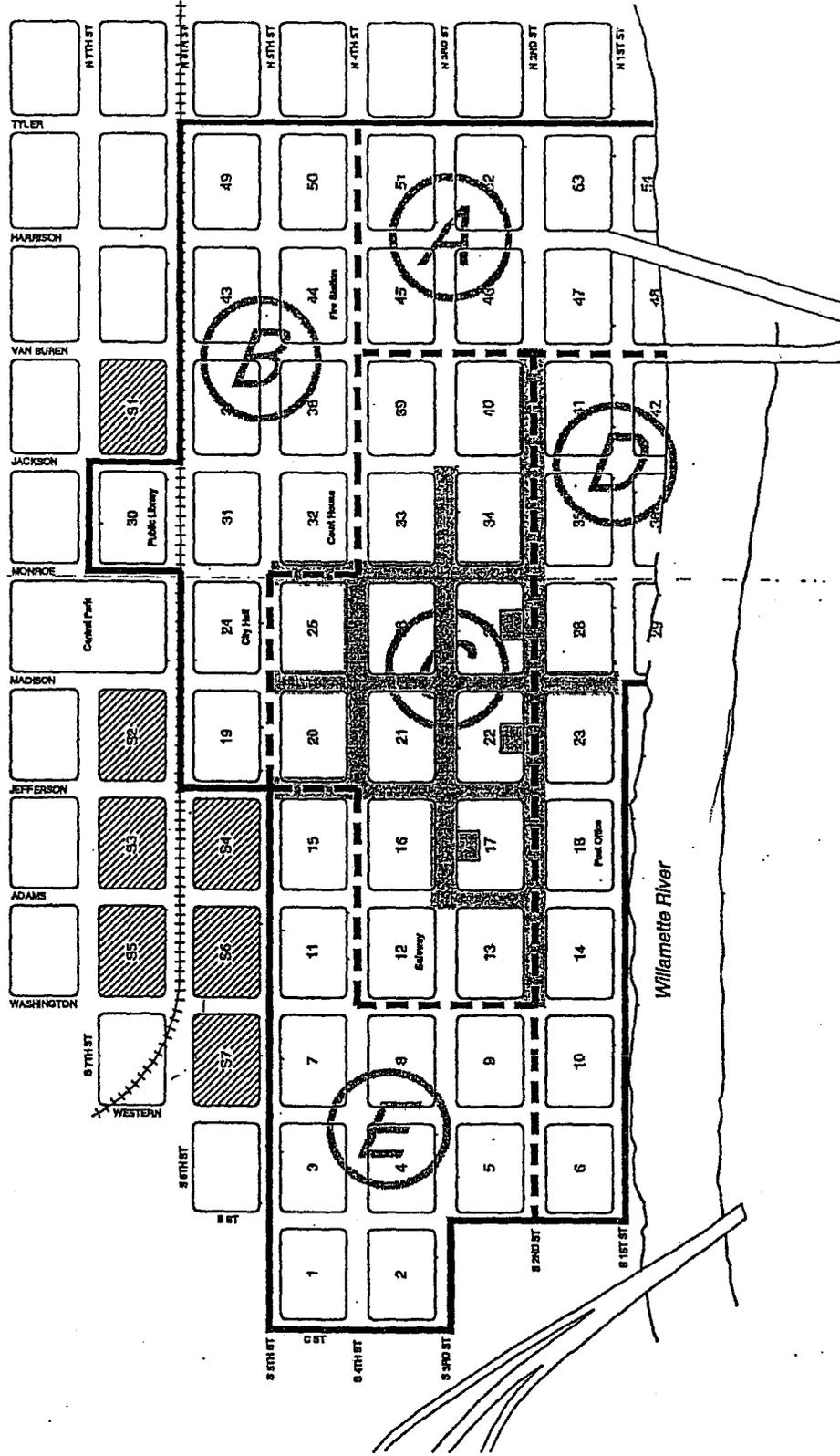
Subject: Supplemental Study Area Parking Supply and Utilization

Introduction

During the Parking Commission Subcommittee meeting held on May 9, 2000, the Subcommittee expressed concerns about employee parking encroaching into the mixed residential and commercial area west of the study area. The Subcommittee identified a seven-block area immediately west of the principal study area for additional analysis. Figure 1 shows the principal study area and the additional seven-block supplemental study area identified by the Parking Commission Subcommittee.

To respond to these concerns, Kittelson & Associates, Inc. conducted an analysis to evaluate the overall parking utilization within the supplemental area and the extent of employee spillover parking into this area. In order to evaluate the extent of employee parking encroachment into this area, on-street parking utilization was recorded during five time periods on a typical weekday.

The study's methodology, results of the data collection effort, and overall conclusions are described in this memorandum.



LEGEND

-  Supplemental Study Area Block ID
-  Principal Study Area Border
-  Sub Area Border
-  Free Parking Zone
-  Sub Area Identifiers
-  Principal Study Area Block ID

STUDY AREA

DOWNTOWN PARKING STUDY
CORVALLIS, OREGON
AUGUST 2000

FIGURE

1



Data Collection

Data were collected on Thursday, May 25, 2000 between 6:30 a.m. and 6:30 p.m. Weather conditions were dry and cloudy, Oregon State University was in session, and there were no special events taking place in Downtown Corvallis.

A detailed inventory of available on-street parking supply in the seven-block area was taken. In addition to the number and type of parking spaces, adjacent land uses were also identified (e.g. residential, commercial, or retail). On-street parking counts were taken five times during the day. The counts were taken at the following times:

- Prior to the workday (6:30 to 7 a.m.)
- In the morning after the workday began (10 to 10:30 a.m.)
- Midday during lunchtime (12:15 to 12:45 p.m.)
- Midday after the peak parking period ended (3 to 3:30 p.m.)
- After the workday ended (6 to 6:30 p.m.).

