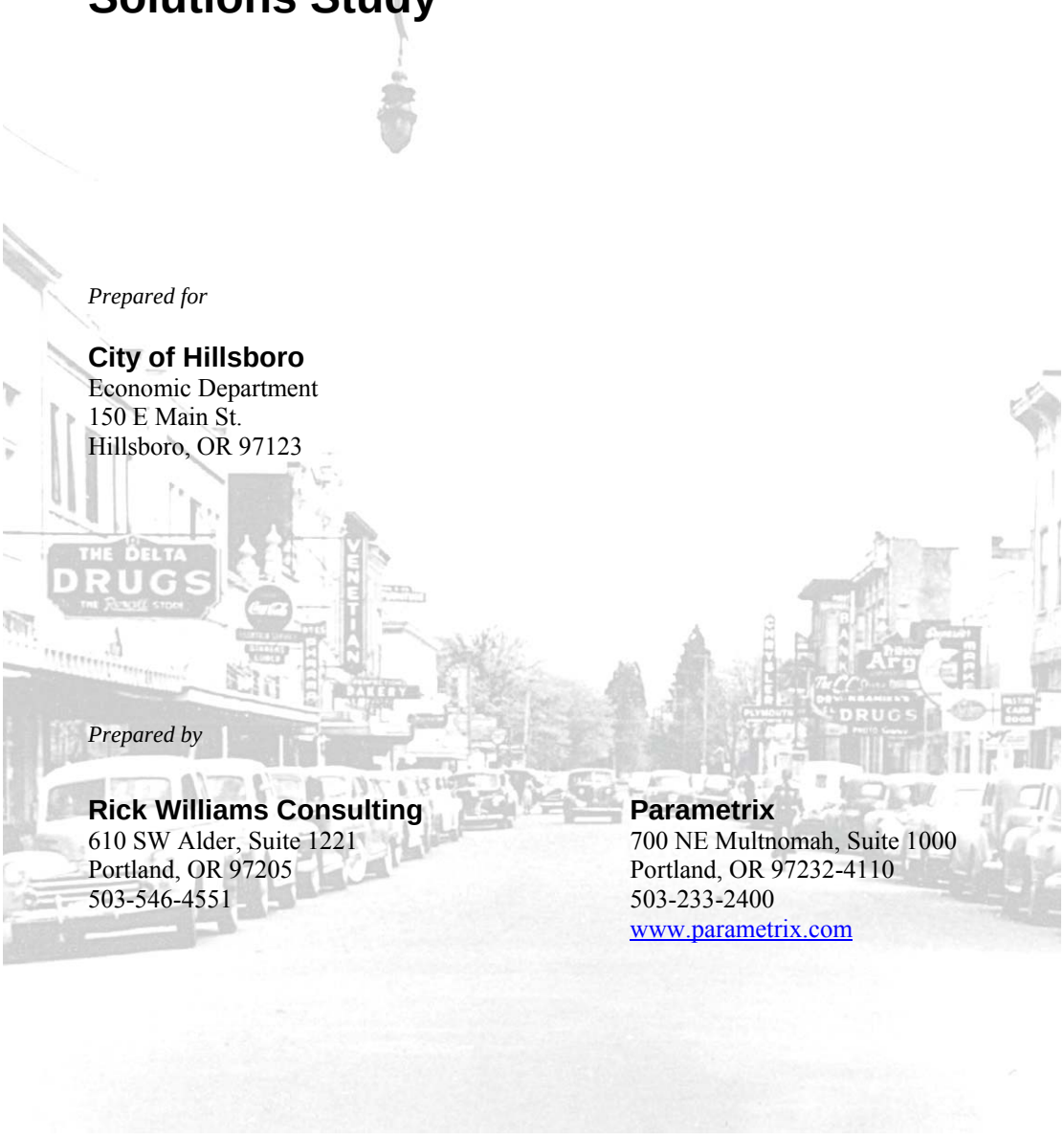
Hillsboro Downtown Parking Solutions Study



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March 2007 | 277-2395-053

CITATION

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.

The contents of this document do not necessarily reflect views or policies of the State of Oregon.

Rick Williams Consulting and Parametrix. 2007.
Hillsboro Downtown Parking Solutions Study.
Prepared by Rick Willams Consulting and
Parametrix, Portland, Oregon. March 2007.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

LIST OF FIGURES

LIST OF TABLES

TABLE OF CONTENTS (CONTINUED)

APPENDICES

ACRONYMS

BID	Business Improvement District
GO	General Obligation
RPPP	Residential Permit Parking Program
SAC	Stakeholders Advisory Committee
SCC-CBD	Station Community Commercial – Central Business District
SCC-HOD	Station Community Commercial – Highway Oriented District
SCC-SC	Station Community Commercial –Station Commercial
SCR-DNC	Station Community Residential – Downtown Neighborhood Conservation
SCR-MD	Station Community Residential – Medium Density
SDC	System Development Charges
SOV	single-occupant vehicle
TDM	transportation demand management

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1. INTRODUCTION AND VISION

The Downtown Parking Solutions project represents an important component of the City's efforts to strengthen the economic vitality of downtown Hillsboro. A Report prepared for the City in 2002 identified parking as arguably the most critical issue to the future growth and revitalization of downtown. The City is designated as a Regional Center in the Metro 2040 Growth Plan. The City envisions a rich, dense urban environment in the coming decades. The City is therefore keenly interested in working with property owners, developers, and the broader community to properly manage existing parking, and to plan for and implement new parking solutions.

1.1 THE ROLE OF PARKING IN DOWNTOWN HILLSBORO

The role of parking in any business district cannot be seen as a stand-alone solution in and of itself. The key to a successful business environment is truly the land uses that it comprises. A vital business district is an area that has a clear sense of place and identity, comprising an exciting and attractive mix of uses and amenities. In a nutshell, "people do not come to Hillsboro to park." People come to an area to experience an environment that is unique, active, and diverse. As such, the true role of parking is to assure that the desired vision for downtown Hillsboro is fully supported.

Parking is just one tool in any city's economic development toolbox. Parking must be managed to assure that priority land uses are supported with an effective and efficient system of access that caters to the needs of priority users.

1.2 STUDY GOALS

The purpose of this study is to develop a workable parking management plan for the downtown business district of Hillsboro. First, the plan will need to be specific enough to address known parking and access constraints with immediate to near-term improvements. This will assure ongoing improvements in access opportunities for patrons, employees, and residents of the downtown business district and environs. The plan will also need to be flexible enough to provide the City and area stakeholders with mid- and long-term solutions (and decision-making guidelines and triggers) to assure that parking management strategies and programs are implemented in a manner that best serves the unique and changing nature of this business district.

1.3 STAKEHOLDER INVOLVEMENT

The Hillsboro parking study is premised in the belief that a full understanding of the role that parking plays in the growth of the area must be informed by active involvement of key stakeholders in the district. Understanding stakeholder concerns and ideas for the downtown is critically important because they are the users of the parking system on a daily basis. In addition, their investment and ownership in downtown Hillsboro will be supported as the recommendations of the parking study and management strategy are put in place. Any parking or access changes made to the area will have a direct impact on those who own, work, shop, or live in downtown Hillsboro. The City is committed to a plan that has endeavored to be sensitive to, and cognizant of, this relationship.

To this end, a Stakeholders Advisory Committee (SAC) was established by the City of Hillsboro to provide oversight, guidance, and review of the study process. The SAC was also charged with identifying key issues regarding parking, transportation, and access in downtown Hillsboro and the impact of parking on the continuing economic vitality of the area.

Key stakeholders included local business owners, City staff, residents, and property owners. These individuals have provided significant assistance in the identification, description, and prioritization of issues to be addressed. They will be instrumental in the development of strategies and plans necessary for implementation of the parking management plan that is the intended outgrowth of this study. Members of the SAC (and their affiliations) are listed below.

1.3.1 SAC Members

Jillian Detweiler – TriMet

Tom Faurot – Hillsboro Insurance

Karen Frost – Westside Transportation Alliance

Mark Guichard – Metro

Willard Kniep – Pacific University

Eldon Mains – Hillsboro Downtown Business Association

Jeff Nelson – HDBA

Cindy Paradise – Washington County

Kevin Prime – Main Street Neighborhood

Pat Rossetti – Hillsboro Downtown Business Association

Denzil Scheller – Hillsboro Chamber

Keith Sjodin – Windermere/Baldwin Properties, LLC

Leeanne Wrenn – Tuality Hospital

Gene Zurbrugg – Zurbrugg Construction

1.3.2 SAC Ex-Officio Members

Tina Bailey – City of Hillsboro

Cindy Bolek City of Hillsboro

Wink Brooks – City of Hillsboro

Katherine Krajnak – City of Hillsboro

Doug Miller – City of Hillsboro

Ann Mulroney – Pacific University

Julie Nix – City of Hillsboro

Don Odermott – City of Hillsboro

Deanna Palm – Hillsboro Chamber

Lidwien Rahman – Oregon Department of Transportation

John Southgate – City of Hillsboro

Derek Chisholm – Project Consultant

Rick Williams – Project Consultant

Over the course of the last year, the SAC will result in the development of functional alternatives and strategies to improve identified deficiencies or shortcomings and initiate a framework plan for the ongoing management of, and planning for, access in downtown Hillsboro. The work of the SAC was supplemented and informed by data derived from a parking inventory analysis.[1]

1.4 CHALLENGES AND OPPORTUNITIES

To develop a parking and access plan for the area, it is first necessary to understand the dynamics of land use, access, and growth that are unique to downtown Hillsboro. Community perceptions and realities regarding constraints that limit existing businesses from expanding and those that limit the downtown's ability to attract new business and residential growth need to be fully considered. Similarly, opportunities and successful programs/strategies that currently contribute to the area's health need to be understood in order to ensure they are supported and enhanced by any new parking and access strategies.

To this end, an initial work session with the SAC was held to begin to establish a consensus view of these challenges and opportunities.

1.4.1 Desired Outcomes

At the kick-off meeting, SAC members were asked to take a moment and state what they would like to see as an outcome of this process. For example, if a new parking management program were developed, what beneficial outcomes would be derived? A bulleted list of those desired outcomes are provided below:

- Better control of parking in the area.
- Better "identity" for use of existing parking assets (i.e., better information and wayfinding).
- Management of parking in a manner that reduces customer complaints about parking in downtown.
- Management of parking to maximize on-street parking for retail and street level businesses (i.e., reduce/eliminate employees parking on street over time).
- Management of parking to encourage effective turnover on-street and support good traffic circulation ("we need the right kind of congestion").
- Reduction of parking abuse. "Get the right people into the right spaces" (employees, students and visitors).
- A plan that supports and encourages growth of healthier businesses and supports better/higher use of land.
- Provision of parking at a rate that is appropriate to new development, but not overly provided. Minimize parking development costs in new developments.
- Use of parking to facilitate greater use of light rail and create stronger ties to transportation demand management (TDM).

[1] Results and findings of the parking data inventory were completed on September 19, 2006, and submitted to the City and to the SAC in November 2006. Copies of that work are available from the City of Hillsboro.

- Less reliance on neighborhood streets for non-neighborhood demand (i.e., residential parking prioritized for residents).
- Community buy-in to plan –community takes ownership.
- A plan that helps determine when and where it is appropriate to build new parking.
- Easy-to-use finished product – a "usable" parking program

It was clear from the listing of desired outcomes that SAC members feel the current system of parking management may, at this time, lack the integration and consistency necessary to achieve the larger vision of a growing, vibrant, and "friendly" business district. Similarly, the theme of the need to better "understand" parking runs through many of the stated outcomes. In short, to get to the desired outcome of a usable and friendly parking system requires more clarity and coherency in how parking is, and will be, managed.

1.4.2 Challenges to Access - Consensus Themes

SAC members discussed their insights into the major parking challenges facing downtown today. They were asked to consider these challenges as they influence downtown Hillsboro's ability to remain vital and to attract and retain business. Stakeholders were unanimous in their desire to assure that visiting, working, and living in Hillsboro remain an "attractive experience." Overall, 16 challenges were discussed, ranging from general perceptions of parking to actual physical infrastructure. For purposes of this report, the stated challenges have been condensed into four "consensus themes." These themes are presented below, with clarifying bullet points taken from the SAC discussion following each theme.[2]

- *The parking system is not yet formatted in a way that best serves the core area or new growth.*

  The issue of how parking is provided in downtown Hillsboro to meet economic goals and objectives is critical to the success of a parking management plan. Issues of who the priority "customer" is and how to accommodate other, secondary, priorities will be a key to establishing a balanced and workable plan for the business district

  - Not enough turnover and/or appropriate time-stays for parking in the district.
  - Some employees/owners parking in front of their businesses all day on the street. Also "moving to evade" is an issue.
  - Need to attract a more diverse mix of businesses and customers to downtown. Need more retail at ground level.
  - Need more residential growth (creates additional need to manage parking well).
  - Need to understand the nature of existing large single users (i.e., civic, correctional, institutional and educational uses in downtown).

- *The parking supply needs to be better integrated with other modes of access.*

  There was a strong sense that while better parking management needs to be supported, additional modes of access need to be encouraged and supported to a higher degree than is now the case. The role of light rail in Hillsboro's downtown

[2] The themes are not listed in any rank order. Each theme has an important impact on Hillsboro's ability to achieve its strategic vision and should be considered equally in the context of multiple challenges.

future (and parking future) was frequently mentioned. Light rail, for instance, was mentioned as more of a challenge now, one that needs to be made into an opportunity. As such, parking needs to be integrated with better transit, pedestrian, and bicycle options. The SAC noted that transit service and alternative modes should play an important role in addressing access issues and influencing the overall amount of parking that may need to be built in the future. Alternative modes should become as attractive an option (particularly for employees) as driving.

- Not a great use of transit system by employees or businesses.
- Need better and more bus information for employees and customers.
- Transit should result in less parking need over time.
- Become even more pedestrian-friendly.

- *Safety issues exist in the district that adversely impact the attractiveness of the business environment, specifically with regard to lighting.*
  - Growing perception that downtown is not safe, particularly early mornings and evenings.
  - Security issues around light rail.
  - Impact of jail and corrections center and social service agencies.
  - Need better street lighting.
- *The system is not easy to use, particularly for newcomers to the district.*

  Several SAC members noted the current parking format is difficult to use and understand. This can have an adverse impact on district business viability. Compounding this is the sense that directional and information systems for patrons are inadequate. The need for aggressive and sustained marketing and communications will be important.
  - Access is not intuitive to "outsiders."
  - Parking in the district is hard to understand (i.e., signage, directional systems, location of supply, etc.).
  - May not have enough enforcement.

1.4.3 Opportunities – Consensus Themes

SAC members discussed programs, strategies or elements that are currently in place and "working for downtown Hillsboro" by contributing to its success and supporting business and economic growth. They also took time to discuss what was "unique about downtown Hillsboro," noting features of the downtown that in and of themselves create opportunities that parking should support. Light rail, diverse civic uses, health care, the city's markets (i.e., Farmer's Market), and Pacific University Health Professionals Campus all contribute to a downtown that has a strong foundation for success.

Overall, SAC members mentioned 16 items. Opportunities ranged from Hillsboro's unique business environment to its strong sense of community. Three opportunity themes were clearly distinguished. They are briefly detailed here:

- *Demonstrable commitment to the downtown by the City, business community, and citizenry.*

Committee members underscored the active role the business community and citizens have played in downtown Hillsboro's success and the partnership approach the City is taking in this process. Stakeholders noted that there is a strong "sense of community" and "friendliness" in Hillsboro, which underlies its unique character and its successes to date.

- Stakeholder partnership(s).
- Civic awareness and pride.
- Active and committed community groups (business/Chamber and residents).
- Sense of place/home/community/friendly people.
- A city that works and is business-friendly.

- *A strong positive sense about downtown's future.*

  The SAC was unanimous in its sense that the future of downtown Hillsboro is that of success, growth, and vitality. The work that has been put in place to establish a foundation for growth has high level of support and feasibility.

  - A viable business district.
  - An attractive experience.
  - A small-town feel that can help Hillsboro become a desirable destination for visitors/shoppers.
  - A mix of unique stores and burgeoning arts, educational and civic uses.
  - A city that is "authentic."
  - Though there is room for improvement, downtown is "clean, open, friendly, and livable."

- *While parking is an issue, Hillsboro has a solid foundation to build upon.*

  Committee members felt that there are positive aspects of the current parking system that should be continued and enhanced. These factors distinguish Hillsboro from other shopping areas.

  - Parking is free.
  - There are a lot of businesses with on-site parking.
  - Parking spaces are large and generously sized.
  - The downtown is able to absorb a major new use with "manageable impacts."
  - Stakeholders work together in a positive context to resolve problems.

Overall, programs and strategies that continue to support and enhance the opportunity themes developed by the SAC can serve as a framework through which the consensus challenges are best addressed.

1.5 ACCESS PRIORITIES

1.5.1 Key Elements of a Successful Parking Program

SAC members were asked to list elements they would use to describe a successful parking program that, if in place in downtown Hillsboro, would facilitate solving the transportation challenges and support/enhance the priority opportunities described above.

Stakeholder input is outlined below.

A successful parking program for downtown Hillsboro would be…

- Simple and intuitive – easy to use.
- Well-signed and understood.
- Well coordinated with other access modes (i.e., transit, bike, walk, etc.).
- Support density, and be relevant to the adjacent land use and not overbuilt.
- Built parking does not physically dominate sites or areas of downtown.
- Able to support itself financially.
- Free/affordable parking.
- Safe, secure, and pedestrian-friendly.
- Well-lit.
- Friendly connections – lighting, benches, plants, aesthetically pleasing, engaging environment.
- Providing multiple parking options (on and off-street).
- Encouraging people to park in the right places (i.e., employee, customer, resident).

The stakeholders on the SAC envision a parking program that is innovative and flexible to meet the changing demands of an evolving business district. They also stress the need for an affordable, safe, and secure parking system. The parking program should contribute to the overall viability of downtown Hillsboro and its goals and vision. At root, a successful parking system is convenient and user friendly. The charge of the consultant team and the SAC will be to develop a parking strategy that achieves and supports these elements to the highest degree possible.

1.5.2 Definition of "Priority Customer"

The downtown Hillsboro parking system currently services a broad mix of users that include employees of the area, retail patrons/visitors/clients, residents, and students. In the future, increasing growth in business and residential development will add to the demand on the parking supply. As such, it is important to recognize that a balanced system of access needs to be developed and managed to assure that the overall vision of a vital, active, and mixed-use business district.

Nonetheless, (for purposes of the management of the publicly controlled supply of parking) the consensus of the SAC was that the priority "customers" of downtown could be broken into several distinct categories. First, in the areas zoned for commercial development, the priority of the parking in the on-street system should be to accommodate **patrons**, those who come repeatedly to shop, dine, recreate, and be entertained (i.e., those who spend money). The general profile of the patron is short-term stays that result in a high turnover of parking in the district.

In areas zoned for residential development, the priority customer is the **resident** and guests and visitors of the residential area. As such, the on-street parking in residentially zoned areas should be managed to assure residential access. This could lead to future changes to parking zones.

Finally, the off-street system should recognize that a **mix** of users will be using this supply. Adequate parking should be provided for employees (but coordinated with alternative mode options) and patrons needing longer-term stay opportunities

The SAC has succinctly defined specific user types and seeks a standard that allows reasoned decision-making to occur when constraints in the supply of parking occur. The SAC recognizes that constraints and conflict for demand within the supply will occur and that decisions and strategies will have to be implemented that guarantee access to the priority patron, with additional options developed for all users.

1.5.3 "Is" Versus "Should"

The SAC discussed its access priorities for downtown Hillsboro. Stakeholders were asked to consider a number of questions regarding the realities of access and use within the current transportation system (i.e., the *is* of today). They were then asked to consider how the transportation system *should* be accessed and used in the future within the context of the challenges/opportunities discussed above, and to incorporate their goals and objectives for developing a vibrant business district.

1.5.3.1 Priority Land Uses

When asked, "*what is the priority land use(s) in downtown today?*" the SAC responded:

- A mix of civic, institutional, commercial, and retail services.

In the future, the SAC agreed the priority for land uses *should* be "a more highly developed mixed-use core" that incorporates retail at the ground level with commercial and residential above."

1.5.3.2 Priority Modes of Access

When asked to define the priority mode of access to downtown by both customers and employees, the SAC responded as follows:

Customer trips

Today, a customer's priority mode of access to downtown *is* by the single-occupant vehicle (SOV).

In the future, a customer's primary mode of access *should* be through a greater mix of access options (i.e., transit, bike, walking), with emphasis on linking all these options together in a manner that is convenient, simple to use, and affordable.

Employee trips

Today, an employee's priority mode of access to downtown *is* by the SOV.

In the future, an employee's primary mode of access *should* be through a greater mix of access options (i.e., transit, bike, walking). Also, greater emphasis should be placed on getting employees to live and work in the district.

Transit in particular should bring an increased percentage of total employee trips to the downtown.

1.5.3.3 Priority Use of Parking

On-street

When asked, "*Who is the on-street parking system currently prioritized for?*" the SAC felt that existing on-street parking "is open" and not necessarily managed or enforced to favor any particular user effectively.

- In the future, the SAC felt that downtown on-street parking *should* be better managed to prioritize **patrons** in all commercial areas where short-term demand is most prevalent. Strong efforts should be made to assure that only patrons are using the on-street system in the commercial zone and that cooperative and coordinated efforts and programs are in place to assure residential priorities in the residentially zoned areas. If employees are misusing the on-street system, then programs and efforts should be made to mitigate problems. The enforcement of day versus night parking uses should be considered.

Off-street

As to the question of parking in off-street parking facilities, the SAC noted the priority for lots in downtown is a mix of users, which includes employees and patrons. The City has the ability to assure that parking in its facilities is a balanced mix of users (patrons and employees) that can be manipulated over time to assure continued patron access. Recognizing that the City has limited abilities to influence how private facilities are operated, the SAC believes that privately owned off-street facilities *should* increasingly prioritize downtown parking for a diverse mix of users and consider shared uses. Also, controlling the amount of private parking that is built versus efforts to increase use of alternative modes *should* be considered in future parking regulation. Adequate parking with clear access points should be designed without exceeding the actual demand for parking, resulting in overbuilding.

1.5.3.4 Priorities for Alternative Modes of Access

The SAC considered the role of alternative transportation modes for users of the downtown (patrons and employees). When asked what the ongoing role of transit/bike/rideshare and walking was for customers and employees, the SAC stated the following:

- Transit, bicycling, and ridesharing should become an "option that patrons can choose" as a means of accessing downtown.
- Transit, bicycling, and ridesharing should become a "realistic and cost-effective option that a greater percentage of employees will choose" as a means of accessing the downtown.
- Alternative modes for employees should be strongly encouraged, as success in alternative modes will lead to better efficiencies for the supply of patron parking.

1.6 SUMMARY

It was clear from the work of the SAC that there is a strong consensus on the challenges and opportunities that exist for this unique and important center of Hillsboro. There is also a clear sense that Hillsboro is moving forward in attracting economic activity and amenities that support vibrant and attractive business districts. Most importantly, the SAC was strong in its understanding of access priorities and unified in support of developing programs and strategies necessary to make certain those access priorities are met and desired economic uses are supported. In the area of parking, it is clear the priority of the SAC is to assure continued and balanced accessibility for all users of the downtown.

2. EXISTING CONDITIONS

In every downtown the issue of parking is central to stakeholders as they plan for, and perceive, the downtown's ongoing economic success. The need to understand both the perception and reality of parking is essential if a comprehensive, effective, and successful parking management strategy is to be developed and implemented. This report focuses on establishment of a clear understanding of the reality of current parking dynamics in downtown Hillsboro, Oregon.

Our goal is to present data for the downtown study area in a manner that establishes a solid and objective foundation of information for discussions with the City and stakeholders on potential programs and strategies to maximize the parking supply and plan for the future.

2.1 PURPOSE OF THE PARKING INVENTORY ANALYSIS

The purpose of a parking utilization study is to derive a comprehensive and detailed understanding of actual use dynamics and access characteristics associated with parking in the downtown study area. Important elements of this section include the following:

(1) Development of a data template for all parking in the study area, denoting all parking stalls by time-stay type, for on- and off-street facilities in both public and private control.

(2) A complete survey of parking use on a "typical day"—a single Tuesday on September 19, 2006.[3]

(3) Analysis of parking utilization and turnover that included the following:

   a. Quantification of total study area parking inventory.

   b. Hourly occupancy counts (9 a.m.–6 p.m.) for on- and off-street inventory.

   c. Parking turnover analysis (on-street).

   d. Parking duration of stay analysis (on-street).

   e. Derivation of built parking supply to total built square footage (i.e., true parking demand ratio).

(4) Identification of parking surpluses and constraints in the parking supply.

In short, the purpose of the parking utilization study was to produce a succinct analysis of existing parking dynamics in the downtown Hillsboro study area that can be employed over time to support and inform decision-making related to development and parking.[4]

2.2 STUDY AREA

The parking inventory study area was determined in the initial project scoping process and in consultation with the City of Hillsboro. The study zone includes the entire commercial area of

[3] This date was chosen in consultation with the City of Hillsboro. On this day, public schools were in session and no major events were scheduled for the downtown. Weather conditions were fair most of the day (although there was some mid-day rain) and parking access activity was moderate.

[4] Copies of all data templates will be provided to the City of Hillsboro for future use. The data templates incorporate hourly parking counts for every stall, by block face and lot, in the study area.

the downtown, generally comprising the area bounded by SW and NW Adams Avenue (on the west), SE 10th Avenue (on the east), SE Walnut Street (on the south), and from a descending point on the south beginning at NW Adams at NW Jackson to SE 10th at E Main Street. The first level of data analysis combined all parking data within the entire study area.

The study zone is reflective of the City's understanding of current parking activity and land use densities in the area defined as "the downtown." Quantifying parking activity within this zone allows for a more comprehensive look at parking patterns, trends, and surpluses/deficits in the downtown.

After developing this data summary, two additional "nodal" analyses were conducted at the request of the City and stakeholders to identify areas of significant parking activity. The nodal analyses are an attempt to find areas within the larger study zone that may be displaying parking activity not reflective of the averages derived from the larger data summary. The results of both these analyses are included in **Section V**, below.

Figure 2-1, on the following page, illustrates the entire study area examined in the data collection.

2.3 METHODOLOGY

The City of Hillsboro conducted the capacity/utilization and turnover inventory on Tuesday, September 19, 2006. The survey day was selected in consultation with the City of Hillsboro and was reflective of the initial scoping process. Overall, the survey day was fair most of the day (mid to high 60 degrees), although there were some mid-day showers, with normal parking activity in all sectors of the downtown. The Thursday parking inventory was conducted between 9:00 a.m. and 5:00 p.m.

The project team's methodological approach to gathering parking utilization/capacity/ turnover data began with a physical compilation of all public parking assets (on- and off-street) within the study area. This physical assessment was conducted in advance of the survey day and documented all parking by location and type. This was used to create a data template necessary to conduct the utilization assessment.

The Tuesday survey involved an hourly count of each occupied on-street parking stall in the study area using the last four digits of the parked vehicle's license plate. Surveyors collected license plate data at each on-street parking stall (metered, unmetered, and by permit only) located in the study area for every hour over an 8-hour period (9:00 a.m. – 5:00 p.m.). Hourly capacity counts were taken over the same time frame at 54 off-street facilities within the study zone. Seven of the lots were City-owned and 47 were privately owned. A total of 7,526 on- and off-street stalls were physically surveyed.

Figure 2-1. Downtown Hillsboro Parking Study Area

2.4 GENERAL CHARACTERISTICS OF THE INVENTORY - STUDY AREA

A. Supply

A total of **7,526** parking stalls were surveyed within the study area boundaries. Publicly controlled stalls totalled **1,981** spaces, which included **924** on-street and **1,057** off-street stalls.[5] Parking in the public supply is primarily provided in the form of both 2-hour and unlimited-time on-street parking. Employees also avail themselves of parking opportunities on private lots.

An additional **5,545** stalls were surveyed in private lots. The privately owned lots had a range of access allowances (i.e. restricted access, customer parking, generally available to the public, etc.) and were surveyed so as to understand actual use of these lots and the role they might play in future parking discussions.

Table 2-1 presents a breakout of all the surveyed parking supply in the Study Zone.

Table 2-1. 2006 Parking Inventory of Downtown Supply

Downtown Hillsboro Study Area Parking Stall Breakout		
On-Street Stalls by Type	**Number of Stalls**	**% of Total On-Street Stalls**
15 minutes	17	1.8%
30 minutes	11	1.2%
2 hours	577	62.4%
No Limit	309	33.4%
Reserved	10	1.1%
Public: On-Street Parking Stalls	924	100%
Public: Off-Street Parking Stalls	1,057	
Sub-Total Public Supply	1,981	
Private: Off-Street Parking Stalls	5,545	
Total Surveyed Supply	***7,526***	

As Table 2-1 indicates, the study area has a high percentage of 2-hour parking stalls, making up almost two-thirds of the on-street supply (62%). No-limit time zones comprise approximately one-third of the on-street supply (33.4%); 15-minute stalls make up 1.8%; and 30-minute stalls, 1.2 percent. The remainder of the on-street supply is made up of a specialty parking stall designation: Reserved.

The surveyed off-street supply included seven City-owned lots and 47 privately owned facilities. The most significant publicly controlled off-street parking resource is the joint TriMet/Washington County-owned six-story structured parking located on Block 18, at the corner of 1st Avenue and SW Washington Street, which maintains 605 parking stalls.

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

B. Peak-Hour and General Occupancies

Peak-hour occupancy for the parking system is the period during the business day when the downtown experiences the highest utilization of parking stalls. Peaks may vary between the on- and off-street parking systems. This analysis attempts to determine that point in the day at which the greatest numbers of vehicles are parked in the downtown. In the analysis that follows occupancies for all stalls in public on-street and off-street locations are summarized.

1. On-Street Parking Summary – Entire Study Area

The peak hour for the **on-street public inventory** is between 10:00 a.m. and 11:00 a.m. for the combined on-street system (i.e. all stalls, all use types). At this hour, 53.9% of the 924 parking stalls in the study area are occupied. Table 2-2, below, summarizes occupancies by type of stall, peak hour by stall type, and average length of stay. Figure 2-2, below, illustrates occupancies for each hour of the 9-hour survey day.

Table 2-2. On-Street Parking Summary

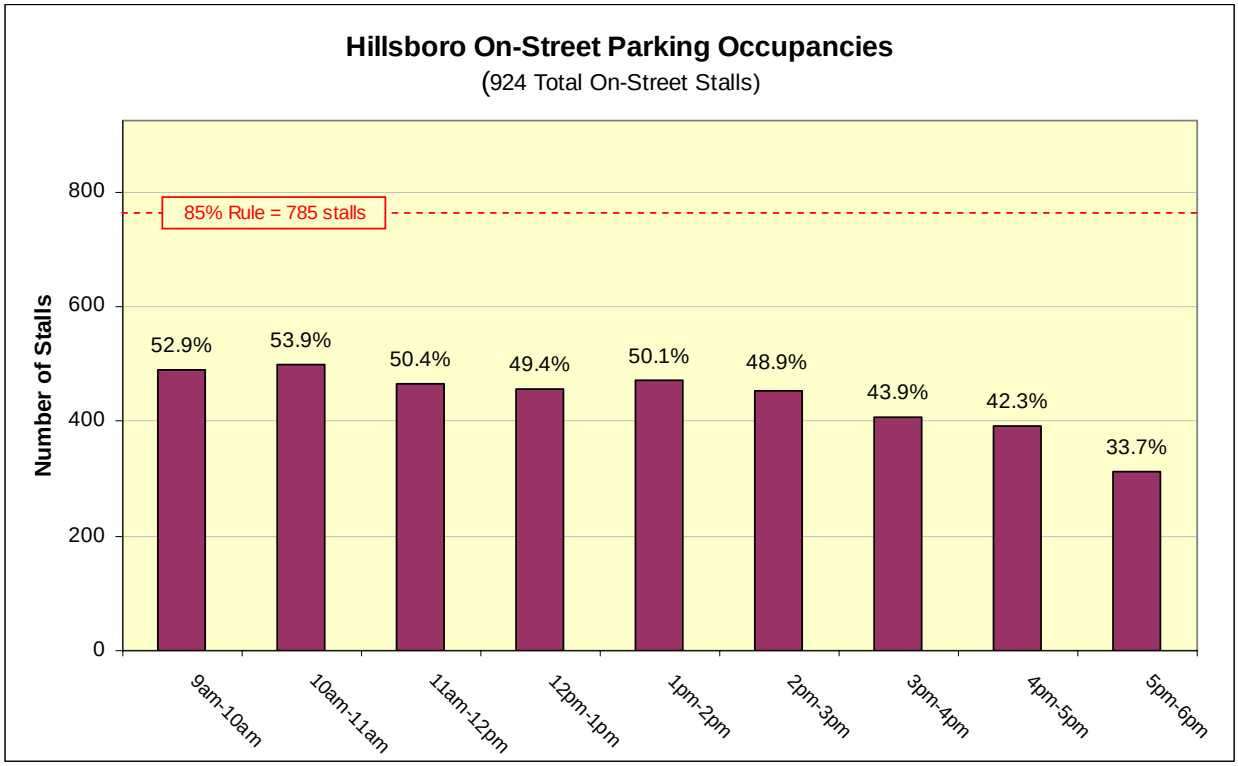
Entire Study Area – All On-Street Stalls

Type of Stall	# of Stalls	Peak Hour	Peak Occupancy	Stalls Available (empty)	Average Length of Stay
All Stalls	***924***	***10 – 11 am***	***53.9%***	***426***	***2 hr/2 min.***
Usage by Time Stay					
15 minutes	17	N/A	N/A	N/A	N/A
30 minutes	11	N/A	N/A	N/A	N/A
2 hours	577	10 – 11 am	52.7%	273	1 hr/48 min.
No Limit	309	9 – 10 am Noon – 1 pm	57.6% 57.3%	131 130	5 hr/12 min.
Reserved	10	11 – 12 pm 1 – 2 pm	100%	0	3 hr/6 min.

From Table 2-2, the following conclusions can be derived:

- During the 10:00 a.m. – 11:00 a.m. peak hour, 498 stalls are occupied leaving 426 empty stalls available within the entire study area.
- The highest area of significant use is within stalls designated No Limit, which achieve peak-hour occupancy of between 57% and 58% between 9:00 and 10:00 a.m. and again between noon and 1:00 p.m.
- The average customer duration of stay in any on-street parking stall is approximately 2.0 hours, which is more consistent with the higher end range for a typical downtown.
- The average customer duration of stay in 2-hour stalls is 1 hour and 48 minutes, which indicates that the 2-hour stall designation is appropriate to meet a general customer's time stay need.
- One interesting result that the data revealed is the average duration for the No Limit stalls, 5 hours and 12 minutes (5.2 hours), a very high average despite the No Limit designation. This means that the vast majority of users for this stay type are commuters, several of whom do not move their vehicles during the lunch hour. Also, the high time-stay average indicates that the stalls are likely in areas that do not attract a great deal of demand by customers requiring a shorter time stay.

Figure 2-2. Hillsboro On-Street Parking Occupancies



2. Off-street system

The off-street parking supply operates at peak occupancy of 51.6% from 11:00 a.m. to noon. Both the on- and the off-street systems experience similar peaks and occupancy levels throughout the course of the study period. Occupancy rates hover from the low 50% range to the high 40% range for the first 7 hours of the survey day. This pattern of consistent occupancy is reflective of a system providing commuter access, lacking (at this time) the fluctuating impact of transient short-term use.

After 4:00 p.m. occupancy levels dip as employees head home from work. Figure 2-3 provides a graphic illustration of demand by hour of the day.

Table 2-3 provides a summary of the combined peak-hour demand for both the public and private supply collected on the survey day.

