

# South Lake Union On-Street Parking Plan



January 2006



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# South Lake Union On-Street Parking Plan Executive Summary

## Plan Overview

This report presents the findings and recommendations from the ongoing South Lake Union On-Street Parking Plan being conducted by the Seattle Department of Transportation (SDOT). The Plan outlines short- and long-term strategies for addressing on-street parking needs in the neighborhood and supports Mayor Nickel's City Center Strategy. In June 2005, SDOT began this work with consultant resources. Key project goals are to:

- ✘ gain a better understanding of existing on-street parking characteristics through detailed data collection and analysis
- ✘ develop on-street parking management and pricing strategies that give SDOT tools to respond effectively to dynamic and evolving development patterns, and
- ✘ integrate on- and off-street parking programs to achieve neighborhood traffic and transportation benefits.

Nelson\Nygaard Consulting was hired to assist SDOT in the Plan development. This brief summary outlines key findings and recommendations of the South Lake Union On-Street Parking Plan. The project timeline provides a chronological outline of project activities.

## Project Timeline

<b>June 2005</b>	✘ Project Begins
<b>July 2005</b>	✘ Review of Land Use and Parking Policies ✘ Development Review
<b>August 2005</b>	✘ Parking Inventory ✘ Survey of On-Street Parking
<b>September 2005</b>	✘ Draft Plan development
<b>November/ December 2005</b>	✘ Outreach with SLU Stakeholders
<b>January 2006</b>	✘ Incorporate Outreach Comments ✘ Final SLU On-Street Parking Plan released
<b>2006 - 2007</b>	✘ SDOT addresses procurement, installation and legislative issues ✘ Public outreach and information campaign if and when pay stations are scheduled to be installed





## Why Change Parking Regulations in SLU?

South Lake Union is expected to grow tremendously in the next 20 years and will continue to see an increasing influx of new jobs and residents. If current trends in development were to continue, the neighborhood would see potentially 13,000 more vehicles daily by 2025, the equivalent of adding an additional Mercer Street with all the traffic it carries today. New approaches to managing on-street parking will be critical, to ensure that the short- and long-term needs of South Lake Union businesses, residents and visitors are met.

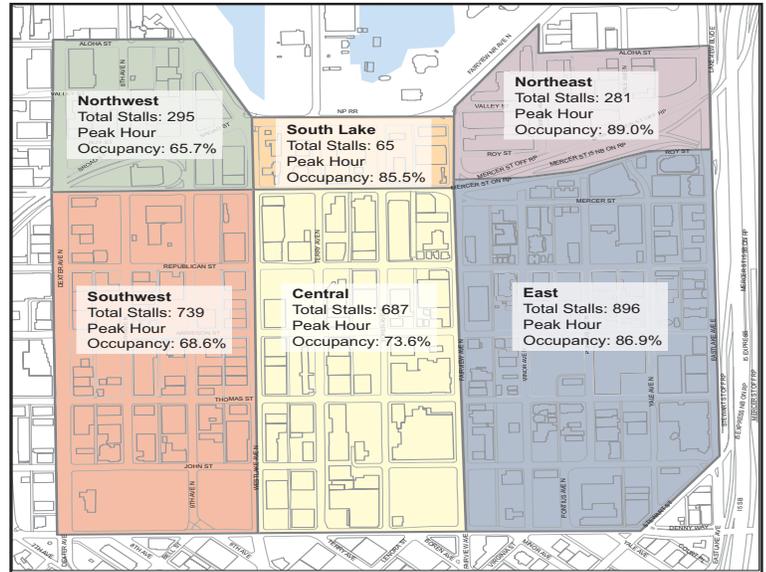
## Parking Data Findings

An analysis of data collected during the inventory and utilization survey conducted in August 2005 produced the following important findings:

- ❏ There are about 3,000 on-street parking spaces in the study area between Dexter Ave N, Lake Union, I-5, and Denny Way. The actual amount of available on-street parking will fluctuate in coming years as new construction projects come on line or are completed.
- ❏ Just 75 spaces are currently metered, mostly around Westlake Ave N and Denny Way (near the Seattle Times), with very low average utilization (occupied just 20%-30% of daytime hours).
- ❏ There are approximately 900 1-hour and 2-hour time-limit signed spaces, with decent utilization (60-75% weekday), but very low turnover and a high abuse rate of the time limit.
- ❏ The remaining 2,000 spaces are unrestricted and very full during daytime hours, with average length of stay about 5 hours. The majority of spaces are being used for long-term parking.
- ❏ Data show that people parking in the neighborhood either understand that parking is not actively enforced or do not understand the posted time limits. For example, parkers in 1 and 2-hour signed spaces stay an average of almost three hours over the posted time limit.

The following map shows on-street parking occupancy at the peak daytime hour.

Parking Occupancy by Study Zone



Source: GIS Data provided by City of Seattle

## Plan Recommendations

The South Lake Union On-Street Parking Plan recommends adopting a market-rate pricing scenario to ensure that on-street parking is available for business customers, residents and employees at all times. The dynamic and changing built environment in the South Lake Union neighborhood will require a flexible management system, which is able to adapt quickly and efficiently to changes in parking demand resulting from new commercial and residential development.

The core recommendation of the plan is to manage short- and long-term on-street parking demand in South Lake Union through market-based pricing strategies. The SLU On-Street Parking Plan recommends the elimination of time-limits and proposes to charge hourly rates for most on-street parking. Rates will be set and adjusted using market-rate pricing to ensure that an average of one space on every block is available at all times. Additionally, a residential parking zone would be established to provide a minimum amount of exclusive parking for existing Cascade residents.

The plan creates important TDM benefits by encouraging parking price-sensitive employees to change their travel behavior. As demand for on-street parking increases, rates will go up and more drivers will be encouraged to use other modes.

Based on our analysis of on the parking inventory and utilization data, we are making the following recommendations:

# Recommendations Summary

Recommendations	Implementation Logistics
<b>Pay Station Installation Rollout</b>	
<ul style="list-style-type: none"> <li>The Plan recommends a one-time roll-out of pay stations in 2007 to achieve the most effective results from demand-responsive pricing strategy. A full neighborhood installation could require 300-400 pay stations and take four to six months.</li> </ul>	<ul style="list-style-type: none"> <li>The Plan will require new graphic designs for pay stations and signage.</li> <li>New educational materials will need to be developed to explain the flexible rate structure.</li> </ul>
<b>On-Street Parking Pricing</b>	
<ul style="list-style-type: none"> <li>The Plan recommends that on-street parking rates be set to achieve an optimal 85% occupancy rate and that time limits be removed to allow pricing to work effectively.</li> <li>Premium rates or time limits on certain stalls near key retail can be used to ensure short-term parking is available for business access.</li> <li>SDOT will conduct regular data collection occupancy checks (using available technology) and adjust rates accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>SDOT is working to determine whether Seattle Municipal Code changes are required to:               <ul style="list-style-type: none"> <li>grant SDOT authority for demand-responsive rate changes.</li> </ul> </li> <li>If Plan is approved, SDOT will finalize a data collection and monitoring process to set hourly parking rates based on demand.</li> </ul>
<b>Parking Enforcement</b>	
<ul style="list-style-type: none"> <li>Add three enforcement personnel and required equipment to ensure high levels of compliance (brings total area patrol staff to four).</li> </ul>	<ul style="list-style-type: none"> <li>The City will need to consider this potential budget increase in the 2007-08 budget planning.</li> </ul>
<b>Residential Parking</b>	
<b>Short-Term</b>	<ul style="list-style-type: none"> <li>SDOT is pursuing whether SMC changes may allow limits on RPZ permit sales. These limitations have been requested from U-District and other RPZ zones. Any changes will need careful review to avoid setting unacceptable precedents.</li> <li>Short-term residential parking strategies are aimed at accommodating current Cascade neighborhood residents.</li> <li>SDOT will determine legal and logistic feasibility of offering monthly market-rate residential passes, outside of SDOT's RPZ program.</li> </ul>
<ul style="list-style-type: none"> <li>The Plan recommends the implementation of a 2-year "pilot" Residential Parking Zone (RPZ) that sets aside a minimum amount of on-street parking for residential use. (An upcoming SDOT RPZ Policy Review will address how to effectively implement RPZs in mixed-use neighborhoods).</li> </ul>	
<b>Longer Term</b>	
<ul style="list-style-type: none"> <li>Implement appropriate tools from RPZ Policy Review, including potentially limiting the number of permits per household or grandfathering in existing residents.</li> <li>Charge a monthly "market-rate" for on-street parking for residents. SDOT would make a monthly parking pass available to park anywhere in neighborhood and not pay daily rate at pay station.</li> </ul>	



# STUDY BACKGROUND & PURPOSE

The South Lake Union (SLU) neighborhood is arguably the most rapidly changing district in Seattle. The neighborhood is quickly evolving from an industrial/warehousing district (with some remaining historic residential properties) to a diverse mixed-use urban center and stands poised for even greater change in coming years. Over the past decade, South Lake Union has become a center for bio-tech and high-tech employment, and has created diversity in the area that has attracted other employers, such as Tommy Bahama's headquarters office. South Lake Union has traditionally supported a limited number of residents in the Cascade neighborhood; however, planned development will quickly multiply the number of residents in the district. The City of Seattle estimates that by the year 2020, growth in the SLU area will result in over 20,000 new jobs and 10,000 new housing units.<sup>1</sup>

<sup>1</sup> South Lake Union Transportation Plan. Chapter 1, page 1. <http://www.cityofseattle.net/transportation/slureport/FinalSLUTransportationStudyJuly04aChapter1.pdf>

## Study Goals

The Seattle Department of Transportation (SDOT) has undertaken a study of on-street parking in South Lake Union to develop an effective strategy for managing increasing and changing demands on public on-street parking supply. Primary objectives of the South Lake Union On-Street Parking Study include:

- Developing a clear understanding of the layout and regulation of existing on-street parking through a detailed inventory.
- Analyzing patterns of demand and utilization through a survey of the on-street parking supply.
- Development of on-street parking management strategies that complement current and future land uses.
- Developing regulatory and/or pricing strategies that support both long-term and short-term parking demand.
- Developing operating principles and strategies that provide a lasting framework for decision-making.
- Ensuring strategies for on-street parking management and pricing allow SDOT the flexibility to respond effectively to the evolving access needs of South Lake Union.



# STUDY PROCESS AND METHODOLOGY

The following critical steps were taken in developing the South Lake Union On-Street Parking Plan:

- **Inventory:** Operations Maintenance Group (OMG) conducted a detailed inventory of on-street parking throughout the South Lake Union neighborhood. The inventory detailed the number of parking stalls on each block face along with any posted restrictions on their use.
- **Occupancy and Utilization Survey:** Following the inventory, OMG conducted a survey of parking occupancy and utilization. This survey provided detailed data on how parking was being utilized on key blocks throughout the district.
- **Data Analysis:** Nelson\Nygaard conducted a detailed analysis of data collected during the Occupancy and Utilization Survey. A summary of the data analysis is included in later in this report.
- **Plan:** The draft plan provided preliminary recommendations for managing on-street parking in South Lake Union.
- **Public Outreach:** A detailed description of outreach activities is provided in the following section.
- **Final Plan:** Based on public outreach and feedback from SDOT staff, Nelson\Nygaard refined the draft plan parking recommendations to produce the Final South Lake Union On-Street Parking Plan.

## Community Outreach Activities for the South Lake Union On-Street Parking Plan

Community outreach activities for the South Lake Union On-Street Parking Plan were designed to provide neighborhood stakeholders and other interested parties with information about the results of the on-street parking data collection effort and to seek input on the Draft Plan’s recommendations. SDOT staff recognized and was able to build on community processes for other South Lake Union planning efforts, particularly the recently completed Transportation Study and the streetcar project. Outreach was targeted to stakeholder organizations, including business owners, property owners, and interest groups affected by parking and transportation in South Lake Union.

## Key Messages to the Community

Multiple briefings were held with community groups over the course of the project, providing updated information as available. In community presentations, the following key messages were presented and discussed, supported by detailed findings from the parking data survey and the Draft Plan.

- The study purpose was to develop effective on-street parking strategies to manage demand as land use changes. Detailed on-street parking occupancy, turnover and violation data collected in early August 2005 provided a baseline for strategy development.
- Because of South Lake Union’s history and future anticipated growth, a key consideration in developing Plan recommendations



Parkers in South Lake Union compete with garbage dumpsters.

was to allow the City to respond flexibly to dynamic land use changes. This was reflected in Plan recommendations, which included a market-based pricing scheme that responds to actual demand levels; fair and equitable parking programs for residents, businesses and employees; and, the promotion of urban sustainability through transportation demand management and pricing mechanisms.

- Parking study results generally showed that there was a low level of existing short-term demand compared to other neighborhood business districts like Broadway and “the Ave” – but much higher levels of long-term parking demand created by employee and residential parkers. The Plan’s market-based approach was designed to accommodate these longer-term demands, while recognizing that these needs may change in the future and that adaptability should be a key component of the neighborhood’s parking management strategies.
- Draft Plan Recommendations eliminate time-limits, charge hourly market rates for most on-street parking, and set aside a minimum amount of parking for exclusive residential use. Adopting a market-rate pricing scenario would ensure that on-street parking would be available for business customers, residents and employees during the daytime. A residential parking zone would be established providing a minimal amount of on-street parking available exclusively for existing Cascade residents.

The South Lake Union On-Street Parking Draft Plan contained several alternative recommendations for discussion during community outreach efforts. For example, the Plan provided an alternative for phasing in pay-station rollout, in case resources or political issues prevented a one-time implementation of paid parking throughout the district. Under this scenario, pay stations would have been phased in over several years, requiring SDOT to preserve, and possibly re-arrange, the

1- and 2-hour time limit regulations elsewhere to ensure that on-street parking priorities were maintained.

### **Community Outreach Activities**

SDOT staff attended one dozen community and business stakeholder meetings as well as City-sponsored public forums to discuss the progress of work on the South Lake Union On-Street Parking Plan. Information materials, including a project web site and brochure were developed to communicate the Plan’s purpose, parking data collection results and analysis, and the draft recommendations. The project web site was completed early on in the study and provided links to the City’s South Lake Union activities and a comments page directing comments to the SDOT project manager. An email notice was sent to community stakeholder and City neighborhood contacts email address lists about the availability of the Draft Plan and comment period deadline. Offers were made to meet individually with residents and businesses, but no requests were received by City staff. Emails were exchanged with various individuals, answering questions about the draft Plan’s content.