Parking Supply

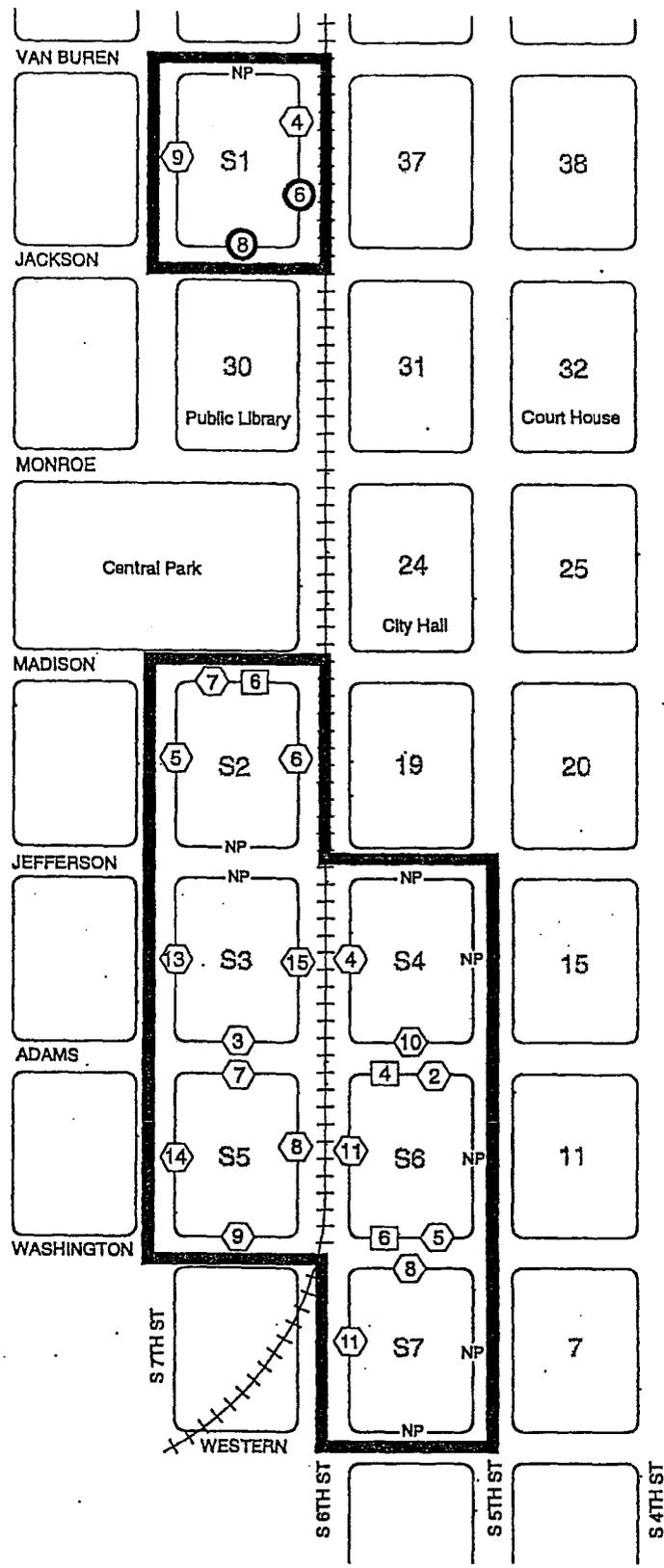
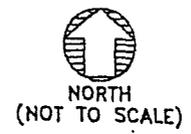
There are 181 on-street parking spaces within the supplemental study area. Of these spaces, 151 are uncontrolled parking spaces allowing parking for an unlimited duration. Fourteen of the spaces are two-hour metered spaces and another sixteen are signed for two-hour parking.

Figure 2 illustrates the seven-block supplemental study area and the available on-street parking by type. Approximately two thirds of the uncontrolled parking (92 spaces) are located in front of residential areas. The remaining 59 spaces and all of the restricted spaces, are located adjacent to commercial uses.

Parking Utilization

Overall Parking Utilization

Figure 3 shows a profile of the supplemental area parking utilization throughout the day. As the figure shows, the peak parking demand occurred between 12:15 and 12:45. At this time approximately 60 percent of the on-street parking spaces were occupied. The lowest utilization occurred in the early morning (6:30 a.m. to 7:00 a.m.) and late evening (6:00 p.m. to 6:30 p.m.), when approximately 33 percent and 38 percent of spaces were occupied, respectively.



LEGEND

- - Short Term (signed)
- - Short Term (metered)
- ⬡ - Uncontrolled
- NP - No Parking
- # Block ID
- ▬ - Supplemental Study Area Boundary

**SUPPLEMENTAL STUDY AREA
PARKING INVENTORY**

PARKING STUDY
CORVALLIS, OREGON
AUGUST 2000

FIGURE

2



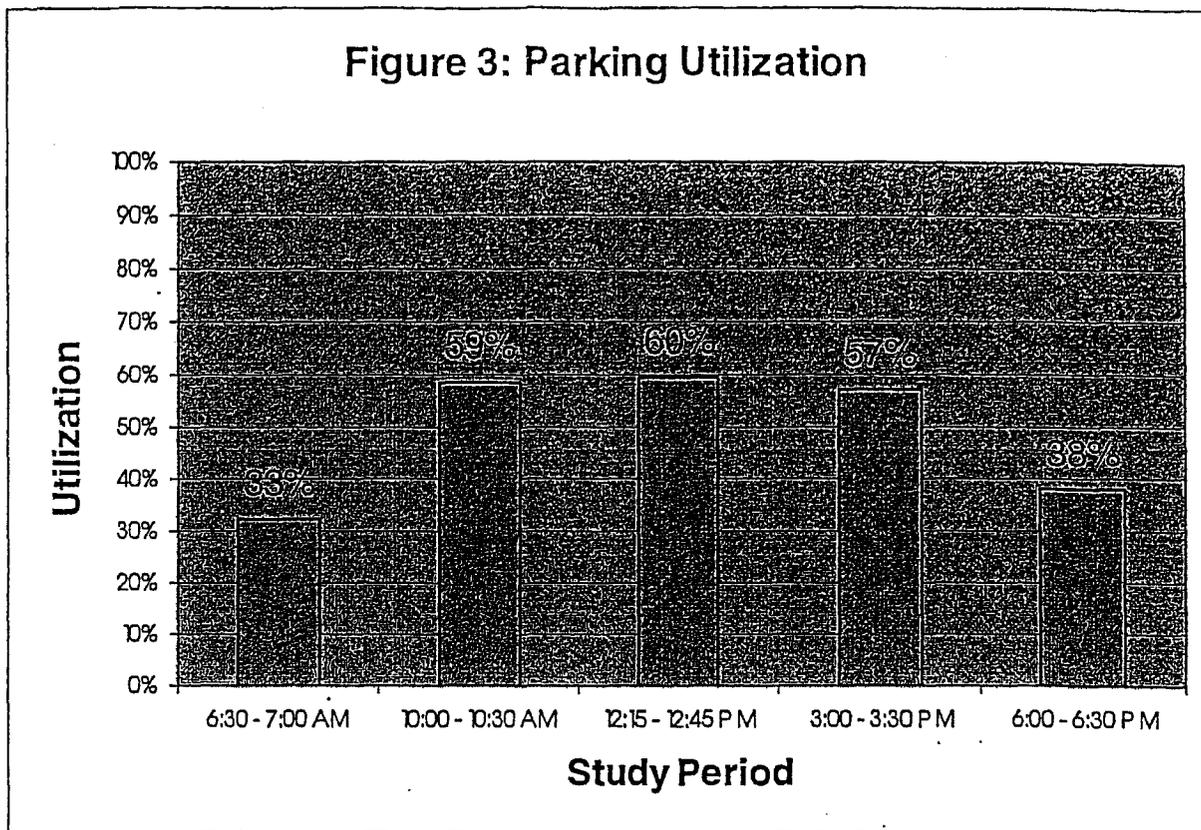
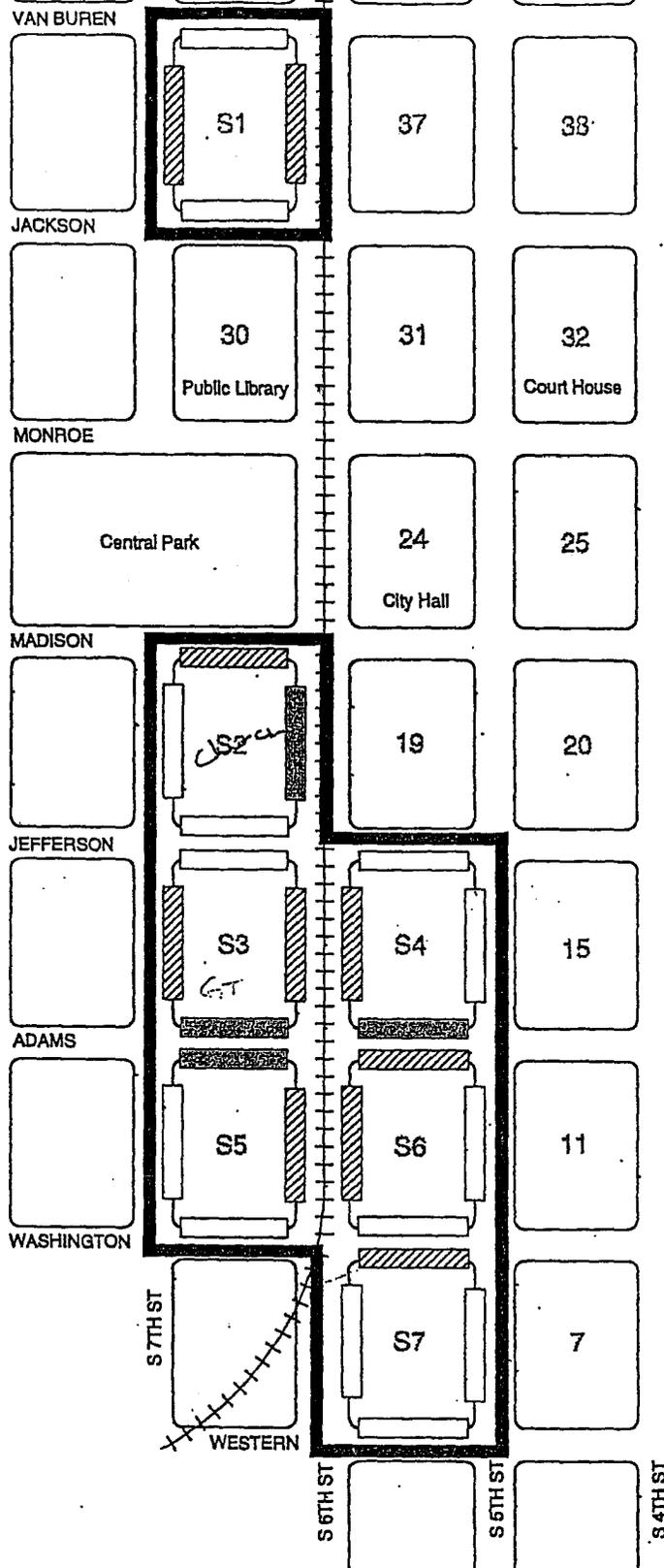