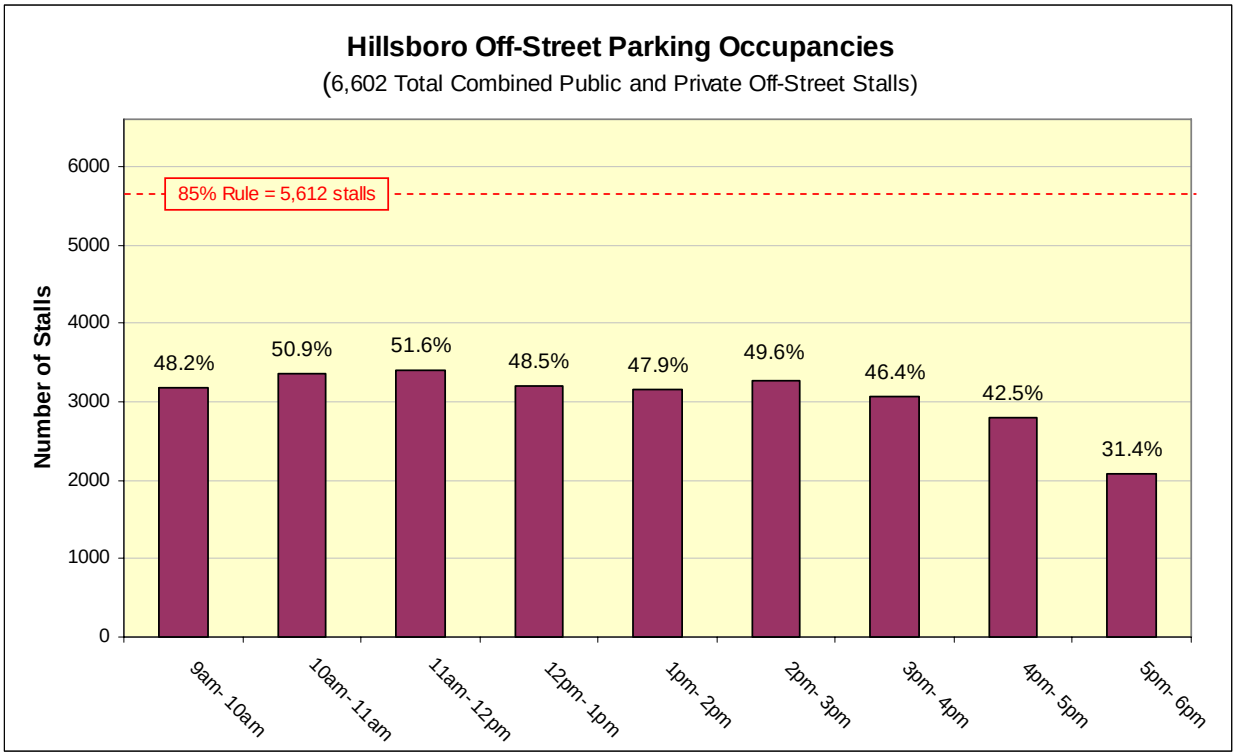
As Table 2-3 illustrates, peak hour occupancy for all off-street facilities (totaling 6,602 stalls) is between 11:00 a.m. and noon, when occupancies reach 51.6%. During the peak hour 3,409 vehicles occupy off-street stalls, leaving 3,193 stalls of available supply.

Table 2-3. Combined Public & Private Off-Street Stalls Surveyed

Garage/Lot	# of Stalls	Peak Hour	Peak Occupancy	Stalls Available (empty)
All	***6,602***	***11 – 12 pm***	***51.6%***	***3,193***
Occupancy Breakout for Public & Private Off-Street Facilities				
Off-Street Designation	# of Stalls	Peak Hour	Peak Occupancy	Stalls Available (empty)
Publicly Controlled (7 lots)	1,057	10 – 11 am	76.3%	250
Privately Controlled (47 lots)	5,545	11 am – 12 pm	47.6%	2,905

For purposes of demonstrating parking availability in the off-street supply, Table 2-3 also provides a breakout of occupancies for public versus privately owned facilities. Though the number of stalls under public control is limited, the abundance of available supply in private lots presents a future opportunity for aggressive marketing/management and potential shared use arrangements.

Figure 2-3. Hillsboro Off-Street Parking Occupancies



From data derived for the off-street system, the following conclusions can be derived:

- The overall combined occupancy of the off-street system is 51.6% at the peak hour of 11:00 a.m.–noon.

- There are over 3,000 empty stalls available in the peak hour, which represents an opportunity for meeting future spikes in parking demand.
- The publicly operated off-street system operates at a peak of occupancy of 76%, which is considerably higher than peak occupancy in the private supply, which reaches nearly 48%.
- Given that the majority of available parking is in private control, creative efforts to engage the private sector in partnerships and shared use agreements will become a key to effective and efficient use of the supply in the future.

C. Usage Characteristics (Turnover, Duration of Stay, Volume and Exceeding Time Stays)

The Hillsboro on-street parking supply has an adequate turnover system. Based on the mix and number of time stay designations (577 2-hour stalls, 309 No Limit stalls) the turnover number though slightly lower than typical downtowns, is appropriate for the system's designed capacity (see Efficiency of the Parking System, below).

A summary of findings for usage are included in Table 2-4, below.

Duration of Stay

Given that almost two-thirds of the on-street supply is made up of 2-hour stalls, it is realistic to expect the system to have a similar duration of stay. One of the elements that inflate the overall average duration on-street is the longer stays associated with the No Limit stalls (5.2 hours).

- The average stay in downtown for all parking stalls is 2 hours and 2 minutes (or 2.04 hours). A typical downtown averages a time stay of between 1.25 and 1.75 hours across all on-street stall types.
- The longest duration of stay is at the No Limit stalls, with stays averaging 5 hours and 12 minutes (or 5.2 hours).
- Time stays in actual 2-hour stalls is 1 hour and 48 minutes, which is much more reflective of customer/visitor need.

Longer average time stays are often a reflection of the type of user. Typically the on-street system provides shorter-term parking for customers and visitors to the downtown. The data suggest that Hillsboro has a higher ratio of employees/commuters to customers or visitors using on-street parking than is typical for downtown environments.

Turnover: Efficiency of the Parking System

Given the average stay of 2.0 hours, over the course of a typical day, an on-street stall in Hillsboro will turn 4.9 times (10-hour day/2.04 hours duration = 4.90 turns). This is somewhat lower than comparable urban retail centers.[6]

In most cities, the primary time limit will allow for calculation of an intended turnover rate. For example, if the intended use for a stall is 2 hours, then the stall should be expected to turn a minimum of five times over a 10-hour period. As such, if turnover were demonstrated to be at a rate of less than 5, the system would be deemed inefficient. A rate in excess of 5 would indicate a system that is operating efficiently.

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[6] Studies conducted by RWC have shown a range of turnover rates from a high of 7.6 to a low of 5.3 within a 10-hour survey period: Bend, Oregon (7.6 turns); Kirkland, Washington (7.1); Spokane, Washington (6.4 turns); Hood River, Oregon (5.3 turns); Salem, Oregon (7.2 turns).

With a turnover rate of 4.9, Hillsboro is basically operating at or near the intended turnover rate of the parking system. Despite the moderate rate of turnover, no immediate actions are necessary to "improve" access because of the current low occupancy rates for the on-street parking. In other words, it does not appear that customer access to on-street space is adversely impacted by (a) current average time stays or (b) existing peak-hour occupancies. A customer should be able to easily find a parking stall within one to three blocks of any location in the downtown. Over time, Hillsboro will want its on-street turnover rate to exceed the current rate of 4.9. This would be more commensurate with an urban on-street parking system intended and prioritized for customer stays.

Volume

On the survey day, 1,931 unique license plate numbers were recorded parking in the on-street system between the hours of 9:00 a.m. and 6:00 p.m.[7]

Exceeding time stays

Approximately 15.3% of unique vehicles parked in *2-hour stalls* downtown exceed the posted time stay as compared to 9.5% for the entire on-street system. On the survey day, 33 tickets were issued within the study zone. Of the tickets issued, 31 (or 94%) were issued for time-stay violations. If there was higher demand for parking in the on-street system (80%+ occupancy levels), we would have recommend pursuing more aggressive parking enforcement measures. Presently, the existing level of enforcement is adequate for this system's operational dynamics and occupancies.

Table 2-4. General Characteristics of Use – On-Street Parking Stalls

USE CHARACTERISTIC	DATA FINDING
Average duration of stay per unique vehicle	2 hr. 2 minutes
Actual number of unique vehicles (7:00 a.m.– 6:00 p.m.) on-street	1,931
Actual turnover rate (number of cars to use a single occupied stall over a 10-hour period	4.9
Percentage of all unique vehicles violating the posted time stay	9.5%
Number of violations and description of type	33 tickets issued for time stay violations • 31/33 violation of 2-hour stall (94%) • 2/33 other violations (6%)

2.5 SPECIAL ANALYSES - DATA ANALYSIS BY "NODE" AND LOCATION

At the request of the City and members of the SAC, the Consultant was asked to conduct "nodal analyses" of more activity-specific areas of the downtown. To this end, two separate nodes were analyzed. Both the on- and off-street systems were evaluated in these nodes to give a more complete view of the activity center. A third "node" was selected by the Consultant in a special zone of timed off-street parking. This zone was given a separate analysis due to the unique nature of this segment of the off-street supply. The analyses of these nodes are explained below.

[7] It is important to note that this does not represent all vehicles in the downtown, as license plate numbers were not recorded in off-street facilities. The unique vehicle total allows us to calculate turnover.

A. Node A

The SAC selected this node as representing the "heart" or primary focal point within the larger study area. The node is bounded by NE Lincoln Street (on the north), SE Washington Street (on the south), 1st Avenue (on the west) and 3rd Avenue (on the east).

Figure 2-4 provides a map of this zone and Table 2-5 provides a statistical breakout of the nodal analysis.

Node A contains 539 total parking stalls. The on-street supply comprises 129 stalls, with 15-minute (8 stalls), 2-hour (111 stalls), and Reserved stalls (10 stalls) making up the mix of options. The area also has 410 off-street stalls, 100 of which are under public control located in a single lot and 310 stalls are in three privately owned lots within the node.

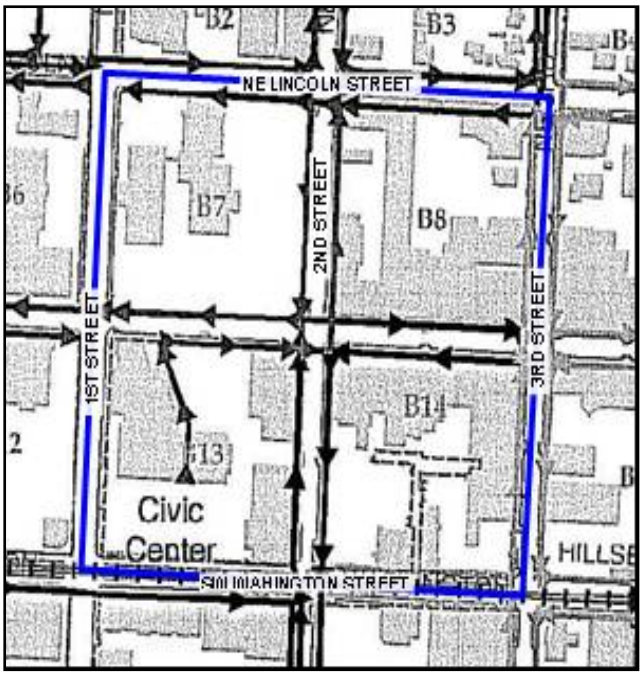


Figure 2-4. Node A

On-street parking within the node reaches a peak occupancy of 95.1% between 2:00 p.m. and 3:00 p.m., which is 4 hours later than the average peak for the entire downtown (i.e., 10:00 a.m.–11:00 a.m.) and significantly higher than the 54% average on-street peak occupancy for the general downtown. Nonetheless, although the on-street system reaches critical occupancy levels in excess of 85%[8], the off-street system maintains low peak-hour occupancies of approximately 50%. At no time during the day are there less than 202 empty and available off-street parking stalls. An hourly comparison of on- versus off-street usage is provided in Figure 2-5.

The off-street system has two peak hours, one in the late morning between 11:00 a.m. and noon, the second later in the afternoon between 3:00 p.m. and 4:00 p.m., when it reaches almost 51% occupancy. Again, while well parked on-street, this node contains abundant off-street supply during peak periods.

[8] See section 3.3.4.1. for an explanation of the 85% rule.

Table 2-5. Nodal Analysis – Node A

Node A – Operational Characteristics					
Type of Stall	**# of Stalls**	**Peak Hour**	**Peak Occupancy**	**Stalls Available (empty)**	**Average Length of Stay**
On-Street Stalls	***129***	***2 – 3 pm***	***95.1%***	***11***	***1 hr/38 min.***
Off-Street Stalls	***410 (4 lots)***	***11 – 12 pm***	***50.7%***	***202***	***N/A***
		3 – 4 pm	***50.7%***	***202***	***N/A***

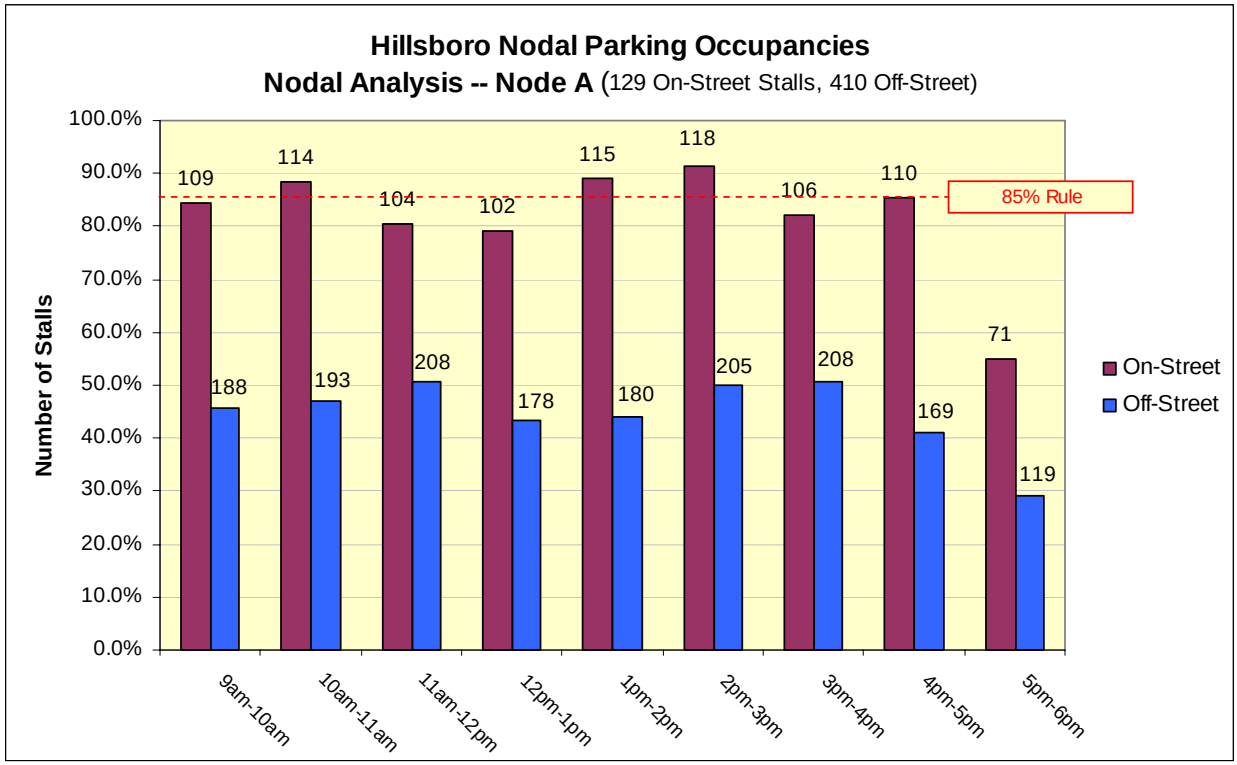
Downtown Hillsboro Node A Parking Stall Breakout		
On-Street Stalls by Type	**Number of Stalls**	**% of Total On-Street Stalls**
15 minutes	8	6.2%
2 hours	111	86.0%
Reserved	10	7.8%
Public: On-Street Parking Stalls	129	100%
Public: Off-Street Parking Stalls	100	
Sub-Total Supply	*229*	
Private: Off-Street Parking Stalls	310	
Total Surveyed Supply	***539***	

Other considerations resulting from analysis of this node include the following:

- The average customer time stay in this node is 1 hour and 38 minutes (compared to just over 2.0 hours for the entire downtown). This is an ideal figure for a retail area; particularly when over 80% of the stalls are designated 2 hours. This node represents an area of strong demand and efficient turnover. Enforcement in this node should be more rigorous (for time stay violations) than in other areas where there is less demand.
- The on-street system within this node is the only area of the downtown where demand for curb parking surpasses the 85% occupancy standard. Of the 129 on-street stalls in this node, only 11 stalls are available in the peak hour.
- Despite the high occupancy rate on-street, the off-street system presents an opportunity to relieve the constrained on-street supply. Given that one of the off-street lots is a publicly owned/controlled facility, the opportunity for moving customers off-street is greatly enhanced.

Figure 2-5 displays both on- and off-street occupancies, which allows for a direct side-by-side comparison. Each bar in the graphic is labeled with the number of parking stalls that are occupied at a specific hour during the day.

Figure 2-5. Hillsboro Nodal Parking Occupancies



B. Node B

This activity center is focused in and around the Tuality Hospital campus and the area encompassing the new Pacific University site. Nine blocks comprise this node, which is bounded by E Main Street (on the north), SW Oak Street (on the south), SE 6th Avenue (on the west) and SE 9th Avenue (on the east).

Figure 2-6 provides a map of node's borders. There are over 1,700 parking stalls within the node's boundaries.

Of the 1,729 stalls within this node, 1,600 of them are off-street, all of which are under private control in eight area lots. The remaining 129 stalls are on-street, made up of a combination of 2 hour (62 stalls) and No Limit (67 stalls) designations.

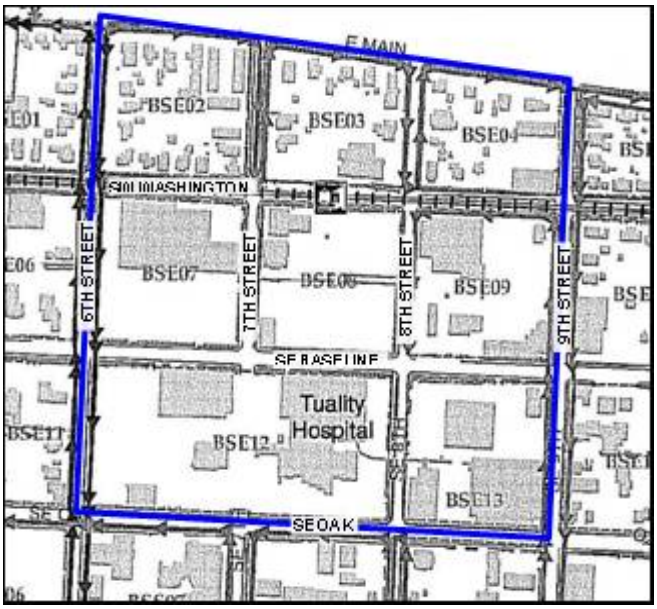


Figure 2-6. Node B

As Table 2-6 illustrates, the on-street system peaks between 1:00 p.m. and 2:00 p.m. when occupancies reach 49.6%, leaving 65 stalls available for use. The off-street system peaks an hour later, from 2:00 to 3:00 p.m., when occupancies eclipse 57% leaving almost 700 stalls still empty and available for use. Both peaks occur in the afternoon hours, which differ from the system-wide peak between 10:00 a.m. and 11:00 a.m.

Table 2-6. Nodal Analysis – Node B

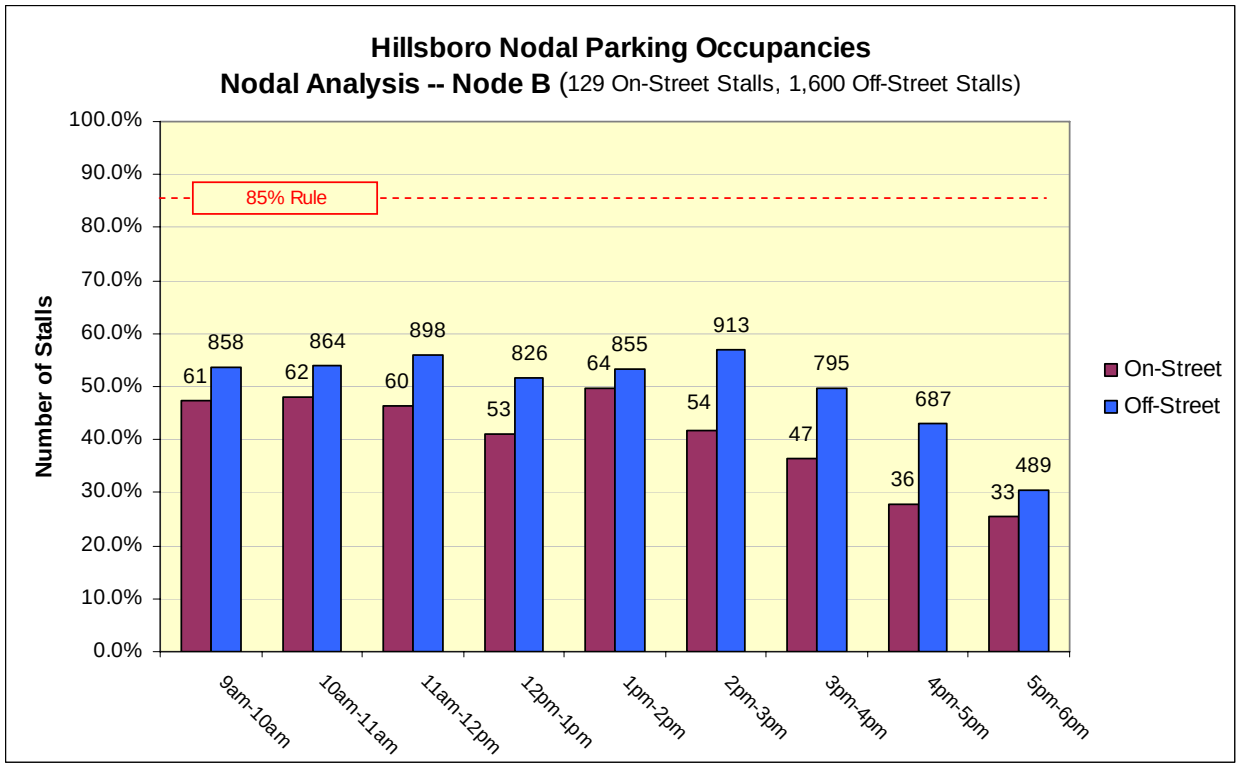
Node B – Operational Characteristics					
Type of Stall	**# of Stalls**	**Peak Hour**	**Peak Occupancy**	**Stalls Available (empty)**	**Average Length of Stay**
On-Street Stalls	***129***	***1 – 2 pm***	***49.6%***	***65***	***2 hr/2 min.***
Off-Street Stalls	***1,600 (8 lots)***	***2 – 3 pm***	***57.1%***	***687***	***N/A***
Downtown Hillsboro Node B Parking Stall Breakout					
On-Street Stalls by Type		**Number of Stalls**		**% of Total On-Street Stalls**	
2 hours		62		48.1%	
No Limit		67		51.9%	
Public: On-Street Parking Stalls		129		100%	
Public: Off-Street Parking Stalls		0			
Sub-Total Supply		*129*			
Private: Off-Street Parking Stalls		1,600			
Total Surveyed Supply		***1,729***			

Other considerations resulting from this analysis include the following:

- The average time stay in this node is just over 2 hours, which is identical to that of the larger study area.
- Both on- and off-street systems demonstrate ample available supply even in the peak hour.
- Though the node is home to a large traffic generator (Tuality Hospital), it appears to have an adequate supply of parking to accommodate current uses.

Figure 2-7 displays both on- and off-street occupancies, which allows for a direct side-by-side comparison. Each bar in the graphic is labeled with the number of parking stalls that are occupied at a specific hour during the day.

Figure 2-7. Hillsboro Nodal Parking Occupancies



C. Node C

This node is not specifically a "node" or activity center by definition, but in this instance it will be treated as one for this analysis. This analysis is intended to provide a better understanding of the operational dynamics of the three publicly owned off-street lots that are currently formatted to prioritize short-term parking. It is important to understand this supply of parking, given that it is a resource that the City controls and can most readily influence in both the near and long term.

Node C comprises three off-street parking lots that total 303 parking stalls. The lots are identified on the map in Figure 2-8. The breakouts of lot composition are outlined in detail in Table 2-7, below. It is important to reiterate that these three lots are primarily formatted to serve stays of 2 hours or less.

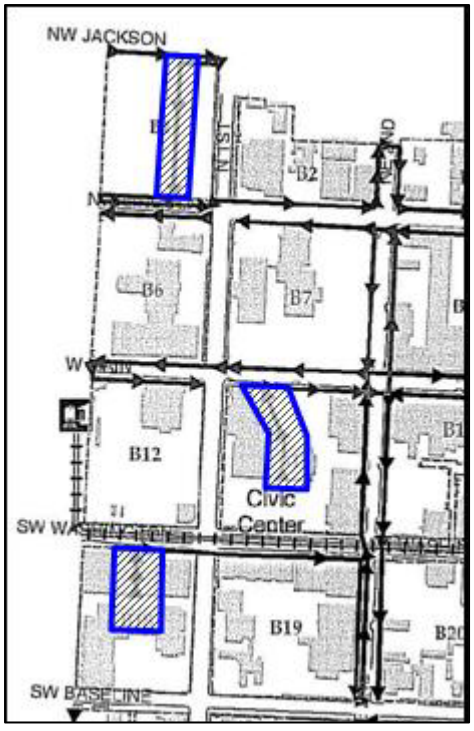


Figure 2-8. Node C

Table 2-7. Nodal Analysis – Node C

Node C – Operational Characteristics					
Block/Lot Number	**# of Stalls**	**Peak Hour**	**Peak Occupancy**	**Stalls Available (empty)**	**Average Length of Stay**
B01C	***83***	***10 – 11 am***	***80.7%***	***16***	***2 hr/12 min***
B18C	***120***	***9 – 10 am***	***95.0%***	***6***	***3 hr/12 min***
B13C	***100***	***3 – 4 pm***	***45.0%***	***55***	***2 hr/36 min***
Usage by Time Stay					
Node C -- Lot B01C Parking Stall Breakout					
Type of Stall	**# of Stalls**	**Peak Hour**	**Peak Occupancy**	**Stalls Available (empty)**	**Average Length of Stay**
30 minutes	16	10 – 11 am	18.8%	13	N/A
2 hours	67	10 – 11 am	95.5%	3	2 hr/18 min
Total	*83*	*Note: 2 hour stalls have 26.6% violation rate*			
Node C -- Lot B18C Parking Stall Breakout					
Type of Stall	**# of Stalls**	**Peak Hour**	**Peak Occupancy**	**Stalls Available (empty)**	**Average Length of Stay**
2 hours	120	9 – 10 am	95.0%	6	3 hr/12 min
Total	*120*	*Note: 42.2% violation rate, only 15.7% of all vehicles park for 2 hours or less*			
Node C -- Lot B13C Parking Stall Breakout					
Type of Stall	**# of Stalls**	**Peak Hour**	**Peak Occupancy**	**Stalls Available (empty)**	**Average Length of Stay**
15 minutes	9	Multiple	33.3%	6	N/A
30 minutes	6	5 – 6 pm	50.0%	3	N/A
1 hour	24	3 – 4 pm	50.0%	12	1 hr/30 min
2 hours	47	3 – 4 pm	46.8%	25	1 hr/42 min
Alternate Fuel	6	5 – 6 pm	100%	0	4 hr/18 min
Carpool	8	Multiple	37.5%	5	3 hr/0 min
Total	*100*	*Note: Violation rates are 25.5% (1-hour stalls) and 18.8% (2-hour stalls)*			

Two of the lots, B01C and B18C, operate with high occupancies and have peak-hour occupancies of 80.7% and 95.0%, respectively. The third lot, B13C, has a much lower peak-hour occupancy, 45.0%. This presents an opportunity for more active management practices that could help alleviate constraints within the two higher-demand lots.

Other considerations resulting from this analysis include the following:

- Lots B01C and B18C are highly utilized, particularly B18C at 95% peak occupancy. Both these facilities display a demand factor not represented in the rest of the downtown.

- The average time stay for all uses in each of the three lots exceeds 2 hours. Violation of time stays ranges from 18.8% (Lot B13C) to as high as 42.2% (Lot B18C). This would indicate that more enforcement is needed in Lots B01C and B18C if the 2-hour priority is truly the intended turnover target. Lot B13C is not as much of an issue for enforcement given its low peak occupancy (i.e., 45%).
- Given that there is demand for longer-term stays in both B01C and B18C (with high occupancies) and lower occupancies in B13C, the City may want to consider allowing stays of 3–4 hours at Lot B13C in exchange for increased enforcement at the two higher-demand lots. This would preserve 2-hour parking in lots that appear more attractive to all users and move longer-term stays into a proximate lot with capacity.
- The 30-minute stalls in Lot B01C are very underutilized (18.8%) indicating that there may be more than needed. Converting a portion of 30-minute stalls would likely create more productive space for stays in the range of 2-hours.

2.6 PARKING RATIOS – BUILT SUPPLY AND ACTUAL DEMAND

Parking ratios express the actual number of parking spaces available to serve demand for land uses (i.e., office, retail, residential, and/or mixed-use development). The number of stalls represented by a parking ratio may exceed actual demand for parking or fall short of that demand. Demand ratios, on the other hand, are generally expressed in the context of peak-hour use of a specific built supply of parking. In other words, demand ratios represent an estimate of the actual number of stalls occupied at the peak hour relative to occupied land uses. Effectively managing the relationship between land uses and built and occupied parking supply is a fundamental challenge of parking management.

Understanding the difference between the ratios of built supply and the ratio of actual demand is an important element for parking management. Parking ratios based on actual demand allow cities the ability to plan for parking at a rate consistent with actual use, thereby reducing overall parking development costs over time. An understanding of actual demand also allows a city to estimate the impact of new development on an existing supply of parking.

The exercise represented in this section is an attempt to develop a better understanding of parking supply and demand for Hillsboro. To that end, the consultant team derived two "ratios" from the data analysis:

- The actual Built Ratio of publicly available parking stalls, in relation to total built land uses in downtown Hillsboro.
- The actual current Demand Ratio for parking stalls per total built land use based on actual usage data from the "typical day" survey.[9]

A. Methodology

The consultant team developed a comprehensive list of all land uses within the downtown study area using the most current tax assessor's data for the downtown. This information was provided by the City of Hillsboro. Square footages were derived for commercial, retail, civic, and service land uses. Residential and portions of institutional land use square footages were separated from the database as was the parking associated with those uses. This allows for

[9] Data from the Tuesday, September 19, 2006, was used to develop this analysis.

derivation of a demand rate directly associated with a traditional mixed-use commercial environment. Table 2-8, below, provides a breakout of land uses utilized in the demand analysis.

The resultant built ratio of parking to land use then is reflective of the total availability of parking serving a mixed-use environment in the downtown. The demand ratio reflects the public demand for parking stalls associated with that land use using actual peak occupancy data from the 2006 parking survey. The consultant team was then able to express actual parking ratios per 1,000 square feet of mixed-use development for Hillsboro's downtown.[10]

Table 2-8. Hillsboro Study Area Square Footages

Land Use Category	Total Square Feet in Study Zone
Barber	18,930
Bulky Retail	48,710
Civic	630,858
Commercial (General Office)	649,359
Eating/Drinking	61,567
Institutional	165,000
Medical/Service	366,653
Retail	547,634
Service (General)	21,330
Total Square Feet Used for Calculation of Parking Demand	***2,510,941***
Land Uses and Parking Removed from "Mixed-Use" Parking Demand Calculation[a]	
Residential	451,114
Institutional	286,740
Storage	13,725
Vacant Land	10,330
Parking	309,700

[a] Specific parking demand rates for these uses will be derived as a part of this study. However, parking demand rates for more commercial, downtown business oriented developed was the focus of this exercise.

B. Findings

Parking demand ratio calculations revealed two different, but equally useful correlations:

- **Built Stalls to Built Land Use.** This represents the total number of existing parking stalls correlated to total existing land use square footage (occupied or vacant) within the study area. According to data provided by the City, there is approximately 2,510,941 square feet of active commercial/institutional uses in the study zone. At this time, about 3.00 parking stalls per 1,000 square feet of built land use have been developed/provided within the study area.
- **Combined Demand to Built Land Use.** This represents peak-hour occupancy within the entire study area combining the on- and off-street supply. As such, actual parked vehicles were correlated with actual occupied building area.

[10] This analysis quantified the relationship between land uses, parking occupancy, and built parking supply. Though not a definitive measure of demand by specific land use types, this exercise is useful in deriving estimates for overall demand in Hillsboro based on actual parking activity in the downtown.

The recent utilization update indicated that peak-hour occupancy reached 51.9% for the combined on- and off-street system, which resulted in 3,907 vehicles parked. Further information from the City estimates that building vacancy in the downtown is approximately 5% (or 125,547 square feet vacant), which results in 2,385,394 of 2,510,941 gross square feet of building area actually occupied.

From this perspective, actual current peak hour demand stands at a **ratio of approximately 1.64 parking stalls per 1,000 square feet of built land use**.

Table 2-9, below, summarizes the analysis used to determine the built ratio of parking to built land use (i.e., 2,510,941 total square feet) and general demand for that parking based on the peak hour occupancy/demand for all parking inventoried in the study area.

As Table 2-9 demonstrates, the actual demand for parking is 1.64 stalls per 1,000 square feet. If in the future parking were only provided at the rate of actual demand absorption (1.64), overall peak-hour occupancies would near 100%. This is due to the fact that the actual ratio of demand covers total demand and does not assume a cushion or "buffer" of stalls to address unexpected growth or spikes in parking activity. As such, Table 2-9 also presents "parking demand with a 15% buffer," which increases the actual ratio of parking demand from 1.64 to 1.88 stalls per 1,000 square feet.

Table 2-9. Study Area Demand – Mixed Land Use to Built Supply

Sites in Study Zone	Gross Square Footage (Built)/ Gross Square Footage (Occupied)	Total Stalls Inventoried in Study Zone[a]	*Built Ratio of Parking* (Gross Square Footage)	Total Stalls Parked in Peak Hour	Actual Ratio of Parking Demand/1,000 Square Feet	Parking "Demand" w/ 15% buffer
322	2,510,941/ 2,385,394	7,526	3.00/1,000 square feet	3,907	1.64/1,000 square feet	1.88/1000 square feet

[a] This number represents all on-street spaces, public and private off-street lots in operation within the study zone.

To date, parking has been *built* at an average rate of 3.00 stalls per 1,000 square feet of development in downtown Hillsboro. This rate appears to have been effective, though significant stall availability exists within the off-street parking system.

Land uses in downtown Hillsboro are generating parking *demand* ratios of 1.64 stalls per 1,000 square feet of commercial/retail development. This number would range upward to 1.88 parking stalls per 1,000 square feet of development if the intent was to assure a continuing buffer or cushion of parking stalls to accommodate unanticipated growth or spikes in parking demand.

Table 2-10, below, provides a summary of built supply to actual demand for other cities that the consultant team has worked with.

Table 2-10. Other Cities – Summary of Built Supply to Actual Demand

City	Minimum Requirement/1,000 Suare Feet or Actual Built Supply	Actual Demand/1,000 Square Feet	Gap between parking provided and parking demand for every 1,000 Square Feet
Bend, OR	3.0	1.7 – 1.9	1.1 – 1.3
Beaverton, OR	4.01	1.85	2.16
Corvallis, OR	2.0	1.50	0.50
Hillsboro, OR	*3.00*	*1.64*	*1.36*
Hood River, OR	1.54	1.23	0.31
Kirkland, WA	2.5	1.98	0.52
Sacramento CA	2.0	1.60	0.40
Salem, OR	3.15	2.04	1.11
Seattle, WA (SLU)	2.5+	1.75	0.75+

2.7 SUMMARY

Overall the data analysis of the Hillsboro parking inventory indicates that the system is operating at a moderate level of capacity with adequate turnover and abundant available supply. There are no "deficits" of parking in the downtown, though a small area (Node A) has on-street constraints in a node with significant off-street surplus. Overall, the availability of "surplus" parking is well located to the demand for parking throughout the downtown. Whether merchants/businesses can and are willing to direct their employees and customers into off-street locations is a topic for additional discussion with the City and downtown stakeholders.

Also, parking is generally being provided at a rate that exceeds actual demand. The gap between parking built and parking utilized is +1.36 parking stalls per every 1,000 square feet of development. In the long term, it is unlikely that this rate of parking development can continue, particularly if (a) there is a desire to use land more efficiently and (b) the cost of parking development increases as supply transitions from surface facilities to structures.

2.8 NEXT STEPS

Additional work with the City and stakeholders will proceed to ensure that there is an awareness and understanding of the data findings, which will result in development of recommended programs and strategies for improving the existing system and moving toward future new supply.

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3. IDENTIFICATION AND ANALYSIS OF BARRIERS AND OPPORTUNITIES

3.1 BACKGROUND

The intent of this chapter is to describe the existing parking management strategies in the Hillsboro study area and identify draft recommendations for implementing alternative downtown parking management strategies. These recommendations are intended to more effectively achieve the aims of downtown business and property owners as well as the City related to the revitalization of downtown Hillsboro.

The project scope of work requires this chapter to include the following sections:

Existing Practices

This section will review the City's current regulations, required parking requirements, etc.

Best Practices and Model Code

This section will review the state and regional policy guidance and model code language for parking.

On-Street Diagonal Parking

This section discusses the feasibility of redesigning certain streets to allow for angle/ diagonal parking.