SDOT staff attended the following community meetings to make presentations or answer questions about the Draft Plan:

1. June 20, 2005 SLUFAN (South Lake Union Friends and Neighbors)
2. August 17, 2005 CNC (Cascade Neighborhood Council)
3. September 17-18, 2005 South Lake Union Block Party
4. September 22, 2005 Lake Union Employee Transportation Representative (ETR) meeting
5. October 24, 2005 South Lake Union Partnership

6. November 1, 2005 SLUFAN Board meeting
7. November 11, 2005 SLUNET (South Lake Union Network, business organizations)
8. November 2005 SLUFAN Policy and Planning Committee meeting
9. November 16, 2005 CNC meeting
10. November 29, 2005 Department of Planning and Development's South Lake Union Urban Center Plan Open House

- Interest in ensuring that visitors can still access the new South Lake Union Park, Center for Wooden Boats, and other waterfront events with inexpensive parking.

### Development of the Final Plan from the Draft

Incorporating community comments as well as feedback from various City departments (primarily through the South Lake Union Interdepartmental Team), SDOT staff and Nelson/Nygaard made changes to the Draft Plan. The main change was to remove references to an alternative installation phasing plan, because community comments and City staff felt that the one-time installation was the best approach.

City staff will be moving forward on implementation activities, related to policy, procurement, and operations issues. Throughout 2006, SDOT will work to address policy, budget, legislative, logistical and procurement issues. Key implementation tasks include:

- Addressing legislative authority to enforce long-term (hourly) parking pay stations, change rates responsive to demand, and install parking pay stations to manage long-term commuter trip purposes.
- Obtaining budget and procurement of parking pay station units and related program resources for 2007, for South Lake Union and other potential areas.
- Determining operational details of the plan including installation, management, and monitoring of parking pay stations under a market-based pricing system.

### Community Comments

Generally, public comments on the draft Plan recommendations were positive, including the following impressions from community meetings (please note that these are not direct quotes):

- Thought that the one-time pay station installation made the most sense rather than phasing installation. This was noted by at least two developers/land owners that are developing parcels in the west side of South Lake Union, which had been recommended to install pay stations in phases prior to this study.
- Liked the market rate pricing approach.
- Supported the creation of the residential parking zone (RPZ) in the Cascade area.
- Interested in allowing people living in vehicles to have access to the RPZ somehow.
- Liked the idea of paid on-street parking to support their companies transportation demand management plans.
- Concern about impacts on low-income residents and their ability to maintain free parking.
- Concern about employees having to pay for parking when it is free now.
- Comments about maintaining, adding or changing passenger and truck loading zones, particularly for churches and schools.

# SOUTH LAKE UNION PLAN & POLICY SUMMARY

## Background

The City of Seattle has a vision for South Lake Union as an Urban Center - a compact, mixed-use neighborhood where people live and work. South Lake Union is undergoing rapid transformation from warehousing and commercial uses to a neighborhood with a mix of biotechnology, housing, and commercial uses. As land uses change and development intensifies, the demand for parking will also change, as will the need to manage South Lake Union's limited on-street parking supply in the most efficient and equitable manner possible to best meet the district's changing and diverse transportation needs. This section summarizes key land use goals, parking goals and policies and development activities that will affect South Lake Union's on-street parking demand and utilization in coming years.



One of many new developments underway in South Lake Union.

## Goals and Policies

The *City of Seattle Comprehensive Plan* sets the long-term planning framework for South Lake Union, identifying it as a diverse mixed-use neighborhood. The Plan recognizes the importance of parking to major businesses located in the district and stresses the need to maintain an adequate level of access for their customers and employees. Housing is encouraged in the neighborhood, particularly housing development that does not conflict with existing or future business activity.



One of many new developments underway in South Lake Union.

The *Transportation Element* of the Comprehensive Plan does not deal extensively with parking, but does include policies that encourage walkable neighborhoods and the use of modes other than the single occupancy vehicle. A critical goal of this element is to design transportation systems that support the Urban Center and Urban Village concept, where pedestrian and bicycle access

to all land uses is encouraged and housing and commercial uses are mixed to reduce the need for automobile commuting. The *Transportation Element* also stresses that development patterns and street uses should complement the region's high capacity transit network. This dictates that on-street parking is secondary to transit stops and facilities located on transit carrying streets. The *Transportation Element* is also explicit that on major arterial roadways the primary purpose of available capacity is to move people and goods.

Several policies outlined in the *Transportation Element* support the Plan's recommendations:

- In commercial districts to prioritize curb space in following order: transit stops and layover, passenger and commercial vehicle loading, short-term parking (time limit signs and paid parking); parking for shared vehicles; and vehicular capacity. (T40)
- Use paid on-street parking to encourage parking turnover, customer access, and efficient allocation of parking among diverse users. (T43)
- Consider installing longer-term paid on-street parking along edges of commercial districts or in office and institutional zones to regulate curb space where short-term parking demand is low. (T44)

The *Seattle Comprehensive Neighborhood Parking Study (Final Report)* outlines a number of goals for developing a more proactive and dynamic parking management program. A key goal of the study is to work more effectively with neighborhoods to tailor parking management solutions that provide the right amount and mix of residential and retail parking that also help individual neighborhoods and the city as a whole achieve broader long-term goals including safe, equitable, and efficient mobility for all residents, local economic development, and community revitalization.

The Seattle Department of Planning and Development is working with community groups to promote business opportunities in the City's Urban Center and Urban Village areas. The *Neighborhood Business District Strategy (NBDS)* is designed to create and shape business opportunities in South Lake Union and other urban business districts. Though the land use code amendments recommended in the NBDS focus on off-street parking, the following goals are relevant for South Lake Union as an urban center:

- Support job creation and business vitality.
- Improve the pedestrian environment.
- Provide for housing growth in neighborhood business districts.
- Achieve quality design through development flexibility.
- Balance parking needs.

The NBDS suggests that in Urban Centers, such as South Lake Union, the free market should determine parking supply rather than code. If adopted by the City Council, the NBDS will eliminate minimum parking requirements for all new development in commercial zones in the South Lake Union urban center, including those for new residential development. The recommendations for on-street parking discussed in this report were developed in consideration of the off-street parking management recommendations in the Neighborhood Business District Strategy. The recommendations to manage existing and future residential demand for on-street parking in South Lake Union will be critical should minimum off-street parking requirements be eliminated as proposed.

The *South Lake Union Design Guidelines* describe specific design features that are intended to encourage pedestrian activity in the neighborhood. The

guidelines identify six “heart locations” in South Lake Union to serve as the commercial and activity centers in the neighborhood. These are:

- Cascade Park
- South Lake Union Park
- Denny Park
- Harrison Street
- Terry Avenue North
- Westlake Avenue North

*Terry Avenue North Street Design Guidelines* are intended to outline a plan concept for the Terry Avenue “heart location.” As in the other planning documents, pedestrian activity is important. Terry Avenue is expected to undergo one of the most dramatic changes of any street in the South Lake Union neighborhood. The addition of the streetcar and improved pedestrian facilities to this industrially oriented street will significantly change its feel and function. On-street parking on Terry Avenue will need to function in tandem with streetcar operations and work within a system that promotes pedestrian and bicycle safety.



Terry Avenue looking south toward downtown.

# PLANNED DEVELOPMENTS IN SOUTH LAKE UNION

South Lake Union is identified as an Urban Center, meaning that the neighborhood will be designed to support a significant share of the City’s future population and employment growth. Nelson\Nygaard worked with the City to compile a list and map developments that are currently taking place or are planned. This exercise revealed existing and a future mix of land uses by parcel and ground floor. Because ground floor land use is critical to parking demand, four maps were created to show ground floor land use in 2005, 2007, 2008-2010, and 2020 (Figures 1-4).

The land use maps by parcel show that South Lake Union will become a residential center and will experience an increased concentration of office/bio-tech uses. In particular, new residential development is planned in the north part of the neighborhood between Mercer Street and Valley Street. New housing will also be located between Yale Avenue North and Pontius Avenue North and in other areas as shown on the 2020 Ground Floor Land Use Map (Figure 4). Though not shown as a change on the map, the South Lake Union Park is undergoing phased redevelopment with the first phase planned to be complete in 2006. The new park will offer recreational opportunities and indoor and outdoor spaces for large community gatherings. Events and increased regular use of this park are likely to increase parking demand just south and west of the lake.



Planned development in South Lake Union Includes: 428 Westlake a biotech office building, the Interurban Exchange project includes four office/biotech buildings, 2201 Westlake a residential mixed-use development, University of Washington Medical Center redevelopment.

The report, *Potential Economic and Fiscal Impacts of South Lake Union Development*, by Paul Sommers describes two phases of development in South Lake Union. The first phase includes space for University of Washington research laboratories, other research space, biotech companies, retail, and residential developments, adding over three million square feet of commercial, residential, and retail space. The developments in the first phase are anticipated to be occupied by 2007. The second phase of development includes new commercial and residential space (10,000 new residential units) to be occupied by 2020.

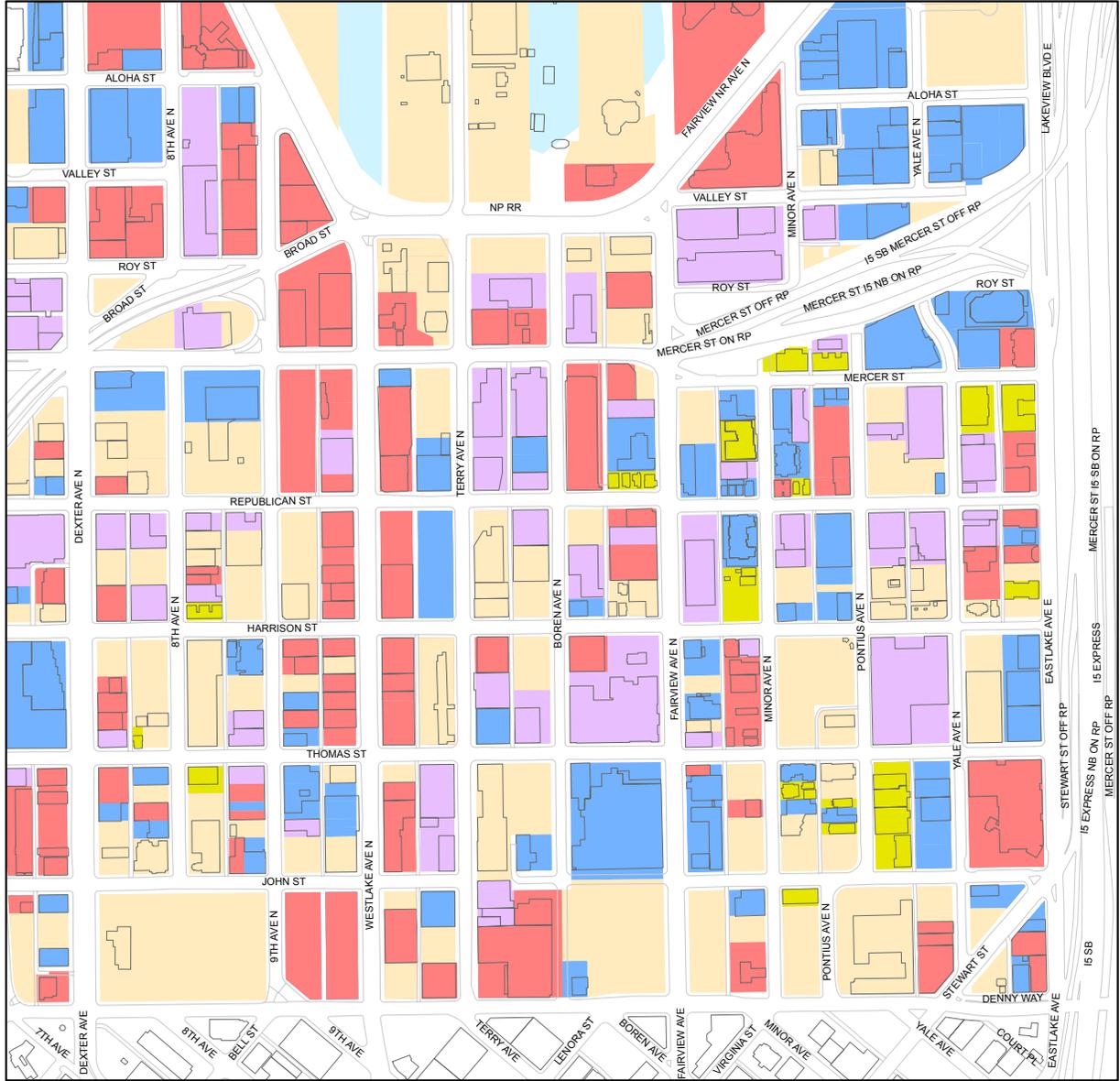
The ground floor land use maps (following pages) show the gradual change in ground floor use from the present to 2020. In the next two years, new commercial developments are planned to appear along Westlake Avenue North and on Boren Avenue North, which will likely increase the demand for parking if none of the parking management strategies discussed in this report are pursued. From the year 2008 to 2010 several new retail and service businesses are planned to open along Terry Avenue North. Looking to 2020, extensive development is planned to occur – more bio-tech/office, retail, and housing as ground floor uses.

Another important development in South Lake Union is the construction of a new streetcar line.

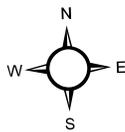
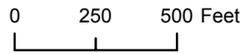
The Technical Report on the South Lake Union Streetcar Project describes the planned alignment and how the new streetcar would relate to land use developments. The new streetcar line would serve downtown, Denny Triangle, and South Lake Union neighborhoods. In South Lake Union, the line is proposed to run north on Westlake to Terry to Fairview, and south on Fairview and Westlake. The line would connect to the regional hub at Westlake Center. The Technical Report notes that some curbside parking would be eliminated where new stations and left turn lanes are to be located.