Figure 4 illustrates the parking utilization by block face during the peak period (12:15 to 12:45 p.m.) for the supplemental study area. During the peak parking period, four of the block faces were above 85 percent utilized and half of the block faces were between 50 and 84 percent utilized. Out of the 10 block faces utilized at 50 to 85 percent, 7 coincide with a block face containing at least one place of business. Similarly, 2 of the 4 block faces utilized at 85 percent or above coincide with block faces containing only business uses.

Prior to the workday, the majority of block faces had less than 50 percent utilization, and all but one block face was below 62 percent. The one block face more than 62 percent utilized, was 100 percent full prior to the workday. This block face (the west face of Supplemental Study Area Block 4) had four uncontrolled spaces located in front of residential sites.

Utilization by Type of Parking Space

Due to the high percentage of uncontrolled parking spaces (83 percent), it can be seen that the overall utilization profile was determined by uncontrolled parking trends. The peak for uncontrolled parking actually occurred during the 3:00 to 3:30 p.m. study period. At this time the utilization of the uncontrolled spaces was 66 percent. However the two previous periods (10 to 10:30 a.m. and 12:15 to 12:45 p.m.) were only slightly below at 65 and 64 percent respectively. During the early morning period (6:30 to 7 a.m.) and the late evening period (6 to 6:30 p.m.), the utilization of uncontrolled parking spaces was 38 percent.



LEGEND

- Full During Peak Hour
 - <50%
 - 50%-84%
 - >84%
 - Supplemental Study Area Boundary
- # Block ID

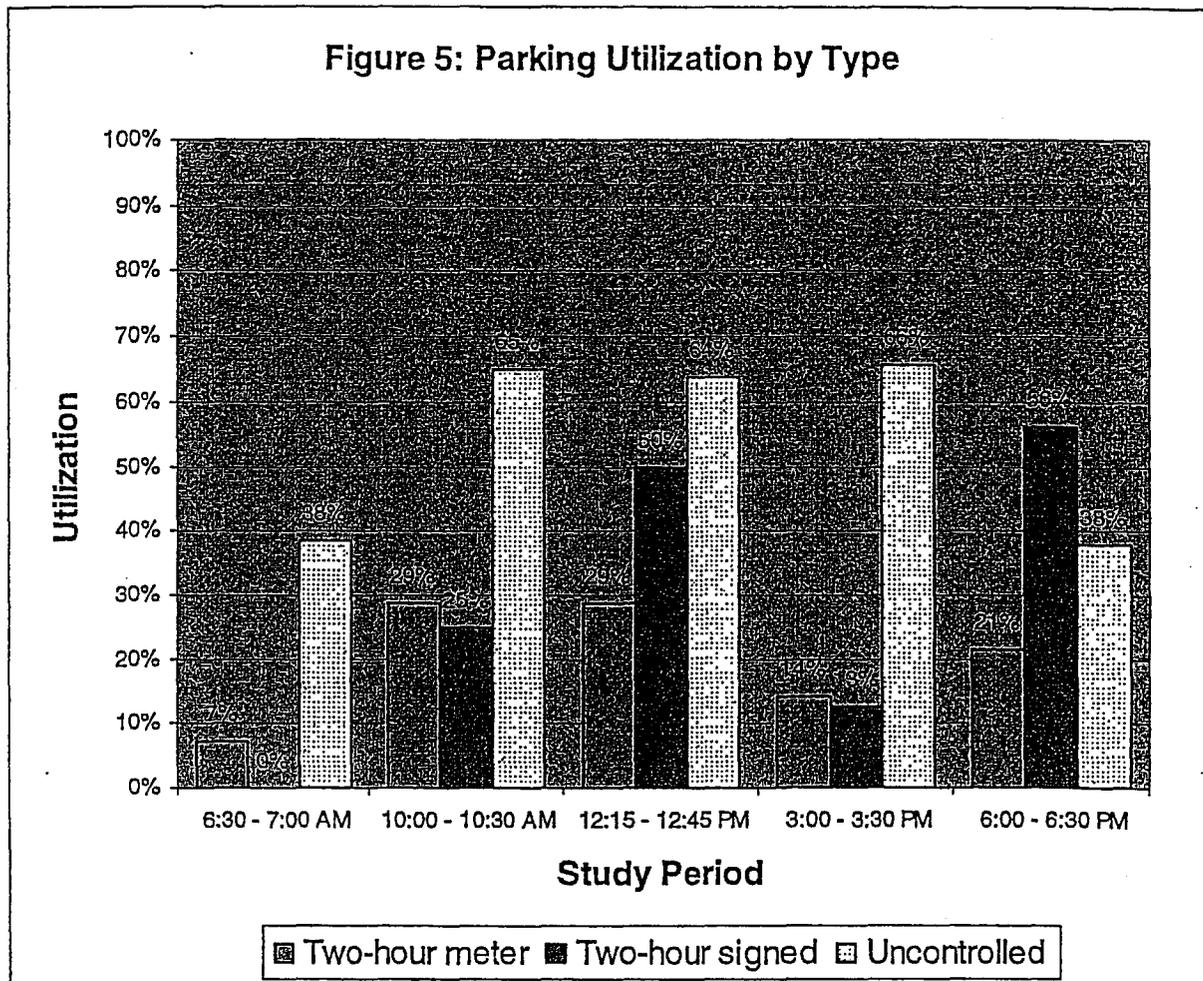
**SUPPLEMENTAL STUDY AREA
PARKING UTILIZATION**