Matrix of Opportunities and Barriers

This section provides a matrix format summary of the opportunities and barriers associated with a variety of parking management approaches set forth in the model codes.

Recommendations

This section provides the foundation of a parking management plan for the study area.

This section builds upon the data analysis and guiding principles developed in previous efforts and for this project. It does not specifically address parking districts, shared parking, or parking structures; those will be addressed in the future. However, many of the recommendation(s) are applied in specific districts or zones.

3.2 EXISTING PRACTICES

The City, Westside Transportation Alliance, and other institutions and private businesses currently use a variety of parking management strategies in the study area. The City primarily manages parking in the area through development requirements, such as minimum and maximum parking requirements and variances and exemptions to those requirements. Additionally, the City collects fines in the area to discourage undesirable parking behaviors. The Westside Transportation Alliance (a private nonprofit transportation management association) is available to help businesses in Hillsboro with implementing programs that discourage SOV trips. Finally, some businesses in the area subsidize transit passes to encourage their employees to commute by transit. This section describes existing parking management strategies in more detail.

3.2.1 Existing Zoning

The City of Hillsboro Parking Solutions study area is bordered by SE 10th to the east, SE Walnut to the south, SW Adams to the west, and approximately NE Jackson and East Main to the north. The MAX light rail line and three light rail stations are located within the project area. The entire study area falls within the Station Community Plan Area, with individual properties falling into one of five city zoning designations: Station Community Commercial – Central Business District (SCC-CBD), Station Community Commercial – Highway Oriented District (SCC-HOD), Station Community Commercial –Station Commercial (SCC-SC), Station Community Residential – Medium Density (SCR-MD), and Station Community Residential – Downtown Neighborhood Conservation (SCR-DNC).

The Station Community Planning Areas are intended to promote transit-supportive and pedestrian-sensitive mixed-use developments in areas near light rail stations. Predominant characteristics of the Station Community Plan include multimodal accessibility, housing, and job centers that encourage transit users to live and work near transit stations, and public amenities. Additionally, the Station Community Plan encourages the placement of automobile-intensive uses in locations where the existing road and street system will support such uses and where such uses do not adversely impact other transit-oriented uses.

The Hillsboro Zoning Ordinance lists permitted uses in the Station Community Commercial and Residential Districts. In general, off-street parking is allowed as an accessory use to permitted or conditional uses in each zone. As a stand-alone use, only one of the permitted uses is related to parking: transit park-and-ride. This use is permitted as a conditional use in all of the commercial districts and the SCR-MD zone. A conditional use permit requires findings of fact that the proposed use is, where practicable, transit-oriented. Transit Park-and-Ride facilities are not permitted in the SCR-DNC district.

3.2.2 Development Requirements

Hillsboro uses development requirements as the primary mechanism for managing parking in the project study area. The City's parking development requirements include restrictions on auto-oriented uses, minimum and maximum parking ratios, and restrictions on off-street parking locations. These development requirements are described in detail below.

3.2.2.1 Restrictions on Auto-Oriented Uses

Two districts within the study area, SCC-HOD and SCC-SC, place restrictions on auto-oriented commercial uses in the districts. The SCC-HOD district applies to property generally located within one-half block of the Oregon State Highway 8 corridor. The district is intended to recognize and allow for the continuation and expansion of existing, but allow no new, auto-oriented commercial uses along Oregon State Highway 8 unless authorized by the Comprehensive Plan and in Section 139 of the Hillsboro Zoning Ordinance.

The SCC-SC district, on the other hand, is intended to assure a mix of transit-supportive commercial uses within easy walking distance of the light rail stations outside of the Central Business District. The uses in this district are intended to be pedestrian-oriented, not auto-oriented. However, where a district is adjacent to or bisected by an arterial street, neighborhood commercial uses may be auto-accommodating provided that the auto-accommodating uses are clustered in a node, as opposed to being extended along the arterial. Additionally, commercial uses in this district may be auto-accommodating provided that the amount and intensity of such development is limited so as not to adversely impact the nearby residential areas or take on the look of strip development.

3.2.2.2 Maximum and Minimum Off-Street Parking Standards

The Hillsboro Zoning Ordinance includes maximum and minimum off-street parking standards for the Station Community Planning Areas, as shown in Tables 3-1 and 3-2, below.[11]

Table 3-1. Maximum Non-Residential Parking Standards in Station Community Districts[a]

Land Use[b]	Maximum Parking Within 1,300[c] feet (1/4 mile +/-) of a LRT Station (per 1,000 square feet of gross floor area, unless otherwise specified)	Maximum Parking More Than 1,300 ft and Less Than 2,600 feet (1/2 mile +/-) from a LRT Station (per 1,000 square feet of gross floor area, unless otherwise specified)	Minimum Bicycle Parking[d] (greater of two spaces or the following): (per 1,000 square feet of gross floor area, unless otherwise specified)
Retail and Service Commercial[d]	5.1	6.2	0.25[e]
Medical/Dental/Veterinary Clinics, Medical Office Buildings	4.9	5.9	0.25
Office and Similar Uses[f]	3.4	4.1	0.125
Eating or Drinking Establishments:			
Fast Food	5.5	9.0	2.0[h]
Casual Dining[g]	10.0	15.0	0.25
Fine Dining	12.0	12.0	0.125
Theaters, Conference Centers, and Assembly Halls	0.4 space per seat	0.5 space per seat	1 space per 20 seats
Health Spa, Gym, Indoor Sport Club	5.4	6.5	1.5
Bowling Center	3.2 spaces per lane	6 spaces per lane	0.5 spaces per lane
Social club, Amusement or Recreation Facility	5.4	6.8	0.125
Library or Reading Room	3.5	4.8	2.0
Hotel or Residential Hotel[i]	1.0 space/ guest room	1.0 space/guest room, plus 0.6 space per employee[j]	0.125
Hospital	3.0	3.0	0.125
College, University, Technical School , or High School	0.3 space per FTE student and employee[j]	0.3 space per FTE student and employee	5% of FTE, day students
Elementary, Middle and Junior High Schools	0.8 spaces per employee	0.8 spaces per employee	10% of FTE, non-bussed day students
Places of Worship, Mortuaries and similar peak-loading facilities	0.3 space per seat	0.5 space per seat	1 space per 40 seats

[11] Hillsboro Planning Department. 1963. Hillsboro Zoning Ordinance (Section 137). Prepared by the City of Hillsboro, Hillsboro, Oregon.

Land Use[b]	Maximum Parking Within 1,300[c] feet (1/4 mile +/-) of a LRT Station (per 1,000 square feet of gross floor area, unless otherwise specified)	Maximum Parking More Than 1,300 ft and Less Than 2,600 feet (1/2 mile +/-) from a LRT Station (per 1,000 square feet of gross floor area, unless otherwise specified)	Minimum Bicycle Parking[d] (greater of two spaces or the following): (per 1,000 square feet of gross floor area, unless otherwise specified)
Mixed-Use Residential	100% of the spaces per dwelling unit allowed in Table 3, plus 75% of the spaces required for the commercial		1 per dwelling plus commercial
Fairgrounds and Outdoor Sports Facilities	1.0 per 1,000 sq. ft. of visitor space	1.0 per 1,000 sq. ft. of visitor space	2.0 per 1,000 sq. ft. of visitor space
Manufacturing, Processing, Compounding, Light Industrial, Predominantly Industrial Flex Space, Campus Industrial And Accessory Industrial Uses	2.5	4.5	0.20
Laboratories and Research Facilities	3.5	5.0	0.20

(Amended by Ord. No. 4545/4-97, 4930/7-00, 5168/7-02, 5667/9-06.)

Additional footnotes for Table 3-2: Maximum Non-Residential Parking Standards in Station Community Districts.

[a] Parking standards within this table apply only to property within 2,600 feet of a Light Rail Station. For property outside that distance the City-wide parking standards contained in Zoning Ordinance Section 84 shall apply.

[b] Where a particular use is not listed, approximate based on the most analogous use is shown in the table.

[c] Upon the effective date of any City of Hillsboro ordinance to implement Metro legislation adopting Region-wide parking standards for all local jurisdictions within the Metro boundary any maximum parking standards shall be those established by such ordinance.

[d] Except in the case of schools, the first two spaces of any required bicycle parking and 10% of those thereafter must be covered or within lockers. Except for schools, at the option of the applicant, required bicycle parking ratios may be reduced by 75% after the first 50 spaces.

[e] Includes automotive service uses in the SCC-HOD.

[f] Required bicycle parking at automotive service uses within the SCC-HOD is one space per 20 employees.

[g] Includes office buildings, flex space, and mixed-use buildings that are predominantly in office use, governmental use, and child care facilities.

[h] Examples of this type include Applebee's, Elmer's, Hale's, Shari's, Newport Bay, Reedville Café, etc.

[j] Bicycle parking for all restaurant uses shall be calculated using the dining area space only.

[j] May add additional spaces to accommodate restaurants open to non-guests, at the applicable casual dining ratio.

[k] Where a per-employee standard is used in this table, the number of employees on the largest 8-hour working shift is to be used in the calculation; except in the case of a continuous industrial process use with approximately equal shift staffing where a multiplication factor of 1.5 may be applied. Otherwise, no additional parking allowance is made for shift overlap.

Table 3-2. Residential Parking Standards in Station Community Districts

Housing Type	Minimum Required Parking (per Dwelling Unit)	Maximum Allowed Parking (per Bedroom)	Minimum Required Bicycle Parking (per Dwelling Unit)
Single Family Detached	1.0	0.90	None
Single Family Attached	1.0	0.90	None
Rowhouse	1.0	0.90	None
Townhouse	1.0	0.90	1.0
Duplex	1.0	0.90	1.0
Attached Duplex	1.0	0.90	1.0

Housing Type	Minimum Required Parking (per Dwelling Unit)	Maximum Allowed Parking (per Bedroom)	Minimum Required Bicycle Parking (per Dwelling Unit)
Multifamily Dwelling	1.5	0.90	1.0
Garden Apartment	1.25	0.90	1.0
Mid-Rise Multifamily	1.5	0.90	1.0
Flats and Apartments over Commercial Space, and for Live/Work Units	1.0	0.90	1.0
Senior Housing	0.25	0.75	None
Student Housing (Per dormitory type room)	0.25	0.75	1 per room

(Amended by Ord. No. 4930/7-00.)

According to the Hillsboro Zoning Ordinance, the maximum off-street parking standards are intended to provide sufficient on-site parking while taking into account the proximity and availability of light rail, other transit, and alternative modes of travel. The intention of residential minimum off-street parking standards is to accommodate the parking needs of local residents throughout the day so that travel by other modes is possible without vehicles parked on the street becoming obstacles to traffic and bicyclists on the local street network.

The zoning ordinance allows variances to minimum and maximum parking standards. For example, the City Engineer may require off-street parking above the minimum standard to mitigate impacts of a use on the street system if the results of a Traffic Impact Study show that a development will have an inordinate impact on parking.

The following parking is exempt from the maximum standards:

- Employee car/vanpool parking spaces
- Dedicated valet parking spaces
- Fleet parking
- Commercial parking where the fee or charge is equal to or greater than the average market rate within the Metro boundary.

If a development project includes new on-street parking, the on-street parking spaces may be included in the calculation of maximum allowable parking, provided parking does not impinge on travel lanes, bicycle and pedestrian facilities, or overall traffic flow or safety. This inclusion is at the discretion of the developer.

Location of Off-Street Parking in the SCC-CBD

The Hillsboro Zoning Ordinance includes general design standards for off-street parking in the SCC-CBD district. The standards are as follows:

- All new development in the CBD shall reserve and dedicate the center portion of each block for use as a common surface or structure parking lot.
- Notwithstanding the above, owners of a property within a given designated CBD block or group of blocks may provide for alternative parking strategies through the formation of a Traffic Management Association, Local Improvement District, Parking District, or other mechanism whereby the parking requirements and needs of all uses within the block or group of blocks is met. Such alternatives include the construction of one or more parking structures within the CBD or HOD District,

joint-use parking located off-site, remote parking/shuttle strategies, and the participation in the construction of a commercial parking structure(s) that would meet the parking requirements of the entire CBD.

- Required parking may be located up to 800 feet from the development to accommodate transit-supportive uses and provide adequate off-street parking for mixed use development.
- High volume, off-peak entertainment uses may fulfill all or a portion of their parking requirements on sites located within the CBD by arranging for shared parking in surface or structured parking lots not farther than 800 feet from the designated use.

3.2.3 Fines

The City charges fines for several types of parking infractions. A survey of fees and penalties for parking in cities of comparable size in the Portland metropolitan area indicates that fees and penalties vary widely by municipality. Table 3-3, below, summarizes the fees and penalties in comparable cities in the Portland metropolitan area.[12]

Table 3-3. Parking Fees and Penalties

City	Estimated Population	Number of Parking Personnel	Metered Parking	Parking Time Limit Zone / Overtime	Parking Without Permit	Prohibited Parking / No Parking	Handicap / Unlawful Parking in Disabled Space	Blocking Access / Hazard / Fire Lane	Other
Beaverton	83,100	2 FTE/ Volunteer Coordinator		$10.00	$10.00	$20.00	$642.00	$20.00	Several other city ordinance parking violations
Gresham	95,900	3 Code Enforcement/ Officers assist as necessary	NA	$16.00	$16.00	$16.00	$450.00	$40.00	Semi-parked in residential area: $100 Abandoned vehicle: $25.00
Hillsboro	***80,000***	***1 FTE***	***NA***	***$7.50***	***$3.00***	***$15.00***	***State Statute***	***$15.00***	
Tigard	46,000	0 FTE/ Officers perform parking function	NA	$15.00	$30.00	$45.00	State Statute	$50.00	Several other city ordinance parking violations
Averages				$12.13	$14.75	$24.00		$31.25	

As the table illustrates, the City of Hillsboro consistently has lower fines than comparable cities in the area. In response, the City doubled its fines in May of 2007.

[12] Bailey, Tina. 2006. Personal communication [email] of September 1, 2006. Planner, City of Hillsboro, Hillsboro, Oregon.

3.2.4 Transportation Management Association

The Westside Transportation Alliance is a transportation management association of businesses and public agencies in Washington County. The Westside Transportation Alliance offers workplace services and programs that support employees commuting to work by multiple-occupancy vehicles such as vanpool, carpool, and transit, as well as by walking and bicycling.

3.2.5 Subsidizing Transit Passes

According to a recent survey of businesses in the study area, 11 of 191 businesses (5.8%) responding indicate that they subsidize employee transit passes for their employees. Only three of the 11 businesses indicating a subsidy answered the survey question about the size of subsidy per employee per month. Within those businesses, actual subsidies range from $20 to the full cost of a transit pass per month. In total, 153 employees currently receive subsidies. This represents 8.0% of the total number of employees covered in this survey (i.e., 1,903).[13]

3.3 BEST PRACTICES AND MODEL CODE

3.3.1 Regional and State Parking Development Requirements

There are several local, regional, and state parking plans and policies that address parking development goals and requirements. The Hillsboro Transportation System Plan lists actions for meeting regional and state parking standards. The Regional Growth Management Plan contains the Regional Parking Policy, which addresses parking performance standards that jurisdictions must implement to meet state and federal requirements. The Model Development Code for Small Cities, on the other hand, is an example of code that jurisdictions could use to implement the Regional Parking Policy. The documents and Hillsboro's compliance with the parking goals and requirements are described below.

Hillsboro Transportation System Plan

The Hillsboro Transportation System Plan contains four transportation management policies, as quoted below.

Policies:

> (C) Trip Reduction
>
> (4) Limit the provision of parking to meet regional and state standards.
>
> (5) On- and off-street parking requirements may be reduced in areas where light rail transit or bus transit service is available or where other non-auto travel modes (such as walking or bicycle facilities) are conveniently accessible. (Added by Ord. No. 4901/5-00).
>
> (Q) The City may request, but shall not require more parking than the minimum parking requirements established by the Zoning Ordinance. Parking minimums and maximums shall be identified within the Zoning Ordinance as may be required for compliance with the Regional Parking Ratios Table in Title 2 of the Metro Urban Growth Management Functional Plan and shall be applied throughout the City in accordance with the parking requirement zones shown on the advisory City Parking

[13] RW Consulting. 2006. Technical Memorandum A: Results of Hillsboro Business Survey on Parking Demand. Prepared by RW Consulting, Portland, Oregon.

> Maximum Map contained in the Zoning Ordinance. The Parking Maximum Map shall be reviewed at least every three years from the date of its adoption in order to reflect changes that may occur regarding the provision of peak hour transit service. (Added by Ord. No. 4901/5-00).
>
> (R) The City may consider a variance from its parking requirements when a development application is received which may result in approval of construction of parking spaces either in excess of the maximum parking ratios or less than the minimum parking ratios. (Added by Ord. No. 4901/5-00).[14] "

Hillsboro implements the trip-reduction policies by establishing different maximum parking standards based on the use's distance from transit.

Hillsboro partially complies with Policy Q. Section 137.B.1 states that a City Engineer may require off-street parking above the minimum parking requirement whereas Policy Q states that the city may request, but not require, more than the minimum parking requirements. However, the Hillsboro Zoning Ordinance does comply with Policy Q because the minimum and maximum requirements generally conform with the regional parking ratios.

Hillsboro complies with Policy R, as it does offer variances and exemptions from the minimum and maximum parking requirements.

3.3.2 Regional Growth Management Functional Plan

The Regional Parking Policy of Metro's Regional Growth Management Functional Plan addresses state and federal requirements for parking spaces by requiring cities and counties to amend their comprehensive plans and by implementing regulations to meet or exceed specific performance standards. Specifically, the policy addresses Oregon's Transportation Planning Rule, Metro's 2040 Growth Concept, and the federally mandated air quality plan. The Transportation Planning Rule requires the reduction in vehicle miles traveled per capita and the restriction on construction of new parking spaces. The Metro 2040 Growth Concept encourages more-compact development. Finally, the air quality plan calls for the reduction of vehicle trips per capita and related parking spaces through minimum and maximum parking ratios.[15]

In order to address the state and federal policies, the Regional Parking Policy establishes minimum and maximum parking ratios for specific land uses. The policy distinguishes between two districts when identifying the maximum permitted parking ratios to free surface parking spaces. Zone A is for areas where 20-minute peak hour transit service is available to an area within one-quarter mile walking distance for bus transit and one-half mile walking distance for light rail transit. In addition to minimum and maximum parking ratios, the Regional Parking Policy requires Zone A parking to have good pedestrian access to commercial and employment areas (within one-third mile walk) from adjacent residential areas. Zone B is to be applied to the rest of the region. The regional parking ratios are shown in Table 3-4, below.

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[14] City of Hillsboro. 2003. Available at http://www.ci.hillsboro.or.us/Planning_Department/COMP_PLAN/Section_13.pdf. Accessed October 31, 2006.

[15] Metro. 2006. Urban Growth Management Functional Plan. Available at http://www.metro-region.org/library_docs/about/chap307.pdf. Accessed: October 20, 2006.

Table 3-4. Regional Parking Ratios

(Section 3.07.220(A)(1))
(parking ratios are based on spaces per 1,000 square feet of gross leasable area unless otherwise stated)

Land Use	Minimum Parking Requirements (See Central City Transportation Management Plan for downtown Portland stds) Requirements May Not Exceed	Maximum Permitted Parking - Zone A: Transit and Pedestrian Accessible Areas[a]	Maximum Permitted Parking Ratios - Zone B: Rest of Region
General Office (includes Office Park, "Flex-Space", Government Office & misc. Services) (gross square footage)	2.7	3.4	4.1
Light Industrial Park Manufacturing (gross square footage)	1.6	None	None
Warehouse (gross square feet; parking ratios apply to warehouses 150,000 gross square feet or greater)	0.3	0.4	0.5
Schools: College/University & High School (spaces/# of students and staff)	0.2	0.3	0.3
Tennis Racquetball Court	1.0	1.3	1.5
Sports Club/Recreation Facilities	4.3	5.4	6.5
Retail/Commercial, including shopping centers	4.1	5.1	6.2
Bank with Drive-In	4.3	5.4	6.5
Movie Theater (spaces/number of seats)	0.3	0.4	0.5
Fast Food with Drive Thru	9.9	12.4	14.9
Other Restaurants	15.3	19.1	23
Place of Worship (spaces/seats)	0.5	0.6	0.8
Medical/Dental Clinic	3.9	4.9	5.9
Residential Uses			
Hotel/Motel	1	none	none
Single Family Detached	1	none	none
Residential unit, less than 500 square feet per unit, one bedroom	1	none	none
Multifamily, townhouse, one bedroom	1.25	none	none
Multifamily, townhouse, two bedroom	1.5	none	none
Multifamily, townhouse, three bedroom	1.75	none	none

(Ordinance No. 97-715B, Sec. 1.)

[a] Ratios for uses not included in this table would be determined by cities and counties. In the event that a local government proposes a different measure, for example, spaces per seating area for a restaurant instead of gross leasable area, Metro may grant approval upon a demonstration by the local government that the parking space requirement is substantially similar to the regional standard.

In comparison to the regional parking ratios, the Hillsboro maximum parking ratios in the Station Community Districts are consistently lower than the regional parking ratios. The Hillsboro minimum parking ratios in the district are generally lower than the regional parking ratios, with the exception of manufacturing and light industrial uses. The regional minimum parking ratio for light industrial and manufacturing is 1.6, whereas the Hillsboro minimum parking ratio is 1.25 in Zone A and 2.25 in Zone B. There is no regional parking maximum ratio for these uses. The Hillsboro maximum parking ratios are 2.5 in Zone A and 4.5 in Zone B.

The Regional Transportation Plan states that cities and counties may exempt the following from maximum parking standards:

- Parking spaces in parking structures
- Fleet parking, parking for vehicles that are for sale, lease or rent
- Employee car pool parking spaces
- Dedicated valet parking spaces, spaces that are user paid
- Market-rate parking
- Other high-efficiency parking management alternatives.

The Regional Transportation Plan also requires location jurisdictions to form transportation management associations, as appropriate. The work of the Westside Transportation Alliance in downtown Hillsboro helps Hillsboro meet this requirement of the Regional Transportation Plan.

In addition to the minimum required actions related to parking management strategies, the Regional Transportation Plan lists several optional parking management strategies to be considered and implemented, several of which are discussed below. Those strategies are the following:

- Parking pricing/parking meters
- Timed parking
- Subsidized parking structures in mixed use areas
- Preferential parking for carpools/vanpools/bicycles
- Shared parking
- Parking lot placement/building.

3.3.3 Model Development Code for Small Cities

The Model Development Code for Small Cities is a tool that offers guidance on zoning, development standards, review procedures, and the implementation of state planning rules and statutes. The Oregon Department of Transportation's Transportation and Growth Management program created the Model Code to help small cities integrate land use and transportation planning and meet new legal requirements in the Transportation Planning Rule.

A portion of the Model Code provides a basic set of minimum parking standards that cities can use in their codes. The code lists several use categories (e.g., residential, commercial, industrial) and provides minimum parking requirements per land use. The minimum parking standards are based on the regional minimum parking ratios in Tables 3-3 and 3-4.

3.3.4 Best Practices

As described above, Hillsboro employs several parking management strategies in the project study area. However, there are several other strategies for managing parking that are not included in Hillsboro's parking management strategy toolbox. For example, some jurisdictions collect fees for parking in downtowns, regional centers, and commercial areas. Parking meters and off-street parking structures are the most common fee collection mechanisms. Additionally, jurisdictions and transportation management associations have programs that encourage employers to eliminate parking subsidies and instead subsidize transit passes or use cash-out programs. Other programs include in-lieu-of fees, flexible or no minimum parking requirements, and transferable parking entitlements.

Below is a discussion on alternative parking management strategies, such as those listed above, that Hillsboro could use in the study area.

3.3.4.1 85% Rule

Several jurisdictions have adopted an 85% Rule to help facilitate and direct parking management strategies. The 85% Rule is a measure of parking utilization that acts as a benchmark against which parking management decisions are based. Within the parking industry, it has been demonstrated that when an inventory of parking exceeds 85 percent occupancy in the peak hour, the supply becomes constrained and may not provide full and convenient access to its intended user. Once a supply of parking routinely exceeds 85 percent occupancy in the peak hour, the 85% Rule would require that parking management strategies be evaluated and/or implemented to bring peak hour occupancies to a level below 85 percent to assure intended uses are conveniently accommodated.

3.3.4.2 Fees

Many municipalities use parking fees as a method for managing parking demand. They primarily assess parking fees in three ways: on-street metered zones, off-street publicly owned facilities, and off-street privately owned facilities. A report by RW Consulting for the City of Sacramento defines the three elements of parking fees as follows[16]:

On-Street Metered Zones

In areas where the demand for parking access to public curb space is high, cities have moved to employ parking meters, which collect fees. Fees for parking at on-street meters accomplish the following objectives:

- Facilitate turnover at a desired rate.[17]
- Manage demand (i.e., the higher the demand, the higher the fee) and disperse non-priority users to (a) other locations and/or (b) other access modes.[18]
- Generate revenue to cover the cost of equipment, enforcement, and ongoing maintenance of the on-street system.
- Generate surplus revenue to support other goals and objectives (i.e., preferably transportation related goals and objectives within the area where the fees are collected).[19]

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[16] RW Consulting. 2005 Assess Parking Fees and Penalties. Prepared by RW Consulting, Portland, Oregon.

[17] The "desired rate" of turnover is generally based on assumptions of an appropriate time stay for a priority customer. For instance, a 90-minute meter assumes a desired turnover rate of 5.3 vehicles in an 8-hour period. A 3-hour meter assumes a desired turnover rate of 2.7 vehicles over the same 8-hour period.

[18] Within the parking industry, fees are generally established using the 85% Rule as a threshold for determining market pricing. As such, if an inventory of parking consistently exceeds 85% occupancies, then increasing rates is a viable and low risk option. The greater the occupancy above 85% the more likely that an increase in rate is in order.

[19] This is not always the case. In some cities, meter revenue is allocated to general funds. This can lead to rate decisions not associated with the goals and objectives for access in the metered area.

Off-Street Publicly Owned Facilities

The function of fees in publicly owned off-street parking facilities should be "calibrated" with specific goals and objectives established for the facility. Ideally, rates and fees in publicly owned facilities are coordinated with the on-street system through the first 2–4 hours to support visitor/customer access demand in areas where visitor traffic is a priority.[20] Each parking facility should have specific policies developed for the facility that clarify both its near and long-term objectives.

Such policies might address the following questions:

- What is the primary intent of the garage (i.e., to serve short-term access demand, long-term commuter demand, event demand, or a combination of access needs)?
- What is the desired mix of uses desired for the facility?
- What are the primary land uses surrounding the facility and what is the role the facility should or should not play in supporting those land uses?

With clear goals and objectives developed, the functions of fees in public off-street facilities are similar to those for the on-street system. They include the following:

- Generate revenue to cover debt-service, facility maintenance and operations.
- Facilitate turnover at a desired rate.
- Manage demand (i.e., the higher the demand, the higher the fee) and disperse nonpriority users to (a) other locations and/or (b) other access modes.
- Generate surplus revenue to support other goals and objectives (i.e., development of new facilities, support for alternative access modes).

Off-Street Privately Owned Facilities

It is very difficult and rare that a city would attempt to regulate fees or rates in privately owned facilities. To do so would have impacts on private financing of development. In general, private facilities in downtown areas establish rates and fees to serve longer-term/commuter-based access. This is influenced by the private sector priority to provide parking at levels that are attractive and marketable for retaining and recruiting commercial tenants.

3.3.4.3 In-Lieu-of Fees Programs

Some jurisdictions establish in-lieu-of parking fees as an alternative to requiring minimum parking ratios. By paying in-lieu-of fees, developers are able to avoid constructing the minimum required on-site parking spaces. Typically, the jurisdiction will deposit the fees in a specific fund to be used by the city to acquire and/or develop off-street parking. This type of flexible minimum ratio provides advantages to both planners and developers, such as the following:

- Overall construction costs may be reduced.
- Construction of awkward, unattractive on-site parking is avoided.

[20] In other words, if the facility is primarily directed to commuter parking, attractive short-term hourly rates calibrated to on-street meter rates is not as important.

- Redevelopment projects involving historic buildings can avoid constructing parking that would compromise the character of the buildings
- Planners can ensure that existing parking facilities will be more fully utilized
- Planners can encourage better urban design with continuous storefronts that are uninterrupted by parking lots.[21]

3.3.4.4 Eliminating Employer-Subsidized Parking

This project's recent survey found that the majority of businesses (89%) in the study area that maintain on-site parking allow their employees to use that parking.[22] Metro's *Evaluation of Potential Measures for Achieving Modal Targets* maintains that "employer provision of free parking to employees is often cited as an important reason why people to [sic] drive alone. Likewise, eliminating these subsidies has a strong correlation with a shift away from SOV travel to other modes of transportation."[23]

Parking subsidies, such as on-site parking, can be eliminated or altered in a few ways to discourage SOV trips. For one, subsidies can be altered by establishing commuter allowances, which allow an employee to use a certain amount of money each month on vehicle parking or transit. Subsidies can also take the form of "cash-out" options. Under this form of subsidy, the employer offers a cash equivalent to the subsidy if the employee uses other modes of travel. Additionally, parking facilities can offer lower rates for high-occupancy vehicles while charging SOVs the full rate.

According to Metro's *Evaluation of Potential Measures for Achieving Modal Targets*, the effectiveness of the parking pricing strategies, such as employer-subsidized parking, varies. Surveys and parking occupancy data have shown that pricing public parking can reduce solo driving by 25%. Data on the effect of eliminating employer-parking subsidies on SOV trips are inconsistent. One study reports that eliminating the subsidies reduces SOVs mode share by 2.5% to 5%, whereas another study claims a reduction in SOV trips by as much as 25%. Finally, the report indicated that employer-parking subsidy for high-occupancy vehicles increased carpool use from 17% to 58%, while transit use declined by 10%.[24]

3.3.4.5 Flexible Minimum Parking Requirements

Many jurisdictions recognize the unique pedestrian and transit-oriented characteristics of an area by allowing flexible minimum parking requirements, as described below.

Case-by-Case Evaluation

Jurisdictions may allow developers to construct fewer than the minimum parking standards through a case-by-case evaluation. For example, the City of Beaverton has an excess program

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[21] Forinash, Christopher and Adam Millard-Bell, Charlette Dougherty, and Jeffrey Tumlin. Date Unknown. Available at http://www.urbanstreet.info/2nd_sym_proceedings/Volume%202/Forinash_session_7.pdf. Accessed on October 30, 2006.

[22] RW Consulting and Parametrix 2006, Parking Solutions Business Survey, Portland, Oregon.

[23] Metro. 2005. Evaluation of Potential Measures for Achieving Modal Targets. Prepared by Cogan Owens Cogan and Alta Planning, Portland, Oregon.

[24] Metro. 2005. Evaluation of Potential Measures for Achieving Modal Targets. Prepared by Cogan Owens Cogan and Alta Planning, Portland, Oregon.

whereby a property owner may request a parking determination from the City of Beaverton to determine the existence of excess required parking. The owner must demonstrate that excess parking accounts for a minimum of 20% of the required parking for all uses of the site and excess parking has existed for the previous 180 days.[25]

Requirement Exceptions

Another form of flexible minimum parking requirements is systematic exemptions for certain locations or parking space substitutions. The Cities of Portland and Beaverton offer some of the following exceptions:

- Sites located less than 500 feet from a transit street with 20-minute peak hour service.
- Substitution of bicycle or motorcycle parking for vehicle parking.
- Substitution of transit-supportive or pedestrian plazas for required parking.

Transferable Parking Entitlements

The City of Portland makes maximum parking requirements more flexible by using transferable parking entitlements. Under this program, a developer may transfer or sell the unused portion of the allowed number of parking spaces for a particular development to another developer.

3.4 ON-STREET DIAGONAL PARKING

3.4.1 Background

As a strategy to increase the available parking supply, many cities explore the conversion of parallel parking stalls to angle parking stalls. This conversion is often driven by the need for small downtowns to compete with suburban shopping malls, to provide immediately accessible parking to small businesses, and to provide a traffic calming technique often coinciding with the reduction in the number of lanes on the adjacent roadway.

The opposition to angle parking often arises from the one of the following two factors:

1. The desire to maintain higher street capacity (since the angle parking often consumes enough right-of-way to result in the loss of a travel lane).
2. The safety implications of having motorists back out into traffic when leaving their parking stalls.

Regarding safety, John D. Edwards wrote in the February 2002 ITE Journal: "Many statistics have been quoted comparing the relative accident rates of streets with and without diagonal on-street parking. Several studies conducted by the author indicate that while accident rates may be higher, the severity of the accidents are generally less; and, on low-speed, low-volume streets, accident frequency may not be statistically higher at all."[26]

Edwards continues with the following methodological guidance for communities that wish to consider the conversion of parallel stalls to angle stalls: "The process of changing parallel to angle parking must consider a number of factors related to the particular street where the

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[25] Beaverton Planning Department. 2005. Beaverton Development Code (Chapter 40.55) Prepared by the City of Beaverton, Beaverton, Oregon.

[26] *Changing on-street parallel parking to angle parking*, Institute of Transportation Engineers. ITE Journal, Feb 2002 by Edwards, John D

change is being considered. These considerations should include area type, the classification or type of facility, street width, current traffic volumes, pedestrian activity, the type of land use, the availability of parking, the impact on adjacent street segments, transit operations and the potential changes in accidents."

3.4.2 Assessment of Diagonal Parking Conversions

The following section applies the methodology described above to a cursory review of the significant factors that dictate the type of on-street parking that is suitable in the study area. A brief description of the relevant factors is followed by a preliminary assessment of how that factor relates to the provision of angle parking in Hillsboro.

3.4.2.1 Area Type

Just as one would consider the type of area in the calculation of capacity or level of service, one must consider the area in the decision whether to change from parallel to angle parking. Traditional downtowns with closely spaced buildings, pedestrian activity on the street, low vehicle operating speeds, and the general expectation of congestion are appropriate for angle parking; suburban areas or secondary strip districts on major traffic facilities are not.

The study area comprises a portion of traditional downtown Hillsboro. The area includes small blocks, low-rise urban development, public transit, etc. Much of the area is an attractive, walkable shopping and services environment as is common in traditional downtowns. The area type is suitable for angle parking.

3.4.2.2 Street Width

Perhaps the single most important factor is street width. With parallel parking, a typical minimum curb-to-curb width in a business area is 40 feet (two 8-foot parking lanes and two 12-foot driving lanes), assuming two-way operation. For angle parking in a business area, a typical minimum width to consider is 60 feet curb-to-curb with two parking lanes and two driving lanes. In reality, a more comfortable minimum dimension is 68 to 70 feet. (two 18-foot parking lanes, two 16-foot driving lanes). With one-way streets, the above dimensions can be reduced to 51 to 52 feet if the number of parking and driving lanes is reduced accordingly. The angle of the stalls will determine the needed street width. Stalls that are 45 degrees to the curb require more street width than 30-degree stalls. Curb overhang is somewhat related to street width and the parking angle. Sharp parking angles (approaching 90 degrees) will have front parking overhangs of over 2.5 feet, while flatter angles have overhangs of 2 feet. This may reduce the usable width of sidewalks or increase the driving width.

In the study area, few of the blocks have the existing street width to enact two sides of angle parking with merely a restriping project. The recommendations for further study, provided in the following section, are for areas that meet many of the criteria for angle parking. The identified streets lack sufficient curb-to-curb width and would likely require a redesign of the entire right-of-way for implementation.

3.4.2.3 Parking Angles and Maneuvers

Just as parking angles have an impact on the effective sidewalk width and/or street width, they also impact parking and unpacking maneuvers. Ninety-degree parking or angles approaching 90 degrees will encourage U-turns from lanes operating in the opposite direction, while flatter angles—45 degrees or less—discourage this type of traffic maneuver.

Another consideration related to parking angle is the time needed to park and unpack. It is reported that the average time for a "back-in" maneuver for a parallel space is 21 seconds,

whereas the time for a "drive-in" or "back-in" maneuver for an angled space is only 11 to 12 seconds; thus parallel parking has the greatest potential for delaying traffic. This may be another consideration in the decision on conversion to angle parking. A third consideration is the use of very flat angles (30 degrees or less) that may allow the front doors to swing free of the adjacent car. This can allow stall widths of less than 8.5 feet. Highland Park, Illinois, implemented 8-foot angle parking stalls at very flat angles, which appear to work well.[27]

Angling parking stalls can potentially provide greater parking capacity, but at the cost of consuming a greater portion of the street. In many cases, the additional street width needed by angled parking negates any benefits (even lowering overall capacity) by precluding parking on both sides of the street. For example, a 38-foot wide street could accommodate two 11-foot lanes, and an 8-foot parallel parking lane on both sides of the street. Assuming 200-foot wide blocks with 180 feet available for parking, this scenario would provide 18 parking spots (at 20 feet long each). If this parallel parking were converted to 30-degree angled parking, the total capacity would be reduced from 18 stalls to 11 stalls. Although angling the stalls increases one side of the street's parking from nine stalls to 11, the additional street width required by angling (15 feet versus 8 feet) does not allow parking on both sides of the street without removing one of the traffic lanes. Steeper angles (e.g., closer to 45 degrees) further increase the parking capacity of one side of a street but require correspondingly greater street width. Please refer to the figure inserts below for examples of angle parking developed for downtown Milwaukie. These provide examples for further discussion as they also show how more-specific impact analyses are required for issues including transit and freight hauler turning movements.