**Figure 1 South Lake Union: Existing Ground Floor Use**

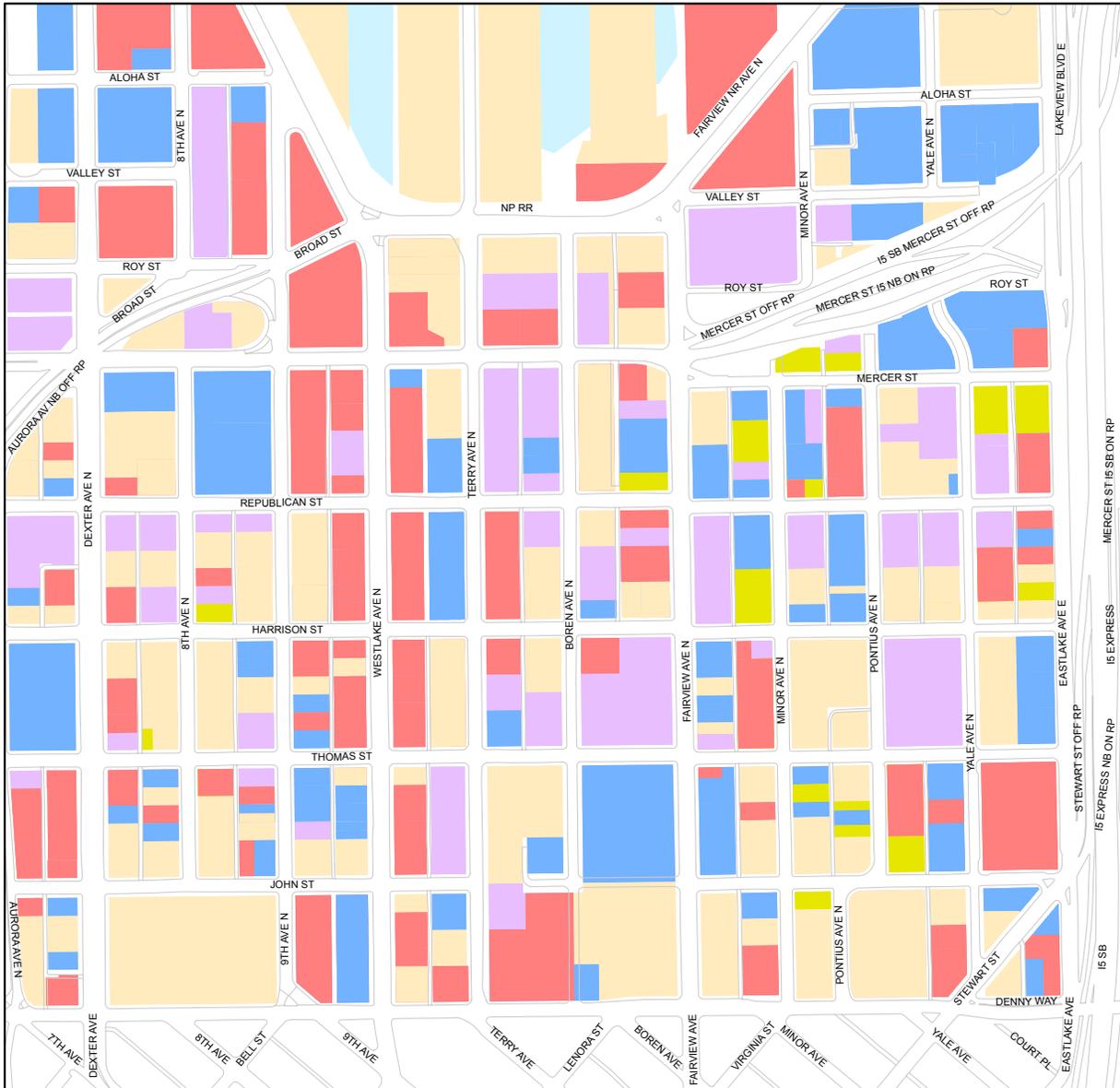


Source: GIS Data Provided by City of Seattle



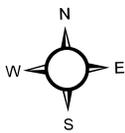
Existing Land Use	
<span style="color: red;">■</span>	Retail/Service
<span style="color: blue;">■</span>	Office (Includes Bio-Tech)
<span style="color: purple;">■</span>	Industrial/Warehouse
<span style="color: yellow;">■</span>	Residential
<span style="color: orange;">■</span>	Other

**Figure 2 2007 Future Ground Use**



Source: GIS Data Provided by City of Seattle

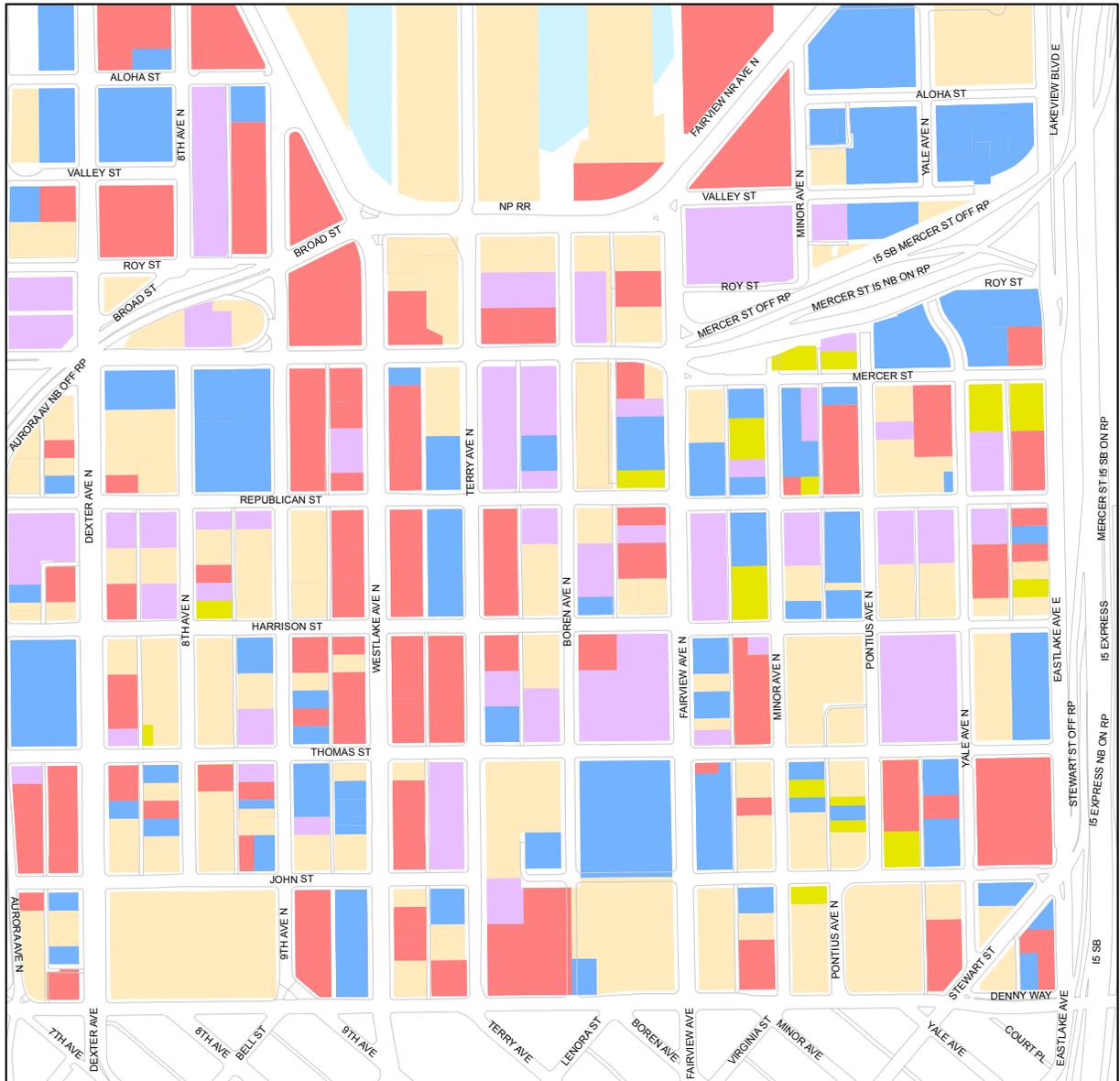
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**Future Land Use**

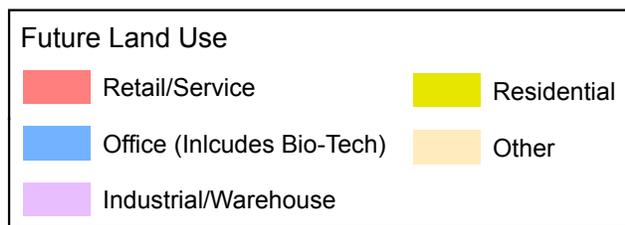
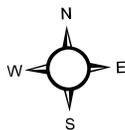
<span style="color: red;">■</span> Retail/Service	<span style="color: yellow;">■</span> Residential
<span style="color: blue;">■</span> Office (Includes Bio-Tech)	<span style="color: orange;">■</span> Other
<span style="color: purple;">■</span> Industrial/Warehouse	

**Figure 3 2008-2010 Future Ground Floor Use**

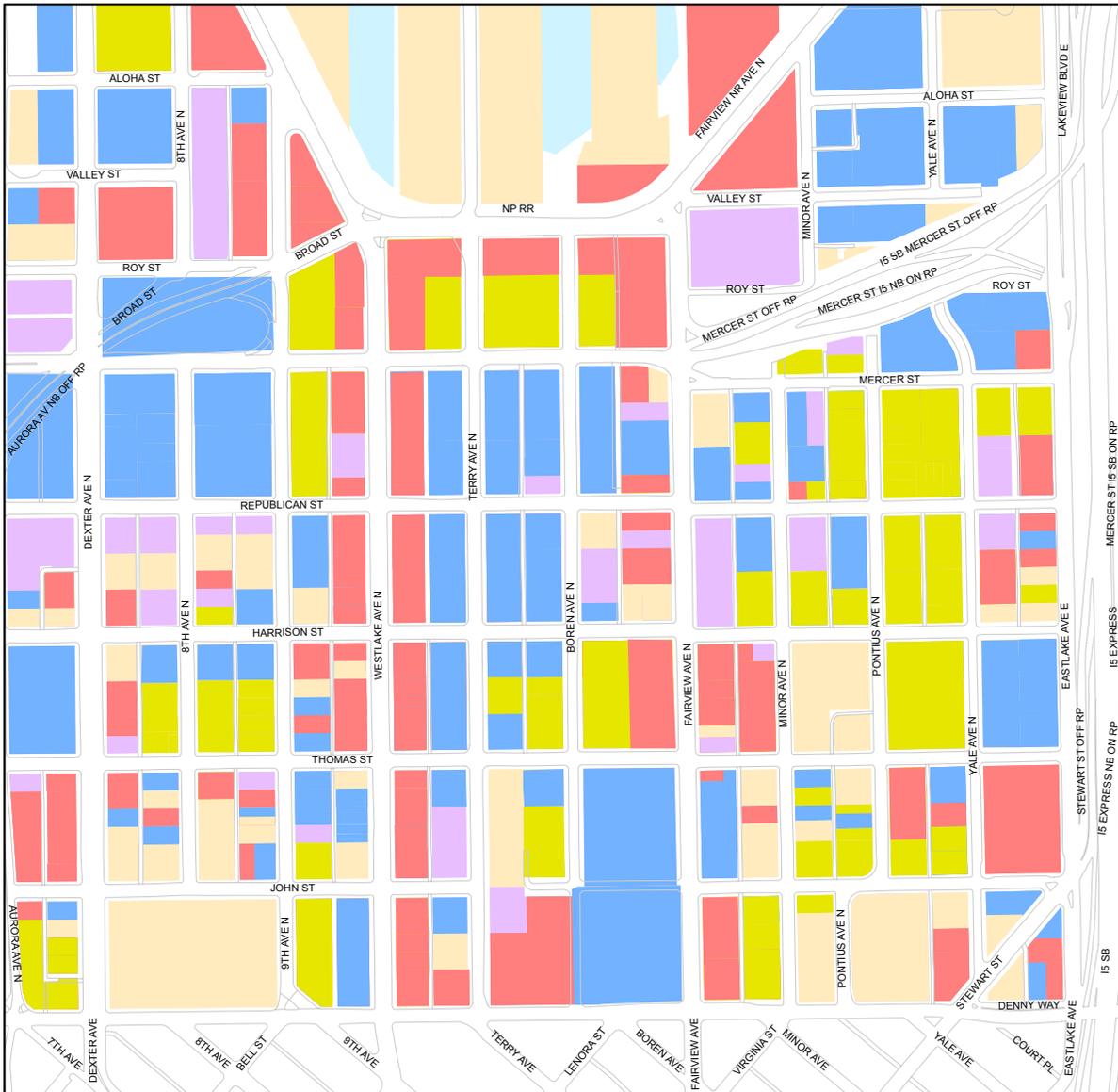


Source: GIS Data Provided by City of Seattle

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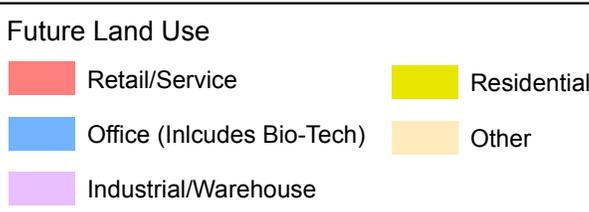
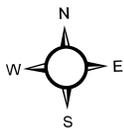


**Figure 4 2020 Future Ground Floor Use**



Source: GIS Data Provided by City of Seattle

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## EXISTING CONDITIONS & SUPPLY EVALUATION

This section provides a detailed analysis of on-street parking conditions in South Lake Union based on data collected by Operations Maintenance Group (OMG) during the first week of August 2005.