PARKING STUDY
CORVALLIS, OREGON
AUGUST 2000

FIGURE
4



At the metered and signed parking spaces, utilization varied more. This is due to the low number of metered and signed parking spaces, wherein one car can greatly affect the utilization percentage. The utilization of metered parking peaked at 29 percent during both the 10:00 and 12:15 study periods. The two-hour signed parking utilization was at its highest, 56 percent, during the evening study period (6:00 to 6:30 p.m.). Figure 5 shows a summary of the parking space utilization by type of parking space.



Evaluation of Parking Demand Characteristics

To identify the extent of short-term versus long-term parking in the supplemental study area, duration of stay for each parked vehicle was evaluated. A vehicle parked in the same uncontrolled space during only the 10:00 a.m., 12:00 p.m., and 3:00 p.m. count periods was considered to be a long-term, non-residential parked vehicle. Any vehicle parked in the same place for five consecutive time periods was considered to be a long-term residential parked vehicle. Vehicles that were parked in the same parking space for only one or two successive time periods were considered to be short-term parked vehicles. Two-hour spaces (metered and signed) were not considered in these calculations.

Table 1: Supplemental Study Area Parking Duration

Parking Space Occupant	Observations
Long-Term Residential (vehicles parked all five periods)	22
Long-Term (vehicles parked during 4 consecutive periods)	7
Long-Term, Non-Residential (vehicles parked during three consecutive mid-day periods)	35

As shown in Table 1, of the 151 uncontrolled parking spaces 35 or 23 percent were parked during all three of the mid-day periods and were therefore long-term non-residential parkers. Closer evaluation of the data indicates that most of the long-term, non-residential parkers were located on block faces adjacent to businesses. Only five residential block faces had parking spaces occupied by non-residential parkers. Furthermore, the utilization by long-term non-residential users was less than 33 percent on all five of these block faces.

Summary and Conclusions

The results of the analysis of the supplemental study area show that:

- There is a total supply of 181 parking spaces: 14 two-hour metered spaces, 16 two-hour signed spaces and 151 uncontrolled parking spaces.
- The peak for the supplemental study area is between 12:15 and 12:45 p.m. This is consistent with the peak period of the study area as a whole.
- The overall utilization during the peak period was 60 percent, only a few percentage points higher than the 10:00 a.m. and 3:00 p.m. time periods and little more the 20 percent higher than the 6:30 a.m. and 6:00 p.m. time periods. Therefore, no overall capacity constraints are indicated in the seven-block study area.
- During the peak period, parking utilization was highest in the uncontrolled parking spaces, which were 64 percent utilized during the peak period. The metered and signed spaces combined were 40 percent utilized.
- Of the 151 uncontrolled spaces, long-term, non-residential parkers utilized 35 of these spaces. The majority of these parking spots were located on block faces containing places of business. Only 5 residential block faces had parking spaces occupied by non-residential parkers.

Overall, the existing on-street parking supply is sufficient to meet demand in the seven-block study area. Only four block faces were full (85 percent or higher utilization) during the peak period. These block faces were:

- Block S2 along 6th Street
- Block S3 along Adams Avenue
- Block S4 along Adams Avenue
- Block S5 along Adams Avenue

Some long-term parking by non-residents does appear to occur in the area. Of the total parking in the area, approximately 23 percent is being used for work-related parking. However, these vehicles are parked in the vicinity of retail or commercial uses.

We hope that this adequately addresses the Parking Commission Subcommittee's questions regarding parking in the supplemental study area, and we look forward to discussing this memo with the Subcommittee.

Appendix H

Daily Parking Demand Fluctuation



KITTELSON & ASSOCIATES, INC.
TRANSPORTATION PLANNING/TRAFFIC ENGINEERING

2200 W. COMMERCIAL BLVD., STE 304 • FT. LAUDERDALE, FL 33309 • (954) 735-1245 • FAX: (954) 735-9025

MEMORANDUM #4

Date: August 24, 2000 **Project #:** 4070

To: Parking Commission
Ken Gibb, City of Corvallis

From: Judith Gray
Katherine Belmore
Beth Wemple, P.E.

Project: Downtown Corvallis Parking Inventory and Analysis

Subject: Daily Parking Demand Fluctuations

This memorandum provides a summary and comparison of parking utilization in downtown Corvallis during the peak hour of three typical weekdays in May 2000. The Corvallis Parking Commission Subcommittee requested this evaluation in order to assess the extent of daily fluctuations in parking demand in the study area.

Data Collection

For the purpose of this analysis, the City of Corvallis had an aerial photograph of the study area taken during the peak hour (noon to 1 p.m.) of a typical weekday (May 25, 2000). Peak parking utilization reflected in the photograph was estimated and compared to peak parking utilization determined for the existing conditions analysis. That data set was obtained during the comprehensive data collection effort conducted on May 9, 2000 for the parking utilization study. These data sets were used to conduct a two-day, area-wide comparison of peak hour parking utilization throughout the study area.

Additionally, the parking duration data collected on Thursday, May 11, 2000 were used to compare peak parking utilization on targeted downtown streets. Specifically, Second and Third Streets and Jackson, Madison, and Adams Avenues were included in this analysis. As such, a three-day comparison was conducted for on-street parking along these corridors within the study area boundaries.

Two-Day Area-Wide Comparison of Utilization

Area-wide peak hour utilization was estimated from the May 9 parking count data and the May 25 aerial photograph. The analysis includes all on-street parking spaces in the study area, except where obscured from view in the aerial photograph, and a selection of surface parking lots. In total, 1,216 on-street spaces were included. The off-street spaces included 391 public and 595 private spaces, totaling 986 parking spaces. The two-day utilization comparison is summarized in Table 1.