3.4.2.4 Operating Speeds

High operating speeds on downtown streets are a significant deterrent to pedestrian activity. Speeds in excess of 30 mph are considered unsafe by pedestrians and are a negative factor in the revitalization of retail districts. Angle-parking maneuvers dictate lower operating speeds due to the limited sight distance involved in unpacking from an angle-parking space. Therefore, posted and operating speeds must be lower. Posted speeds of 25 mph or less should be considered for streets with angle parking. This is consistent with desirable downtown operating conditions.

The need for lower operating speeds likely eliminates Baseline and Oak Streets from consideration for angle parking, as these roads are classified as Highways and have posted speeds of 35 mph.

3.4.2.5 Type of Land Use

The basic reason for changing parallel to angle parking is to make parking more convenient. Retail districts, with shopping and retail services as the primary use, are the areas where on-street parking is most important. The most successful changes from parallel to angled on-street parking have been where there are several contiguous blocks of primary retail use. Greenville, South Carolina's Main Street is a good example of what can happen when traffic is diverted and angle parking replaces parallel parking. The result has been significant revitalization of the retail district. There, parallel "diversion" routes took care of traffic movement and Main Street was converted from a through street to a "shopping street."

Given that downtown Hillsboro is a walkable area containing shopping and service uses, the land uses in the study area are suitable for angle parking.

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[27] Evans, 2002

3.4.2.6 Availability of Parking

The primary reason to convert from parallel to angle parking is to increase on-street parking availability; however, in downtowns where a surplus of parking exists, there is little reason to implement angle parking. Frequently, an area that appears to lack short-term parking is simply an area where enforcement activity is low and long-term parkers are using on-street parking spaces. Before changes are made from parallel to angle parking, a parking turnover survey should be done to determine the character of parking use.

The study area currently has a surplus of parking spaces; indicating that without further justification, conversion to angle parking may not be warranted. As a mid-term strategy, the City could revisit the ability of angle parking to provide additional spaces.

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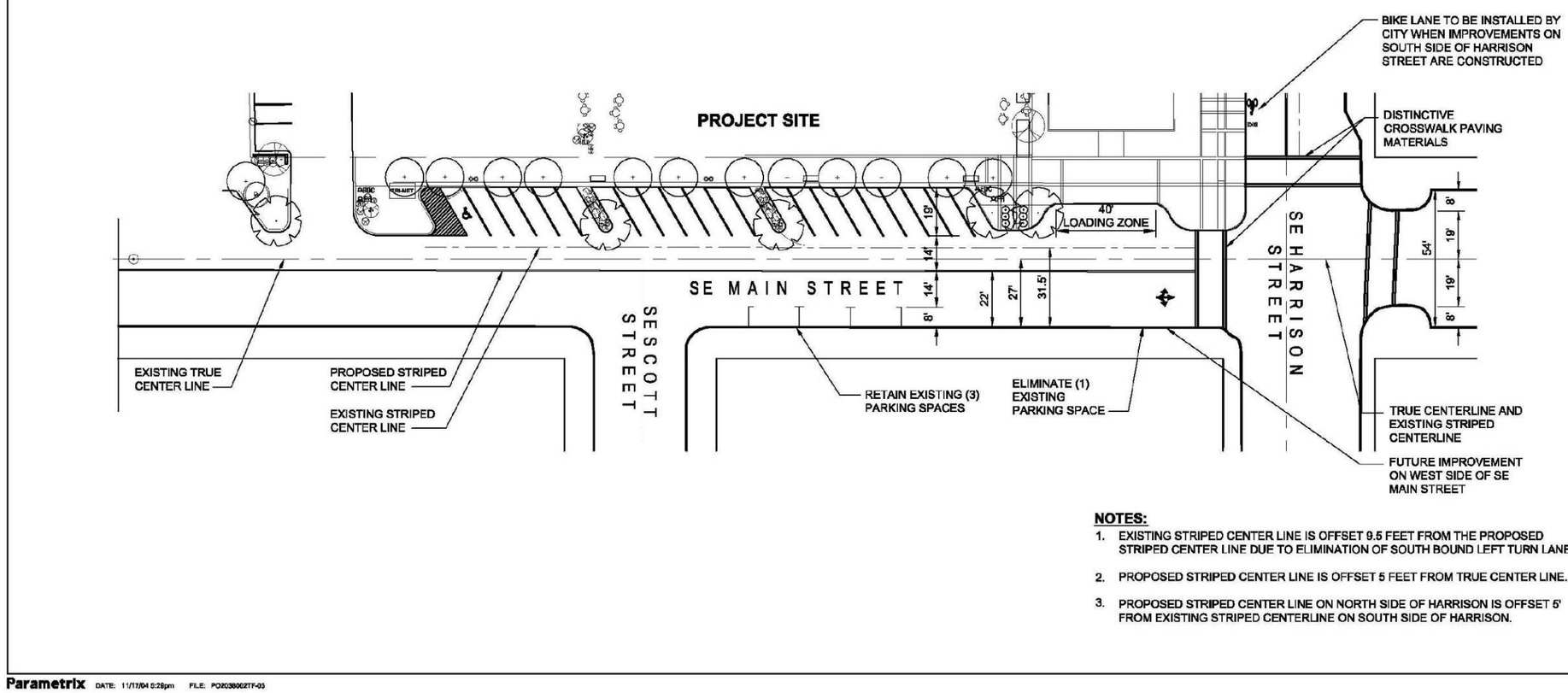
Sample 1, Angle Parking Streetscape design treatment



NOTES:

1. EXISTING STRIPED CENTER LINE IS OFFSET 9.5 FEET FROM THE PROPOSED STRIPED CENTER LINE DUE TO ELIMINATION OF SOUTH BOUND LEFT TURN LANE.
2. PROPOSED STRIPED CENTER LINE IS OFFSET 5 FEET FROM TRUE CENTER LINE.
3. PROPOSED STRIPED CENTER LINE ON NORTH SIDE OF HARRISON IS OFFSET 5' FROM EXISTING STRIPED CENTERLINE ON SOUTH SIDE OF HARRISON.

Parametrix DATE: 11/17/04 5:28pm FILE: PO203800ZTF-03

0 N 40'
SCALE IN FEET

Figure T-2
Main Street Cross-Section
(North of Harrison)

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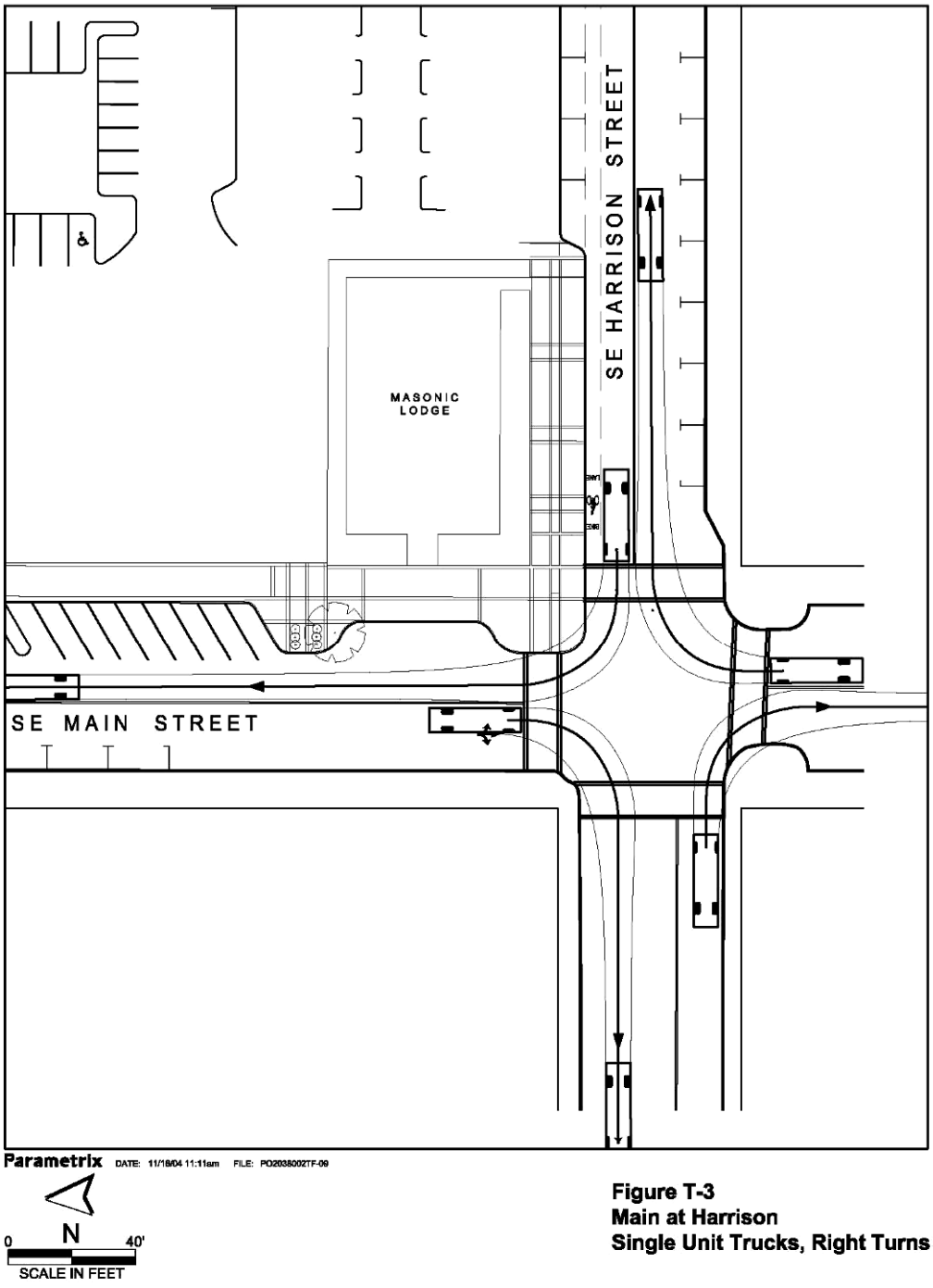

Sample 2, Angle Parking Streetscape design treatment

3.4.2.7 Impact on Adjacent Street Segments

The introduction of angle parking will substantially reduce traffic capacity on a street. If that segment is part of a continuous route that has significantly higher capacity in adjacent segments, then care must be taken to divert traffic in the higher capacity segments before the angle parking segment is reached. This will impose higher traffic volumes on parallel streets; therefore, one should be sure adequate capacity exists or can be developed.

3.4.2.8 Transit Operations

In most traditional downtowns, transit operations are present on many of the downtown streets. In the conversion of parallel to angle parking, the presence of transit operations should be considered. This conversion may affect transit operations in several ways: (1) it may increase route time due to additional congestion; (2) it may make the conversion of parallel to angle parking on narrow street widths unfeasible; and (3) the presence of transit stops may reduce the number of potential additional spaces that might be gained with angle parking.

Within the study area, Washington Street accommodates a MAX line and clearly lacks adequate width for parallel parking, much less angled stalls. Portions of the other roads in the study area accommodate various bus routes and are also unsuitable for angled parking stalls because of buses' need for frequent stops next to sidewalks, additional width, and larger turning circles.

3.4.2.9 Accident Frequency

As stated earlier, angle parking is usually associated with somewhat higher accident rates. While this may be statistically true, one must be careful not to overemphasize the accident potential because those accidents that do occur are likely to be minor in nature. Before any angle parking designs are developed, a detailed analysis of crash rates and types should be conducted.

3.4.3 Additional Research

The following resources provide a useful context for understanding the issues related to the use of angle parking.

Souleyrette, Reginald R., McDonald, Thomas J., and Tenges, Ryan. 2003. Angle Parking on Iowa's Low Volume Primary Extensions in Small Towns. Center for Transportation Research and Education; Iowa Department of Transportation. The paper was undertaken to analyze operational and safety histories in the state of Iowa where various types of on-street parking have existed for many years, concentrating in particular on smaller communities. They concluded that there was no evidence that angle parking is less safe than parallel parking. Rather, it should be studied on a case-by-case basis for individual projects.

Edwards, John D. 2006, Main Street Parking Initiative. Institute of Transportation Engineers Journal, 11/2006 vol. 76, no. 11. With the increased interest and investment in downtowns, there is a need for re-engineering of traffic and parking facilities.

McCoy, T.A., McCoy, P.T., Haden, R.J., and Singh, V.A. 1991. Safety Evaluation Of Converting On-Street Parking From Parallel To Angle. Transportation Research Record No. 1327.
These authors reported on the conversion of parallel parking to angle parking in Lincoln Nebraska, noting that the conversions occurred on streets with enough room to accommodate the additional width required for angle parking through the removal of a traffic lane. They

found that the increase in parking-related accidents resulting from the conversion was offset by the increase in parking activity, and that the severity of parking-related accidents did not change significantly.

3.4.4 Angle Parking Assessment for Downtown Hillsboro

Parking in cities, particularly central business districts such as downtown Hillsboro, can be scarce yet highly desirable for commercial uses that cluster in these areas. The importance of street parking (real and perceived) is especially strong for small businesses in suburban downtowns that must compete with nearby shopping malls. As these areas grow, high land values, resultant development pressures, and desire for pedestrian and streetscape amenities compete with parking for space. While street parking is not currently a limitation for downtown Hillsboro, it is prudent for the City to prioritize its goals for this area and plan for how to provide sufficient parking as downtown develops further.

This section documents the methodology and findings of a recent assessment of angle parking in downtown Hillsboro. The City of Hillsboro contracted this assessment to determine how parking could be maximized without disrupting or constricting existing transit, traffic, and pedestrian activity. Specifically, this assessment analyzed the potential for converting parallel parking stalls into angled parking to increase parking capacity within a 16-block area in downtown Hillsboro bounded by Lincoln, 5th, Oak, and 1st streets to the north, east, south, and west respectively. This area is the core of downtown Hillsboro and was considered a useful representation of the City's central business district; it contains the MAX line, bus routes, varying street widths and classifications, and businesses reliant on street parking as well as those with on-site parking facilities.

For the purposes of this assessment, the primary factors used to determine the suitability of specific blocks for angle parking included street width, street classification, transit use, land use, and posted speeds. As noted above, street width became the limiting factor in the blocks for which angle parking was considered feasible. In cases where additional right-of-way is available, street width could be widened to accommodate angle parking. Street widths in the study area were estimated by interpreting paved road surface shown in aerial photography by geographic information system software; these estimates were verified through site visits. Average distances between parcels across blocks were used to estimate right-of-way.

Based on the other factors utilized in this assessment, few blocks in the study area were determined to be feasible for angle parking. None of the blocks have existing pavement width for immediate restriping to angle stalls without loosing both sides of parallel parking. However, there were certain blocks on which it was found that a small addition to the street width would provide the needed space. However, if the additional width is to be taken from sidewalks, there are other policy and design implications.

3.4.5 Recommendations

Based on the above assessment, it is apparent that there are only a few potential opportunities to effectively employ angled parking spaces in the study area without compromising traffic flows or consuming space dedicated for other uses. Since these potential benefits are modest and parking is not currently a limitation in downtown, there is no immediate need to redesign any streets for angle parking. It would be best for the City to study the potential benefits in greater detail and consider converting parallel stalls to angle parking in concert with other streetscape improvement projects in these areas.

Of the streets in the study area, the following segments have the potential to provide additional parking capacity if parallel parking is converted into angled stalls in the future. However, street width varies considerably on these blocks and additional width would be needed for the conversion to diagonal parking at each of these locations:

- 2nd Avenue between Washington and Main Streets
- 4th Avenue between Main and Lincoln Streets
- 5th Avenue between Main and Lincoln Streets
- Main Street between 4th and 5th Avenues

For each segment, additional parking capacity is afforded by converting parking on one side of the street from parallel stalls to stalls at a 30-degree angle. The other side of the street would retain parallel stalls. The resulting increase in parking capacity is modest, with only two to six additional stalls (depending upon stall size) for each segment. Since parking capacity in this area is not currently limited, it may be best for the City to consider restriping these segments for angle parking as part of a larger streetscape improvement project in the future.

3.5 OPPORTUNITIES AND BARRIERS MATRIX

Prior sections of this chapter describe a number of alternative parking management strategies. Table 3-5 sets forth a matrix which describes the opportunities and barriers for implementing the alternative parking management strategies in the Hillsboro study area.

Table 3-5. Parking Management Strategy Matrix

Parking Management Strategy	Definition	Opportunities	Barriers and Constraints
Development Requirements			
Minimum Off-Street Parking Standards	Requires developers to create a minimum number of off-street parking spaces. The minimum number is typically based on building use.	Future off-street parking quantity is predictable.	Potentially could cause an abundance of off-street parking spaces.
Maximum Off-Street Parking Standards	Limits the number of off-street parking spaces that a developer can create. The maximum number is typically based on building use.	Prevents an excess of parking spaces.	
Carpool and Vanpool Parking Requirements	Preferential parking for high occupancy vehicles.	Promotes non-SOV trips.	Not efficient if spaces are required and no carpool users are in place
Restrictions on Auto-oriented uses	Restricts the development of auto-oriented commercial uses.	Future off-street parking quantity is predictable.	Market conditions, land values.
Design Standards for Off-Street Parking	Provides standards for the location and design of off-street parking.	Existing standards are well crafted.	Adds cost to parking development

Parking Management Strategy	Definition	Opportunities	Barriers and Constraints
Permit Parking District			
Permit Parking District	Allows a permitted vehicle to park in excess of the posted parking time limit along specified city streets and city-owned parking lots. Permitted vehicles typically belong to residents or employees in a parking district.	Retains parking for residents and employees.	Can create conflicts between users (i.e., employees and customers in commercial districts).
Transportation Management Association			
Transportation Management Association	Runs programs that support employees commuting to work by non-SOVs. Typically an association of businesses and public agencies.	Provides support to businesses that would like to encourage employees to not use SOVs to commute to work. Assists business in meeting Oregon Department of Environmental Quality regulations.	TMAs need stable and ongoing sources of funding.
Fees			
On-Street Metered Zones	Parking meters collect fees for limited time parking on designated on-street parking spaces.	Facilities turnover at a desired rate. Manages demand (i.e., the higher the demand, the higher the fee). Disperses non-priority users to other locations and/or other modes. Generates revenue.	May deter customers if implemented in areas with low demand for parking. Business support.
Off-street Publicly Owned Facilities	Fees are collected in publicly owned parking facilities based on the amount of time a car uses the facility.	Generates revenue (if revenues exceed debt and operating costs). Facilitates turnover at a desired rate. Manages demand (i.e., the higher the demand, the higher the fee).	May deter customers if implemented in areas with low demand for parking. Obtaining land to build parking facilities. Cost of construction.
Off-street Privately Owned Facilities	Privately owned parking facilities provide parking for longer-term visitors and commuters.	Provides parking for employees. In comparison to short-term parking, it provides economical parking for long-term visitors.	May deter customers who want inexpensive, short-term parking. Difficult for a jurisdiction to regulate fees. Need market demand for privately owned facilities.

Parking Management Strategy	Definition	Opportunities	Barriers and Constraints
In-Lieu-of Fees Programs			
In-Lieu-of Fees	In-lieu-of parking fees are alternatives to requiring minimum parking ratios. By paying in-lieu-of fees, developers are able to avoid constructing the minimum required on-site parking spaces. Typically, the jurisdiction will deposit the fees in a specific fund to be used by the city to acquire and/or develop off-street parking.	Support economic development. Allows financially feasible rehabilitation of older buildings which have no on-site space for new parking.	Current parking requirements that are in excess of demand and lack of fees in-lieu may impede development. Availability of land for shared parking facilities.
Eliminating Employer-Subsidized Parking			
Commuter Allowances	Allows an employee to use a certain amount of money each month on vehicle parking or transit.	Incentive for attracting employees.	Employer participation and cost to business. Requires the involvement of a transportation management association to administer the program.
Lower Rates for High-Occupancy Vehicles	Parking facilities offer lower rates for high-occupancy vehicles while charging SOVs the full rate.	Encourages carpooling.	Perception of unequal parking rates. Enforcement for on-street parking.
"Cash-Out" Options	Employer offers a cash equivalent to a parking subsidy if the employee uses modes of travel other than SOVs.	Rewards employees who use other modes of travel. Indirectly increases the supply of parking spaces for customers.	Perception of inequality by employees commuting by SOVs.
Transferable Parking Entitlements			
Transferable Parking Entitlements	A developer may transfer or sell the unused portion of the allowed number of parking spaces for a particular development to another developer.	Developments that require more than the maximum parking allowed may proceed. Developers that need less than the maximum parking allowed will benefit by selling their rights.	Administrative capacity to oversee the supply of parking. Potential for additional parking in undesired areas.

3.6 RECOMMENDED PARKING MANAGEMENT PLAN AMENDMENTS AND STAKEHOLDER ACTIONS

The purpose of the parking management plan is to accomplish the following:

- Clearly define the intended use and purpose of the parking system.
- Manage the supply and enforce the parking policies and regulations.
- Monitor use and respond to changes in demand.
- Maintain the intended function of the overall system.

In its original form, as Technical Memorandum #3, this chapter included detailed recommendations for implementation. These recommendations are now found in Chapter 6.

4. IDENTIFICATION AND ANALYSIS OF BARRIERS TO AMENDING SHARED AND DISTRICT PARKING IN HILLSBORO

4.1 BACKGROUND

The intent of this chapter is to describe shared and district parking strategies in the Hillsboro study area and identify and analyze barriers to implementing these two strategies. Shared parking occurs when two or more uses with different parking peaks share a parking facility. A parking district allows residents and/or employees in an area to have special parking privileges.

This chapter will begin with a description of existing shared and district parking practices in Hillsboro. The chapter will then address the local, regional, and state plans and policies on shared and district parking. A discussion of the best practices for implementing shared and district parking will follow, including consideration of revenue generation and business impacts. The project team has also made initial recommendations for parking solutions and suggests policy and stakeholder actions for implementing or amending shared and district parking codes and policies in Hillsboro. The recommendations on shared parking are included in this chapter. The recommendations for districts are intrinsic to the parking management plan proposed in Chapter 6

4.2 EXISTING PRACTICES

Hillsboro currently uses shared and district parking to manage parking supply and demand in its downtown. Below is a discussion of how the city uses and implements shared and district parking.

4.2.1 Hillsboro

4.2.1.1 Shared Parking

The Hillsboro Zoning Ordinance does not have any code that specifically allows shared parking agreements. However, the Hillsboro Zoning Ordinance acknowledges that businesses or residences that share parking may have different uses, and therefore allows shared parking users to calculate maximum parking standards as follows:

> "Mixed use projects, or parking shared jointly by more than one user, may calculate the allowed maximum parking based on the total and proportional square footage of space within a project, or aggregated among the joint users, by each type of land use. This provision also applies to campus developments and major institutions which include a mix of uses, whether the uses are under single or multiple ownership."[28]

4.2.1.2 District Parking

At this time, Hillsboro does not have formal parking districts established. However, enforcement and other activities may be differently managed in different areas.

[28] Hillsboro Planning Department. 1963. Hillsboro Zoning Ordinance (Section 137.B.6). Prepared by the City of Hillsboro, Hillsboro, Oregon.

4.3 LOCAL, REGIONAL, AND STATE PARKING DEVELOPMENT REQUIREMENTS

There are few local, regional, and state parking plans and policies that address shared and district parking goals and requirements. The Regional Growth Management Plan contains the Regional Parking Policy, which addresses parking performance standards that jurisdictions must implement to meet state and federal requirements. The Model Development Code for Small Cities, on the other hand, is an example of code that jurisdictions could use to implement the Regional Parking Policy. Hillsboro's compliance with the parking goals and requirements are described below.

4.3.1 Hillsboro Transportation System Plan

The Hillsboro Transportation System Plan describes goals, policies, and actions that guide future transportation system development in the city until 2020. The goals are brief guiding statements, whereas the policies describe the actions to implement the goals. The actions describe in detail how the city will implement the policies.

The Hillsboro Transportation System Plan does not specifically address shared or district parking.

4.3.2 Regional Growth Management Functional Plan

The Regional Parking Policy of Metro's Regional Growth Management Functional Plan addresses state and federal requirements for parking spaces by requiring cities and counties to amend their comprehensive plans and implementing regulations to meet or exceed specific performance standards. Specifically, the policy addresses Oregon's Transportation Planning Rule, Metro's 2040 Growth Concept, and the federally mandated air quality plan. These policies and goals identify the burden of required parking for small businesses, and recognize the value of shared parking agreements to new businesses. These policies also support the construction of parking structures in regional and town centers. Through the establishment of parking districts, financing, fees, and other management techniques can be designed to raise revenues that will help fund new parking structures. The Transportation Planning Rule requires the reduction in vehicle miles traveled per capita and the restriction on construction of new parking spaces. The Metro 2040 Growth Concept encourages more compact development. Finally, the air quality plan calls for the reduction of vehicle trips per capita and related parking spaces through minimum and maximum parking ratios.[29]

The Regional Parking Policy recommends that cities and counties count adjacent on-street parking spaces and shared parking toward required parking minimum standards. Hillsboro does not allow this, but does allow uses to count shared parking when meeting maximum standards.

4.3.3 Model Development Code for Small Cities

The Model Development Code for Small Cities is a tool that offers guidance on zoning, development standards, review procedures, and the implementation of state planning rules and statutes. The Oregon Department of Transportation's Transportation and Growth Management program created the Model Code to help small cities integrate land use and transportation planning and meet new legal requirements.

A portion of the Model Code provides sample code text for shared parking facilities:

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[29] Metro. 2006. Urban Growth Management Functional Plan. Available at http://www.metro-region.org/library_docs/about/chap307.pdf. Accessed: October 20, 2006.

> "Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that owners or operators show that the need for parking facilities does not materially overlap (e.g., uses primarily of a daytime versus nighttime nature; weekday uses verses weekend uses), and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument establishing the joint use. The City may approve owner requests for shared parking through Land Use Review."[30]

The City of Hillsboro does not require a determination of no overlapping demand or a shared use agreement.

4.4 BEST PRACTICES

As described above, Hillsboro uses shared and district parking. Although the City's codes and policies allow and sometimes implement shared and district parking, the City could improve the effectiveness of these two management strategies by following existing best practices. Below is a discussion on best practice recommendations for shared and district parking.

4.4.1 Shared Parking

In a 2000 study of neighborhood parking in Seattle, KJS Associates outlines recommendations for a shared use agreement, as follows:

> Shared parking arrangements are generally unique to each site. Time-of-day/day-of-week requirements, financial terms (if applicable), signage/access restrictions and maintenance/operations standards vary within each agreement. Given this, it is recommended that the City prepare a checklist of agreement criteria that parties to a shared use agreement can use to facilitate development of an agreement.

Critical elements of a shared parking agreement include the following:

- Specific space commitment (number of spaces).
- Specific uses allowed (for instance: use by customers and/or employees/residents).
- Specific time frame that spaces can be used (hours of the day, days of the week).
- Specific terms related to when vehicles cannot use the space (this is of particular importance to residential uses of commercial space).
- Considerations (monetary and/or other considerations paid for the use of the spaces), including billing and collections (who pays and how money is collected and delinquencies handled).
- Considerations (upgrades to the facility and responsibility for providing such).
- Signage, etc (who's responsible; how to communicate availability to authorized users).
- Term of agreement (for a specific term).
- What happens when shared parking agreement expires (renewable, cancelable, requirement to find replacement parking to meet code requirements, etc.).

[30] Oregon Department of Transportation. 2005. Model Development Code for Small Cities. Available at http://www.oregon.gov/LCD/TGM/modelCode05.shtml. Access: December 8, 2006

- Enforcement mechanism (how to insure that spaces are available and that spaces are being used for agreed-to purpose).[31]

4.4.2 District Parking

Different segments of the downtown have different economic uses and represent different points of access into the downtown. The Guiding Principles developed through the parking study process emphasize that the central core of downtown is an area in which the highest density of economic activity and access is intended to occur. There are also distinct areas of the downtown with differing levels/types of desired economic activity. The desired uses in a particular area of downtown should drive the decision making for the type of parking required. Parking districts are one tool used to achieve these objectives.

Parking districts also have the ability to generate revenue for the construction of future garages. This is most easily accomplished in a paid parking environment where a percentage of revenues will continue to go toward the ongoing maintenance and enforcement of the existing parking system; the remaining percentage would be invested in a "parking development fund" dedicated to the expansion and enhancement of the parking environment (i.e., building additional supply, preferably in revenue-generating structures). This can also be accomplished to a lesser degree by applying the same principles to on-street parking permits, specifically in non-residential parking districts. Similarly, any increase in parking enforcement fees should have a significant percentage of the increase obligated to the parking development fund.

In Hillsboro, the recently completed parking demand analyses have found there to be a surplus of parking in the study area. A surplus, and a large number of private, no-fee lots will make it difficult to generate significant amounts of revenue for the construction of a garage. As mentioned above, a parking permit program can also be used to generate revenue. However a permit program designed to protect residential users will likely be seen as a new burden, having to get annual permits and manage guest parking. To add to that burden with a high fee may not be acceptable.

4.5 RECOMMENDED PLAN AND POLICY AMENDMENTS AND STAKEHOLDER ACTIONS

This section summarizes the proposed plans related to shared and district parking. To see how the proposed districts are incorporated into the full Parking Management Plan, please refer to Chapter 6 of this report. The proposed plans strive to remain consistent with the Guiding Principles and give direction to future decision-making for the implementation of parking management strategies. These strategies are designed to assure priority access is maintained in each parking management zone. Overall, the plan is intended to provide a flexible system of parking management that is triggered by demand and implemented within the context of consensus goals and vision for the downtown.

The purpose of the parking management plan is to accomplish the following:

- Clearly define the intended use and purpose of the parking system.
- Manage the supply and enforce the parking policies and regulations.
- Monitor use and respond to changes in demand.

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[31] KJS Associates. 2000. Comprehensive Neighborhood Parking Study: Determine Locations for Shared Parking. Prepared for the City of Seattle, Seattle, Washington.

- Maintain the intended function of the overall system.

4.5.1 Shared Parking

As noted in Chapter 6 for Hillsboro, it is recommended that the city implement several near-, mid-, and long-term strategies for optimizing the use and accessibility of existing parking in downtown Hillsboro. One mid-term (by October 2009) strategy specifically addresses shared parking and is described below.

Negotiate shared use and/or lease agreements with owners of strategically placed private surface lots and parking structures to provide for an interim supply of parking where needed.

Forty-seven private parking facilities were inventoried during the data survey. These lots are located throughout the study zone and are significantly underutilized, even during peak times (i.e., less than 50% occupied). These lots comprise approximately 2,900 stalls and are generally without signage or have signage that is inconsistent and confusing to customers and visitors. The ability of the City to "capture" as many of these stalls as are available in the peak hour for more active management will provide a relatively low-cost and effective near- to mid-term strategy for mitigating existing access constraints during peak demand periods. The US Bank building at 2nd and Main provides a good example of the opportunities for shared parking. Their lot currently prohibits night and weekend parking, though it is empty at these times.

Another recommendation in Chapter 6 calls for a repeal of all required parking in the study area for non-residential properties. If there are to be minimum parking requirements, it is recommended that the City take the following actions:

a. Initiate an effort to work with owners of private lots to enter into shared use agreements to allow underutilized parking to be made available to customer/visitor or employee uses (as appropriate).

b. Explore the development of incentives to encourage such agreements (i.e., signage, landscaping, lighting, sidewalk improvements, leasing, etc.)

4.5.2 District Parking

Chapter 6 includes recommendations to create two parking management zones for downtown Hillsboro, one for the core zone and one for the eastern area of the downtown, which incorporates Tuality Hospital and the new Pacific University campus development. These zones were derived from the stakeholder outreach process and informed through work and analysis completed in the data collection and inventory elements of the scope of work. These two proposed zones are described below as parking management Zones A and B.

The residential areas adjacent to the downtown represent a separate management "zone."

In short, Zones A and B represent "economic activity zones" in the downtown that are reflective of existing land uses and are areas where future growth of specific economic development is anticipated and desired. Zone B will be managed to support and protect residential uses and access within the area zoned for residential development. From an access perspective, each zone will need to be managed in a manner that supports priority uses and users identified for that zone. As the shape and character of development in the downtown evolve, so too must the zones that help guide their management. Over time, management zones should be refined and redrawn to reflect the characteristics of development and uses appropriate to each zone. Chapter 6 describes in detail the Operating Principles and guiding frameworks for implementing the two parking management zones for downtown Hillsboro.

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5. DOWNTOWN STRUCTURED PARKING EVALUATION AND RECOMMENDATIONS

5.1 BACKGROUND

This chapter identifies and evaluates opportunity sites in the Hillsboro study area for the conversion of parking lots and other uses to parking structures.

Structured parking can increase the parking supply in a more compact fashion than a series of surface parking lots, supporting more intense development. In addition, consolidating surface parking into a parking structure introduces the opportunity to incorporate active ground-floor uses. Well-designed parking structures can create a more active street presence than surface parking lots through the inclusion of pedestrian-serving ground-floor uses. Parking structures should be well designed in order to contribute to, rather than detract from, the downtown urban form and the pedestrian environment.

This chapter identifies recommended opportunity sites in each study area and evaluates the existing conditions and potential regulatory or ownership issues for each site. Pro formas are provided for each site along with potential financing mechanisms and revenue sources. In addition, a work program is provided to guide future development of structured parking within the study area.

5.2 EXISTING ZONING AND DEVELOPMENT REQUIREMENTS

The Hillsboro study area is situated within the Station Community Planning Area, which promotes transit-supportive and pedestrian-sensitive mixed-use development around light rail stations. Predominant characteristics of the Station Community Plan include multi-modal accessibility, housing and job centers that encourage transit users to live and work near transit stations, and public amenities. Additionally, the Station Community Plan encourages the placement of automobile-intensive uses in locations supported by the existing road and street system and where they will not adversely impact transit-oriented uses.

The study area is zoned SCC-CBD, SCC-HOD, SCC-SC, SCC-DNC, and SCR-MD. The Zoning Ordinance lists permitted uses in these zones. Structured parking is not specifically identified; however, off-street parking is generally allowed as an accessory use to permitted or conditional uses in each zone. Transit park-and-ride lots are the only listed permitted use that relates to parking as a stand-alone use. A conditional use permit requires findings of fact that the proposed use is, where practicable, transit-oriented.

The identified opportunity sites, discussed later in this chapter, are zoned SCC-CBD and SCC-HOD. The Zoning Ordinance requires buildings in these zones to be two to five stories in height. For a parking structure, a story is considered to be not greater than 15 feet. Additional height may be granted with discretionary approval. No minimum building setbacks are required in these zones although additional setbacks may be granted for enhanced pedestrian amenities, such as wide sidewalks or plazas.

The Zoning Ordinance includes general design standards for Station Community Planning Areas that are intended to promote quality design, visual compatibility, and safe, active, and attractive districts. New development and expansion of existing uses must demonstrate compliance with these standards as part of the Development Review process. In particular, the standards address building orientation, entries, and facades in order to facilitate pedestrian access and movement between the building and public spaces. The standards strive to avoid a monotonous pedestrian environment through appropriate building articulation, step-backs, and transparency to stimulate pedestrian interest.

The design standards also address the location and design of off-street parking in order to ensure that parking facilities serve their primary purpose while complementing and encouraging safe and convenient pedestrian movement. The standards generally discuss surface parking; however, many of the standards would also relate to structured parking. The standards specifically state that parking structures located proximate to a light rail station site (within 400 feet), major pedestrian route, or transit street must incorporate pedestrian-sensitive design and ground-floor retail, commercial, or other service uses. Alternatively, the parking could be contained within a separate structure located behind buildings containing such uses.

5.3 DEVELOPMENT OF NEW PARKING SUPPLY

Information from the parking and utilization study indicates that the current supply of parking is very underutilized. Parking in the Core Zone (Zone A) is generally only 50% occupied in the peak hour, both on- and off-street. Parking in the East Zone (Zone B) is also not yet fully maximized, with overall peak hour occupancies in the 50% range as well. In a status quo environment, it is estimated that the entire study area will not reach an 85% utilization rate in the peak hour for many years. Nonetheless, the parking utilization study was able to quantify parking demand that would be associated with new development at approximately 1.64 to 1.88 stalls per 1,000 gross square feet.

The node around Tuality Pacific is the exception to these construction expectations, with more than a million square feet of new facilities planned in the next 3 to 10 years.