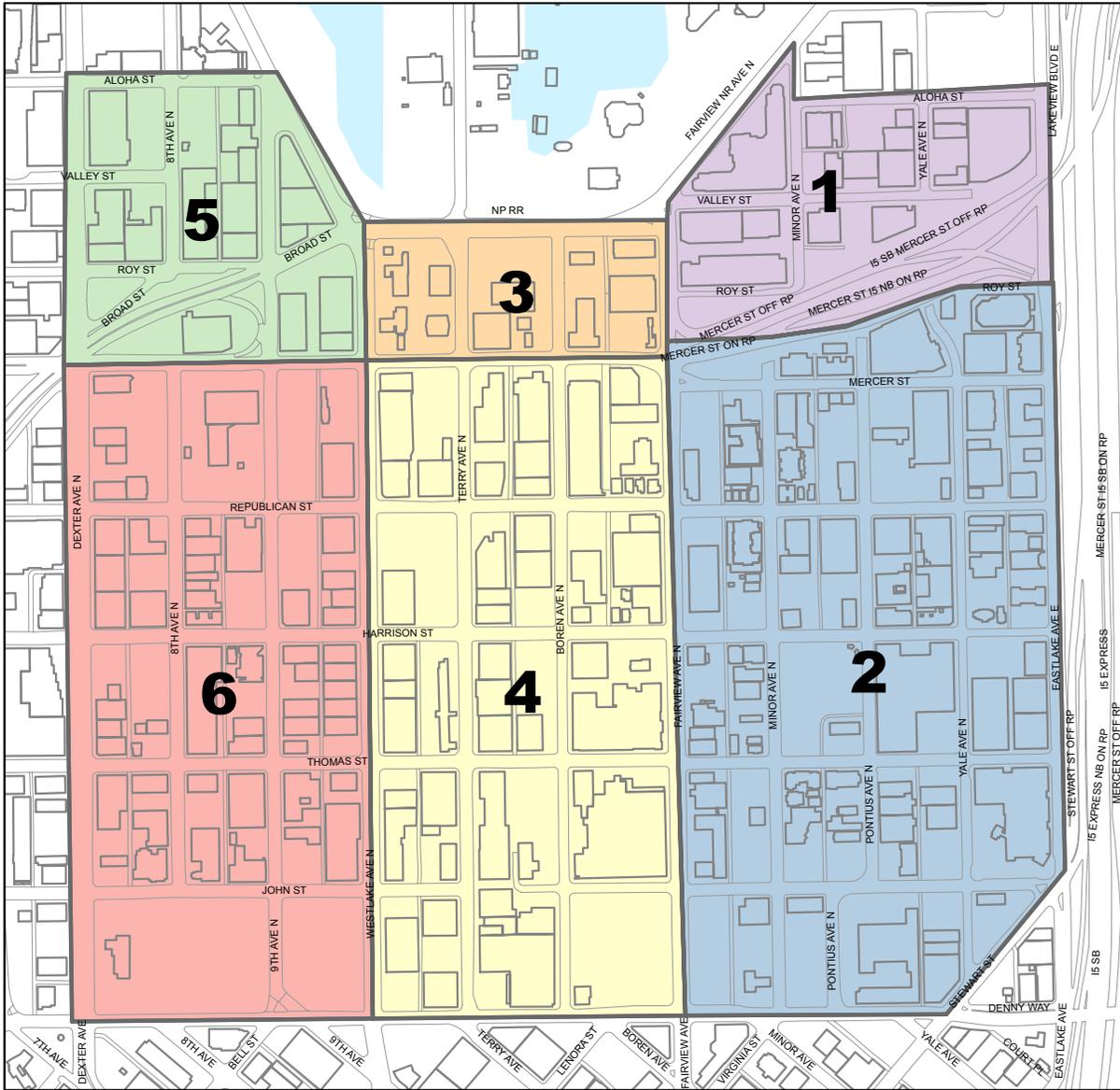
### Study Area

The study area is the South Lake Union neighborhood. The neighborhood encompasses the area south of Lake Union, east of Dexter Ave N, west of Eastlake Ave E, and north of Denny Way.

Six distinct study areas were defined to provide a more accurate analysis of parking supply and utilization in South Lake Union, allowing us to examine smaller subarea zones that have more common land use characteristics (see Figure 5). These activity zones allow for a more in-depth look at parking patterns, trends, and surpluses/deficits in subareas of the neighborhood.

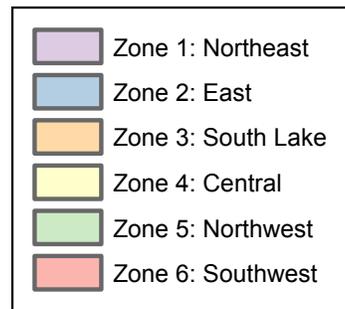
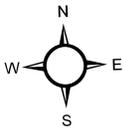
- **Zone 1** comprises the northeast section of the neighborhood – east of Fairview Ave N and north of Mercer St ramps. This zone is dominated by uses related to the Fred Hutchinson Cancer Research Center.
- **Zone 2** is the east part of the neighborhood – east of Fairview Ave N and south of Mercer St ramps. Land uses in the zone are diverse and include housing, large employers (Pemco and Seattle Times), retail stores (REI) and some small industrial businesses. Substantial redevelopment is expected in this area, including a large number of new housing units.
- **Zone 3** is south of Lake Union and north of Mercer Street west of Fairview Ave N, and east of Westlake Ave N. This small zone is isolated by major arterial streets on all sides. Future on-street parking demand will likely be tied to the redevelopment of the City Park on the south side of the lake.
- **Zone 4** is the central portion of the neighborhood – south of Mercer St, east of Westlake Ave N, and west of Fairview Ave N. This zone is bordered by major north-south arterial streets and will become the transit spine for the district with a new streetcar line being constructed on Westlake and Terry.
- **Zone 5** is the northwest section of the neighborhood – west of Westlake Ave N and north of Mercer St. This small area is typified by a mix of commercial and light industrial businesses.
- **Zone 6** is the southwest portion of the neighborhood – south of Mercer St and west of Westlake Ave N. Land uses in this zone are primarily office and light industrial/warehousing. There are a limited number of residential units scattered throughout the zone and a city park occupies the two southwestern most blocks.

**Figure 5 Study Area and Subarea Zones**



GIS Data Provided by City of Seattle

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## Data Collection Methodology

OMG conducted a survey of on-street parking occupancy and utilization on August 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>, 2005. Conditions during the survey days were sunny and warm. No special events took place in or adjacent to the area during the survey days.

The following is a brief summary of key steps undertaken in collecting the on-street parking data used in this report:

1. SDOT, OMG and Nelson\Nygaard staff met and developed survey routes using the study area on-street parking inventory prepared by OMG and maps of current and future land uses.
2. OMG hired and assigned survey staff to the project, provided training and conducted an on-site trial.
3. Surveyors using hand-held data collection units captured license plate numbers from vehicles parked on-street along designated routes.
4. OMG staff loaded all data from hand held units to its office system where it was checked for errors and outliers and cleaned.
5. OMG ran preliminary and final data reports, which were provided to Nelson\Nygaard for detailed analysis.

Resources were not available to survey every block face in the district. Instead, survey routes were developed by the consultant team and SDOT in an attempt to create a representative sample of parking utilization in the district. An attempt was made to survey areas adjacent to new development, where land uses are less likely to change in the near future. Care was also taken to ensure a representative sample of various parking types was surveyed

(one-hour, two-hour, unregulated) to provide a clear understanding of how the overall supply is functioning.

In all, 1,198 stalls were surveyed on 90 block faces representing 40% of the total study area supply.

## Inventory

A total of 2,963 on-street parking stalls were identified within the study area boundaries.<sup>2</sup> Of these spaces, 76 are metered and the remaining 2,887 are non-metered spaces. Figure 6 breaks out the on-street parking supply by zone and stall type. Figure 7 breaks out the same supply by parking restriction at 1:00 pm.<sup>3</sup>

**Figure 6 On-Street Parking Supply by Zone and Type**

Parking Zone/Location	Stall Type	Number of Stalls
Zone 1: Northeast	Spaces	281
Zone 2: East	Spaces	896
Zone 3: South Lake	Spaces	65
Zone 4: Central	Spaces	639
	Metered	48
Zone 5: Northwest	Spaces	295
Zone 6: Southwest	Spaces	711
	Metered	28
<b>Totals for Entire Study Area</b>	<b>Spaces</b>	<b>2,887</b>
	<b>Metered</b>	<b>76</b>

<sup>2</sup> This count does not include spaces identified as “no parking” or “bus zone” at 1pm, and does not include “squeeze in” spaces. This represents total spaces in the district, not the number of spaces surveyed.

<sup>3</sup> Parking stall restrictions in South Lake Union typically do not vary by time of day. In most cases, restrictions in place at 1 PM are representative of the entire day.

**Figure 7 On-Street Parking Supply by Zone and Restriction**

Parking Zone/ Location	Restriction and Type	Number of Stalls
Zone 1: Northeast	Unrestricted Space	229
	2-Hour Space	26
	1-Hour Space	9
	Loading Space	14
	Passenger Loading Space	2
	Other Space	1
	<b>Subtotal</b>	<b>281</b>
Zone 2: East	Unrestricted Space	577
	2-Hour Space	175
	1-Hour Space	45
	Loading Space	66
	Passenger Loading Space	3
	Other Space	30
	<b>Subtotal</b>	<b>896</b>
Zone 3: South Lake	Unrestricted Space	47
	2-Hour Space	12
	Loading Space	1
	Other Space	5
<b>Subtotal</b>	<b>65</b>	
Zone 4: Central	Unrestricted Space	407
	2-Hour Space	76
	2-Hour Meter	31
	1-Hour Space	68
	Half-Hour Meter	5
	Quarter-Hour Meter	12
	Loading Space	81
	Passenger Loading Space	7
	<b>Subtotal</b>	<b>687</b>
Zone 5: Northwest	Unrestricted Space	178
	2-Hour Space	88
	1-Hour Space	11
	Loading Space	17
	Other Space	1
<b>Subtotal</b>	<b>295</b>	
Zone 6: Southwest	Unrestricted Space	356
	2-Hour Space	161
	2-Hour Meter	28
	1-Hour Space	78
	Half-Hour Space	1
	Loading Space	95
	Passenger Loading Space	15
	Disabled Space	3
	Other Space	2
<b>Subtotal</b>	<b>739</b>	
<b>Total Parking in Entire Study Area</b>		<b>2,963</b>

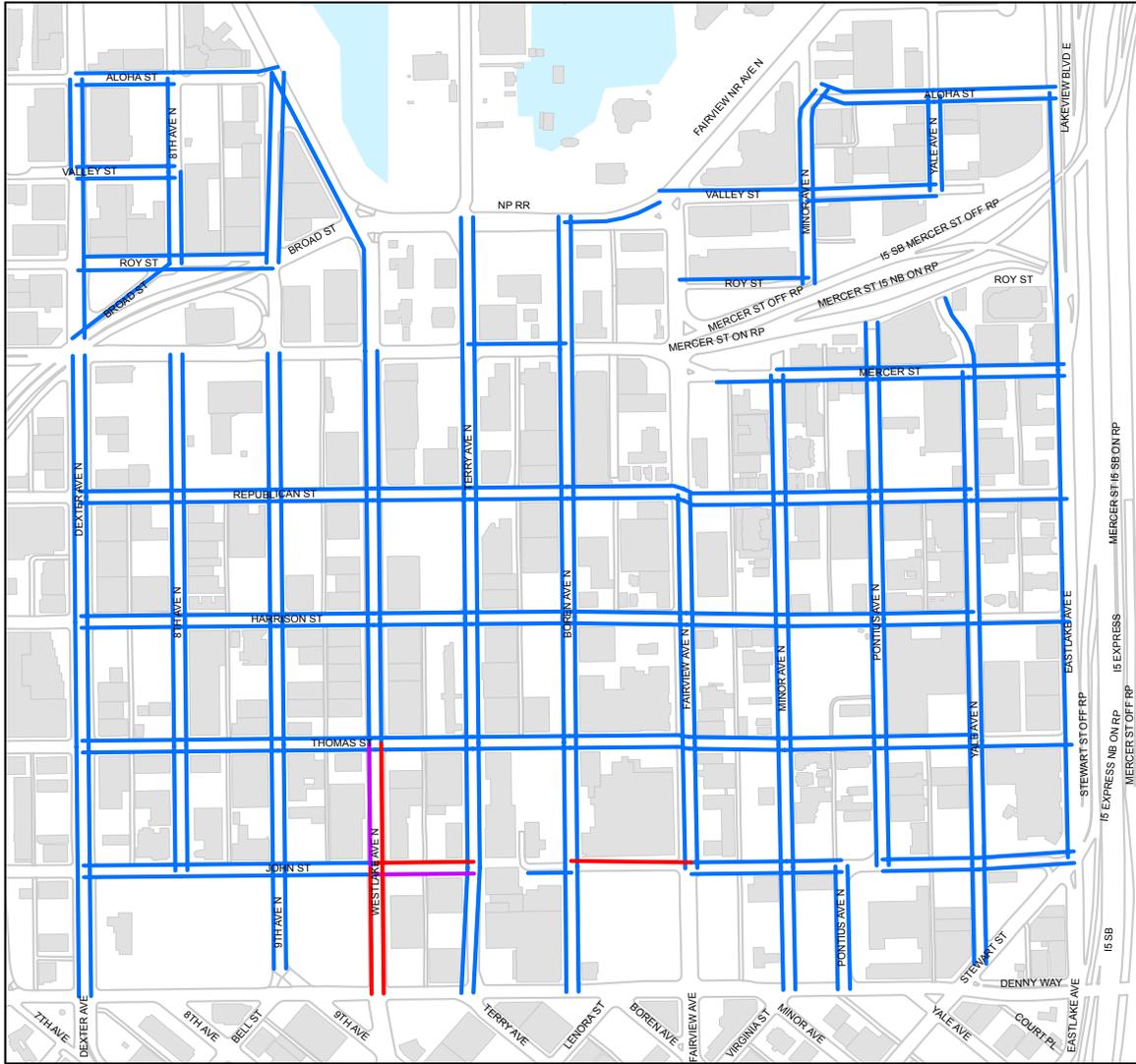
As Figure 7 indicates, the majority of the on-street parking supply is unrestricted. Time stay limits of two-hours, one-hour, 30 minutes, and 15 minutes apply to 28% of the on-street parking supply. A small proportion of the spaces, 10%, are set aside for loading or passenger loading.

Of the six subareas defined, Zone 2 (East) contains the most on-street parking stalls, with 896 spaces. Zone 6 (Southwest) contains 739 spaces, including 28 two-hour meters. Zone 4 (Central) also has a mix of metered and non-metered spaces and contains 80 loading spaces, with a total of 687 stalls. Zone 5 (Northwest) contains 295 spaces. Zone 1 (Northeast) has 281 spaces, and Zone 3 (South Lake) has 65 spaces.

Figure 8 shows the type of parking by block face. Most block faces are non-metered, and are shown in blue. Metered spaces are shown in red, along Westlake Ave N and John St. Block faces with a mix of metered and non-metered parking are shown in purple, such as along Westlake Ave.

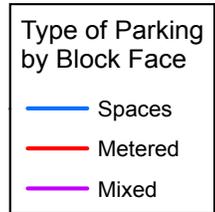
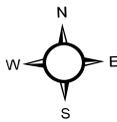
Parking restrictions are shown in Figure 9. Most block faces are predominantly unrestricted. A number of the block faces have predominantly two-hour or one-hour time stay limits (shown in yellow and orange). Only one block face inventoried has a predominant time stay limit of 15 minutes.