Table 1
Two-Day Area-Wide Parking Utilization Comparison

Block ID	User	Number of Spaces	Parked Vehicles		Percent Full	
			9-May-00	25-May-00	9-May-00	25-May-00
On-Street Parking						
On-Street Total		1,216	810	840	67%	69%
Public Parking Lots						
6	Free Long Term	75	2	3	3%	4%
17	Fitness Center	28	24	26	86%	93%
22	Free park	43	40	34	93%	79%
27	Free park	47	42	48	89%	102%
29	Green permit	43	37	36	86%	84%
36	Blue permit	60	9	13	15%	22%
42	Free Long Term	95	82	83	86%	87%
Public Off-Street Total		391	236	243	60%	62%
Private Parking Lots						
6	Ash Building	110	27	39	25%	35%
10	Office	17	10	8	59%	47%
11	Restaurant	22	12	14	55%	64%
11	Restaurant/ Gas Station	21	8	6	38%	29%
12	Safeway	98	83	83	85%	85%
20	CMT Micro- Tech	38	18	15	47%	39%
20	MFR	19	15	13	79%	68%
25	Retail	26	22	15	85%	58%
25	Office	14	8	6	57%	43%
27	Restaurant	22	14	11	64%	50%
34	Retail	18	12	13	67%	72%
45	Retail	41	21	21	51%	51%
45	Retail	24	5	9	21%	38%
51	Restaurant	14	13	14	93%	100%
52	Retail	13	4	11	31%	85%
53	Hotel	98	13	21	13%	21%
Private Off-Street Total		595	285	299	48%	50%
Grand Total		2,202	1,331	1,382	60%	63%

Table 1 reveals similar parking utilization on May 9 and May 25, with overall utilization peak hour levels of 60% and 63% respectively. The three types of parking included in the analysis (on-street, public off-street, and private off-street) showed similarly consistent utilization levels, with not more than two percentage points difference between the two days.

Three-Day Targeted Comparison of Utilization

A comparative analysis of parking utilization over three days was conducted by using the parking duration data collected on targeted downtown streets. Utilization of on-street parking spaces along the corridors was evaluated for the original utilization study (May 9, 2000), the duration data collection effort (May 11, 2000), and the aerial photograph (May 25, 2000). The findings are summarized in Table 2.

Table 2
Three-Day Targeted Parking Utilization Comparison

Street	Number of Spaces	Parked Vehicles			Percent Full		
		9-May-00	11-May-00	25-May-00	9-May-00	11-May-00	25-May-00
2 nd Street (C Ave to Harrison)	131	97	96	100	74%	73%	76%
3 rd Street (C to Harrison)	146	93	107	96	64%	73%	66%
Adams Avenue (1 st to 5 th Streets)	53	49	49	43	92%	92%	81%
Madison Avenue (1 st to 5 th Streets)	41	27	28	33	66%	68%	80%
Jackson Avenue (1 st to 5 th Streets)	111	94	95	91	85%	86%	82%
Total	482	361	374	363	75%	78%	75%

As Table 2 shows, the on-street parking spaces in the study area had similar utilization levels on the three days that were evaluated, with utilization levels between 75% and 78%. Individual streets also tended to be consistent over the three days. The largest fluctuations in utilization percentages occurred on Madison Avenue and Adams Avenue. However, the small numbers of parking spaces yield relatively large percentage increases, when the difference in the number of parked cars is very small.

Conclusion

The evaluation of parking data collected on three mid-week days during May 2000 reveal strong consistency in peak parking demand. As such, the data collected for the existing conditions analysis (May 9, 2000) constitute a reasonable basis for evaluating the study area.

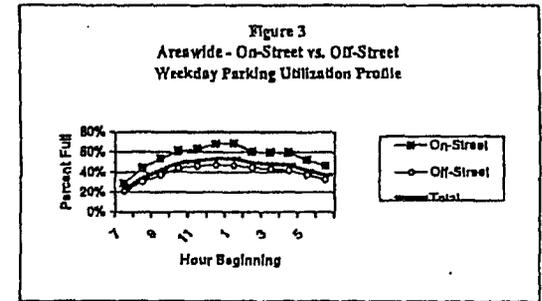
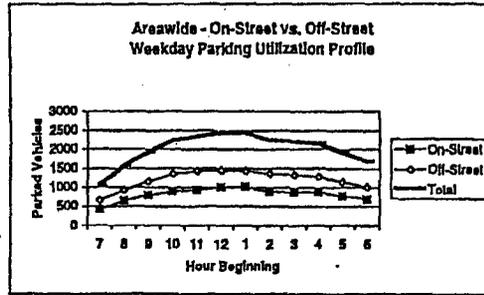
Appendix I

On-Street vs. Off-Street Parking Utilization

AREA-WIDE

Summary of On-Street vs. Off-Street Parking (excludes special use)

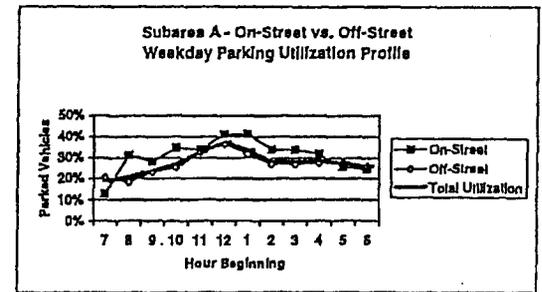
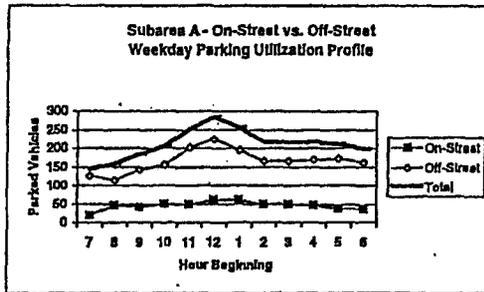
Hour Beginning	Occupied Spaces			Percent of Supply		
	On-Street	Off-Street	Total	On-Street	Off-Street	Total
Inventory	1468	3052	4520			
7	423	653	1076	29%	21%	24%
8	651	828	1577	44%	30%	35%
9	788	1148	1934	54%	38%	43%
10	893	1351	2244	81%	44%	50%
11	922	1428	2350	63%	47%	52%
12	997	1445	2445	68%	47%	54%
1	1005	1430	2435	48%	47%	54%
2	878	1361	2240	60%	45%	50%
3	878	1328	2204	60%	44%	49%
4	873	1275	2148	58%	42%	48%
5	767	1146	1913	52%	38%	42%
6	680	1007	1687	46%	33%	37%
MAX	1005	1448	2445	68%	47%	54%



Subarea A

Summary of On-Street vs. Off-Street Parking (excludes special use)