Downtown Hillsboro's growing core area will ultimately require development of new parking supply. The timing for adding supply is contingent on a number of factors, which include the following:

- New development and its associated parking demand.
- Losses of existing parking supply through redevelopment.
- Normal growth in customer, visitor, residential, and employee demand.
- Implementation of parking management strategies.
- Implementation of TDM strategies.

To facilitate Hillsboro's ability to move forward in planning for and financing future parking supply, the consultant team undertook a review and evaluation of possible structured parking opportunity sites and development scenarios.

5.4 OPPORTUNITY SITES

For purposes of this review, the consultant team identified two opportunity sites for structured parking, with one each in Zones A and B of the study area. These sites are proposed for the purpose of evaluating the potential for structured parking to serve the study area in the future. Inclusion in this chapter does not indicate that a formal decision about whether or where to build a parking structure(s) has been made. These sites present opportunities based on their proximity to downtown activity centers and/or civic uses, public transit, and pedestrian travel networks. Appendix D includes maps of the subject sites.

Site One (Zone A)

Address:	150 E Main Street
Location:	Northeast corner of S 1st Avenue and SE Washington Street
Property ID:	W343786
Block:	B13 on the Parking Study Inventory Map
Size:	Approximately 23,500 square feet
Zoning:	SCC-CBD

Existing Conditions

The first opportunity site in the Hillsboro study area consists of a surface parking lot within the Hillsboro Civic Center complex. The lot is located on the northeast corner of SE Washington Street and S 1st Avenue. The City of Hillsboro owns the approximately 23,500-square-foot site, which currently contains 56 public parking spaces. This is an ideal site due to its public ownership as well as its location. The site is proximate to the main historic downtown area along E. Main Street, as well as to the civic uses in the area including the Civic Center and Washington County Courthouse. In addition, the site has convenient access to the MAX line and the Hillsboro Transit Center on Washington Street.

The site is zoned SCC-CBD, which limits building heights to five stories unless the Planning Director grants permission for additional height. Active, pedestrian-sensitive ground-floor uses are required since the site is situated on a transit street and is proximate to a light rail station. Although the inclusion of such uses is highly desired and recommended in order to create a more engaging pedestrian-friendly streetscape, it should be recognized that the lease rates for retail uses may not be adequate to cover the financing for the retail portions of the structure.

Development Scenario

The potential parking structure scenario for this site consists of a 304-stall facility constructed on the surface lot currently owned by the City of Hillsboro. The facility would be on four levels averaging approximately 76 stalls per level. There would be a retail component at the ground level (approximately 15,000 square feet). The facility would be a freestanding parking structure with the retail frontage abutting the lot line of the site. This would require a higher-end façade design component. The retail component and the higher-end design result in a higher per stall development cost.

Site Two (Zone B)

Address:	246 SE 7th Avenue
Location:	North side of SE Baseline St, between SE 7th and SE 8th Avenues, excluding southwest corner of block
Property ID:	W343628
Block:	BSE08 on the Parking Study Inventory Map
Size:	Approximately 68,000 square feet
Zoning:	SCC-HOD

Existing Conditions

Pacific University is planning to expand its Health Professions Campus in downtown Hillsboro, including the construction of a parking structure on the north side of SE Baseline Street, between SE 7th Avenue and SE 8th Avenue. The northeast quadrant of this block currently contains surface parking, and is to be redeveloped Pahse II of the academic buildings for Pacific University. This presents an opportunity for a partnership between the City, the University, and Tuality (which owns the site). The parking structure would

accommodate the already anticipated growth of the Pacific University campus while providing flexibility to the City to ensure the availability of evening and weekend parking.

The site is currently occupied by a 150-space surface parking lot restricted for Tuality Healthcare staff. Access to the lot is provided from a mid-block alley located between 7th and 8th Avenues. A 4,000-square-foot lot at the northeast corner of Baseline Street and 7th Avenue is in private ownership and is not being considered for inclusion in the parking structure.

This site is well situated in relation to quasi-public uses including Tuality Community Hospital and Pacific University, as well as surrounding commercial uses and services. The site is well served by public transit, with a MAX stop on Washington Street between 7th and 8th Avenues.

Development Scenario

The City is interested in pursuing a joint venture partnership with Tuality Hospital and Pacific University in the development of a 500-stall public parking facility. The facility would be constructed on a 68,000-square-foot pad at Pacific University's downtown Hillsboro campus. The facility would feature four levels of parking with some ground floor retail or commercial use. The building could easily be constructed for future expansion to six levels of parking. The facility would be a freestanding with no retail, given the location of the site on the Pacific University campus. This would allow for a lower-end design concept as contrasted to the retail/core based garage described in Scenario A, above. This should result in a lower per-stall development cost.

5.5 PRELIMINARY REVIEW OF TRAFFIC CONDITIONS

A review of available traffic related materials, primarily the City Transportation System Plan, was conducted. This traffic information is useful in providing a background of operations for the street network adjacent to each site reviewed. The elements reviewed include road functional classification, presence of bicycle and pedestrian facilities, designation as truck or transit route, and roadway capacity calculations.

5.5.1 Hillsboro Site 1 (Zone A)

The proposed site is bounded by Main Street, Washington Street, 2nd Avenue, and 1st Avenue. Each of the fronting intersections is signalized; the existing queues are unknown. Main Street is designated as a collector roadway, whereas Washington Street and 2nd Avenue are classified as local streets. Along the west frontage of the site, 1st is classified as an arterial roadway and is a Washington County designated truck route. Bus service is provided along 1st Avenue and the MAX light rail line runs along Washington Street. The site is also served by sidewalks and has high pedestrian traffic due to its proximity to the light rail station. Bike lanes are not provided on any of the streets, which are not part of any designated bike route. An existing parking structure fronts onto Washington Street, Adams Avenue, and 1st Avenue. Signalized intersections exist along 1st Avenue at Main Street, Washington Street, and Baseline Street. 1st Avenue at Baseline has a history as a high accident location.

5.5.2 Hillsboro Site 2 (Zone B)

The proposed site fronts on Baseline Street between 7th and 8th Avenue. Baseline Street is an arterial roadway and state highway and is a Metro Regional truck route. Bus service is also provided along Baseline Street. Both the 7th and 8th Avenues are local streets that are signalized at Baseline Street. The site is served by sidewalks and has high pedestrian traffic

due to its proximity to the light rail station. In 2020 Baseline Street is expected to exceed available capacity during the 2-hour peak.

This preliminary review of traffic related materials provides the background conditions for each site under consideration and informs potential operational issues. Specific designs for each site will require further review and additional analysis.

5.6 FINANCIAL FEASIBILITY AND COSTS

Detailed pro forma work sheets for each parking development scenario are located in Appendix E of this report. All assumptions for construction costs/financing, equity, demand, revenue generation, and parking operation expenses are based on information from comparable parking projects recently developed in Oregon and additional input from the City and SAC members. A summary of findings from the pro forma analyses is listed below.

5.6.1 Key Assumptions

As with any pro forma exercise, changes in assumptions, or variations in construction costs over time, can significantly affect outputs. This analysis is intended to present a reasonable assessment of costs associated with parking development and estimates of operating costs and potential revenue generation. Moving forward to actual development of a facility would require additional refinement of the work provided here.

Key assumptions underlying the analysis included the following:

- Total number of stalls constructed ranged from 304 (Zone A) to 500 stalls (Zone B).
- Land values are not included.[32]
- Actual direct construction costs of $76.50 per square foot of garage area for a freestanding facility with no ground floor retail and exterior design features (Zone B) to $103.75 per foot for a freestanding facility with ground floor retail and high quality urban design components (Zone A).
- Operating costs derived from Pacific Northwest comparables and national data base averages.
- No revenue assumptions for parking were made at this time pending more detailed discussion by the City and stakeholders on the most appropriate package of funding strategies to pursue for the future support of downtown parking structures. The pro forma models prepared for the City contain data fields that will calculate the impact of rate structures and demand once more formal funding decisions have concluded. [NOTE: A summary of revenue/funding options is provided below.]
- Retail rents (where applicable) were estimated at $25 per square foot, based on comparables for retail in Zone A.

Table 5-1 provides a comparison of the two development scenarios and the basic elements contained within them.

[32] Land values in the Hillsboro study area vary block by block, from $18 to $34 per foot. If a parking garage pro forma were developed to include land costs, it is recommended that an average of $26 per foot be used for purposes of assessing the impact of land costs on a parking development and its financing.

Table 5-1. Parking Development Scenarios[a] Pro Forma Assumptions

	Scenario 1 Core Zone – With Ground Level Retail	Scenario 2 East Zone – Without Ground Level Retail
Site Size (square footage)	25,000 SF	68,102
Retail Square Footage	15,000 SF	0
Number of Total Parking Stalls	304	500
Number of Parking Levels	4	2.6
Number of "Net" New Parking Stalls	248[b]	350[c]
Land Cost	$0[d]	$0[e]
Construction Cost - Parking (Hard)	$11,039,000	$13,387,500
Construction Cost – Retail (Hard)	$1,350,000	N/A
Additional Construction Costs (Soft)	$2,601,690	$2,811,375
Total Project Cost	***$14,990,690***	***$16,198,875***
Base Cost Per Parking Stall	$36,313	$26,775
Total Cost Per Stall to Construct (with soft costs)	$49,311	$32,398
Assumed Rate of Finance/Term	4.5% @ 20 years (publicly funded)	4.5% @ 20 years (publicly funded)
Assumed Monthly Parking Rate	$0	$0
Hourly and Daily Rates	None	None
Net Annual Operating Income: Before Debt Service	$279,120[f]	*- $150,870*
Annual Debt Service	***- $1,138,062***	***- $1,229,785***
Net Annual Operating Income: After Debt Service	*- $858,942*	*- $1,380,655*
Annual Net Income Per Stall/Monthly Net Income Per Stall	*- $2,825* *- $235*	*- $2,761* *- $230*
Monthly Revenue Necessary to Break Even: Per Stall	$241	$228

[a] The table depicted here represents an industry best estimate of development costs of structured parking in Hillsboro. This is not intended to represent a final pro forma for development. This exercise is intended only to facilitate discussion of the feasibilities of structured parking.

[b] The current site maintains 56 surface parking stalls. A 304-stall garage would therefore net 248 stalls.

[c] The current site maintains 150 surface parking stalls. A 500-stall garage would therefore net 350 stalls.

[d] It is assumed that land costs will be donated by the City given their ownership of the site.

[e] Land costs are unknown at this time pending the outcome of any partnerships that could occur between the City and the current property owner. Land costs range from $18 to $34 per square foot in the study zone.

[f] All revenue for this scenario is associated with retail rents derived from the ground level rentable area annualized at 10 years.

The pro forma scenarios are not intended to be representative of final construction costs for a specific parking project or a final operating format (i.e., mix of monthly, hourly, and daily users). They represent best-case estimates of costs associated with a possible parking development. These costs are based on financing and operating assumptions derived from comparable projects in other jurisdictions and active input from the City of Hillsboro and area stakeholders. Overall, the purpose of the pro forma analyses was to test various options and to develop a solid foundation for the planning and financing of future parking supply. New assumptions and additional information can be input into the draft pro forma models as necessary.

5.7 PRO FORMA FINDINGS (PARKING STRUCTURE DEVELOPMENT)

- Average construction cost per stall ranged from $26,755 per stall (Zone B) to $36,313 (Zone A). The upper range is associated with a garage with retail located at the lot line, thereby requiring additional costs related to retail and the façade design.
- Fully loaded (with indirect and other development costs) per-stall costs range from $32,398 (without ground-level commercial space) to $49,311 (with ground-level commercial space).
- Retail adds about $1.35 million to total construction costs, exclusive of soft costs.
- A freestanding parking facility with ground-level commercial space performs best, netting approximately $279,000 annually before debt service (Zone A).
- Both scenarios assume that land costs will be provided as equity to the project. If land costs were added, the associated cost of development would increase accordingly.[33]
- Cash flow after debt service ranges from <$858,942> to <$1,380,655> annually.
- "Market" monthly parking rates would need to be in the range of $228–$241 per month to break even, if parking charges were assumed necessary to cover the debt financing and operating costs of these facilities.
- All scenarios assume public financing at 4.5% over 20 years.
- With public financing, no property tax expenses are included.

Given the negative cash flow after debt service identified in the pro forma analyses, the City recognizes that pursuit of a publicly initiated garage project will require additional revenue beyond current status quo resources. The parking management strategies outlined in the broader parking study recommend that a process begin in the near- to mid-term to identify those sources of revenue to ensure that development of new parking supply occur in a timely manner

5.8 POTENTIAL REVENUE SOURCES

The fiscal challenges of parking, transportation, and economic development in the downtown area are common to many communities across the country. Rapid changes in development patterns of the past 30 years have significantly altered the urban landscape and many downtowns have had to revisit the services provided and the revenue sources used to provide them. In most instances, communities use a combination of funding sources to cover transportation capacity needs. A review of several models used in other jurisdictions provides a basis for discussing funding options for the public parking system. It is clear that implementation of one or more of the revenue sources described below will be necessary to assure the feasibility of future structured parking in the downtown.[34]

This list of potential sources is not necessarily exhaustive, as other communities have used yet additional sources, which may or may not be applicable to Hillsboro's situation. Nor are

[33] See Footnote 32 above.

[34] This list of funding options is not intended to be all-inclusive, but rather a sampling of mechanisms in use in other jurisdictions for the purpose of developing public parking supplies.

these sources intended to be mutually exclusive. Funding for parking facilities often requires application of multiple sources, for what might be considered as layered financing.

A. Options Affecting Customers

On-Street Parking Fees – Many cities elect to collect on-street revenues through parking meters and/or sale of permits.

Monthly Parking Fees – Many cities sell monthly parking passes to downtown employees within public facilities. Net revenues would be allocated to a parking facility fund. Revenues are also used to support debt service of existing facilities.

Event Surcharges – Could be encompassed in public facilities district legislation providing for automobile parking charges in conjunction with regional center facilities. Fees are generally buried in the cost of event ticketing.

Parking Fine Revenues – Collected for violations related to overtime and improper parking, and illegal parking in handicapped spaces. Parking fine revenue can be dedicated to a parking district fund for use in covering debt, maintenance, and/or marketing and communications. Hillsboro should consider dedicating any net new revenues from parking fine increases to a parking enterprise fund for future parking development.

The revenue generation potential of user fees could be significant and could support expenditures in a Parking Fund. It is important, however, that the revenue generated from these sources be collected into the Parking Fund to reinvest into the parking system. User fees are in place in many jurisdictions. They are most successful when set up to cover specific projects/programs. Portland's Rose Quarter Arena parking garages were underwritten through a fee charged to every ticket sold for events at the complex.

B. Options Affecting Businesses

Parking & Business Improvement Area – Businesses pay for parking through an assessment based on parking demand. If a business provides spaces associated with their property, it is credited for the spaces by reducing the assessment. The amount of the tax is based on the demand for spaces. The Parking District assessment is computed by dividing the total revenue required to operate and administer a Downtown Parking District for each fiscal year by the total parking demand by the business uses (i.e. retail, office, etc.) in the Downtown Parking District. Salem, Oregon uses this method.

C. Options Affecting Property Owners

Business Improvement District (BID) – A BID assesses businesses or buildings in a specific geographic area to pay for program development or capital improvements such as parking. Property owners or businesses within the BID contribute money based on an assessment to a fund that is normally managed by a nonprofit agency. Several cities in Oregon have formed BIDs to promote downtowns and main street districts. BIDs are in place in Portland, Eugene, Gresham, and Medford.

BIDs can be funded through a variety of sources. The most straightforward source is an assessment based on building value or business square footage. Commonly, the City or a nonprofit organization can implement property management license fees that are managed. The costs of BIDs vary depending on the reach of the plan and the businesses that join. Typically, commercial BID members pay ten to fifteen cents per square foot.[35]

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[35] *The Livable City: Revitalizing Urban Communities*, Partners for Livable Communities, Washington D.C., 2000.

Local Improvement District (LID) – A LID is a well-established mechanism whereby benefiting property owners are assessed to pay the cost of a major public improvement (including parking). A LID is a property tax assessment that requires "buy-in" by property owners within a specifically identified boundary. LIDs usually result as a consequence of a petition process requiring a majority of owners to agree to an assessment for a specific purpose. LIDs are a common funding tool used by municipalities around Oregon.

D. Options Affecting Developers

Fee-in-Lieu – Usually an option given to developers to pay the local jurisdiction an "in-lieu" fee as a way to opt out of providing parking with a new development. (The fee-in-lieu option is usually associated with minimum parking standards.) Fees-in-lieu can range from a fee assessed at less than the actual cost of construction, to the full cost of parking construction.

Public/Private Development Partnerships – Public parking can be an effective tool to facilitate downtown development.

Development partnerships are most likely found with mixed-use projects where parking is used to reduce the costs of jointly developed private office; retail, or residential use(s) and/or the private development can serve to defray some of the public cost in developing parking.

Public/private development can occur through a variety of arrangements including the following:

(1) Public acquisition of land and sale or lease of land/air rights not needed for parking to accommodate supporting private use.

(2) Private development of integrated mixed-use development with sale or leaseback of the public parking portion upon completion – as a turnkey project.

(3) Responsibility for public sector involvement directly by the City, through a public development authority, or other special purpose entity such as a public facility district created for the project or downtown area.

System Development Charges (SDC) – SDCs are generally a fee charged to new development based on a “trip generation” formula for use types (i.e., hotel, residential, commercial). New developments are assessed the SDC based on the impact of new development on existing transportation system capacity. Charges are directed to specific projects with the intent to use funds collected to add new capacity to an area impacted by development. SDC fees are in place in many Oregon jurisdictions for funding roadway capacity and signalization systems.

E. Options Affecting the General Public

General Obligation (GO) Bonds – Involving use of local jurisdiction-issued non-voted or voted bonds to develop parking facilities, subject to overall debt limit requirements.

The legal limit for all voter-approved debt in a municipality is 7.5% of assessed value; the legal limit for non-voted debt is 1.5% of assessed value. With GO bonding, the municipality pledges its full faith and credit to repayment of the debt from general fund resources. In effect, general fund revenues would be reserved to repay debt that could not be supported by parking revenues alone.

Refinancing GO Bonds – Involves refinancing existing debt and pushing the savings from the general fund to debt coverage for a new parking facility.

Revenue Bonds – Pledging parking fee and other designated revenue sources to the repayment of bonds but without the need to pledge full faith and credit of the issuing authority.

Revenue bonding is not appropriate in situations where a local jurisdiction's overall debt limit is a factor and projected revenues are inadequate or not deemed of sufficient certainty to cover required debt service (plus a debt coverage factor). Interest rates also are typically higher for revenue than GO bond financing.

63-20 Financing – Identified as a potential alternative to traditional GO bond, revenue bond, and LID bond financing in the post-Initiative 695 era. 63-20 financing (after the IRS Revenue Ruling 63-20) which allows a qualified nonprofit corporation to issue tax-exempt bonds on behalf of a government. Financed assets must be "capital" and must be turned over free and clear to the government by the time that bonded indebtedness is retired.

When a municipality uses this technique to finance a public facility, it can contract for the services of a nonprofit corporation (as the "issuer") and a builder. The issuer acts on behalf of the municipality, but has no real business interest in the asset being acquired.

State & Federal Grants – In the past, a variety of state and federal grant programs have been applied to funding downtown parking structures.

General Fund Contribution – During the fiscal year, the City can use monies from the General Fund to support both operating and/or construction costs associated with parking development. The transfers may either take the form of a grant or an interfund transfer that must be repaid (the terms of which vary on the purpose of the funds).

City Sales Tax – A sales tax implemented in a specific geographic zone based on retail sales. Apparently, the City of Roseburg, Oregon, implements such a tax.

Urban Renewal Funds – Many Oregon cities operate urban renewal districts to finance capital projects. Garages in Portland and Bend have been directly funded from urban renewal funds.

5.9 MOST-VIABLE OPTIONS FOR HILLSBORO

From this review of potential parking funding options, several concluding observations are offered as a basis for selecting the most-viable options for parking facilities that may be considered by the City of Hillsboro:

1. Tailor the funding program to the downtown redevelopment and policy objectives to be served by the proposed public parking facility. In particular, address the question of whether and to what degree fees from parking revenues can or should be expected to cover operating and/or debt service expenses.
2. Of the two principal assessment methods available in the state of Oregon, the LID mechanism is generally preferred for capital development with a Business Improvement Area useful to generate funding for operations and marketing. LIDs offer improved marketability to investors with greater assurance of debt repayment. LID financing can be used as one component of a revenue bond without need for GO bond backing (and drawing down the available debt capacity of the city). Finally, LIDs offer the advantage of a more established precedent of successful application throughout the state of Oregon.
3. If funding of capital costs requires bonding, revenue bonding is typically preferred by a public agency because the taxing jurisdiction's debt limits are not affected. However, unless utilization and revenue projections (including sources such as LID) are strong and predictable enough to not only cover debt service and operations but also to provide a coverage cushion, the reality is that GO backing may be required.

4. Look to public-private partnerships as a means to better use public parking to leverage downtown redevelopment, assure utilization of the parking facility being developed, and offer financial savings. However, public-private partnerships require clear understanding of the financial feasibility and risks associated with a particular project as well as the public costs and benefits that can be expected.
5. Recent legislative measures serve to strengthen the impetus for downtown redevelopment and create additional flexibility in implementation. However, they appear to offer little new in the way of additional revenue sources that can be dedicated to development and operation of public parking facilities. Because these mechanisms also are largely untested (legally and administratively), they should—for at least the immediate future—be considered as supplemental resources rather than the mainstay for securing financially feasible public parking developments.

The City of Hillsboro and its stakeholders will need to review the list outlined above and evaluate those options most conducive to, and supportive of, the Guiding Principles and operating vision established for the downtown. It should be noted that, in the case of public parking facility development, the use of multiple funding sources represents the rule rather than the exception for public financing.

5.10 WORK PROGRAM

Although it is unlikely that parking demand within the study area will dictate the need to develop parking structures in the near term (except for the Tuality pacific garage proposed for Zone B) the City can begin taking steps now to plan for that eventuality. The most immediate need is to select funding mechanisms appropriate for Hillsboro to ensure that a revenue stream will be in place when the City is ready to construct a structure. In addition, the City should begin to pursue public/private partnerships to secure sites for the future development of parking structures. Table 5-2 outlines near-, mid-, and long-term action items related to the development of parking structures.

Table 5-2. Parking Structure Action Items

NEAR-TERM ACTIONS 1 Year	MID-TERM ACTIONS 2 to 4 Years	LONG-TERM ACTIONS 5 Years and Beyond
Evaluate suggested parking revenue options and select mechanisms appropriate for Hillsboro.	Develop and implement a package of financing options.	Lease or acquire strategically located sites for the development of parking structures.
Establish/reaffirm a downtown parking and transportation enterprise fund as a mechanism to direct funds derived from parking over time into a dedicated fund.	Identify and complete planning for possible development of new public visitor parking supply in Zone A and Zone B.	Complete development and open new supply in Zone A and Zone B.
	Pursue public/private partnerships to secure sites for parking structures.	
	Identify any needed street improvements and/or traffic enhancements.	

5.11 SUMMARY

It is apparent that as downtown Hillsboro grows, so too will demand for parking. Numerous events and trends can work to accelerate or moderate the need for new parking supply, including new development, increased per capita driving, losses of current parking supply on surface lots, parking and transportation demand management programs, and/or other events

The current parking market in downtown Hillsboro suggests the feasibility of a new parking structure will require additional sources of revenue beyond parking revenues that could be expected to be generated solely by the facility itself. To this end, the process for considering how a new parking facility will eventually be developed in the downtown needs to be initiated if the downtown is to be prepared to meet future demand and support existing businesses' continued growth. Similarly, a "package" of funding options will need to be developed and implemented. This process is recommended as a near- to mid-term strategy in the overall parking management plan for the downtown.

6. PARKING MANAGEMENT PLAN

6.1 PARKING MANAGEMENT PLAN

Different segments of the downtown have different economic uses and represent different points of access into the downtown. The Guiding Principles developed through the parking study process emphasize that the central core of downtown is an area in which the highest density of economic activity and access is intended to occur. There are also distinct areas of the downtown with differing levels/types of desired economic activity.

6.1.1 Parking Management Zones

The desired uses in a particular area of downtown should drive the decision making for the type of parking required.[36] Parking, then, becomes a management tool that supports specific economic uses. Implementation of parking management strategies in publicly controlled parking supply is supportive of the community's objectives for a revitalized downtown Hillsboro.

Figures 6-1 and 6-2 show two recommended parking management zones for downtown Hillsboro, one for the core zone and one for the eastern area of the downtown, which incorporates Tuality Hospital and the new Pacific University campus development. These zones were derived from the stakeholder outreach process and informed through work and analysis completed in the data collection and inventory elements of the scope of work. These two zones are described below as parking management Zones A and B.

The residential areas adjacent to the downtown represent a separate management "zone" as discussed in Section 2, Zone C, below.

In short, Zones A and B represent "economic activity zones" in the downtown that are both reflective of existing land uses in addition to areas where future growth of specific economic development is anticipated and desired. Zone C will be managed to support and protect residential uses and access within the area zoned for residential development. From an access perspective, each zone will need to be managed in a manner that supports priority uses and users identified for that zone. As the shape and character of development in the downtown evolve, so too must the zones that help guide their management evolve. Over time, management zones should be refined and redrawn to reflect the characteristics of development and uses appropriate to each zone.\

Each recommended zone is summarized and its primary purpose and priority outlined below.

2. Operating Principals

Operating Principles define the purpose and priority for parking in each of the Parking Management Zones. Operating Principles complement and reinforce the Guiding Principles established for the downtown. Within the context of the operating principles for each zone is a specific implementation framework through which decision making for that zone can occur. Operating Principles are intended to provide an ongoing basis for decision-making and, therefore, will guide strategy implementation over the course of years.

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[36] It is also important to assure that parking in specific zones is managed to be consistent and supportive of current uses as well as to anticipate new uses as called out in adopted planning and vision plans.

The implementation framework provides an ongoing foundation for strategic decision making grounded in the operating priorities established for the zone and for the downtown as a whole.

With adoption of a parking management plan the City will work with stakeholders on ways to work toward reasonably attainable priorities as outlined in the plan. This will facilitate strategies that support the purpose and priority for parking established in the Operating Principles.

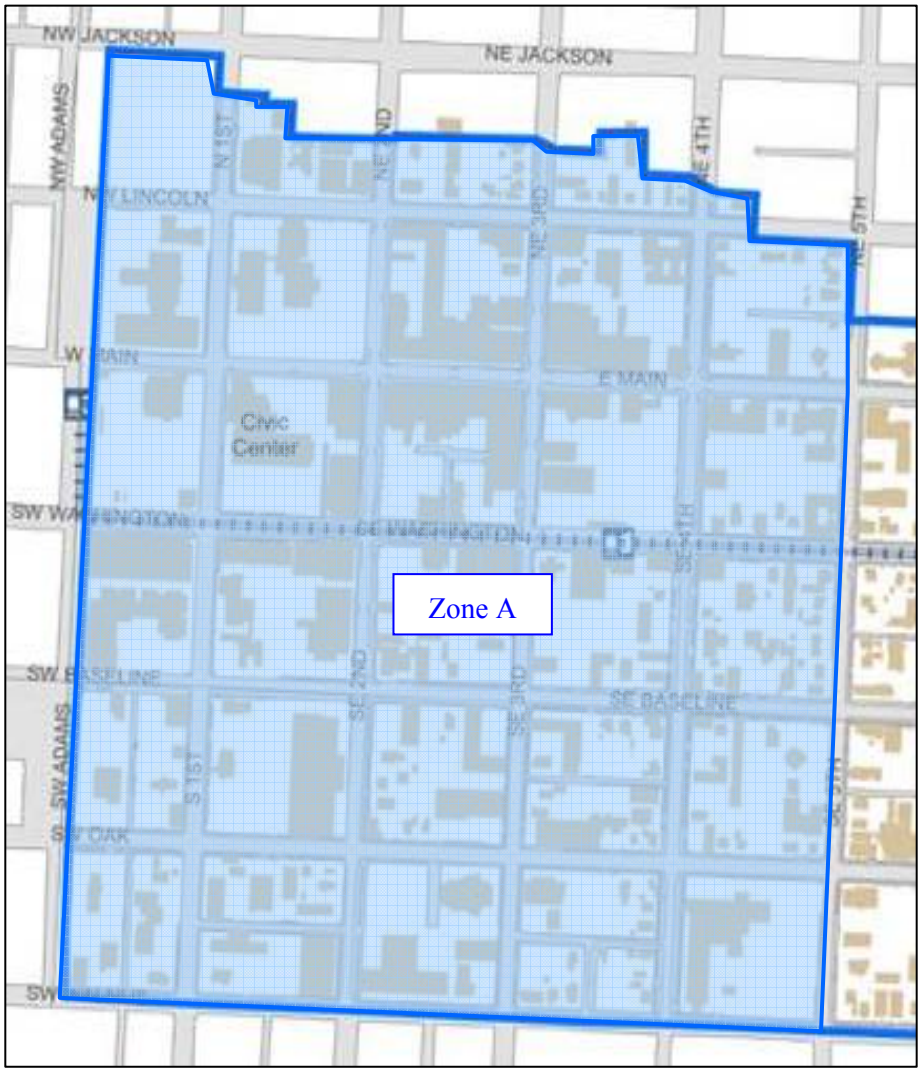
Operating Principles and an implementation framework have been developed for each parking management zone. It is important to recognize that the principles and framework for each zone are intended to serve as neutral reference points from which parking decision making and strategy implementation are based over time. As 85% occupancy triggers are activated, these principles and framework guidelines will help future decision-makers through strategy development. Strategies will then be implemented to address specific demand and capacity issues in a manner appropriate to that particular point in time. In this manner, the parking management plan remains fluid and adaptable to changing conditions as the downtown develops and grows.

ZONE A - Core Zone

The core zone of downtown includes the highest density of development and has a high concentration of retail, restaurant, and entertainment opportunities.

Figure 6-1. Recommended "Core" Parking Management Zone (Zone A)

1. Operating



Principles (Zone A)

The primary purpose of parking in Zone A is to serve patron and other short-term visitor needs and support desired economic uses in the zone.[37]

- The purpose and priority for publicly owned parking in Zone A is to support and enhance the vitality of the retail core.
- Parking for short-term users is the priority for publicly owned on-street and off-street spaces in Zone A.

[37] A "patron trip" is defined as any trip to the downtown with a duration of less than 4 hours. Patrons then include retail shoppers, visitors, vendors, event-goers, clients of public and commercial offices, and guests of residential units.

- Employees should be discouraged from parking in publicly owned facilities in Zone A, particularly on-street.
- Parking will be provided to ensure safe, convenient, economical, and user-friendly access for customers, clients, and visitors to downtown at all hours of the operating day (i.e., weekdays, evenings, and weekends).
- All on-street parking in Zone A will be regulated (i.e., time-stay and enforced).
- Off-street pricing in publicly owned facilities, particularly for employees, will be reflective of actual occupancies in public facilities. Higher occupancies will result in higher monthly parking costs. Underutilized facilities will charge lower monthly rates.
- On-street pricing (if necessary) will be reflective of actual occupancies in the zone

2. Implementation Framework (Zone A)

A. Ultimately, all on-street parking will be 2-hour parking based on the following principles:

1. The 2-hour time stay allows adequate customer, visitor and client access to the retail core based on actual usage data derived for the Hillsboro downtown.
2. Uniform time-stays foster a parking environment that is easy for the customer, visitor, and client to understand.
3. A specific time-stay allowance creates an integrated system between on- and off-street resources, encouraging/directing longer-term visits into off-street facilities.
4. Exceptions to 2-hour time stays are appropriate only for very specific business types (see E, below) and strategically managed loading and delivery needs.

B. The overall priority for ***on-street parking*** in Zone A will be 2-hour parking. As strategies within this plan are implemented, any on-street spaces of longer duration will be transitioned to off-street locations within the core and immediately adjacent to it.

C. The priority for ***off-street parking in publicly owned parking facilities*** in Zone A will be stays of less than 4 hours to accommodate customers, visitors, and clients. These facilities are intended to provide for a reasonably longer time stay than allowed on-street. In the long term, employee parking in public core lots/garages is to be discouraged and will be managed using the 85% optimum occupancy standard. Over time, employee parking in publicly owned off-street facilities should be directed to private facilities within the zone, satellite/remote parking or to alternative modes of access (transit, bike/walk, ridesharing). It may take a number of years to reach this point.

D. The City will conduct regular utilization and capacity studies to ascertain the actual peak hour utilization and average turnover of parking resources in the core area. <u>If utilization of on and/or off-street parking in Zone A exceeds 85% and turnover meets desired rates, the City will evaluate and implement one of, or a combination of, the following implementation steps</u> "triggered" by the 85% threshold:

- Increase level and/or duration of enforcement to assure desired rate of turnover and minimize/eliminate abuse (i.e., exceeding time-stay, moving to evade).

- Transition overall mix of parking time-stay allowances to a higher percentage of 2-hour stalls to increase patron turnover and encourage use of off-street locations for stays of longer duration.
- Reduce on-street time stays to increase turnover (e.g., from 2 hours to 90 minutes) as appropriate.
- Evaluate potential areas where on-street parking can be added or increased (i.e., additional angled parking).
- Transition employee parking in Zone A public garages (that exceed 85%) to underutilized garages/lots in the zone or into other parking zones or remote locations. This can be accomplished through manipulation of rates and/or attrition and/or elimination of monthly permits issued for long-term parking in facilities exceeding 85%.
- Pursue shared-use agreements with private lots to provide for additional short-term and employee parking in Zone A.
- Pursue implementation of valet programs (e.g., in partnership with restaurants) to enhance customer/visitor access by shuttling cars to areas with available capacity.
- Initiate and/or increase rates for off-street parking (hourly, daily, and monthly rates) to create greater efficiency in actual rate of turnover, incentive to use other modes, and a potential revenue source for new supply.
- Convert some or all signed time limits (on-street) to metered time limits to create greater efficiency in actual rate of turnover and to create a potential revenue source for new supply. Initially, areas for metering could be "nodal based," representing "subzones" where occupancies are significantly in excess of 85%.
- Increase non-SOV use above status quo levels (i.e., transit service and fare programs, ridesharing, bike/walk, programs for shuttles, etc.)
- Create new public supply in Zone A. One possible location for a new facility is the existing public garage at 1st & Washington (which was structured to accommodate an additional floor). Another possible location is the surface parking lot on the south side of the Hillsboro Civic Center, which could be replaced with a several-level parking structure.

E. The City will establish policy guidelines for *exceptions* to the on-street short-term parking requirements in Zone A. Exceptions would be evaluated/ granted through an application process through which businesses would make specific requests to the City for time stays less than 2 hours.

   1. Handicapped/disabled access (above ADA required)
   2. 15–30 minute zones
      a. Specific criteria for approval (i.e., by specific business type)[38]
      b. Specific locations (i.e., end of block versus midblock)
      c. Number per geographic area (i.e., shared by users in a particular area)

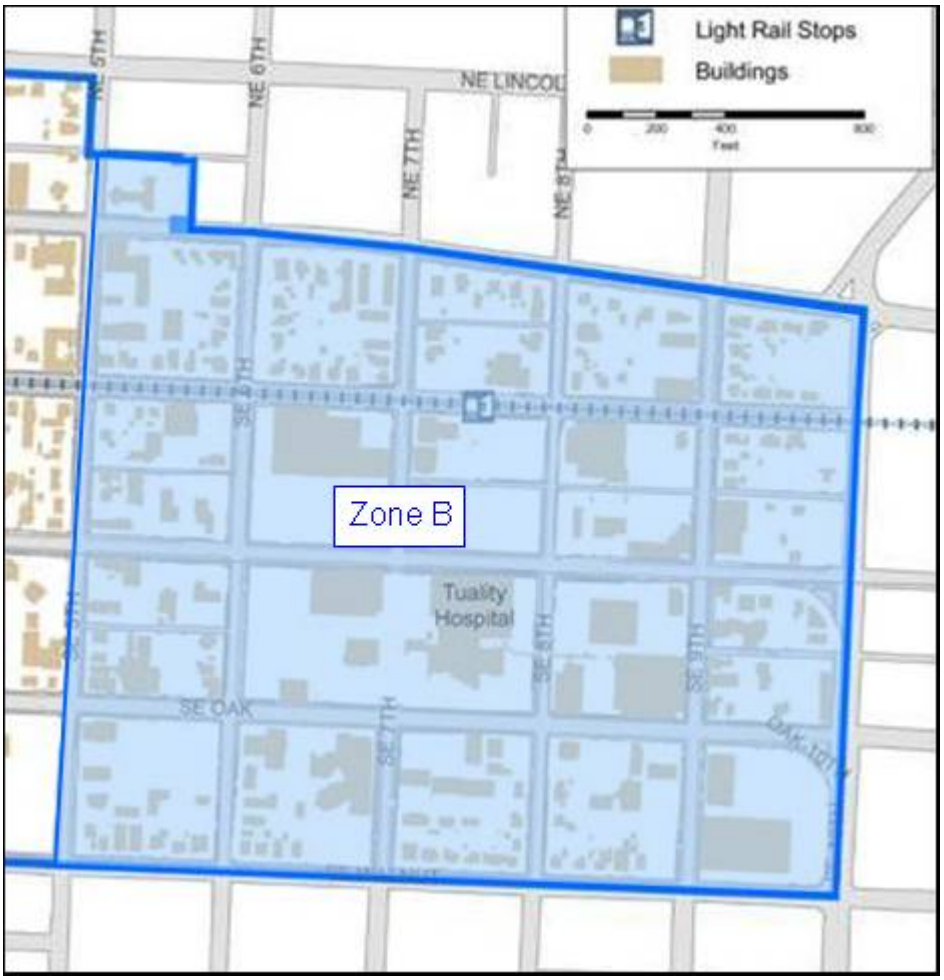
[38] Many cities limit 15- and 30-minute parking to such businesses as dry cleaners, theater ticketing agents, 1-hour photo stops, hotel staging/drop off, and visitor information centers.