**Figure 8 Type of Parking by Block Face**

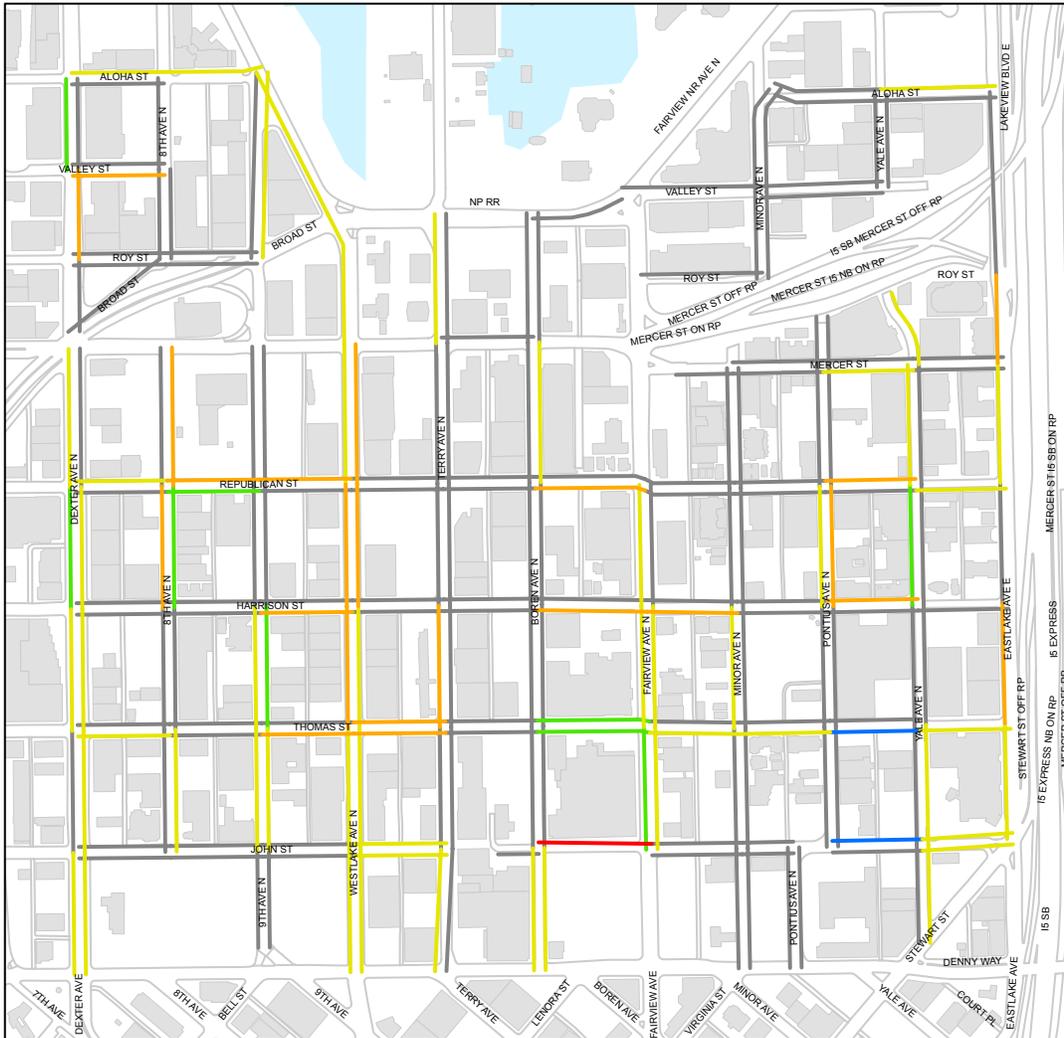


Source: July 2005 Parking Inventory, GIS Data Provided by City of Seattle

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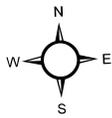


**Figure 9 Parking Restrictions by Block Face**



Source: July 2005 Parking Inventory, GIS Data Provided by City of Seattle

0 250 500 Feet



**Parking Restrictions by Block Face**

- Quarter Hour
- 1 Hour
- 2 Hours
- Load
- Other
- Unrestricted

## Occupancy and Capacity Analysis

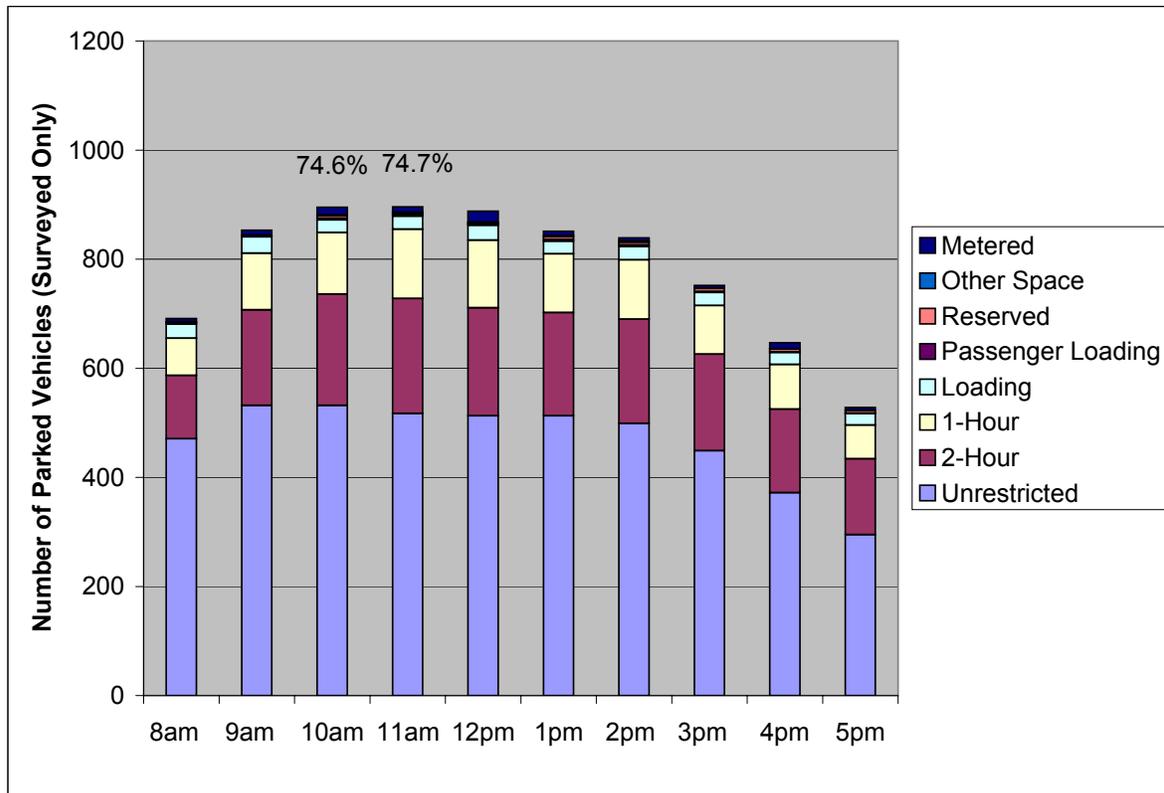
After the completion of the parking inventory for the entire study area, almost half of the block faces in the neighborhood were identified for a detailed survey of parking occupancy, utilization rates, and length of stay. The survey was conducted for a ten-hour period from 8:00 am to 6:00 pm on a normal weekday.

Peak occupancy is the time during the day when the neighborhood (or zone) experiences the highest utilization of parking stalls. This analysis points to the time in the day at which the greatest numbers

of vehicles are parked in the South Lake Union neighborhood. An analysis of occupancy for each of the six subarea parking zones follows.

For the entire South Lake Union study area, the two hours from 10:00 am to 12:00 pm represent the peak hours of occupancy. From 11:00 am to 12:00 pm, 74.7% of the on-street stalls are occupied. An almost identical number of stalls are occupied one hour earlier, from 10:00 am to 11:00 am, 74.6%.

**Figure 10 Occupancy for Entire Study Area**



## Occupancy by Zone

This section provides additional detail on parking occupancy by zone. Once again, not all block faces in the neighborhood were surveyed. Figure 11 shows the percentage of the total supply surveyed in each zone.

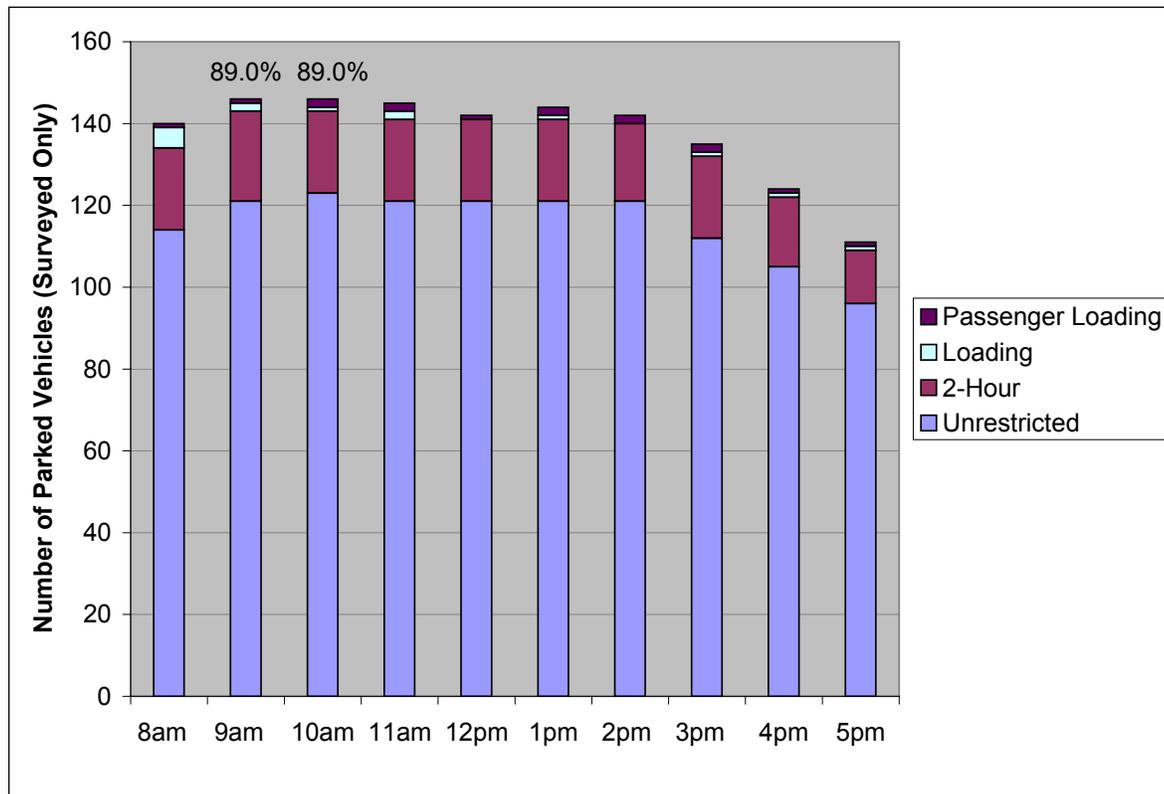
### Zone 1

Occupancy rates in Zone 1 exceed 85% for much of the day. Eight-five (85%) percent occupancy is considered the point at which it becomes difficult for someone searching for parking to locate a stall with relative ease. At 85% occupancy one in eight on-street stalls is available at a given time. Since most of the supply in this zone is unrestricted, time stays tend to be long, likely dominated by employees at Fred Hutchinson.

**Figure 11 Supply Surveyed by Zone**

Study Area Zone	Number of Stalls Surveyed	Actual Number of Stalls in Zone	Percent of Supply Surveyed
Zone 1	164	281	58.4%
Zone 2	244	896	27.2%
Zone 3	55	65	84.6%
Zone 4	250	687	36.4%
Zone 5	230	295	78.0%
Zone 6	255	739	34.5%

**Figure 12 Zone 1: Northeast Area Occupancy by Hour**



**Figure 13 Zone 1: Northeast Area Summary**

Total Parking Stalls in Subarea*	Peak Hour Occupancy	Peak Hour	85% Deficit/Surplus at Peak Hour	Number of Unique Vehicles	% of All Unique Vehicles
281	89.0%	9-11am	-11	326	14.2%

\*In this series of charts and tables, the "Total Parking Stalls in Subarea" refers to the total number of parking stalls identified in the parking inventory. The "85% Deficit/Surplus at Peak Hour" is based on a projection of occupancy data collected in the utilization survey and is intended to represent the entire subarea. In the charts, the "Number of Vehicles Parked (Surveyed Only)" refers only to the vehicles actually counted in the utilization survey.

- Peak hour occupancy is 89.0% between 9:00 am and 11:00 am.
- Zone 1 has a deficit of 11 parking stalls at the peak hour if the goal were to achieve an 85% peak hour occupancy standard.
- The total number of unique vehicles using Zone 1 during the survey period (8:00 am to 6:00 pm) was 326. This represents 14.2% of all unique vehicles observed in the study area.<sup>4</sup>

**Figure 14 Zone 1: Northeast Area Average Occupancy by Parking Type**

Restriction and Type	Average Occupancy
Unrestricted Space	87.5%
2-Hour Space	83.0%
Loading Space	20.0%
Passenger Loading Space	50.0%
Other Space	0.0%
<b>Average for Zone</b>	<b>84.2%</b>

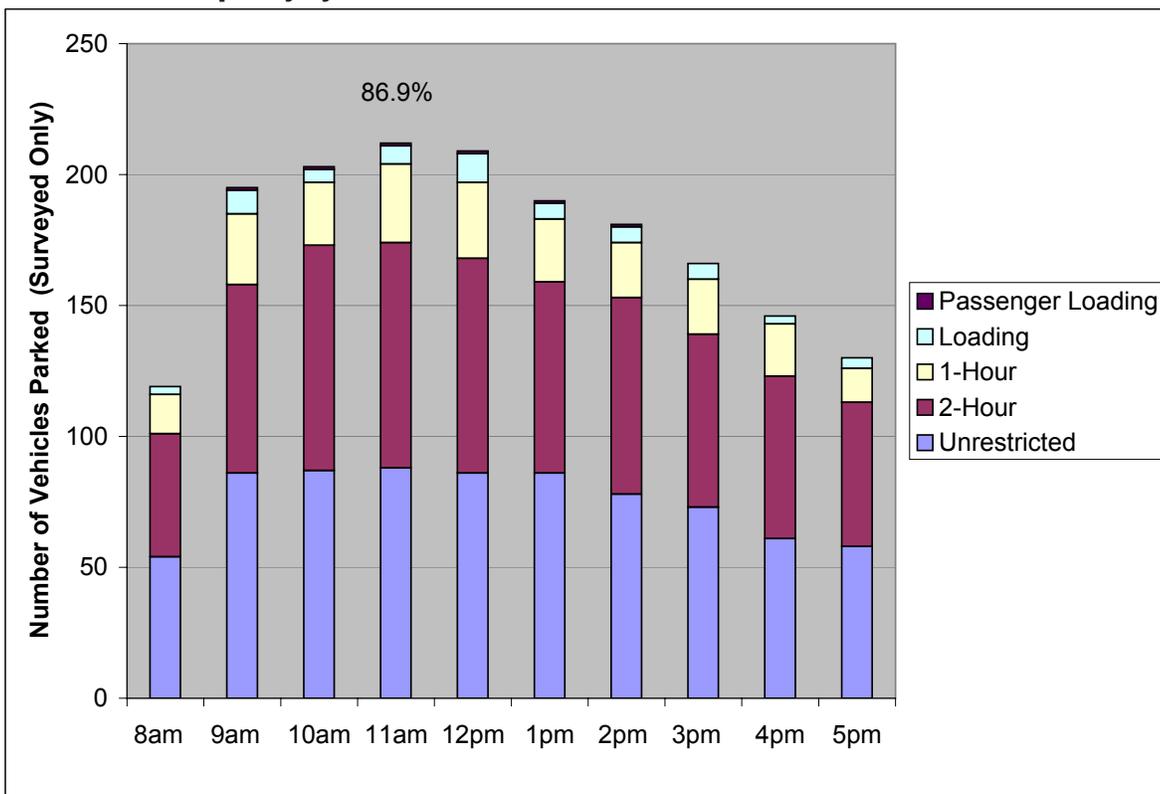
Figure 10 illustrates that occupancy rates in unrestricted areas around Fred Hutchinson are highly utilized. The high occupancy rate in the 26 two-hour spaces located in this zone may be reflect a common knowledge among employees that enforcement is minimal and risk of being ticketed is low. (This is supported by turnover, duration and violation data presented later in this section).