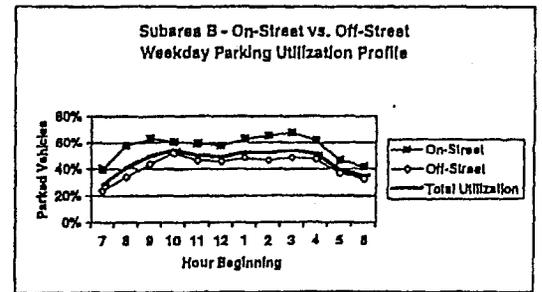
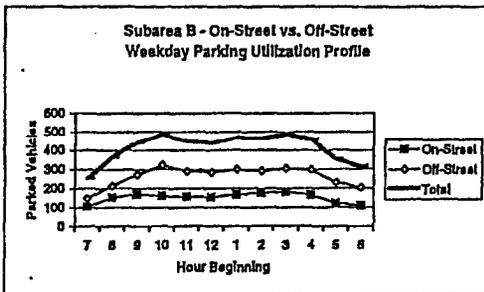
Hour Beginning	Occupied Spaces			Percent of Supply		
	On-Street	Off-Street	Total	On-Street	Off-Street	Total
Inventory	148	818	764			
7	19	128	145	13%	20%	19%
8	48	114	160	31%	19%	21%
9	42	143	185	28%	23%	24%
10	61	158	207	34%	25%	27%
11	50	202	252	34%	33%	33%
12	50	224	285	34%	33%	37%
1	50	195	258	32%	32%	34%
2	50	168	218	34%	27%	28%
3	50	168	218	34%	27%	28%
4	47	170	217	32%	28%	28%
5	38	173	211	28%	28%	28%
6	38	162	198	24%	26%	26%
MAX	61	224	285	41%	36%	37%



Subarea B

Summary of On-Street vs. Off-Street Parking (excludes special use)

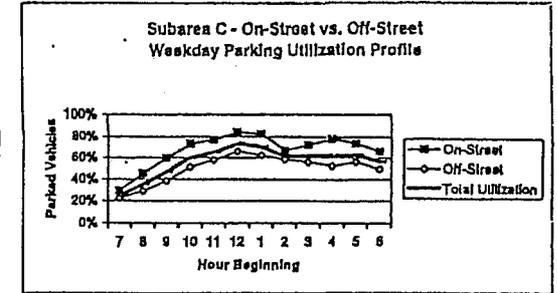
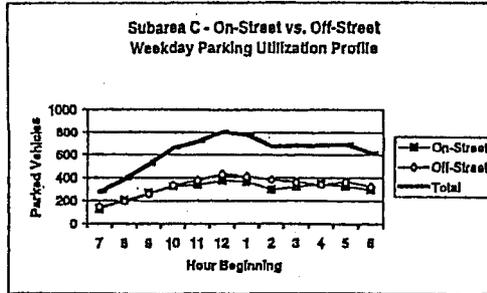
Hour Beginning	Occupied Spaces			Percent of Supply		
	On-Street	Off-Street	Total	On-Street	Off-Street	Total
Inventory	287	829	896			
7	106	150	256	40%	24%	29%
8	153	214	367	57%	34%	41%
9	169	274	443	63%	44%	49%
10	181	299	484	60%	46%	54%
11	158	290	448	59%	46%	50%
12	154	288	440	58%	45%	49%
1	168	301	469	63%	48%	62%
2	174	291	465	65%	46%	62%
3	164	304	468	61%	48%	61%
4	164	295	459	61%	47%	61%
5	123	230	353	46%	37%	39%
6	110	204	314	41%	32%	35%
MAX	181	323	485	68%	61%	64%



Subarea C

Summary of On-Street vs. Off-Street Parking (excludes special use)

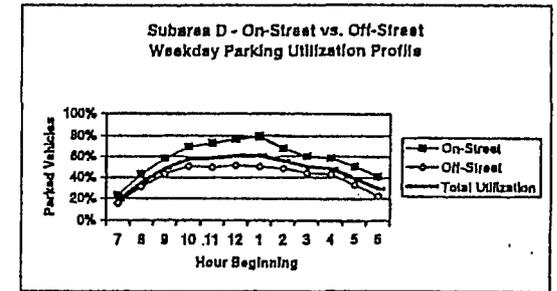
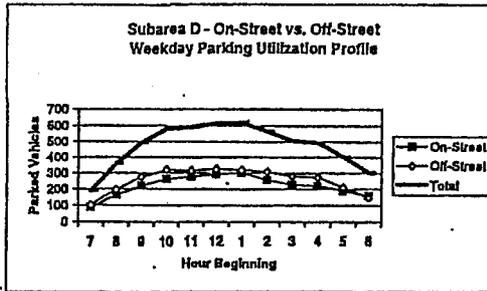
Hour Beginning	Occupied Spaces			Percent of Supply		
	On-Street	Off-Street	Total	On-Street	Off-Street	Total
Inventory	442	655	1097			
7	129	146	275	29%	22%	25%
8	201	191	392	45%	29%	36%
9	262	254	518	59%	39%	47%
10	323	337	660	73%	51%	60%
11	340	379	719	77%	58%	66%
12	374	432	806	85%	66%	73%
1	365	410	775	83%	63%	71%
2	298	381	677	67%	58%	62%
3	321	365	686	73%	56%	63%
4	348	343	699	78%	52%	63%
5	328	368	694	74%	56%	63%
6	293	325	618	66%	50%	58%
MAX	374	432	806	85%	66%	73%



Subarea D

Summary of On-Street vs. Off-Street Parking (excludes special use)

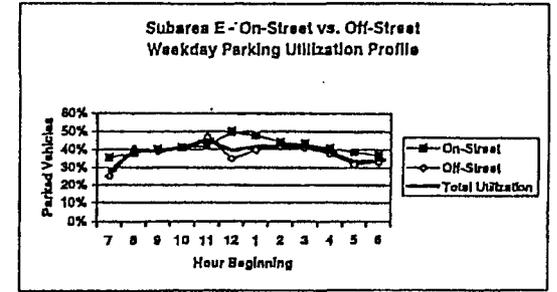
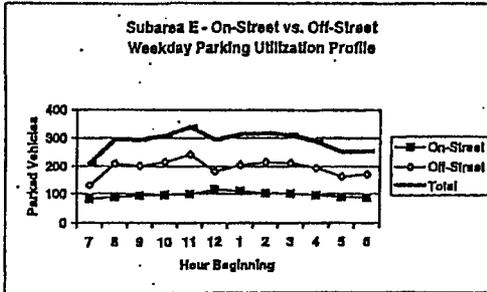
Hour Beginning	Occupied Spaces			Percent of Supply		
	On-Street	Off-Street	Total	On-Street	Off-Street	Total
Inventory	380	635	1015			
7	87	102	189	23%	16%	19%
8	163	198	361	43%	31%	36%
9	220	275	495	58%	43%	49%
10	263	320	583	69%	50%	57%
11	277	315	592	73%	50%	58%
12	293	325	618	77%	50%	61%
1	301	319	620	79%	50%	61%
2	257	308	565	68%	49%	56%
3	227	281	508	60%	44%	50%
4	222	273	495	58%	43%	49%
5	181	211	402	50%	33%	40%
6	158	145	301	41%	23%	30%
MAX	301	325	620	79%	51%	61%