3. Loading zones
    a. Maximum number per block face(s)
    b. Limitation on number per geographic area (e.g., no more than two for every three continuous block faces)
    c. Evaluation of opportunities for shared loading and customer parking

ZONE B – East End Zone

Figure 6-2 shows Zone B, the East End Zone, which includes a high mix of development types that are closely associated with the operations of Tuality Hospital and a growing Pacific University campus. Significant expansions of the economic land use characteristics of Zone A are not expected to occur in the East End Zone (Zone B) for some time. However, the institutional requirements of both Tuality and Pacific will expand significantly over the next 3–5 years, necessitating coordinated strategies unique to this zone.

Figure 6-2. Recommended "East End" Parking Management Zone (Zone B)



1. Operating Principles (Zone B)

The City's goal is to continue to support access in this zone in a manner that best serves the operations of institutional users and the businesses that cluster nearby. As such, on-street parking in Zone B is intended to serve short-term parking needs that have been specifically identified for this type of land use.

- Most (if not all) on-street parking in this zone will be transitioned to serve short-term visitor parking. Off-street parking will continue to provide a mix of short- and long-term stay opportunities.
- All on-street parking in Zone B will be regulated (i.e., time-stay and enforced).
- On-street pricing (if necessary) will be reflective of actual occupancies in the zone.
- Underutilized on-street parking in this zone will be made available to longer durations of stay, as occupancies allow.
- Over time, on-street parking will reflect a balanced mix of short and longer duration of stay opportunities. Longer durations of stay may eventually require transition into off-street supply.
- Off-street parking in this zone is intended to provide convenient and cost-effective employee parking supply as a measure to preserve higher access opportunities for customer and patron use in the core zones.
- Parking in this zone will be managed in a manner that minimizes and mitigates spillover of commercial parking demand into residential areas immediately adjacent to this parking zone.

2. Implementation Framework (Zone B)

A. The on-street parking in this zone will be a mix of time-stay opportunities (2–10 hours) providing an appropriate mix of time-stay durations based on capacity considerations (i.e., 85% Rule). This is based on the following principles:

   1. This mix of parking is conducive to both customers and employees and longer-duration visitor parking for the area.
   2. In the near term, there is adequate on-street capacity in the zone to meet both short- and long-duration parking demand.
   3. The current economic uses in the zone do not as yet require the type of turnover ratios necessary in Zone A. however, the area immediately around the Tuality pacific campus already have more aggressive turn-over rates.

B. In the long term, the overall priority for ***on street parking*** in Zone B will be 2-hour parking. As strategies within this plan are implemented over time, longer duration parking (time stays and permits) will be transitioned to off-street locations.

C. The priority for ***off-street parking*** in Zone B will be mixed-use parking to accommodate the full range of users, including employees, customers, visitors, and clients. These facilities are intended to provide for a range of time-stay opportunities.

D. The City will conduct regular utilization and capacity studies to ascertain the actual peak-hour utilization and average turnover of parking resources in Zone B. If utilization of on- and off-street parking in this Zone exceeds 85% and turnover meets desired rates, the City will evaluate and implement one of, or a combination of, the following implementation steps "triggered" by the 85% threshold:

- Increase level and duration of enforcement to assure desired rate of turnover and minimize/eliminate abuse (i.e., exceeding time stay, moving to evade).
- Increase mix of short-term time stays (i.e., convert all or a percentage of 10-hour parking stalls to 2- or 3-hour stalls) to increase turnover.
- Pursue shared-use agreements with private lots to provide for additional parking in Zone B or adjacent areas.
- Transition on-street employee parking in Zone B into available off-street locations within the parking zone or "satellite locations" elsewhere.
- Transition off-street employee parking to satellite or remote locations accessed by light rail or shuttle. This would be accomplished through reduction/elimination or pricing of monthly permits issued for parking in off-street locations.
- Increase non-SOV use above status quo levels (i.e., transit service and fare programs, ridesharing, bike/walk, programs for shuttles, etc.).
- Initiate and/or increase rates for parking (on and/or off-street) to create greater efficiency in actual rate of turnover, incentive to use other modes and to create a potential revenue source for new supply.
- Create new mixed-use public parking supply within or adjacent to the zone.

E. The City will establish policy guidelines for ***exceptions*** to the on-street short-term parking requirements in Zone B. Exceptions would be evaluated/granted through an application process through which businesses would make specific requests to the City for handicapped/disabled access (above ADA required), quick stop and loading zone access.

1. Handicapped/disabled access
2. 15–30 minute zones
    a. Specific criteria for approval (i.e., by specific business type)
    b. Specific locations (i.e., end of block versus midblock)
    c. Number per geographic area (i.e., shared by users in a particular area)
3. Loading zones
    a. Maximum number per block face(s)
    b. Limitation on number per geographic area (e.g., no more than two for every three continuous block faces)
    c. Evaluation of opportunities for shared loading and customer parking

ZONE C – Residential Periphery

The Residential Periphery serves a high proportion of residential demand with some commercial uses. If spillover effects from the Core or East End Zones (Zones A or B) are problematic, a Residential Parking Zone may be established to ensure that adequate parking is available for demand generated from uses within the peripheral area (i.e. residents and their guests). Initially, parking in the peripheral area is intended to be largely unregulated.

1. Operating Principles (Residential Periphery Parking Area)

Parking in the Residential Periphery Area is intended to serve residential demand and uses generating demand from within the zone. It is intended that "spill over" from other parking zones within the CBD be mitigated.

- Parking in the Residential Periphery Area (any area zoned residential) is intended to meet demand generated within this parking area, particularly for uses associated with residents and their guests.
- Parking in this area is not as aggressively regulated as commercial areas. Future management strategies assumed for this area would be contingent on the parking activity, capacity, and utilization of all other parking zones.
- If parking spillover from Zones A or B results in inadequate parking availability for properties within the Periphery Area, a Residential Permit Parking Program (RPPP) may be desired and implemented.

2. Implementation Framework (Residential Periphery Parking Area)

A. Parking in this zone is not as aggressively regulated as commercial areas. Future management strategies assumed for this area will be contingent on the parking activity, capacity, and utilization of all other parking zones.

B. Residential Permit Parking Programs may be implemented if parking spillover from Zones A and B results in inadequate parking availability for properties within the Residential Periphery Area.

C. The City will conduct regular utilization and capacity studies to ascertain the actual peak-hour utilization and average turnover of parking resources in Zone C. *If utilization of on- and off-street parking in this Zone exceeds 85% and turnover meets desired rates, the City will evaluate and implement one of, or a combination of, the following implementation steps* "triggered" by the 85% threshold:

   - Increase level and duration of enforcement to assure desired rate of turnover and minimize/eliminate abuse (i.e., spillover parking from commercial areas).
   - Work with residential community (i.e., neighborhood association) to implement residential/area permit zone restrictions that assure residential (resident and guest) priority access for this parking zone.

6.2 POLICY ACTIONS

As a result of the data inventory process and continuing discussions with the City and stakeholders, specific parking management strategies have been identified and are recommended for implementation. Recommendations for immediate changes in current policy/code and several near-term strategies will optimize the efficiency of the existing parking inventory in downtown Hillsboro. Additional mid- and longer-term strategies are also recommended for consideration.

Mid- and long-term strategies should be incorporated into a process through which such strategies are evaluated within the context of Operating Principles and zone-based implementation frameworks. Nonetheless, it is believed that all the strategies recommended in this report would assist the City to more effectively manage its parking supply.

These recommendations are organized as follows:

- Policy Level Actions
- **Recommended Parking Management Strategies: Near- (Immediate), Mid- and Long-Term**

A. POLICY LEVEL ACTIONS (Immediate Implementation)

The following policy elements have been included to ensure the goals of the parking management plan can be achieved by incorporating parking system management into the City's development policy. Application of the 85% occupancy standard as the threshold for decision-making becomes the unifying monitoring device connecting these various policy elements. Formalizing the policy recommendations assures that the life of the parking management plan extends beyond the first round of strategy implementation. As such, it is recommended that the Policy Recommendations be adopted immediately by the City of Hillsboro.

1. Create a position of "Parking Manager" for the City of Hillsboro.

The complexity of parking and access is increasing as the City and the downtown grows through redevelopment and increased demand for access. A single person should be assigned to oversee and manage all aspects of the parking program associated with Zones A–C. Ideally, this person would staff a representative stakeholder group (see below) to routinely review overall parking activity in the downtown as well as by zone. Information developed through periodic update of the parking inventory (i.e. 85% Rule) would be used to evaluate "action triggers" and implement appropriate adopted strategies as necessary. The Parking Manager would also be charged with refining and shepherding the policy recommendations outlined in A. 2–10 below through the appropriate City processes. The parking manager would be committed as a 0.25 to 0.45 FTE.

The City "process" for approving this type of service addition should be completed in the near future to facilitate near-term hiring or restructuring of an existing position. Since much of this person's duties would entail engagement with the development review process, it may be most appropriate to house this person in the Planning Department. Wherever he or she is located, it is important that this position be filled by an individual who understands and is committed to the recommendations and policy framework set forth in this report.

2. Establish an advisory role for stakeholders to assist in parking program implementation and review.

The City should develop a process through which a representative cross-section of downtown interests routinely assist the Parking Manager in the review and ongoing implementation of the Parking Management Plan. This could be the Transportation Committee, which is a subcommittee of City Council. If so, it would be appropriate to augment the Transportation Committee with one or several of the members of the Downtown Parking Solutions SAC, to maintain continuity with this process.

The stakeholder advisory process will (a) assist the Parking Manager in the implementation of the parking management plan; (b) review parking issues over time; and (c) advise City Council on strategy implementation based on the Guiding Principles for parking management and Operating Principles for each management zone.

3. Adopt policies and rules to guide parking management.

a. Codify Guiding Principles for Parking Management as elements of City Code.

The Guiding Principles provide a framework for managing parking and decision making in the downtown over time. "Codifying" the Guiding Principles will serve to inform future management decision making as well as development of future public facilities. Incorporating these principles into City Code and policy assures the intent and purpose for parking management, established through consensus in this study, is carried out over time.

b. Establish "Parking Management Zones" based on desired economic uses and user types.

Different segments of the downtown have different economic uses and represent different points of access into the downtown. The heart of downtown should represent the area in which the highest density of economic activity and access is intended to occur. Parking should be seen as a management tool that supports specific economic uses. The desired economic activity in a particular area of downtown should guide the decision making for the type of parking required.

It is recommended that Hillsboro establish three separate parking management zones, each having specific operational priorities.

c. Adopt "Operating Principles" and an implementation framework that defines the priority purpose/use for parking in each parking management zone. Adopt the principles and framework as City Code elements.

The recommended Parking Management Zones should be established and the Operating Principles described in Section I, above, should be used to guide the City, Parking Manager and Parking Advisory Committee in evaluating and managing the day-to-day dynamics of parking activity. Operating Principles are established to describe the primary purposes for parking within each parking management zone and to complement and reinforce the Guiding Principles established for the downtown.

d. Adopt the 85% Rule to facilitate/direct parking management strategies.

The 85% Rule is a measure of parking utilization that acts as a benchmark against which parking management decisions are based. Within the parking industry, it has been demonstrated that when an inventory of parking shows more than 85% occupancy in the peak hour, the supply becomes constrained and may not provide full and convenient access to its intended user. Once a supply of parking routinely exceeds 85% occupancy in the peak hour, the 85% Rule would require that parking management strategies be evaluated and/or implemented to bring peak hour occupancies to a level below 85% to assure intended uses are conveniently accommodated. These parking management strategies are outlined within the Operating Principles and implementation framework established for each zone (as described and supported in 3. c., above).

The parking inventory for Hillsboro revealed that existing peak-hour occupancies in all zones are generally operating at considerably less than 85% at the time of the 2006 study. Having the 85% Rule in effect will assure that a process for evaluating and responding to future parking activity in the downtown is in place.

4. Increase fines for violation of parking enforcement in the downtown to market rate of comparable cities.

Data from the 2006 parking inventory indicated that approximately 10% of parking stalls in the downtown demonstrate violations of the posted time stay. A review of Hillsboro's current fine structure also indicates that Hillsboro's fine structure is low when compared to similarly sized cities. Finally, the off-street parking system in the downtown generally maintains an abundant supply of parking stalls. To this end, the City of Hillsboro should raise its fines for parking violations to levels comparable to similarly sized cities. This would reduce abuse within the parking system, free up on-street parking for priority users and encourage greater use of off-street parking for longer-term stays[39].

a. Increased enforcement presence and citations for worst offenses.

Through the public involvement component of this planning project, numerous stakeholders have emphasized the need for greater levels of enforcement. Enforcement personnel should be increased to help achieve desired turnover and reduce abuse of the parking system. The recently approved Local Option Tax may provide more funding for enforcement. Every City is faced with the challenge of balancing reasonableness in regards to code enforcement. Even with increased enforcement staffing, there are several thousand regulated parking spaces around the City, so there are limits to what enforcement can achieve.

b. Increase fines for violation of parking enforcement in the downtown to market rate of comparable cities.

Data from the 2006-parking inventory indicated that approximately 10% of parking stalls in the downtown demonstrate violations of the posted time stay. The City of Hillsboro should raise its fines for parking violations to levels comparable to similarly sized cities. The SAC recommends increasing overtime violations to $15 and the fine for blocking driveways to $30. Rate increases should be reassessed in the future and raised as appropriate, possibly requiring different rates in different parking management zones. Fines were increased in May of 2007.

5. Eliminate minimum parking requirements for all commercial parking development within Zones A and B.

Data from the 2006 parking inventory indicated that parking is currently being supplied at a rate greater than actual demand. Similarly, Hillsboro's existing code requires a range of different parking minimums for different uses, even though data suggest that demand is fairly consistent for mixed uses within the study zone. For Hillsboro, this resulted in an average built supply of 3.0 parking

[39] In response to this concern, the City recently doubled most fines, effective May 2007.

stalls per 1,000 square feet of commercial/retail developed versus an actual demand of 1.64 parking stalls per 1,000 square feet. The result has been oversupply and an unsightly proliferation of surface parking. Elimination of minimum parking requirements should result in (a) less parking being built over time, allowing the market to determine an appropriate level of parking for new development, (b) more efficient use of existing supplies of parking, (c) better coordination and synergy with alternative modes of access, and (d) making new development more financially feasible particularly in the case of older buildings that have little or no room for parking.

6. **Require a 0.75 stall per unit minimum parking standard for residential development within Zones A & B.**

   As the City moves to encourage more residential development within what is now the commercial zone, competition for on-street parking will create conflicts between customers and residents. Residential units without parking located within commercial zones increase pressure for implementation of on-street residential permit programs. Per the Operating Principles for Zones A and B, on-street parking is prioritized for short-term stays targeted to customers, visitors, and client/vendor access. To assure this priority, residential development will need to provide a minimum level of parking to mitigate on-street parking conflicts in the commercial zones.

7. **Require a 0.75 stall per 1,000 square foot minimum parking standard for commercial development in any area zoned residential.**

   As parking conflicts are created in commercial zones by residential development, so too are conflicts created by commercial development in residential zones. To assure priority uses are protected in specific areas, minimum parking requirements are necessary for "non-priority" land uses.

8. **Where parking is required, establish a parking fee-in-lieu program to accommodate developments that cannot incorporate parking into development sites (i.e., for reasons of site size, geometries, etc.).**

   Fees-in-lieu provide developers an option should site constraints make parking prohibitive to a project or if a developer chooses not to build the minimum level of required parking. It is recommended that fees-in-lieu would be paid by the developer to the City at a rate of not less than one-half the value of a structured parking stall. The funds generated from a fee-in-lieu program would be allocated to a dedicated parking enterprise fund for development of future public parking facilities (see 9, below). It is likely that fee-in-lieu funds would need to be coupled with other funds (i.e., future parking meter revenue, monthly permit revenue and/or urban renewal funds) to fully fund future parking in strategic locations within the downtown.

9. **Establish/reaffirm a Downtown Parking and Transportation Enterprise Fund as a mechanism to direct funds derived from parking over time into a dedicated fund.**

   As the supply of parking becomes constrained over time, it will be important to direct funds into a specific account intended to support ongoing transportation and access in the downtown. This can be done with existing and future parking-related revenue, or with net new revenues generated as a result of implementation of this plan. The Downtown Parking Fund should be dedicated to (not in priority order at this time):

a) Debt service

b) Parking operations (on-street/off-street/enforcement)

c) Garage maintenance

d) Marketing and communications

e) Transportation Demand Management programs

f) New supply

It is recommended that such a fund be established as soon as feasible to ensure that net new revenues are captured within the fund.

10. Evaluate additional funding sources for future parking development and parking system management.

The fiscal challenges of parking, transportation, and economic development in a downtown are common to many communities across the country. Rapid changes in development patterns over the past 30 years have resulted in significant changes to the urban landscape and many downtowns have had to reexamine services they provide and the revenue sources used to fund them. In most instances, communities use a combination of funding sources to cover transportation capacity needs. Some combination of revenue sources will be necessary to assure the feasibility of future structured parking in the downtown, particularly funding associated with a publicly owned facility. A single revenue source is unlikely to cover the cost of parking development.

Similarly, many of the recommendations for improvement outlined in strategies below will require revenues sources beyond those generated exclusively from the parking system (see Section B, Strategies 1, 2, 5, 9, 11, 12, 14, 15, and 17 below).

It is recommended that the Parking Manager and Parking Advisory Committee evaluate a range of public and business based fees to supplement public funding for the development of new parking supply and other access improvements within the parking system.

B. PARKING MANAGEMENT STRATEGIES

Based on the recently completed capacity and usage survey of the parking inventory a number of parking strategies are recommended for near-term implementation. These strategies will assist the City in optimizing the use and accessibility of existing parking in downtown Hillsboro.

A number of mid- and longer-term recommendations have been developed as well, some of which address the development of new parking supply. The consultant team believes all of the recommendations presented in the report are consistent with the Guiding Principles and Operating Principles for parking in Hillsboro. Nonetheless, the mid- and long-term recommendations should be reviewed and forwarded for implementation through the Parking Manager and Parking Advisory Committee process recommended above.

Near-Term Implementation (by January 2008)

The following strategies are recommended for near-term implementation.

1. **Appoint a Downtown Parking Manager**

   Upon approval of a budget and service package by the City Council, the City should move forward with the hiring of a Downtown Parking Manager or restructuring an existing City position. In the early going, the position could likely be part-time (therefore, restructuring of an existing FTE).

   This position would be charged with the implementation of the overall parking management plan, monitoring of parking in management zones over time, review and assistance to new development, and working with the Parking Advisory Committee to facilitate decision-making based on the 85% Rule, and the Guiding Principles, and Operating Principles for each management zone.

2. **Initiate Parking Advisory process.**

   Once the Parking Manager is appointed and established, the City should initiate the process of review, evaluation, and decision-making with representative stakeholder input for parking management in downtown. A consistent and routine schedule of meetings should be established as well as use of this plan as a template for discussion of parking management and strategy implementation with the Parking Advisory Committee. In the early going, the committee could meet quarterly. As development in downtown increases, meetings and deliberations may require a monthly schedule.

3. **Eliminate all No Limit on-street parking in Zone A and create a uniform on-street time stay of 2 hours within this zone.**

   It will be important to establish Zone A as a "customer-first" parking zone. This will be best accomplished by standardizing all on-street parking within the zone. A uniform on street time stay allowance of 2 hours will accommodate customer demand and better communicate and encourage the use of off-street parking to visitors/customers in need of a longer duration stay.

4. **Convert 10 existing 30-minute stalls in Lot B01C (located between Jackson and Lincoln along 1st) to 2-hour stalls to improve customer access in this facility.**

   Lot B01C[40] is currently 95% occupied in the peak hour but 30-minute stalls in this facility are only 19% utilized. Converting 10 of 16 30-minute stalls to 2-hour parking will increase capacity for priority users while still providing adequate access for those with quick in-out access.

5. **Increase enforcement in Lots B01C (location noted above) and B18C (the parking garage at 1st & Washington) to encourage turnover.**

   Lots B01C and B18C[41] are highly utilized, particularly B18C at 95% peak occupancy. Both these facilities display a demand factor not represented in the rest of the downtown.

   The average time stay for all uses in each of these lots exceeds 2 hours. Violation of time stays ranges is high in both lots, reaching 42.2% in Lot B18C.

[40] Lot B01C occupies almost the entire block between NW Jackson and NW Lincoln closest to N 1st.

[41] Lot B18C is the parking structure located between SW Main and S 1st along SW Washington.

This would indicate that more enforcement is needed in Lots B01C and B18C if the 2-hour priority is truly the intended turnover target.

6. Allow for longer parking stays in Lot B13C (the Hillsboro Civic Center).

Given that there is demand for longer-term stays in both B01C and B18C (with high occupancies) and lower occupancies in B13C (i.e., 45% in the peak hour), the City may want to consider allowing stays of 3–4 hours at Lot B13C in exchange for increased enforcement at the two higher demand lots. This would preserve 2-hour parking in lots that appear more attractive to all users and move longer-term stays into a proximate lot with capacity.

7. Develop incentives that encourage private sector-led strategies to reduce demand for long-term parking, and make available private parking resources for short-term public customer and other desired uses.

Developers generally provide and manage parking to serve exclusively as accessory uses to their particular site. As such, sites are often developed without benefit of a process or policy that would allow for discussions to maximize both the accessory and public supply of parking in a given private project or to encourage employees to use alternative transportation modes.

Given the cost of parking development and the limited land available for development, it will be important and useful for the City to encourage the development of publicly available parking and TDM programs and infrastructure in future private development projects. The opportunity to incent either more flexible management of private supplies (allowing general public access) or additional supply for public use within a private project should be explored as well as TDM systems that could reduce overall development costs.

Given the priority of customer/patron parking in City-owned facilities, the City should also explore incentives that encourage and support development of residential parking in private off-street locations to ensure that conflicts between residential parking demand and customer/visitor demand are minimized.

The first step to creating a "toolbox" of incentives requires development of a formal policy that would allow the City to offer incentives if specific public parking and transportation goals were met in the context of a private downtown development. Initiation of those incentives would occur as a mid-term implementation strategy as described in recommendation 9 below.

8. Establish commuter-mode split targets for employee access in Zones A–C.

Parking development regulations and requirements need to be supported by a system of access that accounts for all forms of capacity (i.e., auto, transit, bike, walk, and rideshare). The Guiding Principles for parking management in Hillsboro call for a greater percentage of downtown employees to move into alternative modes of transportation. Quantifying the desired transition of commuters from an established status quo baseline to a desired target will (a) give policy support to the Guiding Principles and (b) inform and facilitate parking strategies and (c) provide a standard of measurement that can be evaluated in the future.

Currently, about 81% of all commuter trips to the Hillsboro Regional Center are by SOV,[42] with 19% of commuter trips arriving by either transit, bike/walk, or carpool/rideshare modes. Metro's *2002 Regional Transportation Demand Management Program Evaluation Report* (April 10, 2003) targets a non-SOV mode split of about 42% by 2020. This would reduce SOV commute trips from 81% to 58% over the next 13 years.

It is recommended that the City of Hillsboro, through discussions and review with the Parking Advisory Committee, formally incorporate mode split targets for all modes (i.e., SOV, transit, bike, walk, and rideshare) into its parking management policy. This would require the following:

a. A reaffirmation/revision of the Metro targets already established.

b. Establishment of more specific non-SOV targets by mode. In other words, current targets are simply SOV versus non-SOV. The PAC may want to set specific targets for transit, bike, walk, and rideshare.

The purpose of this strategy would be to clearly establish a logical link between mode split targets and actual parking maximums as discussed in mid-term recommendation 16, below. Over time, Hillsboro's maximum parking ratios should be logically correlated to the mode split targets established for the regional center.

Mid–Term Implementation (by October 2009)

The following strategies are recommended for mid-term implementation.

9. Implement a package of incentives for the private development of publicly available parking supply and TDM options in the downtown.

It is recommended that the City creates and implements a package of incentives that would be made available to private developers that allow for or add publicly available parking into downtown development projects. Similar incentives would be created for privately initiated Transportation Demand Management programs. The package of incentives would follow adoption of a parking incentive policy described in B. 7, above.

Examples of development incentives currently available in other jurisdictions include (but are not limited to) the following:

- Floor area ratio bonuses
- Height bonuses
- Permit fee waivers
- Impact fee waivers

[42] As per the *2002 Regional Transportation Demand Management Program Evaluation Report*: *Volume 1* (Metro, April 10, 2003) businesses required to complete the State of Oregon's Employee Commute Options survey reported a commuter single occupant vehicle (SOV) trip rate of 81.1% (see page 47 of the Metro report). Rick Williams Consulting conducted a survey of all businesses within the Hillsboro Parking Study zone and derived a commuter SOV rate of 81% (Rick Williams Consulting: Tech Memo A, August 28, 2006).

- Supply/revenue agreements[43]
- Property tax abatements

10. Recommend to the City Council the commuter-modes split targets developed in recommendation 8, above, for adoption as a policy element of the Hillsboro transportation and parking management plan.

The City would adopt as policy goals commuter-mode split targets for access in the downtown. These targets are intended to create a direct link between actual parking management strategies (particularly parking maximums) and adopted targets for access to the Hillsboro Regional Center. These targets also support the overall Guiding Principles for multi-modal access into downtown and support the parking management goal of transitioning greater percentages of downtown employees into alternative modes of access as a means to more efficiently and cost-effectively manage the parking supply.

11. Develop and install a signage package of uniform design, logo, and color at publicly available off-street locations.

Creating a uniform signage package that incorporates a unique logo and color scheme for public parking facilities will establish a sense of recognition, identity, and customer orientation for users of the downtown parking system.

It is recommended that the City:

a. Develop a signage package that incorporates a uniform design, logo, and color scheme into all informational signage related to parking.

b. Evaluate land use and code implications of the signage package program particularly size, design, and placement issues, and initiate changes as appropriate.

c. "Brand" each off-street public facility, open to public access, with the established "logo" package.

d. Investigate the purchase and installation of such signage for private owners as part of shared use parking agreements (see recommendation 15, below).

12. Strategically place new and unique wayfinding signage in the right-of-way at locations chosen carefully to direct visitors to off-street locations.

The City should develop directional signage on the roadways that direct customers to specific facilities. This will be of greatest importance at primary portals into the downtown, at major traffic intersections, and at primary points of ingress at specific facilities. It is recommended that:

a. The signage package should be consistent with, and complementary to, the signage package developed for the off-street facilities.

b. The address of the nearest visitor facility should be incorporated into the roadway signage to assist and direct customers to the nearest parking location.

[43] Revenue agreements are lease agreements whereby the City agrees to a guaranteed lease for spaces at a negotiate rate per stall.

13. Initiate discussions with downtown businesses to develop a "Customer First" partnership among downtown businesses.

"Customer First" partnerships are in place in other cities, whereby downtown businesses develop and sign a downtown partnership agreement that pledges that their business will actively promote short-term parking priorities in the downtown and aggressively work with their employees to either park off-street or take alternative transportation modes to work. "Customer First" programs are generally initiated in response to the adoption of a parking management plan and monitored through a downtown business association. Discussions with business community stakeholders can begin with the Parking Advisory Committee.

14. Partner with the business community to develop a marketing and communication system for access in Hillsboro. The marketing/communication system could include (but not be limited to) branding, maps, validation program(s), TDM alternatives, and valet parking.

A successful parking system will require ongoing marketing and communication. The foundation for a marketing and communication program is the signage and wayfinding package recommended in this report. Support of this system can be facilitated through informational maps and brochures about Hillsboro and its parking system distributed through business association, visitor services, retail, and lodging networks.

It is recommended that the City:

a. Partner with the business community to develop a marketing and communication system for access in Hillsboro. The marketing/communication system would include (but not be limited to):

    1. *Branding*. As discussed in recommendation 11, above, all marketing and communications related to the City parking system would occur under a unique and distinct brand that identifies the City facilities and communicates value, convenience, and affordability.

    2. *Maps*. Develop maps that visually represent the parking zones (i.e., blue zone, Core, is customer parking; green zone is long-term parking) and identify the location of visitor versus employee facilities.

    3. *Validation program*. Evaluate the feasibility of retail validation systems if, and when, the City moves to pricing parking.

    4. *TDM alternatives*. Incorporate alternative mode options (i.e., shuttles, transit, and bicycle) into parking communications materials.

15. Negotiate shared use and/or lease agreements with owners of strategically placed private surface lots and parking structures to provide for an interim supply of parking where needed.

Forty-seven private parking facilities were inventoried during the data survey. These lots are located throughout the study zone and are significantly underutilized, even during peak times (i.e., less than 50% occupied). These lots comprise approximately 2,900 stalls and are generally without signage or have

signage that is inconsistent and confusing to customers and visitors. The ability of the City to "capture" as many of these stalls as are available in the peak hour for more active management will provide a relatively low-cost and effective near- to mid-term strategy for mitigating existing access constraints during peak demand periods.

It is recommended that the City:

a. Initiate an effort to work with owners of private lots to enter into shared use agreements to allow underutilized parking to be made available to customer/visitor or employee uses (as appropriate).

b. Explore the development of incentives to encourage such agreements (i.e., signage, landscaping, lighting, sidewalk improvements, leasing, etc.)

16. Evaluate a reduction in current maximum parking ratios for new development in the downtown, to assure that access impacts of new development are meaningfully addressed. Also, parking maximums should be more directly correlated to commuter-mode split targets developed/adopted in recommendations 8 and 10, above

Data from the parking study indicate that current demand generated by land uses in the downtown is in the range of 1.70 stalls per 1,000 square feet of commercial floor area. Maximum ratios in place at this time range from 3.4 to 10 stalls per 1,000 square feet for many uses. Per recommendations 8 and 10, above, the Parking Manager and Parking Advisory Committee will evaluate and recommend new parking maximums for development downtown. These new maximums will be presented to City Council for adoption based on the need to directly correlate parking maximums to actual mode split goals for all modes of access (i.e., SOV, transit, bike, walk and rideshare). To be successful and increase alternative modes will require enhanced transit service. The City will need to fully engage Tri-met in this effort. The purpose of this strategy is to assure that parking development allowances (i.e., maximums) support investment and development of alternative mode infrastructure.

17. Sponsor business-based initiatives to encourage employee use of alternate travel modes.

Coupled with recommendations 9 and 13, above, private-sector businesses should be encouraged to provide incentives and subsidies to their employees that result in meaningful changes in employee commute choices. Transit pass subsidies, bike and carpool incentives, and employee trip planning services should all be evaluated by businesses as a contribution toward maximizing the overall supply of parking for customer access. The Parking Manager, Parking Advisory Committee, and Westside Transportation Alliance can assist in facilitating development of such programs and partnerships with downtown businesses.

18. Evaluate the impact of near- and mid-term strategies based on an updated utilization and demand study. If and when warranted, develop a pricing policy strategy and implement paid on street parking in Zone A and/or B based on the 85% Rule.

The strategies outlined in Section B above will create changes in access dynamics downtown. If, after nearly 3 years of growth, parking occupancies in Zone A and/or B exceed 85% in the peak hour, move to meter the zone(s). If

metering is pursued, it is recommended that on-street pay stations be considered rather than single-head meters.

The Operating Principles developed for each parking zone contain options for the implementation of parking pricing. Options can range from pricing parking in specific areas (e.g., off-street only) to pricing specific users (e.g., employees) to a comprehensive system of pricing that would include metering on- and off-street.

The Parking Manager and the Parking Advisory Committee should develop a coordinated strategy for how parking pricing will be implemented as the demand for parking and new parking supply evolve in the mid- to long-term. Once developed, the parking pricing strategy should be presented to the City Council for review and approval.

The outline of strategy issues presented below is intended to inform the City on major decision and management guidelines should pricing become necessary as a means to maximize and facilitate access capacity.

a. Meter on-street parking to increase efficiency and capacity.

   As the 85% Rule triggers additional and more aggressive management of the supply, Hillsboro may at some future point consider pricing parking in areas that are currently free. At that point, pricing would be intended to (a) facilitate more efficient turnover, (b) encourage use of specific facilities in specific management zones (i.e., short-term versus employee parking), (c) encourage use of alternative modes, and (d) provide a funding source for improvements to existing supplies and development of new supply and alternative mode options.

   In the context of pricing, Hillsboro should consider new technologies available and in place in other cities that allow for flexibility in the management of parking pricing and contribute and complement Hillsboro's existing and desired urban form. "Multi-space metering" and "pay-and-display" systems are an example of these types of technology, which allow a City to charge for parking without "cluttering" the pedestrian way with individual meters.

b. Charge for parking in publicly owned off-street facilities.

   The City should establish a policy for pricing short-term parking in publicly owned or controlled off-street facilities. The framework of such a policy is provided below:

   1. "Short-term rate" is equal to hourly fee charged at on-street system.

   2. Evening rates established to attract/serve appropriate uses.

   3. Long-term, daily/monthly rates balanced by 85% Rule.

   4. Rate manipulation triggered by 85% Rule.

   5. Rate manipulation generally at the long-term end to facilitate transition of long-term parkers to appropriate parking locations within the downtown.

19. Identify and complete planning for possible development of new public visitor parking supply in Zones A and B.

A strategically located public parking facility in Zone A would assure continued access opportunities for customers and visitors in the future, particularly as on-street parking supply is maximized. To assure continued short-term parking access that supports vital retail growth, the City may need to develop a centralized facility to support customer access.

The purpose of this effort would be to have all components necessary to support initiation of development of a centralized public parking facility in place so that construction could begin in the event that customer demand exceeds available supply. This would likely involve identification of a potential opportunity site(s) [see chapter 5 of this study] and acquisition of such site(s), although it is also possible that such a facility could be located on one or more sites already in public ownership (e.g., either the existing parking garage located at 1st and Washington, which can structurally accommodate another floor of parking, or the surface parking lot on the south side of the Hillsboro Civic Center).

It is recommended that the City, with the Parking Manager and Parking Advisory Committee initiate an evaluation (both financial and feasibility) of the location and costs necessary to support a City-owned short-term visitor parking facility.

With regard to Zone B, a new public garage in partnership with Tuality Hospital and pacific University would allow for major expansion of the institutions.

Long–Term Implementation (3 years and beyond)

The following strategies are recommended for long-term implementation.

20. Monitor downtown parking utilization continuously and periodically. Conduct parking inventory analyses.

The recently completed analysis of Hillsboro's parking inventory provides excellent information on parking utilization, turnover, duration of stay, and peak-hour capacity.

The need for these data is very important as a foundation piece for determining actions to maximize parking supply. Periodic monitoring of parking activity will allow Hillsboro to (a) better coordinate enforcement, (b) assure maximum utilization based on intended uses, and (c) provide solid evidence for the need to move to higher and/or more aggressive levels of parking management as called for in the Operating Principles for parking management zones.

It is recommended that:

a. A parking inventory analysis is conducted at least every 3 years. Information from these updates would be forwarded to the Parking Manager and the Parking Stakeholders Advisory Committee for review, evaluation, and strategy implementation.

b. The City explore technology options that are available that would allow enforcement personnel to gather inventory data on a more frequent and/or targeted basis.

21. Implement Parking Revenue Strategies

Given Hillsboro's size and its estimated growth, it is not anticipated or suggested that the City of Hillsboro move to parking pricing for customer access in the near term. Nonetheless, as new capacity for parking and transportation access (i.e., garages, transit programs, etc.) are considered in the context of a 3–7-year plan, the issue of pricing and new revenue sources needs to be incorporated into the City's parking management plan. The decision to move to parking pricing and new revenue sources would be facilitated by the parking pricing and funding strategies developed by the City (see recommendations 18 and 20, above), with input from the Parking Manager and Parking Advisory Committee.

22. Lease/acquire strategically located land parcels for use as future public off-street parking locations.

The City would lease or acquire strategically located land parcels in Zone A for future parking use. Strategically locating future parking sites allows the City to use such sites as (a) interim surface parking locations (until desired development would transition the sites to commercial/retail) and/or (b) future parking structure locations.