<sup>4</sup> The number of "unique vehicles" refers to the number of individual vehicles that parked in the South Lake Union Neighborhood during the survey day. This analysis shows the percentage of total (neighborhood-wide) unique vehicles that parked in Zone 1.

## Zone 2

Parking supply in the area east of Fairview begins to fill up by 9:00 am. Unrestricted stalls in this zone are utilized at 83% of capacity throughout the day and have a peak hour occupancy of almost 87%. The peak hour occurs between 11:00 am and 12:00 pm, but occupancy rates are high from 9:00 am until 3:00 or 4:00 pm. Average occupancy rates for one-hour and two-hour stalls are 66% and 73% respectively, relatively high for stalls with short time stay restrictions. While this rate of occupancy is close to ideal for time-limited supply, it may be misleading due to the high rate of overtime violations and the excessive length of these violations (see Compliance section).

**Figure 15 Zone 2: East Area  
Occupancy by Hour**



**Figure 16 Zone 2: East Area Summary**

Total Parking Stalls in Subarea	Peak Hour Occupancy	Peak Hour	85% Deficit/ Surplus at Peak Hour	Number of Unique Vehicles	% of All Unique Vehicles
896	86.9%	11am-12pm	-17	604	26.3%

- Peak hour occupancy is 86.9% between 11:00 am and 2:00 pm.
- Zone 2 has a deficit of 17 parking stalls at the peak hour if the goal were to achieve an 85% optimum peak hour occupancy standard.
- The total number of unique vehicles using Zone 2 during the survey period was 604. This represents 26.3% of all unique vehicles observed in the study area.

**Figure 17 Zone 2: East Area Average Occupancy by Parking Type**

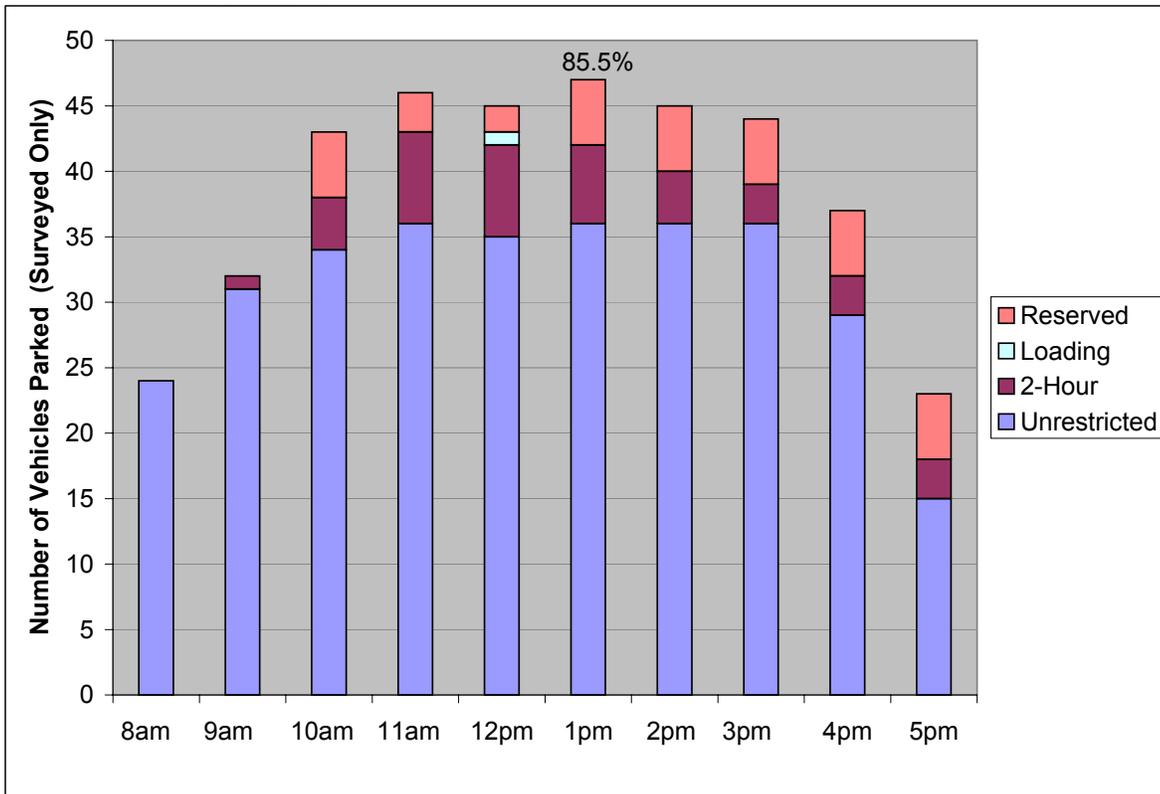
Restriction and Type	Average Occupancy
Unrestricted Space	82.1%
2-Hour Space	72.6%
1-Hour Space	65.9%
Loading Space	31.6%
Passenger Loading Space	60.0%
Other Space	20.0%
<b>Average for Zone</b>	<b>72.1%</b>

Figure 17 illustrates that, despite high occupancy rates in unrestricted areas, the 45 one-hour and 175 two-hour stalls in the district do provide some relief for short-term parkers. Respective occupancy rates of 66% and 73% show a comfortable rate of vacancy for people searching for parking.

### Zone 3

The majority of parking supplied in this small zone just south of Valley and north of Mercer is unrestricted. As illustrated in Figure 18, unrestricted supply begins filling up before 8:00 am and is over 80% occupied by 10:00 am, remaining between 80% and 85% until after 3:00 PM. The peak hour occupancy falls between 1:00 pm and 2:00 pm, but varies little from other midday hours.

**Figure 18 Zone 3: South Lake Area  
Occupancy by Hour**



**Figure 19 Zone 3: South Lake Area Summary**

Total Parking Stalls in Subarea	Peak Hour Occupancy	Peak Hour	85% Deficit/ Surplus at Peak Hour	Number of Unique Vehicles	% of All Unique Vehicles
65	85.5%	1-2pm	0	85	3.7%

- Peak hour occupancy is 85.5% between 1:00 pm and 2:00 pm.
- Zone 3 is close to the optimum 85% peak hour occupancy standard, without a deficit or surplus of parking stalls.
- The total number of unique vehicles using Zone 3 was 85. This represents 3.7% of all unique vehicles observed in the study area.

**Figure 20 Zone 3: South Lake Area Average Occupancy by Parking Type**

Restriction and Type	Average Occupancy
Unrestricted Space	84.3%
2-Hour Space	31.7%
Loading Space	10.0%
Other Space	70.0%
<b>Average for Zone</b>	<b>70.8%</b>

Figure 20 illustrates that parking demand in this area is substantially higher for unrestricted supply than for shorter-term two-hour spaces, of which there are only 12. There is limited retail or service business activity in this zone, which is reflected in the low demand for short-term stalls. Major arterial streets surrounding the zone also make walking to neighboring areas less appealing.

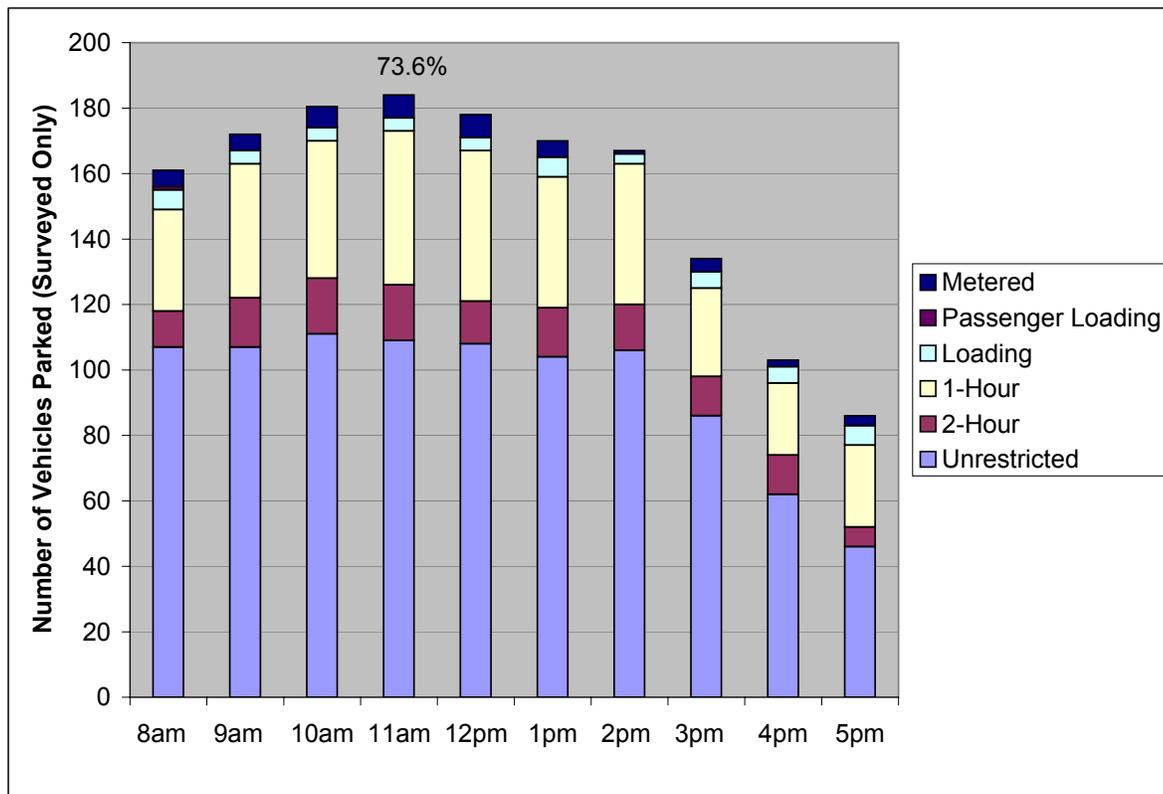
### Zone 4

Zone 4 covers the spine of South Lake Union, spanning three blocks between Westlake and Fairview and five blocks in the north/south direction between Mercer and Denny. This area has undergone significant redevelopment in recent years and will be changed dramatically by a number of planned development projects. The South Lake Union Streetcar will pass through this zone, operating on Westlake and Terry.

This zone has a supply of 687 stalls and has the most diverse range of parking types, including: unrestricted, ¼ hour meters, ½ hour meters, one-

hour stalls, one-hour meters, two-hour stalls and two-hour meters. Peak hour occupancy in the zone is at a comfortable 73% and occurs between 11:00 am and noon. Visual surveys indicate the parking demand is higher in the northern end of the zone, where there are a number of new businesses. Metered parking in the southern portion of the zone, such as that on Westlake between Denny and Thomas, is highly underutilized with occupancies well under 50% even during the peak hour.

**Figure 21 Zone 4: Central Area Occupancy by Hour**



**Figure 22 Zone 4: Central Area Summary**

Total Parking Stalls in Subarea	Peak Hour Occupancy	Peak Hour	85% Deficit/ Surplus at Peak Hour	Number of Unique Vehicles	% of All Unique Vehicles
687	73.6%	11am-12pm	78	401	17.5%

- Peak hour occupancy is 73.6% between 11:00 am and 12:00 pm.
- Zone 4 has a surplus of 78 parking stalls at the peak hour based on an 85% optimum peak hour occupancy standard.
- The total number of unique vehicles using Zone 4 during the survey period was 401. This represents 17.5% of all unique vehicles observed in the study area.

Figure 23 illustrates average occupancy rates by parking type. The disparity between occupancy rates of unrestricted stalls, two-hour stalls and metered stalls is significant. This is likely reflective of (1) the demand for longer time stays and (2) the availability of free parking in close proximity to metered stalls. While some short-term users will pay for the convenience of parking immediately in front of their destination, many people will chose to walk an extra block or two to avoid paying or worrying about enforcement.

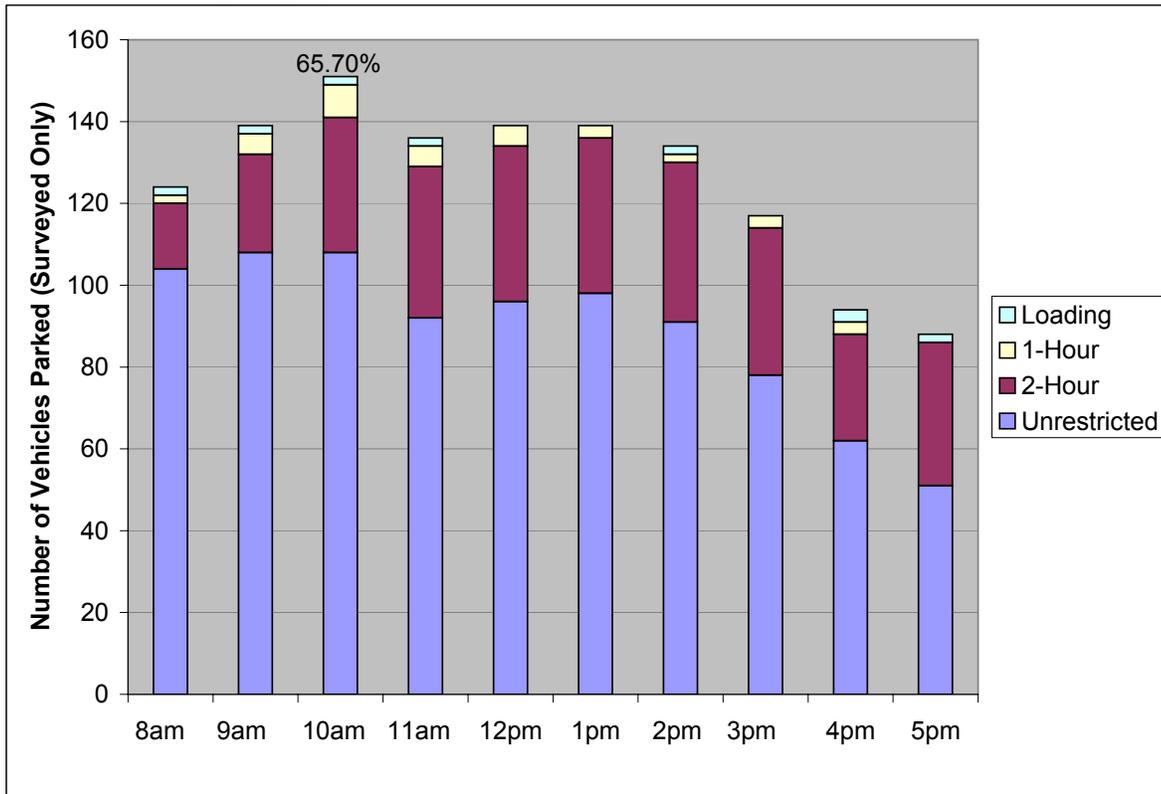
**Figure 23 Zone 4: Central Area Average Occupancy by Parking Type**

Restriction and Type	Average Occupancy
Unrestricted Space	77.3%
2-Hour Space	73.3%
2-Hour Meter	20.0%
1-Hour Space	58.7%
Half-Hour Meter	20.0%
Quarter-Hour Meter	24.6%
Loading Space	33.6%
Loading Meter	30.0%
Passenger Loading Space	10.0%
<b>Average for Zone</b>	<b>61.8%</b>

## Zone 5

The northwest zone, located north of Mercer and west of Westlake, has the lowest levels of utilization of any zone in the district. Parking demand is relatively constant from 8:00 am to about 3:00 pm, after which demand drops off. The peak hour occupancy in this area is 65% of total capacity.