Subarea E

Summary of On-Street vs. Off-Street Parking (excludes special use)

Hour Beginning	Occupied Spaces			Percent of Supply		
	On-Street	Off-Street	Total	On-Street	Off-Street	Total
Inventory	231	517	748			
7	82	129	211	35%	25%	28%
8	88	209	297	38%	40%	40%
9	93	202	295	40%	39%	39%
10	95	215	310	41%	42%	41%
11	97	242	339	42%	47%	43%
12	181	296	477	50%	35%	40%
1	110	205	315	48%	40%	42%
2	102	215	317	44%	42%	42%
3	100	212	312	43%	41%	42%
4	84	194	288	41%	38%	39%
5	89	164	253	39%	32%	34%
6	85	171	256	37%	33%	34%
MAX	115	242	339	50%	47%	45%



Appendix J

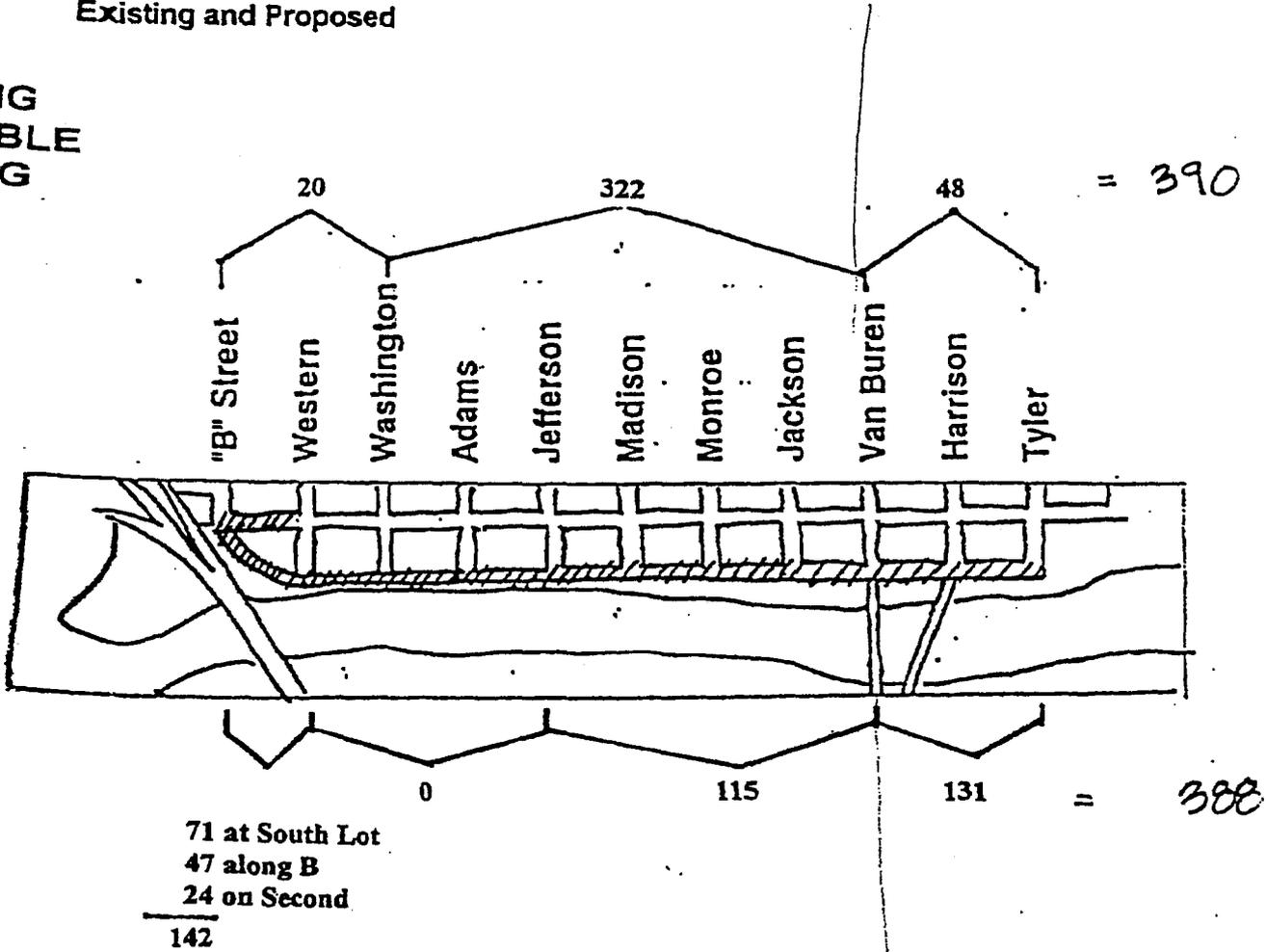
**Short-Term vs. Long-Term Parking
Utilization**

PRESENTATION TO PARKING COMMISSION
 April 28, 1999

David Livingston, Dick Bryant / Riverfront Commission

RIVERFRONT PARKING
 Existing and Proposed

EXISTING
 AVAILABLE
 PARKING



EXISTING
 AVAILABLE
 PARKING

99

STREET	$\frac{12}{20}$	$\frac{39}{44}$	$\frac{10}{12}$	$\frac{5}{10}$	$\frac{15}{25}$	$\frac{16}{16}$	$\frac{5}{13}$	$\frac{10}{48}$	$\frac{112}{188}$	} 258 390
LOTS					$\frac{36}{43}$ Green	$\frac{42}{64}$ Blue	$\frac{68}{95}$ Gravel		$\frac{146}{202}$	

STREET	$\frac{8}{20}$	$\frac{5}{44}$	$\frac{2}{12}$	$\frac{5}{10}$	$\frac{10}{25}$	$\frac{0}{16}$	$\frac{8}{13}$	$\frac{38}{48}$	$\frac{76}{188}$	} 132 390
LOTS					$\frac{7}{43}$	$\frac{22}{64}$	$\frac{27}{95}$		$\frac{56}{202}$	