23. Complete development and open new supply in Zones A and B.

Completion of site identification, planning, outreach and funding efforts described in recommendations 19 and 22, above, would be finalized and the project completed and opened to the public.

24. Implement a Residential Permit Parking Program in the Peripheral Area.

As the City moves to implement more active parking management in the commercial parking zones, the potential for spill over into adjacent residential areas (i.e., Residential Peripheral Area) increases.

It is recommended that the City:

a. Establish criteria and procedures for implementing a RPPP in anticipation of future spill over issues into residential areas in the Peripheral Area.

b. Adopt and implement a RPPP in conjunction with any on-street paid parking strategies in Zones A or B.

25. Consider street improvement projects incorporating new and/or angle parking.

There are opportunities in the downtown for angle parking to increase the number of on-street stalls. Where other reasons trigger street improvement projects, or when the on-street occupancies exceed 85%, the City should complete preliminary designs based upon the angle-parking recommendations in Chapter 4 and/or seek to add parallel parking as appropriate.

III. SUMMARY

The City of Hillsboro is striving to promote growth that fits into the future vision of downtown. A strong parking management plan is one tool that can assist the City in attaining its vision.

A strong parking management plan accomplishes the following:

- Defines the intended use and purpose of the parking system.
- Manages the supply.
- Enforces parking policies.
- Monitors use and responds to changes in demand.
- Maintains the intended function of and priorities for the overall system.

This plan has been developed to support the guiding principles and operating principles for parking and access in the downtown. As such, the plan and its strategies reflect the fundamental values and objectives stakeholders have for downtown Hillsboro.

The parking management strategies were developed to optimize the use of existing parking resources in downtown Hillsboro and realistically prepare for future new supply. These strategies include policy recommendations, near-term management recommendations, and ongoing (mid- and long-term) management recommendations.

The strategies are presented in a logical sequence of activities and decision-making that build upon each other. The Parking Management Plan presented in this section will support ongoing and sustainable economic vitality for Hillsboro by assuring access for customers and visitors to downtown and strategies that effectively respond to changes in demand over time.

As with any parking management program, the success of the plan is dependent upon its adoption into City policy. Parking management is an ongoing process that requires the commitment of time, resources and public/private effort. The plan and its associated policies and strategies need formal endorsement by the City Council to assure implementation and ongoing management of the parking system.

APPENDIX A

Data Collection – Results Summary

Downtown Hillsboro Parking Inventory Analysis

Data Collection – Results

Methodology

The City of Hillsboro recently collected parking utilization data in order to evaluate parking conditions within a specific study area of the downtown. On Tuesday, September 19, 2006, from 9:00 a.m. to 5:00 p.m., all on-street parking spaces were surveyed hourly to determine its utilization. Every public off-street facility (7 lots/garages) was surveyed, along with all private off-street parking lots within the study area (47 total). A total of 7,526 on- and off-street parking stalls were surveyed.

Results – Highlights

On-Street

- 924 on-street spaces were surveyed.
- 10:00 AM – 11:00 AM: Peak hour for on-street parking
- Peak hour occupancy: 53.9%
- Average duration of stay throughout entire study area: 2-hours/2 minutes.
- Turnover is moderate. Turnover rate is 4.90 turns per day. Minimum desired rate would be 5.0.
- Format of on-street parking is appropriate to demand, though the number of No Limit on-street stalls (309 total) is higher than usual for comparable cities.
- There is abundant on-street parking availability throughout the study zone (426 empty stalls at the peak hour).
- Occupancies do not vary significantly in more concentrated "nodes" within the study area, though node A has very high on-street demand (95% peak occupancy).
- Violations of time stay average 9.5%, which is a moderately high percentage for a downtown area. However, violations of time stay are not adversely impacting access to parking stalls given the availability of empty stalls.

Off-Street	• 6,602 off-street spaces were surveyed on 7 public and 47 private lots. • 11:00 AM – Noon: Peak hour for off-street parking • Peak hour occupancy: 51.6% • There is substantial unused capacity in the off-street parking system (3,193 empty stalls at the peak hour). • The majority of available off-street parking is in private facilities. • Public off-street facilities are more highly utilized than are private facilities (73.6% peak occupancy versus 47.6% peak in private lots). • Public lots B10C and B18C are well utilized (80.7% and 95%, respectively. Lot B13C is underutlized (45%). Opportunities to "balance" access at these facilities should be pursued. • Violation of time stays range from 18.8% (Lot B13C) to as high as 42.2% (Lot B18C). This would indicate that more enforcement is needed in Lots B01C and B18C if the 2-hour priority is truly the intended turnover target.
Demand	• The ratio of total parking supply to total commercial land uses is 3.00 stalls per 1,000 SF • The actual demand for parking based on peak occupancies and occupied building area is 1.64 stalls per 1,000 SF • Parking is being provided at a rate that significantly exceeds demand.

Possible Management Strategies

On-Street	• Transition No-Limit stalls to 2-hour stalls when on-street occupancies approach 85%. • Replace existing No-Limit stalls that are adjacent to off-street facilities with 2-hour parking to encourage off-street parking.

Off-Street	• Consider increased enforcement of time stay limits in public facilities, particularly Lot B10C and B18C. • The 30-minute stalls in Lot B01C are very underutilized (18.8%) indicating that there may be more than needed. Converting a portion of 30-minute stalls would likely create more productive space for stays in the range of 2-hours. • Develop "shared use" agreements with private owners of parking to capture underutilized off-street supply. • "Customers First" policy adopted by downtown employers as a means to move employees to targeted parking locations.
Demand	• Consider reducing/eliminating current minimum parking requirements for new development • Consider reducing parking maximums • Begin evaluation of programs, strategies, incentives and funding resources necessary to transition future supply from surface to structured parking.

APPENDIX B

Business Survey Results

Rick Williams Consulting

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MEMORANDUM

TO: John Southgate, City of Hillsboro
FROM: Rick Williams
Owen Ronchelli
Derek Chisholm, Parametrix
DATE: August 28, 2006

RE: **Technical Memorandum A: Results of Hillsboro Business Survey on Parking Demand**

I. BACKGROUND

The City of Hillsboro initiated a survey of area businesses as a precursor to a larger parking study being conducted for the City through a State of Oregon TGM Parking Solutions Grant. The City developed the survey with input from the Parking Solutions Grant consultant team as a means to establish a baseline understanding of current employee parking and access behavior. The survey was distributed to a total of 502 businesses; 194 were returned for a response rate of 37%.

The results of the survey are summarized below. The summary is formatted to follow the actual sequence of questions from the survey.

II. SURVEY RESULTS

1. Number of businesses participating in survey: 194 (37% response rate)

2. How many employees (full-time and part-time) do you have?

Businesses completing the survey employ 1,903 employees. Of this total 685 (36%) are listed as part-time and 1,218 (64%) are listed as full-time. The average number of employees per business is just under 10. The largest business surveyed had 220 employees.

3. Approximately how many of your employees drive to work in a single occupant vehicle?

Respondents indicate that 1,547 of 1,903 employees drive alone to work. That represents a single occupant vehicle (SOV) rate of 81%.

4. Does your business have on-site parking?

Number of Respondents	YES	NO
192	162 (84%)	30 (16%)

The majority of businesses responding to the survey (84%) maintain on-site parking to serve their business.

4a. If yes (on-site parking), how many parking spaces do you have?

Number of Respondents/parking sites	Total Parking Stalls on sites	Average stalls per site	Largest parking site (# of stalls)
153	2,731	18	230

153 businesses responded to this question, collectively maintaining 2,731 parking stalls at their business sites. Businesses average 18 parking stalls per site. The largest single parking site was 230 parking stalls, serving a medium sized business.

4b. If yes, do you allow your employees to use your on-site parking?

Number of Respondents	YES	NO
151	135 (89%)	16 (11%)

The significant majority of businesses (89%) that maintain on-site parking allow their employees to use that parking.

5. Where do your <u>employees</u> park during business hours? (check all that apply)

Total selections	On-site parking	Off-site private parking lot(s)	City parking lot	City street
230	127	39	20	44

The majority of businesses say that employees use on-site parking. A number of businesses have employees parking on street and in private lots as well. Fewer employees appear to use City parking lots.

6. Where do your <u>customers</u> park during business hours? (check all that apply)

Total selections	On-site parking	Off-site private parking lot(s)	City parking lot	City street
268	140	20	20	88

Businesses indicate that customers primarily use on-site parking and the City street system. The survey indicates moderate use of off-site lots (City or private).

7. How far from your business do you think your customers are willing to park?

Total Responses		178			
< 1 Block	**1 Block**	**2 Blocks**	**3 Blocks**	**4 Blocks**	**> 4 Blocks**
19 (11%)	126 (71%)	22 (12%)	6 (3%)	4 (2%)	1 (< 1%)

A large majority of businesses (82%) indicate that their customers are not willing to walk further than a block to patronize a business. Only 11 businesses indicated that customers would walk 3 or more blocks.

8. Approximately how many of your employees regularly utilize public transportation (bus or MAX) to get to/from work?

Total Responses	181			
Employers w/ no transit use	**Employers w/ employees using transit**	**Total employees using transit**	**Total employees of surveyed businesses**	**Estimated transit mode split**
127 (70%)	54 (30%)	144	1,903	7.6%

Most businesses (70%) indicate that their employees do not use transit as a means to get to/from work. Fifty-four businesses indicated that 144 of their employees use transit. Of this total, five businesses accounted for 67 employees of all the employees using transit (i.e., 47% of the total).

Based on the total number of employees covered by the survey (1,903), 144 employees using transit would account for a 7.6% employee transit commute mode split.

9. Does your business subsidize transit passes for employees?

Number of Respondents	YES	NO
191	11 (5.8%)	180 (94.2%)

Eleven of 191 businesses responding (5.8%) indicate that they subsidize employee transit passes for their employees.

9a. If yes, how much do you subsidize per employee/per month?

Total Responses	3		
Amount of Subsidy	1 business $20/mo. 4 employees	1 business $35/mo. 126 employees	1 business 100%/mo. 23 employees
Total employees affected by subsidy program(s)			153 (8.0% of total)

Few employers offer a transit subsidy to employees. Only three of the 11 businesses indicating a subsidy actually responded to this survey question. Within those businesses, actual subsidies range from $20 to the full cost of a transit pass per month. In total, 153 employees receive subsidies. This represents 8.0% of the total number of employees covered in this survey (i.e., 1,903).

11. How many of your employees regularly walk or bicycle to work?

Total Responses	**191**		
Employers w/ employees who bike/walk	**Total employees that bike/walk**	**Total employees of surveyed businesses**	**Estimated bike/walk mode split**
28 (15%)	58	1,903	3.0%

12. How many of your employees car pool to work?

Total Responses	**191**		
Employers w/ employees who carpool	**Total employees that carpool**	**Total employees of surveyed businesses**	**Estimated carpool mode split**
15 (12%)	40	1,903	2.1%

III. SUMMARY

Overall, the survey findings indicate:

- ✓ The majority of businesses have on-site parking that is used by both employees and customers.
- ✓ The most commonly used parking location is on-site parking, followed by use of on-street parking.
- ✓ Businesses are of the strong opinion that customers will not walk more than a block for their visit to Hillsboro. The majority of employees (81%) drive alone to work.
- ✓ Transit use by employees is low (7.6%) and few businesses (5.8%) subsidize transit. Bike/walk (3.0%) and carpooling (2.1%) make up small portions of commute access.

ADDENDUM
Written Comments Included in Surveys

- I get taxed over $2,000 per year (retail).
- I already subsidize TriMet with the payroll tax (retail)
- Please do something about the parking problem in Hillsboro (service).
- My business is construction. I have no office employees, just a bookkeeper twice a month and an occasional client. Most of my work and meetings are in the field (service).
- Most employees live in Portland or the east side of Washington County. MAX would be great if more locations had access (it takes me 1.5 hours to get bus to MAX to Hillsboro). I can drive it in 30 minutes. Parking in downtown Hillsboro is definitely a problem though, so we appreciate the attention to the problem (service)
- On the one-way streets, the parking should be changed to diagonal parking with only one lane for traffic instead of parallel parking now (retail).
- I think the City street parking should be extended to more than 2 hours. I lose a lot of business because customers have no time to shop, they have to hurry to their car so the don't get a ticket. Then they usually just leave rather than move. It should be increased to 3 – 4 hours instead of 2. Thank you (retail).
- It is getting harder and harder for my clients to find parking. I have many disabled and handicapped clients who would love to see handicap parking on the street in front of our building on (location omitted to preserve confidentiality). As it stands now we have no parking patrol on our street so the big strong construction men in our building park their big pickups on the street all day. Other businesses have no place to park. The situation is getting very bad. Please start the parking patrol back to patrolling. This would give our patrons a better chance at some parking spaces. Also, more handicap parking for seniors and elderly would be helpful (service).
- We had a great lot until the Civic Building went in. Should have thought of parking before.
- Some days our lot is full. People use it as a public lot for the courthouse, etc. Landlord must police often and has signs up. My suite has an office used by counselors in the evening, and they have no parking problem at the building (service).
- Our concern is business owners using on-street parking. There are several habitual offenders that might stop with a parking ticket or two. We need to have signs directing people to existing parking lots. Re-visit the one-way grid downtown (retail).
- Our employees drive company owned vehicles loaded with construction tools and equipment (service).
- Due to the heavy items in my shop most folks wish to park as close to the shop as possible (retail).
- One-way grids cause excessive driving routes – Lincoln Street has many wrong way drivers almost daily – no signs to inform them once going the wrong way. Especially dangerous to pedestrians looking for correct traffic use (service).
- Hospital employees clog up both sides of 6th Street. It is very hazardous to use that street during business hours or to try to exit onto 6th Street from the hospital or from the alleyway that connects our building to 6th Street. The hospital has a lot of its own that goes largely unused (service).
- Between Main and Washington on 2nd Street there are 16 on-street parking spaces. On a daily basis City and government employees occupy 13 – 14 of those spaces. They park there all day. We monitor this with license plates and descriptions and have the logs to prove it. Over a period of 25 years I have witnessed the continual erosion of parking availability – both on street and private – due to abuses, development (light rail, trees and benches) and actual structural building development. Needless to say it is a huge concern for our business. Considering a substantial improvement to my property here but the critical deterrent is parking. In order to facilitate this renovation to additional office spaces, I need improved parking of any kind.

APPENDIX C

Stakeholder Interview Summary

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M E M O R A N D U M

Date: **December 15, 2006**

To: **Jennifer Polley – City of Beaverton**
John Southgate - City of Hillsboro

From: **Derek Chisholm and Lauren Golden - Parametrix**

Subject: **Stakeholder Interviews Summary**

cc: **Rick Williams and Owen Ronchelli - RW Consulting**

Project Number: **277-2395-053**

Project Name: **Beaverton and Hillsboro Parking Solutions Study**

The purpose of this memo is to summarize the stakeholder interviews conducted as part of the Beaverton and Hillsboro Parking Solutions Study. The stakeholders included developers, real estate brokers, and property owners in the downtown areas. Parametrix asked the stakeholders fifteen questions, which addressed current and future parking requirements, parking facilities, how to increase higher density development in the downtowns, and lending requirements in the downtowns. Parametrix conducted the stakeholder interviews in November and December 2006. Among the eight stakeholders who were contacted for an interview, six stakeholders were available for an interview.

This memo will begin with a summary of the most common themes heard during the stakeholder interviews. The memo will then summarize the comments by each question.

COMMON THEMES

A few common themes emerged from the interviews. Common themes included:

- The respondents generally agreed that the primary users of public parking in the downtowns should be retail and office users.
- If the cities do charge for parking, the rates should be competitive with other cities of comparable size. If the rates are too high, Hillsboro and Beaverton will be at a competitive disadvantage.
- Responses varied on whether the cities require too much on-site parking, the right amount, or not enough on-site parking.
- The interviewees agreed with the results of the preliminary analysis, which suggested that there is a relatively ample supply of parking in the downtowns.
- A few respondents commented that a change in the parking minimum and maximum parking requirements alone would not change development patterns in the downtowns. Instead, the respondents said that there are other development constraints that hinder high density development.

- The interviewees agreed that the development of a structured parking facility in the downtowns is a good idea.

- The respondents generally agreed that bankers would still loan money to businesses in the downtowns if the minimum and maximum parking standards were reduced, although it would be more difficult.

- Subsidized office parking would be an incentive for office uses to locate in the downtowns.

RESPONSES TO COMMENTS

Question 1

Is parking a problem for your employees, customers, etc? How did you come to that conclusion?

Two interviewees responded to this question. A property manager for a large office development in downtown Beaverton said that the development's employees and customers do not have trouble finding parking spaces. She said that the parking management report she prepares for the investors proves that there is ample parking. As part of this report, parking counts are taken four times a day and five times a week in the development's parking lots and structures.

She also added that valet parking and additional surface parking in the development ensure that there is ample parking. The property in downtown Beaverton is part of a phased development, and a portion of the site, which is reserved for a future building, is currently used as surface parking. Additionally, several businesses in the development offer valet parking.

Another business in downtown Beaverton also said that parking is not a problem for her employees or customers, as there is an ample supply of on-site parking at the business. However, she did comment that parking on-site is some times a problem during the Saturday Market operating hours. She said that Saturday Market customers are able to use her parking because she does not rope it off.

Question 2

Is parking a problem for others in the downtown area? Who and Where? How did you come to that conclusion?

One business manager answered this question. She said that parking is a problem for others in the downtown area. She said that the main reason for this problem is because there are not a lot of private lots for drivers to use, and drivers must use on-street parking. She also commented that parking is a problem on Main Ave., Angel Ave., and Watson Ave. in Beaverton.

Question 3

In your opinion, who should be the primary users of public parking in the downtown? How much should parking cost downtown? Should there be inexpensive meters, expensive meters, inexpensive garages, expensive garages, etc?

The interviewees agreed that retail and office uses should be the primary users of public parking in the downtowns.

Three interviewees said that suburban users do not expect to pay for parking, and the city would need to consider this when determining structured parking costs. They added that $35.00 to $50.00 was the maximum that the city could charge for monthly space rentals in a parking structure. If the city priced the spaces any higher, downtown Hillsboro and Beaverton would be at a competitive disadvantage compared to other areas in the metro region.

Two interviewees specifically said that meters should be located in the downtowns. One interviewee commented that meters would help deter transit riders from using downtown Beaverton public parking spaces as a park-and-ride. Another interviewee said that meters should be located where the city wants the most turnover. However, one interviewee stated that meters should not be located in the downtowns, as suburban users do not expect to pay for parking.

One interviewee commented that the cost of parking in the downtowns should be informed by a comparison study of small cities that are beginning to charge for parking. She gave the City of Eugene as an example.

Question 4

Do you have any experience with the City's parking requirements? If so, do you feel that the City requires too much on-site parking, not enough on-site parking, or just the right amount?

Answers to this question varied. Of the four stakeholders who responded to this question, one said that the city requires too much on-site parking, one said that the city requires the right amount, and two said that city requires less than enough on-site parking.

One of the two interviewees who responded that the city requires not enough on-site parking commented that the maximum parking requirements are unrealistic for businesses without access to transit. Additionally, the interviewee said that the maximum parking requirements place those businesses in the downtown areas at a competitive disadvantage because of the lack of transit access. The interviewee also suggested that the city should allow developers a variance to the maximum parking requirements, and possibly charge developers a higher impact fee if a developer creates more than the maximum allowed parking.

Question 5

Preliminary analysis suggests that there is a relatively ample supply of parking, and that the City of Hillsboro (Beaverton) could reduce its minimum off street parking requirements. Do you share our preliminary conclusions about parking demand in downtown Hillsboro (Beaverton)? If the minimum parking requirements were indeed reduced, do you think you or other developers might develop accordingly, or would you still feel compelled to maximize the supply of off street parking?

The interviewees agreed with the results of the preliminary analysis, which suggested that there is a relatively ample supply of parking in the downtowns.

One interviewee commented that the type of project would dictate whether or not developers would feel compelled to maximize the supply of off-street parking. For example, the interviewee said that a developer would not provide the maximum allowed parking if the development was near a light rail transit stop or if it was proven that the employees would use transit.

Question 6

What impact do the City's current parking requirements have on development in the downtown?

Two interviewees answered this question. One person commented that she is not sure if parking requirements have an impact on development in the downtown. The other interviewee said that although parking requirements will not make or break development decisions, the current maximum is restrictive for certain uses. He suggested that the city revise its parking maximums for uses that it would like to attract to the downtowns. He also commented that the cities need to have a variable maximum requirement that should be based on proximity to transit.

Question 7

In the long term the City contemplates development of one or more structured parking facilities. Please offer your perspective on this prospect. Where should such a structure be located? How might such a structure help make new higher density development more likely/feasible?

The interviewees agreed that the development of a structured parking facility in the downtowns is a good idea. A few interviewees suggested that the structure parking facility should be centrally located with easy access, located near an anchor, and visually attractive (e.g., parking garages in Bend with retail on the bottom floor). One person said that a structured parking facility should be located near the Health Professions Campus. Another said that structured parking should be located near the light rail transit stops to accommodate park-and-ride users. Another said that structured parking should not be located on Main Street in Hillsboro, as that land should be saved for office development.

The interviewees agreed, with one exception, that a parking structure would help make higher density development more feasible.

One interviewee commented that structured parking with dedicated office parking would be an incentive for office uses to locate in the downtowns.

Question 8

Are there other measures that the City could take with respect to parking, either from an investment perspective and/or policy/code changes (i.e. modifications to the regulation of on-street parking, reduced minimums etc.) that would assist you or other developers in moving forward with higher density development projects?

The interviewees had several ideas for measures that the city could take with respect to parking that would assist developers in moving forward with higher density development projects. The cities could:

- Include dedicated office parking in the structured parking facility as a means to attract office uses to the area
- Use shadow platting, whereby the city provides surface parking on city owned land until it is ready to build a structured parking facility
- Require some covered parking or attached garages in the residential zones downtown - covered parking is an amenity that could help attract people to relocate downtown
- Create urban renewal areas in the downtowns
- Use fee waivers to lower project costs
- Engage in public/private partnerships
- Allow variances to the maximum parking requirements if the development project meets certain criteria, such as develops a LEED certified building or helps the jurisdiction manage the additional traffic associated with additional parking spaces.

Question 9

What are your perceptions of the development constraints to new higher density "regional center" type development in downtown Hillsboro (Beaverton), both in general and then in particular related to parking and access.

Respondents commented more on general development constraints rather than constraints related to parking and access. General development constraints include:

- Need for a crossing at light rail tracks in Hillsboro
- Land prices
- Small lots
- Lack of sense of space
- Need for a catalyst site
- Lack of public/private partnerships
- Beaverton is known for its high level of congestion

In relation to parking and access, one interviewee commented that the lack of parking lots or structures for large office space is a development constraint to new higher density type of development. Another interviewee commented that if the cities require more parking, development costs will rise and higher density will become less attractive.

Question 10

Development is not proceeding as quickly as planned in downtown Beaverton/ Hillsboro. If we changed the parking requirements, would it make a difference?

Interviewees did not indicate that a change in the parking requirements alone would help development proceed quicker. Rather, two respondents commented that a change in the parking requirements was just one in a series of policy changes that would help development proceed quicker. Additionally, one interviewee commented that shortening the permitting process timeframe would help development proceed more quickly than if the city changed its parking requirements.

Question 11

If we reduce our parking minimums and maximums, would bankers still loan money to businesses in our downtowns?

The respondents generally agreed that bankers would still loan money to businesses in the downtowns if the minimum and maximum parking standards were reduced, although it would be more difficult. Some interviewees commented that banks would be apprehensive about reduced parking requirements because they want to ensure that there will be enough parking if and when uses change. One interviewee suggested that if the city does reduce the minimum and maximum parking requirements, the city should outreach to the banks and let them know that reduced minimums and maximums are acceptable in the downtowns.

Despite the above comments, one representative of a lending institution commented that banks do not base loan decisions on a proposed parking amounts. She said that her lending institution has loaned money to several businesses in downtown Beaverton, and parking was never an issue when determining the terms of the loan.

Question 12

Lenders on Portland projects do not seem to require the same amount of parking per sq ft or per unit as they do for projects in Hillsboro or Beaverton. Is this perception correct? How could the cities work with the lender and/or developer community to get a more "reasonable" parking requirement from a lender standpoint?

Among the interviewees who answered this question, most agreed with the perception that lenders on Portland projects do not require the same amount of parking as they do for projects in Hillsboro or

Beaverton. The interviewees suggested that the city conduct outreach to the lender and developer community about realistic parking requirements.

Question 13

How should parking be provided in the future (i.e., continue on surface lots, transition to garages).

Suggestions for future parking included:

- Adequate street parking with a mix of long-term and short-term parking.
- Surface lots for short-term and daily parking.
- Garages

One interviewee commented that an interim solution could be for the city, Metro, or Tri-Met to build the structure and subsidize some of the spaces by allocating spaces for new office development. Over a period of time, the office development would return unused parking spaces to the city. Alternatively, the city could offer financial incentives to return unused parking spaces to the city. The city could then market those unused spaces to potential new developers.

Question 14

Are there particular problems that you would like this study to address?

Two interviewees commented that they would like the study to address how to provide parking for MAX users and creating pedestrian friendly paths in between stops.

Question 15

Are there particular solutions that you would like this study to explore?

One interviewee suggested that the study explore commuter rail. Another interviewee suggested that the study explore how to allocate structured parking to new development. A third interviewee commented that the study should evaluate successful downtown redevelopment tools used by comparable cities. Finally, a fourth interviewee encouraged the study to continue exploring parking garages.

APPENDIX D

Strategies Recommended Executive Summary

EXECUTIVE SUMMARY
HILLSBORO PARKING FINAL STRATEGY RECOMMENDATIONS CHECKLIST

PARKING MANAGEMENT STRATEGIES

As a result of the data inventory process and continuing discussions with the City and stakeholders, specific parking management strategies have been identified and are recommended for implementation. Recommendations for changes in current policy/code and several near-term strategies will optimize the efficiency of the *existing* parking inventory in Downtown Hillsboro. Additional mid- and longer-term strategies are also recommended for consideration.

A. POLICY LEVEL ACTIONS (Immediate Implementation)

The following policy elements have been included to ensure the goals of the parking management plan can be achieved by incorporating parking system management into the City's development policy. Formalizing the policy recommendations assures that the life of the parking management plan extends beyond the first round of strategy implementation.

1. Create a position of "Parking Manager" for the City of Hillsboro.

The complexity of parking and access is increasing as the City and the downtown grows through redevelopment and increased demand for access. A single person should be assigned to oversee and manage all aspects of the parking program associated with Zones A - C.

2. Establish an advisory role for stakeholders to assist in parking program implementation and review.

The City should develop a process through which a representative cross section of downtown interests routinely assist the Parking Manager in the review and on-going implementation of the Parking Management Plan. This could be the Transportation Committee, which is a subcommittee of City Council. If so, it would be appropriate to augment the Transportation Committee with one or several of the members of the Downtown Parking Solutions SAC, to maintain continuity with this process.

3. Adopt policies and rules to guide parking management

a. ***Codify*** **Guiding Principles for Parking Management** ***as elements of City Code.***

"Codifying" the Guiding Principles will serve to inform future management decision making as well as development of future public facilities.

b. Establish "Parking Management Zones" based on desired economic uses and user types.

The desired economic activity in a particular area of downtown should guide the decision making for the type of parking required. It is recommended that Hillsboro establish three separate parking management zones, each having specific operational priorities.

c. Adopt "Operating Principles" and an implementation framework that defines the priority purpose/use for parking in each parking management zone. Adopt the principles and framework as City Code elements.

Operating principles are established to describe the primary purposes for parking within each parking management zone and to complement and reinforce the Guiding Principles established for the downtown.

d. Adopt the 85% Rule to facilitate/direct parking management strategies.

Within the parking industry, it has been demonstrate that when an inventory of parking exceeds 85 percent occupancy in the peak hour, the supply becomes constrained and may not provide full and convenient access to its intended user. Once a supply of parking routinely exceeds 85 percent occupancy in the peak hour, the 85% Rule would require that parking management strategies be evaluated and/or implemented to bring peak hour occupancies to a level below 85 percent to assure intended uses are conveniently accommodated.

4. Increase enforcement of parking violations

a. Increased enforcement presence and citations for worst offenses.

Through the public involvement component of this planning project, numerous stakeholders have emphasized the need for greater levels of enforcement. Enforcement personnel should be increased as appropriate to assure desired turnover is achieved and abuse of the parking system is minimized. The recently approved Local Option Tax will provide more funding for enforcement. Every City is faced with the challenge of balancing reasonableness in regards to code enforcement. The City should instruct code enforcement personnel to be less lenient when dealing with gross violations such blocking driveways.

b. Increase fines for violation of parking enforcement in the downtown to market rate of comparable cities.

Data from the 2006-parking inventory indicated that approximately 10% of parking stalls in the downtown demonstrate violations of the posted time stay. The City of Hillsboro should raise its fines for parking violations to levels comparable to similarly sized cities. The SAC recommends increasing overtime violations to $15 and the fine for blocking driveways to $30. Rate increases should be reassessed in the future and raised as appropriate, possibly requiring different rates in different parking management zones.

5. Eliminate minimum parking requirements for all commercial parking development within Zones A and B.

Data from the 2006 parking inventory indicated that parking is currently being supplied at a rate greater than actual demand. Elimination of minimum parking requirements should result in (a) less parking being built over time, allowing the market to determine an appropriate level of parking for new development, (b) more efficient use of existing supplies of parking (c) better coordination and synergy with alternative modes of access

and (d) making new development more financially feasible particularly in the case of older buildings that have little or no room for parking.

The SAC recommends that the City Council review this action after three years to assess to impact of elimination of minimums on both the parking supply and development.

6. Require a 0.75 stall per unit minimum parking standard for residential development within Zones A & B.

As the City moves to encourage more residential development within what is now the commercial zone, competition for on-street parking will create conflicts between customers and residents. Residential units without parking located *within commercial zones* increase pressure for implementation of on-street residential permit programs. Per the operating principles for Zones A and B, on-street parking is prioritized for short-term stays.

7. Require a 0.75 stall per 1,000 square foot minimum parking standard for commercial development in any area zoned residential.

As parking conflicts are created in commercial zones by residential development, so too are conflicts created by commercial development in residential zones. To assure priority uses are protected in specific areas, minimum parking requirements are necessary for "non-priority" land uses.

8. Where parking is required, establish a parking Fee-in-Lieu program to accommodate developments that cannot incorporate parking into development sites (i.e., for reasons of site size, geometries, etc.).

Fees-in-lieu provide developers an option should site constraints make parking prohibitive to a project or if a developer chooses not to build the minimum level of required parking.

9. Establish/reaffirm a Downtown Parking and Transportation Enterprise Fund as a mechanism to direct funds derived from parking over time into a dedicated fund.

As the supply of parking becomes constrained over time, it will be important to direct funds into a specific account intended to support on-going transportation and access in the downtown. It is recommended that such a fund be established as soon as feasible to ensure that net new revenues are captured within the fund.

10. Evaluate additional funding sources for future parking development and parking system management.

Some combination of revenue sources will be necessary to assure the feasibility of future structured parking in the downtown, particularly funding associated with a publicly owned facility. A single revenue source is unlikely to cover the cost of parking development.

B. PARKING MANAGEMENT STRATEGIES

Based on the recently completed capacity and usage survey of the parking inventory a number of parking strategies are recommended for near-term implementation. These strategies will assist the City in optimizing the use and accessibility of existing parking in Downtown Hillsboro.
Near–Term Implementation - (by January 2008)

The following strategies are recommended for near-term implementation.

1. Appoint a Downtown Parking Manager

Upon approval of a budget and service package by the City Council, the City should move forward with the hiring of a downtown parking manager *or* restructuring an existing City position. This position would be charged with the implementation of the overall parking management plan.

2. Initiate Parking Advisory process.

Once the Parking Manager is appointed and established, the process of review, evaluation and decision-making with representative stakeholder input for parking management in downtown should be initiated. The Parking Advisory Committee could be a sub-committee of an existing transportation committee.

3. Eliminate all No Limit on-street parking in Zone A and create a uniform on-street time stay of 2 hours within this zone.

It will be important to establish Zone A as a "customer first" parking zone. A uniform on street time stay allowance of 2 hours will accommodate customer demand and better communicate and encourage the use of off-street parking to visitors/customers in need of a longer duration stay.

4. Convert ten existing 30-minute stalls in Lot B01C (located between Jackson and Lincoln along 1st) to 2-hour stalls to improve customer access in this facility.

Lot B01C[1] is currently 95% occupied in the peak hour but 30-minute stalls in this facility are only 19% utilized. Converting 10 of 16 30-minute stalls to 2-hour parking will increase capacity for priority users while still providing adequate access for those with quick in-out access.

5. Increase enforcement in Lots B01C (location noted above) and B18C (the parking garage at 1st & Washington) to encourage turnover.

Lots B01C and B18C[2] are highly utilized, particularly B18C at 95% peak occupancy. Violation of time stays is high in both lots, reaching 42.2% in Lot B18C. This would indicate that more enforcement is needed in Lots B01C and B18C if the 2-hour priority is truly the intended turnover target.

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[1] Lot B01C occupies almost the entire block between NW Jackson and NW Lincoln closest to N 1st.

[2] Lot B18C is the parking structure located between SW Main and S 1st along SW Washington.

6. Allow for longer parking stays in Lot B13C (the Hillsboro Civic Center).

Given that there is demand for longer-term stays in both B01C and B18C (with high occupancies) and lower occupancies in B13C (i.e., 45% in the peak hour), the City may want to consider allowing stays of 3 – 4 hours at Lot B13C in exchange for increased enforcement at the two higher demand lots.

7. Develop incentives that encourage private employer-led strategies to reduce demand for long-term parking, and make available private parking resources for short-term public customer and other desired uses.

Given the cost of parking development and the limited land available to development, it will be important and useful for the City to encourage the development of publicly available parking and transportation demand management (TDM) programs and infrastructure in future private development projects.

Given the priority of customer/patron parking in City owned facilities, the City should also explore incentives that encourage and support development of residential parking in private off-street locations to ensure that conflicts between residential parking demand and customer/visitor demand are minimized.

8. Establish commuter mode split targets for employee access in Zones A – C.

Parking development regulations and requirements need to be supported by a system of access that accounts for all forms of capacity (i.e., auto, transit, bike, walk and rideshare). The Guiding Principles for parking management in Hillsboro call for a greater percentage of downtown employees to move into alternative modes of transportation. Quantifying the desired transition of commuters from an established status quo baseline to a desired target will (a) give policy support to the Guiding Principles and (b) inform, facilitate parking strategies and (c) provide a standard of measurement that can be evaluated in the future.

9. Develop and install a signage package of uniform design, logo and color at publicly available off-street locations.

Creating a uniform signage package that incorporates a unique logo and color scheme for public parking facilities will establish a sense of recognition, identity and customer orientation for users of the downtown parking *system.*

10. Strategically place new and unique wayfinding signage in the right of way at locations chosen carefully to direct visitors to off-street locations.

The City should develop directional signage on the roadways that direct customers to specific facilities. This will be of greatest importance at primary portals into the downtown, at major traffic intersections and at primary points of ingress at specific facilities.

Mid–Term Implementation – (by October 2009)

The following strategies are recommended for mid-term implementation.

11. Implement a package of incentives for the private development of publicly available parking supply and TDM options in the downtown.

It is recommended that the City creates and implements a package of incentives that would be made available to private developers that allow for or add publicly available parking into downtown development projects. Similar incentives would be created for privately initiated Transportation Demand Management programs.

12. Recommend to the City Council the commuter modes split targets developed in 8, above for adoption as a policy element of the Hillsboro transportation and parking management plan.

The City should adopt as policy goals commuter mode split targets for access in the downtown. These targets are intended to create a direct link between actual parking management strategies (particularly parking maximums) and adopted targets for access to the Hillsboro Regional Center.

13. Initiate discussions with downtown businesses to develop a *"Customer First"* partnership among downtown businesses.

"Customer First" partnerships are in place in other cities, whereby downtown businesses develop and sign a downtown partnership agreement that pledges that their business will actively promote short-term parking priorities in the downtown and aggressively work with their employees to either park off-street or take alternative transportation modes to work.

14. Partner with the business community to develop a marketing and communication system for access in Hillsboro. The marketing/communication system could include (but not be limited to): branding; maps; validation program(s); TDM alternatives and valet parking.

A successful parking system will require on-going marketing and communication. The foundation for a marketing and communication program is the signage and wayfinding package recommended in this report. Support of this system can be facilitated through informational maps and brochures about Hillsboro and its parking system distributed through Business Association, Visitor Services, Retail and Lodging networks.

15. Negotiate shared use and/or lease agreements with owners of strategically placed private surface lots and parking structures to provide for an interim supply of parking where needed.

Forty-seven private parking facilities were inventoried during the data survey. These lots are significantly underutilized, even during peak times (i.e., less than 50 percent occupied). The ability of the City to "capture" as many of these stalls as are available in the peak hour for more active management will provide a relatively low cost and effective near to mid-term strategy for mitigating existing access constraints during peak demand periods.