**Figure 24 Zone 5: Northwest Area  
Occupancy by Hour**



**Figure 25 Zone 5: Northwest Area Summary**

Total Parking Stalls in Subarea	Peak Hour Occupancy	Peak Hour	85% Deficit/ Surplus at Peak Hour	Number of Unique Vehicles	% of All Unique Vehicles
295	65.7%	10-11am	57	366	16.0%

- Peak hour occupancy is 65.7% between 10:00 am and 11:00 am.
- Zone 5 has a surplus of 57 parking stalls at the peak hour if the goal were to achieve an optimum 85% peak hour occupancy standard.
- The total number of unique vehicles using Zone 5 was 366. This represents 16.0% of all unique vehicles observed in the study area.

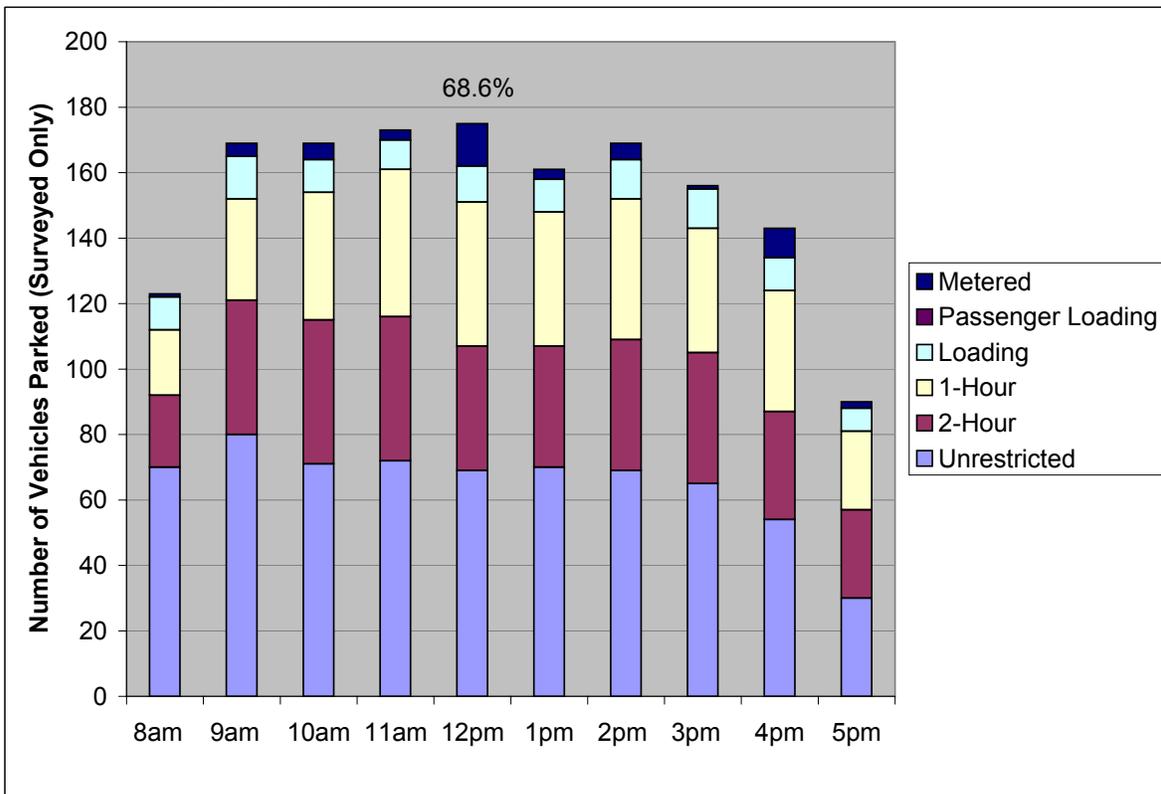
**Figure 26 Zone 5: Northwest Area Average  
Occupancy by Parking Type**

Restriction and Type	Average Occupancy
Unrestricted Space	66.7%
2-Hour Space	44.7%
1-Hour Space	32.7%
Loading Space	15.0%
Other Space	60.0%
Average for Zone	55.1%

## Zone 6

The southwestern area of the South Lake Union neighborhood is characterized by low-intensity industrial and office uses. Occupancy rates in this area are lower than the central and southeastern zones. Unlike other zones where the majority of on-street stalls are unrestricted, over 50% of the total supply in this zone is metered, regulated by time restriction or designated for special use.

**Figure 27 Zone 6: Southwest Area  
Occupancy by Hour**



**Figure 28 Zone 6: Southwest Area Summary**

Total Parking Stalls in Subarea	Peak Hour Occupancy	Peak Hour	85% Deficit/ Surplus at Peak Hour	Number of Unique Vehicles	% of All Unique Vehicles
739	68.6%	12-1pm	130	511	22.3%

- Peak hour occupancy is 68.6% between 12:00 pm and 1:00 pm.
- Zone 6 has a surplus of 130 parking stalls at the peak hour based on an optimum 85% peak hour occupancy standard.
- The total number of unique vehicles using Zone 6 during the survey period was 511. This represents 22.3% of all unique vehicles observed in the study area.

**Figure 29 Zone 6: Southwest Area Average Occupancy by Parking Type**

Restriction and Type	Average Occupancy
Unrestricted Space	74.3%
2-Hour Space	71.8%
2-Hour Meter	16.4%
1-Hour Space	52.5%
Loading Space	57.8%
Passenger Loading Space	0.0%
Other Space	50.0%
<b>Average for Zone</b>	<b>60.2%</b>

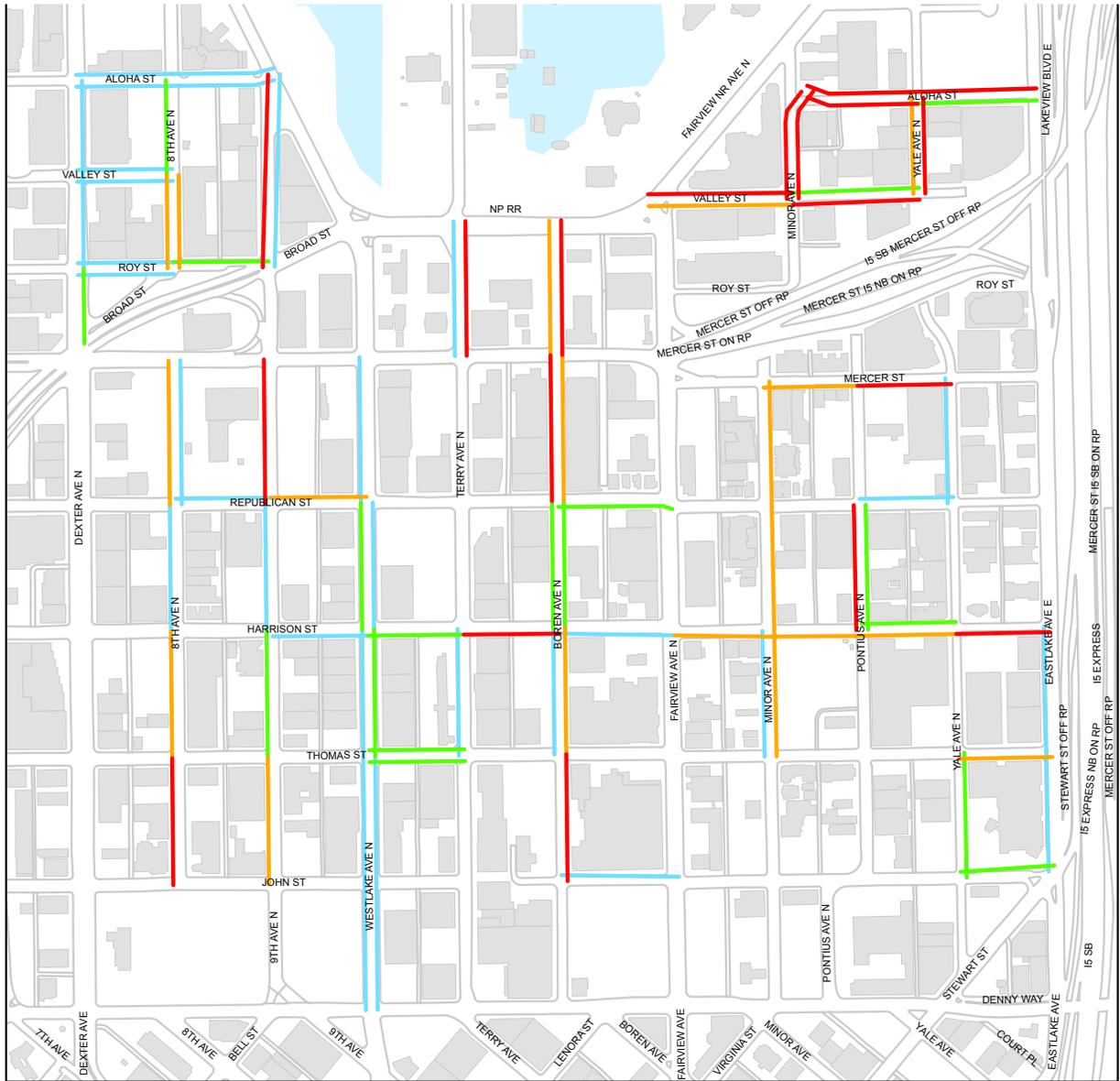
Figure 29 shows that unrestricted parking supply in this zone is well utilized, but is not overburdened. Two-hour spaces are also well utilized, with an occupancy rate almost as high as unrestricted supply. There is a substantial gap in utilization between two-hour meters and free two-hour spaces. The low use of metered supply suggests both that the demand for short-term spaces is not very high and that parkers can find non-metered spaces for their long-term needs. People may also have the perception that the metered supply is more likely to be enforced.

## Summary of South Lake Union On-Street Parking Occupancy

Figure 30 provides an illustration of average occupancy by block face between the hours of 8:00 am and 6:00 pm. Only block faces that were surveyed are illustrated. Comparing this map with Figure 6, which shows parking restrictions for each block face, it clearly shows that unrestricted supply is generally well utilized throughout the day. Most unrestricted blocks average 75% occupancy or higher, including late afternoon hours when occupancy drops off substantially.

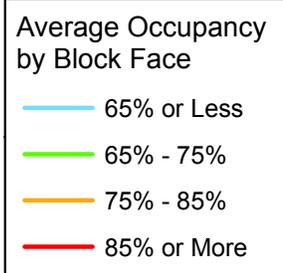
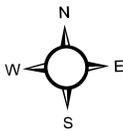
Figure 31 shows the peak hour occupancy for each of the surveyed block faces. Approximately 70% of block faces surveyed exceeded 90% occupancy during peak hours, most of these were unrestricted parking.

**Figure 30 Average Occupancy by Block Face**

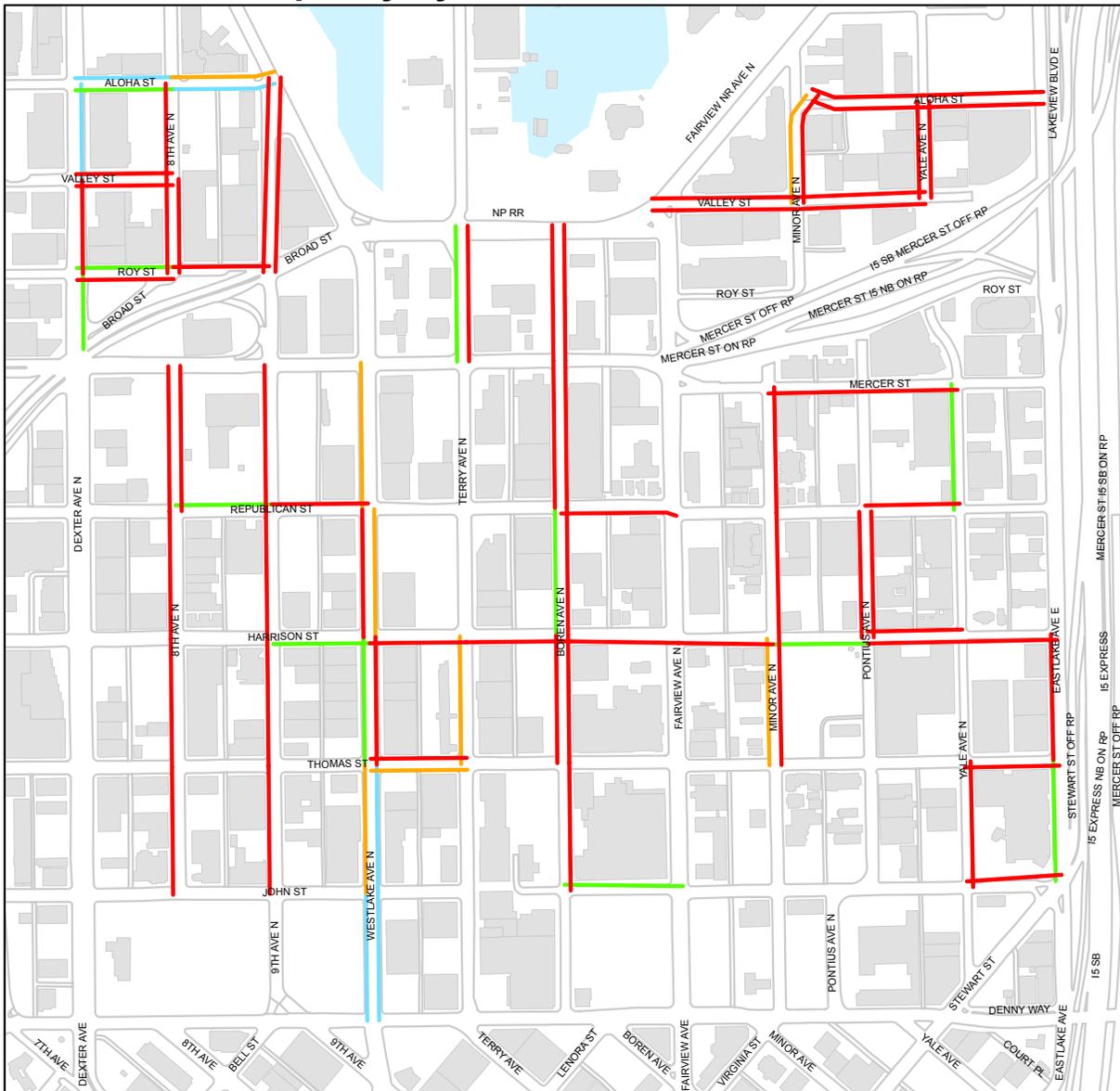


Source: July 2005 Parking Inventory, GIS Data Provided by City of Seattle

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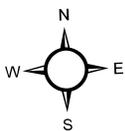