Corvallis Riverfront Commemorative Park
Design Development Parking Analysis

STREET	CONCEPT	DESIGN	LOSS/ GAIN	EXPLANATION	ADD. LOSS	
	MASTER PLAN DEC. 6, 1996	DEVELOPMENT JAN. 13, 1998			FROM EXIST. CURB CUTS	EXPLANATION
First Street from 'B' to Van Buren						
B' to Western	40	47	7	Gain, reconfigured street alignment		
Western to Washington	0	0	0	Council action to eliminate parking		
Washington to Adams	0	0	0	Council action to eliminate parking		
Adams to Jefferson	0	0	0	Council action to eliminate parking		
Jefferson to Madison	22	9	-13	Loss from DRC action 8/24/97		
Madison to Monroe	23	22	-1	Loss from concept drawing	-5	Curb cuts
Monroe to Jackson	45	43	-2	Loss from concept drawing	-6	Curb cuts
Jackson to Van Buren	42	40	-2	Loss from concept drawing	-16	Curb cuts
SUBTOTAL	172	161	-11		-27	
First Street from Van Buren to Tyler						
Van Buren to Tyler	138	132	-6	Loss from bridge columns	0	
SUBTOTAL	138	132	-6		0	
Southern Area						
Second from B to Western	43	24	-19	Loss from concept drawing, eng. survey		
South Parking Lot	48	72	24	Gain, reconfigured street alignment		
SUBTOTAL	91	96	5		0	
East - West Streets between First and Second						
Western	39	39	0			
Washington	36	35	-1	Loss from concept drawing		
Adams	17	24	7	Gain, width for one side angle parking	-11	Curb cuts
Jefferson	27	25	-2	Loss from concept drawing	0	
Madison	28	24	-4	Inadequate width for double angle parking	-2	Curb cut
Monroe	26	24	-2	Inadequate width for double angle parking	-3	Curb cut
Jackson	27	33	6	Gain from engineering survey	-6	Curb cuts
Van Buren	12	12	0			
Harrison	0	0	0			
Tyler	6	6	0			
SUBTOTAL	218	222	4		-22	
TOTAL	619	611	-8	(Net loss from 12/6/96 Concept Plan.)	-49	
NOTES:					+57	Total additional spaces needed to fully regain spaces lost from adopted Concept Plan (8) and existing constraints (49). See next page for improvements to regain lost spaces.
1. (26) Handicap spaces. Ratio 1:24						

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Table 2, cont'd

Corvallis Riverfront Commemorative Park

Notes:

ON-STREET PARKING IMPROVEMENTS ADJACENT TO PARK STUDY AREA

1. Second Street - Western to Washington (existing street width 50')	
Existing parallel parking both sides:	16
Widen street to 60' R.O.W., 60 degree angle parking both sides:	<u>31</u>
Net gain:	15
2. "B" Avenue - Second Street to Third Street (existing width 41')	
Existing parallel parking both sides:	17
Widen street to 60' R.O.W., 60 degree angle parking both sides:	<u>32</u>
Net gain:	15
3. Washington Ave. - Second Street to Third Street (existing width 39')	
Existing parallel parking both sides:	14
Widen street for 60 degree angle parking both sides:	<u>24</u>
Net gain:	10
4. "B" Avenue - Third Street to Fifth Street.	
Existing parallel parking both sides.	
Widen one or both sides for angle parking:	12+
5. Washington Avenue - Third Street to Fifth Street.	
Existing parallel parking both sides.	
Widen one or both sides for angle parking:	<u>5±</u>
Total Net Gain:	57
(minimum number gained; equal to loss from concept plan and curb cuts or other constraints)	

Appendix M

Land Use Summary

*** MEMORANDUM ***
via e-mail

September 8, 2000

TO: Beth Wemple, Kittelson & Associates

CC: Ken Gibb, Corvallis Community Development Director
Pat Neet, Corvallis Police Investigations Division Secretary
Judith Gray, Kittelson & Associates

FROM: David Dodson, Willamette Valley Planning

SUBJECT: Draft Summary of 5 & 10 Year Downtown Development Scenarios

The following chart identifies the projected future development in downtown Corvallis. Projections are based on discussions with property owners who own parking lots, vacant land, and underutilized buildings in the downtown. The block numbers were established by Kittelson & Associates as part of the parking survey. These numbers are subject to changes resulting from the upcoming public outreach meeting on September 12, 2000.

Projected Development in the next 5 years

<u>Block #</u>	<u>Use</u>	<u>Square Footage</u>	<u>Type</u>
6	Office	20,000	New Development
6	Residential	30,000	New Development
10	Retail	10,000	New Development
10	Retail	13,000	Redevelopment
10	Office	10,000	New Development
10	Office	13,000	Redevelopment
10	Residential	10,000	New Development
35	Retail	2,000	New Development
35	Residential	4,500	New Development
41	Retail	2,500	New Development
41	Residential	4,000	New Development

Projected Development in 6 to 10 years

<u>Block #</u>	<u>Use</u>	<u>Square Footage</u>	<u>Type</u>
10	Residential	26,000	New Development
14	Museum	25,000	New Development
28	Retail	10,000	New Development
28	Office	20,000	New Development
28	Residential	30,000	New Development

Existing Conditions

Land Use Categories	GFA	Total	Vacancy %
		Effective GFA	
0 Parking Lot/Undeveloped	225,150	192,650	14%
1 Retail	468,115	413,415	12%
2 Restaurant/Tavern/Pub	183,000	180,600	1%
3 Office	322,408	274,258	15%
4 Single Family Residential	137,900	113,300	18%
5 Multi-family Residential	197,200	195,600	1%
6 Post Office	18,000	18,000	0%
7 Light Industrial/Warehouse	182,700	151,000	17%
8 Theater/Entertainment	38,000	38,000	0%
9 Hotel/Motel	102,500	102,500	0%
10 Library	52,600	52,600	0%
11 Church	2,950	2,950	0%
12 City / County Government	115,629	115,629	0%
Total Square Footage	2,046,152	1,850,502	10%
Excluding Category 0	1,821,002	1,657,852	9%
Excluding Categories 0 and 4	1,683,102	1,544,552	8%

5- Year Forecast

Land Use Categories	GFA	Total	Vacancy %
		Effective GFA	
0 Parking Lot/Undeveloped	225,150	192,650	14%
1 Retail	499,115	474,415	5%
2 Restaurant/Tavern/Pub	183,000	180,600	1%
3 Office	376,908	328,758	13%
4 Single Family Residential	137,900	113,300	18%
5 Multi-family Residential	245,700	244,100	1%
6 Post Office	18,000	18,000	0%
7 Light Industrial/Warehouse	182,700	151,000	17%
8 Theater/Entertainment	38,000	38,000	0%
9 Hotel/Motel	102,500	102,500	0%
10 Library	52,600	52,600	0%
11 Church	2,950	2,950	0%
12 City / County Government	115,629	115,629	0%
Total Square Footage	2,180,152	2,014,502	8%
Excluding Category 0	1,955,002	1,821,852	7%
Excluding Categories 0 and 4	1,817,102	1,708,552	6%

10- Year Forecast

Land Use Categories	GFA	Total	Vacancy %
		Effective GFA	
0 Parking Lot/Undeveloped	225,150	192,650	14%
1 Retail	509,115	484,415	5%
2 Restaurant/Tavern/Pub	183,000	180,600	1%
3 Office	396,908	348,758	12%
4 Single Family Residential	137,900	113,300	18%
5 Multi-family Residential	301,700	300,100	1%
6 Post Office	18,000	18,000	0%
7 Light Industrial/Warehouse	167,700	151,000	10%
8 Theater/Entertainment	38,000	38,000	0%
9 Hotel/Motel	102,500	102,500	0%
10 Library	52,600	52,600	0%
11 Church	2,950	2,950	0%
12 City / County Government	140,629	140,629	0%
Total Square Footage	2,276,152	2,125,502	7%
Excluding Category 0	2,051,002	1,932,852	6%
Excluding Categories 0 and 4	1,913,102	1,819,552	5%