16. Evaluate a reduction in current maximum parking ratios for new development in the downtown, to assure that access impacts of new development are meaningfully addressed. Also, parking maximums should be more directly correlated to commuter mode split targets developed/adopted in B. 8, above

Data from the parking study indicates that current demand generated by land uses in the downtown is in the range of 1.70 stalls per 1,000 SF of commercial floor area. Maximum ratios in place at this time range from 3.4 to 10 stalls per 1,000 SF for many uses. Per strategies B. 8, above, the Parking Manager and Parking Advisory Committee will evaluate and recommend new parking maximums for development downtown.

17. Sponsor employer-based initiatives to encourage employee use of alternate travel modes.

Coupled with B. 9 and 13, above, private sector businesses should be encouraged to provide incentives and subsidies to their employees that result in meaningful changes in employee commute choices.

18. Evaluate the impact of near and mid-term strategies based on an updated utilization and demand study. If and when warranted, develop a pricing policy strategy and implement paid on street parking in Zone A and/or B based on the 85% Rule.

The strategies outlined in Section B above will create changes in access dynamics downtown. If, after nearly three years of growth, parking occupancies in Zone A and/or continue to exceed 85% in the peak hour, move to meter the Zone(s). If metering is pursued, it is recommended that on-street pay stations be considered rather than single head meters.

19. Identify and complete planning for possible development of new public visitor parking supply in Zone A and Zone B.

A strategically located public parking facility in Zone A and/or Zone B would assure continued access opportunities for customers and visitors in the future, particularly as on-street parking supply is maximized. To assure continued short-term parking access that supports vital retail growth, the City may need to develop a centralized facility to support customer access. It is possible that such a facility could be located on one or more sites already in public ownership (e.g. either the existing parking garage located at 1st & Washington, which can structurally accommodate another floor of parking; or the surface parking lot on the south side of the Hillsboro Civic Center). Partnership opportunities with private developers should also be explored.

Long–Term Implementation – (three years and beyond)

The following strategies are recommended for long-term implementation.

20. Monitor downtown parking utilization continuously and periodically. Conduct parking inventory analyses.

The recently completed analysis of Hillsboro's parking inventory provides excellent information on parking utilization, turnover, duration of stay and peak hour capacity. Periodic monitoring of parking activity will allow Hillsboro to (a) better coordinate enforcement, (b) assure maximum utilization based on intended uses and (c) provide solid evidence for the need to move to higher and/or more aggressive levels of parking management as called for in the Operating Principles for parking management zones.

21. Implement Parking Revenue Strategies

Given Hillsboro's size and its estimated growth, it is ***not anticipated or suggested*** that the City of Hillsboro move to parking pricing for customer access in the near-term. Nonetheless, as new capacity for parking and transportation access (i.e., garages, transit programs, etc.) are considered in the context of a 3 - 7 year plan, the issue of pricing and new revenue sources needs to be incorporated into the City's parking management plan. The decision to move to parking pricing and new revenue sources would be facilitated by the parking pricing and funding strategies developed by the City (see 18 and 20, above).

22. Lease/acquire strategically located land parcels for use as future public off-street parking locations.

The City would lease or acquire strategically located land parcels in Zone A and/or Zone B for future parking use. Strategically locating future parking sites allows the City to use such sites as (a) interim surface parking locations (until desired development would transition the sites to commercial/retail) and/or (b) future parking structure locations.

23. Complete development and open new supply in Zone A and Zone B.

Completion of site identification, planning, outreach and funding efforts described in 19 & 22, above, would be finalized and the project completed and opened to the public.

24. Implement/reassess a Residential Permit Parking Program in the Peripheral Area.

As the City moves to implement more active parking management in the commercial parking zones, the potential for spill over into adjacent residential areas (i.e., Peripheral Area) increases.

25. Consider street improvement projects incorporating angle parking.

There are opportunities in the downtown for angle parking (on-street diagonal) to increase the number of on-street stalls. Where other reasons trigger street improvement projects, or when the on-street occupancies exceed 85%, the City should complete preliminary designs based upon the angle-parking recommendations in Technical Memorandum #3.

III. SUMMARY

The City of Hillsboro is striving to promote growth that fits into the future vision of downtown. A strong parking management plan is one tool that can assist the City in attaining its vision.

A strong parking management plan:

- Defines the intended use and purpose of the parking system.
- Manages the supply
- Enforces parking policies
- Monitors use and responds to changes in demand
- Maintains the intended function of and priorities for the overall system.

This plan has been developed to support the guiding principles and operating principles for parking and access in the downtown. As such, the plan and its strategies reflect the fundamental values and objectives stakeholders have for Downtown Hillsboro.

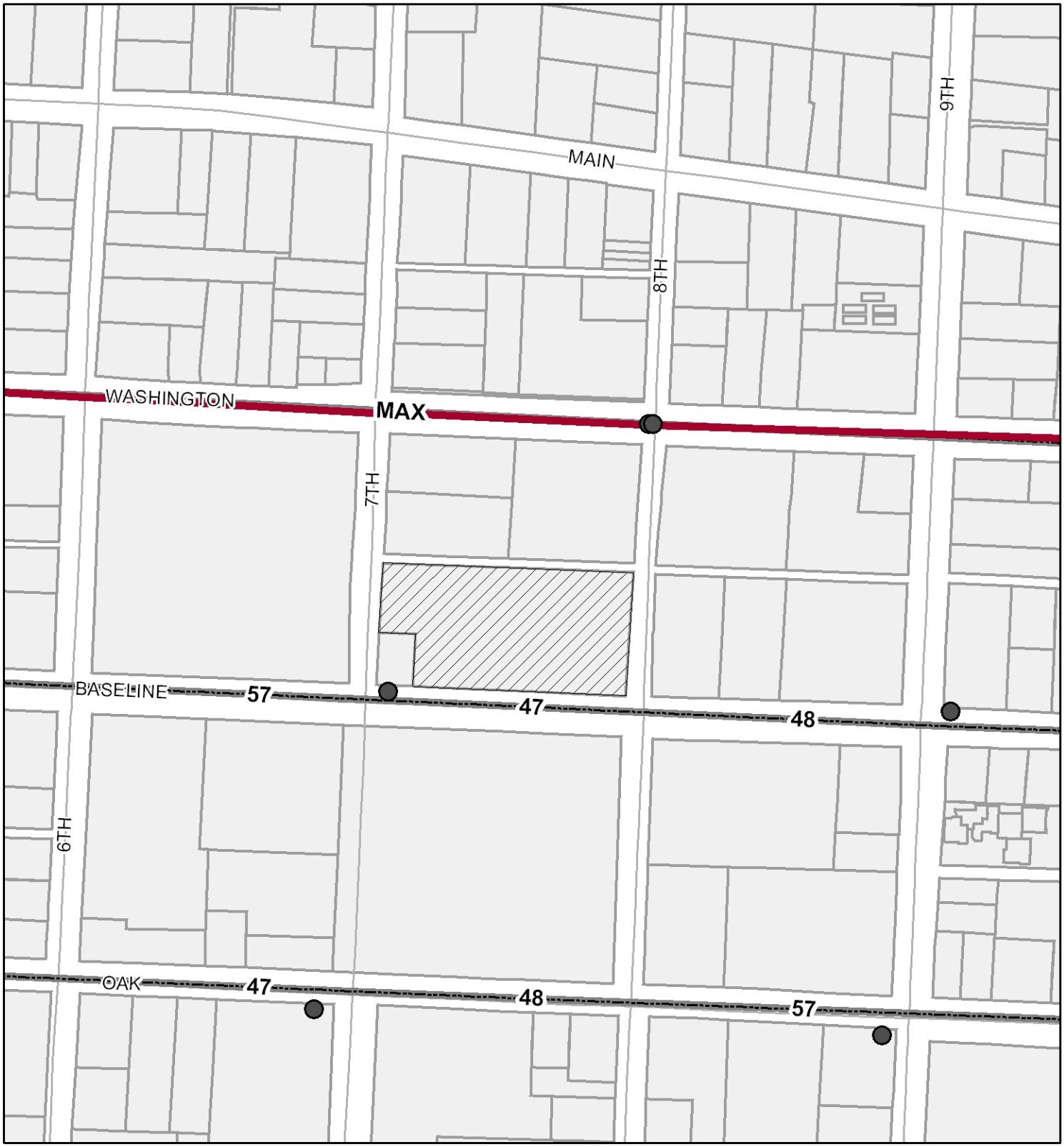
APPENDIX E

Technical Memorandum #6 Attachments

ATTACHMENT A, MAPS OF SUBJECT SITES

Figure 1
City of Hillsboro : Site 1

Figure 2
City of Hillsboro : Site 2



ATTACHMENT B, PRO FORMAS SUPPORTING DOCUMENTATION

ATTACHMENT B

Pro Formas Supporting Documentation Zone A, Scenario 1 (Civic Center)

304 **Stalls**

REVENUES			22	20	21	22	23	20	22	22	20	23	19	21	
	DAILY (M - F)	Usage	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Hourly Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Daily Max	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly Pass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total: - Daily (M-F)		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EVE/WKND														
Evening	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wknd 1 (Sat)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wknd 2 (Sun)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total: Eve/Wknd		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Event	0.00		-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL REVENUE: ALL USES			-	-	-	-	-	-	-	-	-	-	-	-	-

EXPENSES	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Operator Costs	-	-	-	-	-	-	-	-	-	-	-	-	-
Valet Expense	-	-	-	-	-	-	-	-	-	-	-	-	-
Protective Service	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	15,504
Sweeping Services	193	193	193	193	193	193	193	193	193	193	193	193	2,313
Administration	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267	15,200
Electricity	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	2,229	26,752
Minor Maintenance/Janitori	709	709	709	709	709	709	709	709	709	709	709	709	8,512
Water & Sewer	142	142	142	142	142	142	142	142	142	142	142	142	1,702
Elevator Maintenance	228	228	228	228	228	228	228	228	228	228	228	228	2,736
Total Expenses	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	6,060	72,720
NET OPERATING INCOME	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(6,060)	(72,720)

PROJECT DESCRIPTION	Amount
Project Component	
Total Land Area (square feet)	30,000
Parking (Public Garage)	120,000
Total Spaces	304
Parking Levels	4
Retail	
Gross Square Feet	15,000

CAPITAL ASSUMPTIONS			Amount
Construction Costs:			
Demolition/Relocation			$0
Site Acquisition (sf)	30,000 s.f. @	per s.f.	$0
Site Readiness (enviormental/utilities)	**See construction SF #**		$0
Drainage	**See construction SF #**		$0
Street Improvements	**See construction SF #**		$0
Sub-total Site Costs			**$0**
Parking Spaces			
Total number of spaces to construct @	$103.75	per s.f.	304
Square foot per stall	350.00	SF per stall	0
Parking cost per space constructed			$36,313
Sub-total Parking Construction Cost			**$11,039,000**
Retail Space			
Gross Square Feet			15,000
Cost per square foot			$90.00
Sub-total Retail Construction Cost			**$1,350,000**
Total Direct Construction Costs:			
Combined Site, Parking and Retail/Residential			$12,389,000
With Sales Tax @	0.0%		$0
INDIRECT COSTS @	21%	of direct costs	$2,601,690
GROSS DEVELOPMENT COST			**$14,990,690**
Project Equity @	0%	of gross development cost	$0
Additional Equity Contributions			$0
TOTAL PROJECT EQUITY			$0
PROJECT AMOUNT FINANCED			**$14,990,690**

REVENUE ASSUMPTIONS	Amount
Parking:	
Number of Spaces Constructed	304
Estimated Revenue Per Stall (monthly pass per month)	$ -
Estimated Revenue Per stall (cash - per stall per mo.)	$ -
Retail	
Total Area (square feet)	15,000
Average Rental Rate (per square foot per year)	$ 25.00
Average Annual Rental Rate Increase	3%
Initial Vacancy Rate	45%
Normalized Vacancy Rate	95%
Years to Normal	1

MAJOR EXPENSE ASSUMPTIONS	Amount
Parking:	
Operations cost(annual per stall)	$ -
Valet Expneses (annual per stall)	$ -
Security costs (annual per stall)	$ 51.00
Maintenance Cost (annual per stall)	$ 28.00
Electricity (annual per stall)	$ 88.00
Administration (annual per stall)	$ 50.00
Replacement/Repair (annual @ 3% of gross revenue)	$ 5,873
Retail:	
Percent of Gross Operating Income	10%
Residential	
Percent of Gross Operating Income	35%

FINANCIAL BREAKOUT (Impact on Rates)	Amount
Parking:	
Estimated Income before Debt Service (annualized @ 20 yrs)	$339,102
Actual gross monthly revenue per stall (Yr 2)	**$105**
Actual net monthly revenue per stall (Yr 2)	**($241)**

Basic Project Assumptions

30,000	square foot site pad
120,000	total floor area
304	parking spaces
$36,313	base development cost per parking stall
$49,311	fully loaded cost per parking stall/with retail
$0	cost of land
$0	per stall cost for land
0.00	sales tax on construction costs at 0.0%
$105.28	per month revenue per stall (including retail rents) - Year 2
$0.00	Rate per hour for customer/visitor business
$0.00	Daily Maximum Rate (all day stay)

Demand indicators (if a paid parking schedule is implemented)

4	Average duration of stay (hours) weekend visit
3	Average duration of stay (hours) for evening
2.5	Average duration of stay (hours) for retail
2.9	Average turns per stall per weekday (8 a.m. - 6 p.m.)
2.0	Average turns per stall per evening (6 p.m.. - 11:00 p.m..)
2.8	Average turns per weekend (11:00 a.m. - 10:00 p.m.)
0	Monthly passes sold
0	Weekday "daily max" rate stays @ 15% of all stalls

INCOME	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	TOTAL
Parking Income (monthly passes)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Parking Income (cash sales)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Retail Income	$168,750	$356,250	$377,946	$389,284	$400,963	$412,991	$425,381	$438,143	$451,287	$464,825	$478,770	$493,133	$507,927	$523,165	$538,860	$555,026	$571,677	$588,827	$606,492	$624,687	$643,427	$662,730	$682,612	$703,090	$724,183	$745,908	$768,286	$791,334	$815,074	$839,526	$16,750,554
Retail Tenant Reimbursement (Tax and Ins. only)	$27,000	$27,810	$28,644	$29,504	$30,389	$31,300	$32,239	$33,207	$34,203	$35,229	$36,286	$37,374	$38,496	$39,650	$40,840	$42,065	$43,327	$44,627	$45,966	$47,345	$48,765	$50,228	$51,735	$53,287	$54,885	$56,532	$58,228	$59,975	$61,774	$63,627	$1,284,536
Total Income	$195,750	$384,060	$406,590	$418,788	$431,351	$444,292	$457,621	$471,349	$485,490	$500,054	$515,056	$530,508	$546,423	$562,816	$579,700	$597,091	$615,004	$633,454	$652,457	$672,031	$692,192	$712,958	$734,347	$756,377	$779,068	$802,440	$826,514	$851,309	$876,848	$903,154	$18,035,091
EXPENSES																															
Operator Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Valet Expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Protective Service	$15,504	$15,969	$16,448	$16,942	$17,450	$17,973	$18,513	$19,068	$19,640	$20,229	$20,836	$21,461	$22,105	$22,768	$23,451	$24,155	$24,879	$25,626	$26,395	$27,186	$28,002	$28,842	$29,707	$30,598	$31,516	$32,462	$33,436	$34,439	$35,472	$36,536	$737,609
Sweeping	$2,313	$2,383	$2,454	$2,528	$2,604	$2,682	$2,762	$2,845	$2,931	$3,019	$3,109	$3,202	$3,298	$3,397	$3,499	$3,604	$3,712	$3,824	$3,938	$4,057	$4,178	$4,304	$4,433	$4,566	$4,703	$4,844	$4,989	$5,139	$5,293	$5,452	$110,063
Administration Fee	$15,200	$15,656	$16,126	$16,609	$17,108	$17,621	$18,150	$18,694	$19,255	$19,833	$20,428	$21,040	$21,672	$22,322	$22,991	$23,681	$24,392	$25,123	$25,877	$26,653	$27,453	$28,276	$29,125	$29,999	$30,898	$31,825	$32,780	$33,764	$34,777	$35,820	$723,146
Electricity	$26,752	$27,555	$28,381	$29,233	$30,110	$31,013	$31,943	$32,902	$33,889	$34,905	$35,952	$37,031	$38,142	$39,286	$40,465	$41,679	$42,929	$44,217	$45,543	$46,910	$48,317	$49,767	$51,260	$52,797	$54,381	$56,013	$57,693	$59,424	$61,207	$63,043	$1,272,738
Minor Maintenance/Janitorial	$8,512	$8,767	$9,030	$9,301	$9,580	$9,868	$10,164	$10,469	$10,783	$11,106	$11,439	$11,783	$12,136	$12,500	$12,875	$13,261	$13,659	$14,069	$14,491	$14,926	$15,374	$15,835	$16,310	$16,799	$17,303	$17,822	$18,357	$18,908	$19,475	$20,059	$404,962
Water and Sewer	$1,702	$1,753	$1,806	$1,860	$1,916	$1,974	$2,033	$2,094	$2,157	$2,221	$2,288	$2,357	$2,427	$2,500	$2,575	$2,652	$2,732	$2,814	$2,898	$2,985	$3,075	$3,167	$3,262	$3,360	$3,461	$3,564	$3,671	$3,782	$3,895	$4,012	$80,992
Elevator Maintenance	$2,736	$2,818	$2,903	$2,990	$3,079	$3,172	$3,267	$3,365	$3,466	$3,570	$3,677	$3,787	$3,901	$4,018	$4,138	$4,263	$4,390	$4,522	$4,658	$4,798	$4,942	$5,090	$5,242	$5,400	$5,562	$5,729	$5,900	$6,077	$6,260	$6,448	$130,166
Retail Operating Expense	$19,575	$38,406	$40,659	$41,879	$43,135	$44,429	$45,762	$47,135	$48,549	$50,005	$51,506	$53,051	$54,642	$56,282	$57,970	$59,709	$61,500	$63,345	$65,246	$67,203	$69,219	$71,296	$73,435	$75,638	$77,907	$80,244	$82,651	$85,131	$87,685	$90,315	$1,803,509
Total Operating Expenses	$92,295	$113,307	$117,807	$121,342	$124,982	$128,731	$132,593	$136,571	$140,668	$144,888	$149,235	$153,712	$158,323	$163,073	$167,965	$173,004	$178,194	$183,540	$189,046	$194,718	$200,559	$206,576	$212,773	$219,157	$225,731	$232,503	$239,478	$246,663	$254,063	$261,684	$5,263,186
OWNERSHIP EXPENSES																															
Property Taxes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Insurance	$4,256	$4,384	$4,515	$4,651	$4,790	$4,934	$5,082	$5,234	$5,391	$5,553	$5,720	$5,891	$6,068	$6,250	$6,438	$6,631	$6,830	$7,035	$7,246	$7,463	$7,687	$7,917	$8,155	$8,400	$8,652	$8,911	$9,178	$9,454	$9,737	$10,030	$202,481
Professional Services	$3,040	$3,131	$3,225	$3,322	$3,422	$3,524	$3,630	$3,739	$3,851	$3,967	$4,086	$4,208	$4,334	$4,464	$4,598	$4,736	$4,878	$5,025	$5,175	$5,331	$5,491	$5,655	$5,825	$6,000	$6,180	$6,365	$6,556	$6,753	$6,955	$7,164	$144,629
Reserves for Replacements/Repairs	$5,873	$6,049	$6,230	$6,417	$6,610	$6,808	$7,012	$7,222	$7,439	$7,662	$7,892	$8,129	$8,373	$8,624	$8,883	$9,149	$9,424	$9,706	$9,998	$10,297	$10,606	$10,925	$11,252	$11,590	$11,938	$12,296	$12,665	$13,045	$13,436	$13,839	$279,387
Total Ownership Expenses	$13,169	$13,564	$13,970	$14,390	$14,821	$15,266	$15,724	$16,196	$16,681	$17,182	$17,697	$18,228	$18,775	$19,338	$19,919	$20,516	$21,132	$21,766	$22,418	$23,091	$23,784	$24,497	$25,232	$25,989	$26,769	$27,572	$28,399	$29,251	$30,129	$31,032	$626,497
NET OPERATING INCOME	$90,287	$257,189	$274,812	$283,056	$291,548	$300,294	$309,303	$318,582	$328,140	$337,984	$348,124	$358,567	$369,324	$380,404	$391,816	$403,571	$415,678	$428,148	$440,993	$454,222	$467,849	$481,884	$496,341	$511,231	$526,568	$542,365	$558,636	$575,395	$592,657	$610,437	$12,145,408
Debt Service	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)	($1,138,062)											($22,761,242)
NET INCOME	($1,047,775)	($880,873)	($863,250)	($855,006)	($846,514)	($837,768)	($828,759)	($819,480)	($809,922)	($800,078)	($789,938)	($779,495)	($768,738)	($757,658)	($746,246)	($734,491)	($722,384)	($709,914)	($697,070)	($683,840)	$467,849	$481,884	$496,341	$511,231	$526,568	$542,365	$558,636	$575,395	$592,657	$610,437	($10,615,834)

ASSUMPTIONS

Assumes Land and Building Cost of: $14,990,690
PLUS Capital Expenses $0
TOTAL Project Cost $14,990,690
Condo Provided Equity (Debt Coverage) $0
Port Debt =Total Project Cost MINUS Equity: $14,990,690
Assumes Lending Rate of: 4.50%
Term of Loan (years): 20 Years

Assumes Monthly Per Stall Pass Revenue of----------> $ -
Assumes Monthly Per Stall Cash Sales Revenue of ----------> $0.00
Assumes Annual Groundfloor (x,xxx sf) Retail Rent of--> $ 25.00

First Year Debt Coverage Ratio
0.08 %

($858,942.46)
$279,119.63

Escalation @ 3%																															
	1	1.03	1.0609	1.092727	1.12550881	1.159274074	1.194052297	1.229873865	1.266770081	1.304773184	1.343916379	1.384233871	1.425760887	1.468533713	1.512589725	1.557967417	1.604706439	1.652847632	1.702433061	1.753506053	1.806111235	1.860294572	1.916103409	1.973586511	2.032794106	2.09377793	2.156591268	2.221289006	2.287927676	2.356565506	
Escalation @ 5%																															
	1	1.05	1.1025	1.157625	1.21550625	1.276281563	1.340095641	1.407100423	1.477455444	1.551328216	1.628894627	1.710339358	1.795856326	1.885649142	1.979931599	2.078928179	2.182874588	2.292018318	2.406619234	2.526950195	2.653297705	2.78596259	2.92526072	3.071523756	3.225099944	3.386354941	3.555672688	3.733456322	3.920129138	4.116135595	

Debt Percentage----------> 1.00
Debt----------> $ 14,990,690
Interest----------> 4.5%
Term----------> 20
Owner Equity----------> $0
Additional Equity Contributions $0
Annual Debt----------> ($1,138,062)

Project Cost
$ 14,990,690

TENANT IMPROVEMENT FINANCING
Debt---------->
Interest---------->
Term---------->

Annual Debt

Monthly debt

Groundfloor retail sf--------> 15,000
rent per sf----------> $ 25.00
Parking Stalls Constructed 304

$0.00

Actual monthly parking demand	**0**
Demand yr2 - 3	**0**
Demand yr 4 -7	**0**
Demand 8 -10	**0**
Demand 11 - 30	**0**

Land Cost 30,000 sf
0

$339,102.17 20 year annual income before debt service
($798,959.92) 20 year annual income after debt service

500 **Stalls**

REVENUES			22	20	21	22	23	20	22	22	20	23	19	21	
	DAILY (M - F)	Usage	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Hourly Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Daily Max	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly Pass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total: - Daily (M-F)		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	EVE/WKND														
Evening	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wknd 1 (Sat)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wknd 2 (Sun)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-Total: Eve/Wknd		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Event	0.00		-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL REVENUE: ALL USES			-	-	-	-	-	-	-	-	-	-	-	-	-

EXPENSES	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Operator Costs	-	-	-	-	-	-	-	-	-	-	-	-	-
Valet Expense	-	-	-	-	-	-	-	-	-	-	-	-	-
Protective Service	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	2,125	25,500
Sweeping Services	317	317	317	317	317	317	317	317	317	317	317	317	3,805
Administration	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	25,000
Electricity	3,667	3,667	3,667	3,667	3,667	3,667	3,667	3,667	3,667	3,667	3,667	3,667	44,000
Minor Maintenance/Janitori	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	1,167	14,000
Water & Sewer	233	233	233	233	233	233	233	233	233	233	233	233	2,800
Elevator Maintenance	375	375	375	375	375	375	375	375	375	375	375	375	4,500
Total Expenses	9,967	9,967	9,967	9,967	9,967	9,967	9,967	9,967	9,967	9,967	9,967	9,967	119,605
NET OPERATING INCOME	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(9,967)	(119,605)

PROJECT DESCRIPTION	Amount
Project Component	
Total Land Area (square feet)	68,192
Parking (Public Garage)	175,000
Total Spaces	500
Parking Levels	4
Retail	
Gross Square Feet	0

CAPITAL ASSUMPTIONS			Amount
Construction Costs:			
Demolition/Relocation			$0
Site Acquisition (sf)	68,192 s.f. @	per s.f.	$0
Site Readiness (enviormental/utilities)	**See construction SF #**		$0
Drainage	**See construction SF #**		$0
Street Improvements	**See construction SF #**		$0
Sub-total Site Costs			**$0**
Parking Spaces			
Total number of spaces to construct @	$76.50	per s.f.	500
Square foot per stall	350.00	SF per stall	0
Parking cost per space constructed			$26,775
Sub-total Parking Construction Cost			**$13,387,500**
Retail Space			
Gross Square Feet			-
Cost per square foot			$90.00
Sub-total Retail Construction Cost			**$0**
Total Direct Construction Costs:			
Combined Site, Parking and Retail/Residential			$13,387,500
With Sales Tax @	0.0%		$0
INDIRECT COSTS @	21%	of direct costs	$2,811,375
GROSS DEVELOPMENT COST			**$16,198,875**
Project Equity @	0%	of gross development cost	$0
Additional Equity Contributions			$0
TOTAL PROJECT EQUITY			$0
PROJECT AMOUNT FINANCED			**$16,198,875**

REVENUE ASSUMPTIONS	Amount
Parking:	
Number of Spaces Constructed	500
Estimated Revenue Per Stall (monthly pass per month)	$ -
Estimated Revenue Per stall (cash - per stall per mo.)	$ -
Retail	
Total Area (square feet)	-
Average Rental Rate (per square foot per year)	$ 25.00
Average Annual Rental Rate Increase	3%
Initial Vacancy Rate	45%
Normalized Vacancy Rate	95%
Years to Normal	1

MAJOR EXPENSE ASSUMPTIONS	Amount
Parking:	
Operations cost(annual per stall)	$ -
Valet Expneses (annual per stall)	$ -
Security costs (annual per stall)	$ 51.00
Maintenance Cost (annual per stall)	$ 28.00
Electricity (annual per stall)	$ 88.00
Administration (annual per stall)	$ 50.00
Replacement/Repair (annual @ 3% of gross revenue)	$ -
Retail:	
Percent of Gross Operating Income	10%
Residential	
Percent of Gross Operating Income	35%

FINANCIAL BREAKOUT (Impact on Rates)	Amount
Parking:	
Estimated Income before Debt Service (annualized @ 20 yrs)	($176,814)
Actual gross monthly revenue per stall (Yr 2)	**$0**
Actual net monthly revenue per stall (Yr 2)	**($228)**

Basic Project Assumptions

68,192 square foot site pad
175,000 total floor area
500 parking spaces
$26,775 base development cost per parking stall
$32,398 fully loaded cost per parking stall/with retail
$0 cost of land
$0 per stall cost for land
0.00 sales tax on construction costs at 0.0%
$0.00 per month revenue per stall (including retail rents) - Year 2
$0.00 Rate per hour for customer/visitor business
$0.00 Daily Maximum Rate (all day stay)

Demand indicators (if a paid parking schedule is implemented)

4 Average duration of stay (hours) weekend visit
3 Average duration of stay (hours) for evening
2.5 Average duration of stay (hours) for retail
2.9 Average turns per stall per weekday (8 a.m. - 6 p.m.)
2.0 Average turns per stall per evening (6 p.m.. - 11:00 p.m..)
2.8 Average turns per weekend (11:00 a.m. - 10:00 p.m.)
0 Monthly passes sold
0 Weekday "daily max" rate stays @ 15% of all stalls

INCOME	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	TOTAL
Parking Income (monthly passes)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Parking Income (cash sales)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Retail Income	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Retail Tenant Reimbursement (Tax and Ins. only)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Income	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPENSES																															
Operator Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Valet Expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Protective Service	$25,500	$26,265	$27,053	$27,865	$28,700	$29,561	$30,448	$31,362	$32,303	$33,272	$34,270	$35,298	$36,357	$37,448	$38,571	$39,728	$40,920	$42,148	$43,412	$44,714	$46,056	$47,438	$48,861	$50,326	$51,836	$53,391	$54,993	$56,643	$58,342	$60,092	$1,213,173
Sweeping	$3,805	$3,919	$4,037	$4,158	$4,283	$4,411	$4,543	$4,680	$4,820	$4,965	$5,114	$5,267	$5,425	$5,588	$5,755	$5,928	$6,106	$6,289	$6,478	$6,672	$6,872	$7,078	$7,291	$7,509	$7,735	$7,967	$8,206	$8,452	$8,706	$8,967	$181,024
Administration Fee	$25,000	$25,750	$26,523	$27,318	$28,138	$28,982	$29,851	$30,747	$31,669	$32,619	$33,598	$34,606	$35,644	$36,713	$37,815	$38,949	$40,118	$41,321	$42,561	$43,838	$45,153	$46,507	$47,903	$49,340	$50,820	$52,344	$53,915	$55,532	$57,198	$58,914	$1,189,385
Electricity	$44,000	$45,320	$46,680	$48,080	$49,522	$51,008	$52,538	$54,114	$55,738	$57,410	$59,132	$60,906	$62,733	$64,615	$66,554	$68,551	$70,607	$72,725	$74,907	$77,154	$79,469	$81,853	$84,309	$86,838	$89,443	$92,126	$94,890	$97,737	$100,669	$103,689	$2,093,318
Minor Maintenance/Janitorial	$14,000	$14,420	$14,853	$15,298	$15,757	$16,230	$16,717	$17,218	$17,735	$18,267	$18,815	$19,379	$19,961	$20,559	$21,176	$21,812	$22,466	$23,140	$23,834	$24,549	$25,286	$26,044	$26,825	$27,630	$28,459	$29,313	$30,192	$31,098	$32,031	$32,992	$666,056
Water and Sewer	$2,800	$2,884	$2,971	$3,060	$3,151	$3,246	$3,343	$3,444	$3,547	$3,653	$3,763	$3,876	$3,992	$4,112	$4,235	$4,362	$4,493	$4,628	$4,767	$4,910	$5,057	$5,209	$5,365	$5,526	$5,692	$5,863	$6,038	$6,220	$6,406	$6,598	$133,211
Elevator Maintenance	$4,500	$4,635	$4,774	$4,917	$5,065	$5,217	$5,373	$5,534	$5,700	$5,871	$6,048	$6,229	$6,416	$6,608	$6,807	$7,011	$7,221	$7,438	$7,661	$7,891	$8,128	$8,371	$8,622	$8,881	$9,148	$9,422	$9,705	$9,996	$10,296	$10,605	$214,089
Retail Operating Expense	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Operating Expenses	$119,605	$123,193	$126,889	$130,696	$134,616	$138,655	$142,815	$147,099	$151,512	$156,057	$160,739	$165,561	$170,528	$175,644	$180,913	$186,341	$191,931	$197,689	$203,620	$209,728	$216,020	$222,501	$229,176	$236,051	$243,132	$250,426	$257,939	$265,677	$273,648	$281,857	$5,690,258
OWNERSHIP EXPENSES																															
Property Taxes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Insurance	$7,000	$7,210	$7,426	$7,649	$7,879	$8,115	$8,358	$8,609	$8,867	$9,133	$9,407	$9,690	$9,980	$10,280	$10,588	$10,906	$11,233	$11,570	$11,917	$12,275	$12,643	$13,022	$13,413	$13,815	$14,230	$14,656	$15,096	$15,549	$16,015	$16,496	$333,028
Professional Services	$5,000	$5,150	$5,305	$5,464	$5,628	$5,796	$5,970	$6,149	$6,334	$6,524	$6,720	$6,921	$7,129	$7,343	$7,563	$7,790	$8,024	$8,264	$8,512	$8,768	$9,031	$9,301	$9,581	$9,868	$10,164	$10,469	$10,783	$11,106	$11,440	$11,783	$237,877
Reserves for Replacements/Repairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Ownership Expenses	$12,000	$12,360	$12,731	$13,113	$13,506	$13,911	$14,329	$14,758	$15,201	$15,657	$16,127	$16,611	$17,109	$17,622	$18,151	$18,696	$19,256	$19,834	$20,429	$21,042	$21,673	$22,324	$22,993	$23,683	$24,394	$25,125	$25,879	$26,655	$27,455	$28,279	$570,905
NET OPERATING INCOME	($131,605)	($135,553)	($139,620)	($143,808)	($148,123)	($152,566)	($157,143)	($161,858)	($166,713)	($171,715)	($176,866)	($182,172)	($187,637)	($193,266)	($199,064)	($205,036)	($211,187)	($217,523)	($224,049)	($230,770)	($237,693)	($244,824)	($252,169)	($259,734)	($267,526)	($275,552)	($283,818)	($292,333)	($301,103)	($310,136)	($6,261,163)
Debt Service	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)	($1,229,785)											($24,595,700)
NET INCOME	($1,361,390)	($1,365,338)	($1,369,405)	($1,373,593)	($1,377,908)	($1,382,351)	($1,386,928)	($1,391,643)	($1,396,498)	($1,401,500)	($1,406,651)	($1,411,957)	($1,417,422)	($1,423,051)	($1,428,849)	($1,434,821)	($1,440,972)	($1,447,308)	($1,453,834)	($1,460,555)	($237,693)	($244,824)	($252,169)	($259,734)	($267,526)	($275,552)	($283,818)	($292,333)	($301,103)	($310,136)	($30,856,862)

ASSUMPTIONS

Assumes Land and Building Cost of:	$16,198,875	Assumes Monthly Per Stall Pass Revenue of---------->	$ -
PLUS Capital Expenses	$0	Assumes Monthly Per Stall Cash Sales Revenue of ---------->	$0.00
TOTAL Project Cost	$16,198,875	Assumes Annual Groundfloor (x,xxx sf) Retail Rent of-->	$ 25.00
Condo Provided Equity (Debt Coverage)	$0		
Port Debt =Total Project Cost MINUS Equity:	$16,198,875		
Assumes Lending Rate of:	4.50%	First Year Debt Coverage Ratio	
Term of Loan (years):	20 Years	(0.11) %	

Escalation @ 3%																															
1	1.03	1.0609	1.092727	1.12550881	1.159274074	1.194052297	1.229873865	1.266770081	1.304773184	1.343916379	1.384233871	1.425760887	1.468533713	1.512589725	1.557967417	1.604706439	1.652847632	1.702433061	1.753506053	1.806111235	1.860294572	1.916103409	1.973586511	2.032794106	2.09377793	2.156591268	2.221289006	2.287927676	2.356565506	
Escalation @ 5%																															
1	1.05	1.1025	1.157625	1.21550625	1.276281563	1.340095641	1.407100423	1.477455444	1.551328216	1.628894627	1.710339358	1.795856326	1.885649142	1.979931599	2.078928179	2.182874588	2.292018318	2.406619234	2.526950195	2.653297705	2.78596259	2.92526072	3.071523756	3.225099944	3.386354941	3.555672688	3.733456322	3.920129138	4.116135595	

Debt Percentage----------	1.00	Project Cost		Cash Flow	($1,380,655.36) annualized at 10 years
Debt---------->	$ 16,198,875	$ 16,198,875		Cash Flow	($150,870.38) annualized at 10 years before debt service
Interest---------->	4.5%				
Term---------->	20				
Owner Equity---------->	$0				
Additional Equity Contributions	$0				
Annual Debt---------->	($1,229,785)				
Groundfloor retail sf-------->	0				
rent per sf---------->	$ 25.00				
Parking Stalls Constructed	500				

TENANT IMPROVEMENT FINANCING
Debt---------->
Interest---------->
Term---------->

Annual Debt

Monthly debt

$0.00

Actual monthly parking demand	**0**
Demand yr2 - 3	**0**
Demand yr 4 -7	**0**
Demand 8 -10	**0**
Demand 11 - 30	**0**

Land Cost 68,192 sf

0

($176,813.78) 20 year annual income before debt service

($1,406,598.76) 20 year annual income after debt service