**Figure 31 Peak Hour Occupancy by Block Face**



Source: July 2005 Parking Inventory, GIS Data Provided by City of Seattle

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**Peak Hour Occupancy by Block Face**

- 50% or Less
- 50% - 85%
- 85% - 90%
- 90% or More

As described earlier, budget restrictions allowed OMG to only survey a sample of the total supply of parking in the South Lake Union Neighborhood and in the selected subarea evaluation zones. Using these samples we were able to estimate current parking demand over the entire supply. While this is not statistically accurate, visual surveys confirm that demand by parking restriction (type) is gen-

erally consistent throughout the study area zones. For example, unrestricted block faces, which make up the majority of parking in South Lake Union, are well occupied throughout the day. Figure 32 shows the total number of stalls in each zone, average occupancy rates at 10:00 am, 1:00 pm and 5:00 pm, and an estimate of the total number of stalls occupied at those same times.

**Figure 32 Conceptual Analysis of Occupancy for Entire Study Area**

Parking Zone/ Location	Restriction	Number of Stalls	10 am Average Occupancy	1 pm Average Occupancy	5 pm Average Occupancy	10 am Estimated Total Number Occupied	1 pm Estimated Total Number Occupied	5 pm Estimated Total Number Occupied
Zone 1: Northeast	Unrestricted Space	229	93.2%	89.0%	72.7%	213	204	167
	2-Hour Space	26	87.0%	87.0%	56.5%	23	23	15
	1-Hour Space	9	--	--	--	8	8	5
	Loading Space	14	14.3%	14.3%	14.3%	1	1	1
	Passenger Loading Space	2	100.0%	100.0%	50.0%	2	2	1
	Other Space	1	0.0%	0.0%	0.0%	0	0	0
	<b>Subtotal</b>	<b>281</b>				<b>247</b>	<b>237</b>	<b>189</b>
	<b>Average Occupancy</b>					<b>89.5%</b>	<b>86.0%</b>	<b>68.3%</b>
Zone 2: East	Unrestricted Space	577	94.6%	92.4%	63.0%	546	533	364
	2-Hour Space	175	88.7%	75.3%	56.7%	155	132	99
	1-Hour Space	45	70.6%	70.6%	38.2%	32	32	17
	Loading Space	66	26.3%	31.6%	21.1%	17	21	14
	Passenger Loading Space	3	100.0%	100.0%	0.0%	3	3	0
	Other Space	30	0.0%	100.0%	0.0%	0	30	0
	<b>Subtotal</b>	<b>896</b>				<b>753</b>	<b>750</b>	<b>494</b>
	<b>Average Occupancy</b>					<b>84.0%</b>	<b>83.8%</b>	<b>55.1%</b>
Zone 3: South Lake	Unrestricted Space	47	91.9%	97.3%	40.5%	43	46	19
	2-Hour Space	12	33.3%	50.0%	25.0%	4	6	3
	Loading Space	1	0.0%	0.0%	0.0%	0	0	0
	Other Space	5	100.0%	100.0%	100.0%	5	5	5
	<b>Subtotal</b>	<b>65</b>				<b>52</b>	<b>57</b>	<b>27</b>
	<b>Average Occupancy</b>					<b>80.3%</b>	<b>87.3%</b>	<b>41.6%</b>
Zone 4: Central	Unrestricted Space	407	90.2%	85.2%	36.9%	367	347	150
	2-Hour Space	76	94.4%	83.3%	33.3%	72	63	25
	2-Hour Meter	31	0.0%	6.3%	0.0%	0	2	0
	1-Hour Space	68	67.7%	64.5%	40.3%	46	44	27
	Half-Hour Meter	5	50.0%	25.0%	25.0%	3	1	1
	Quarter-Hour Meter	12	37.5%	25.0%	8.3%	5	3	1
	Loading Space	80	28.6%	42.9%	42.9%	23	34	34
	Loading Meter	1	100.0%	0.0%	100.0%	1	0	1
	Passenger Loading	7	0.0%	0.0%	0.0%	0	0	0
	<b>Subtotal</b>	<b>687</b>				<b>516</b>	<b>496</b>	<b>241</b>
<b>Average Occupancy</b>					<b>75.2%</b>	<b>72.1%</b>	<b>35.1%</b>	
Zone 5: Northwest	Unrestricted Space	178	81.3%	73.2%	36.6%	134	121	60
	2-Hour Space	88	45.8%	52.8%	48.6%	40	46	43
	1-Hour Space	11	72.7%	27.3%	0.0%	8	3	0
	Loading Space	17	20.0%	0.0%	20.0%	3	0	3
	Other Space	1	100.0%	100.0%	0.0%	1	1	0
	<b>Subtotal</b>	<b>295</b>				<b>195</b>	<b>179</b>	<b>113</b>
	<b>Average Occupancy</b>					<b>66.0%</b>	<b>60.6%</b>	<b>38.3%</b>

Parking Zone/ Location	Restriction	Number of Stalls	10 am Average Occupancy	1 pm Average Occupancy	5 pm Average Occupancy	10 am Estimated Total Number Occupied	1 pm Estimated Total Number Occupied	5 pm Estimated Total Number Occupied
Zone 6: Southwest	Unrestricted Space	356	81.6%	80.5%	34.5%	291	286	123
	2-Hour Space	161	86.3%	72.5%	52.9%	139	117	85
	2-Hour Meter	28	17.9%	10.7%	7.1%	5	3	2
	1-Hour Space	78	56.5%	59.4%	34.8%	44	46	27
	Half-Hour Space	1	--	--	--	1	1	0
	Loading Space	95	55.6%	55.6%	38.9%	53	53	37
	Passenger Loading Space	15	0.0%	0.0%	0.0%	0	0	0
	Disabled Space	3	--	--	--	2	2	2
	Other Space	2	0.0%	0.0%	0.0%	0	0	0
	Subtotal	<b>739</b>				<b>533</b>	<b>507</b>	<b>276</b>
Average Occupancy					<b>72.2%</b>	<b>68.7%</b>	<b>37.3%</b>	
<b>Total Parking in Entire Study Area</b>					<b>2,297</b>	<b>2,226</b>	<b>1,339</b>	
<b>Average Occupancy for Entire Study Area</b>					<b>77.6%</b>	<b>75.3%</b>	<b>45.3%</b>	

Notes: Zone 1 1-Hour space estimates are based on 2-Hour spaces because no 1-Hour spaces were surveyed in that zone.  
 Zone 6 Half-Hour space estimates are based on 1-Hour spaces because no Half-Hour spaces were surveyed.  
 Zone 6 Disabled space estimates based on 50% occupancy.

## Usage Characteristics

Time restrictions are placed on parking stalls to encourage turnover in areas where short-term customer or visitor access is a priority over long-term parking. In South Lake Union, time-stay restrictions vary significantly and well over half of the supply remains completely unrestricted. Time-stays were likely added to specific areas to promote turnover near retail businesses or public parks, where visitor access might otherwise be impeded by residents or employees storing vehicles on street all day. Changing land uses in South Lake Union have rendered some restrictions obsolete. Others restrictions may be well designed, but ineffective due to poor enforcement.

Figure 33 shows the average time stay and turnover rate in South Lake Union, revealing several important findings:

- The average length of stay in unrestricted stalls is 5.08 hours. This means that on average less than two unique vehicles use one parking stall in a day.
- Two-hours spaces have a time stay of 2.53 hours, more than 25% over the maximum stay. This is reflected in compliance data, which shows that enforcement in the area is minimal and that time stays are frequently abused.
- Time stays of 2.15 hours in one-hour spaces, 2.46 hours in quarter-hour spaces also indicate that restricted supply is being abused.
- Time stays of 2.03 hours in loading zone spaces likely indicates one of two things, or a combination: (1) loading zones are being used for non-loading uses and/or (2) commercial uses in the neighborhood have a need for longer (than 30 minutes) duration loading arrangements.

**Figure 33 Average Time Stay by Parking Type and Restriction**

Space Type	Restriction	Length of Stay (in hours)	Turns Per Day (8 am – 6 pm)
Space	Unrestricted	5.08	1.97
Meter	Unrestricted	4.07	2.46
Space	2-Hour	2.53	3.95
Meter	Quarter-Hour	2.46	4.07
Space	Passenger Loading	2.20	4.55
Space	1-Hour	2.15	4.65
Space	Reserved	2.06	4.85
Space	Loading	2.03	4.93
Meter	2-Hour	1.35	7.41
Meter	Half-Hour	1.00	10.00
Meter	Loading	1.00	10.00

Given high occupancy rates, the low number of turns per stall in a day, particularly in time restricted spaces, it raises questions about the number of potential customers or visitors that are being deterred from parking in the neighborhood. While there is no way to accurately assess this, it can be said that there would be more parking “opportunity” if actual time stays in restricted supply were closer to posted maximums.

The map in Figure 34 illustrates the rate of turnover on surveyed block faces throughout the study area. The *turnover ratio*, as used here, is simply the number of unique vehicles parked on a block face during the study period divided by the total number of stalls available on the block face. This provides an indication of how many unique vehicles are using a stall to access jobs, businesses or housing units in the neighborhood over the course of a day.

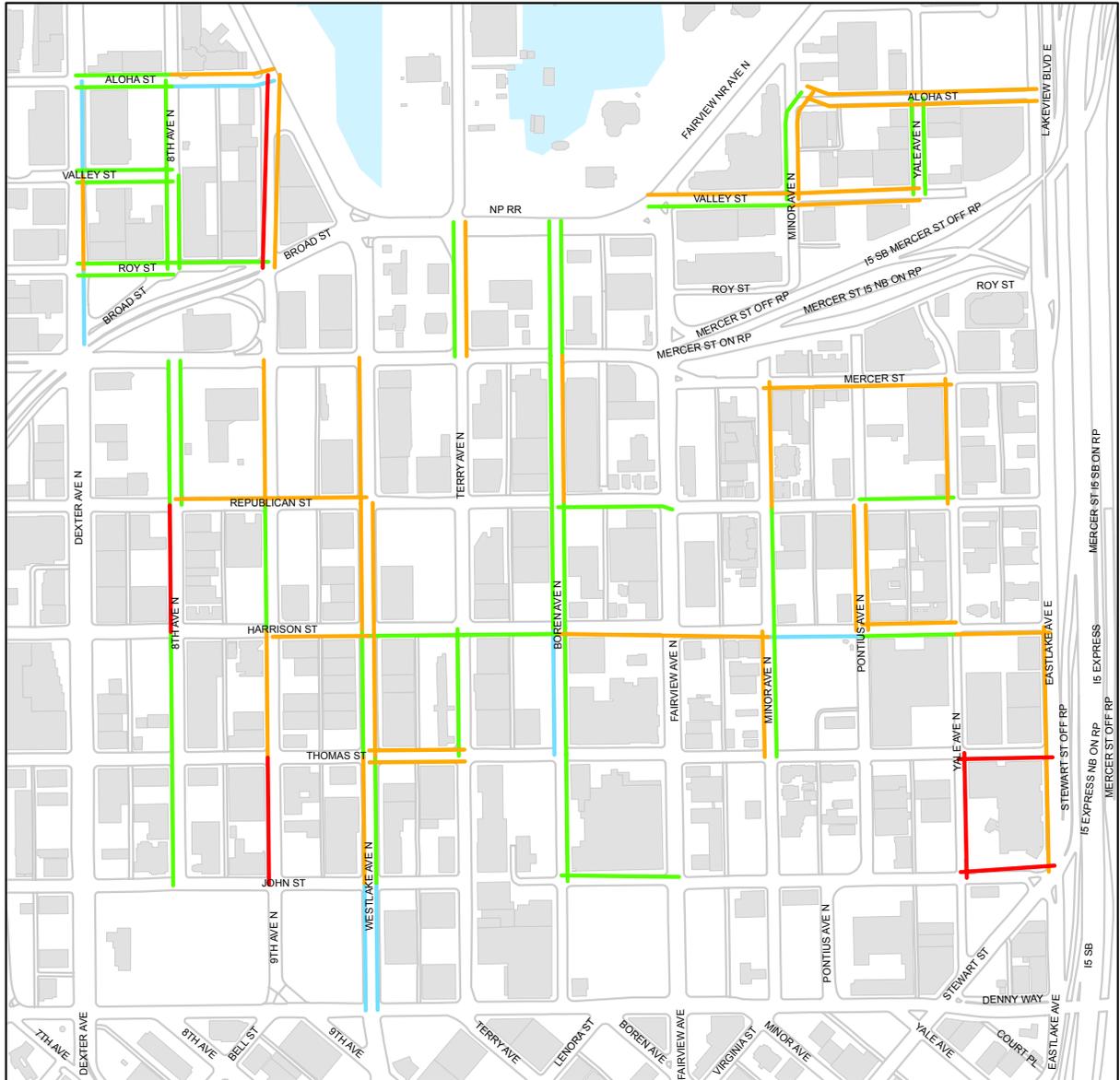
There is an atypically weak correlation between the rate of turnover, the type of parking restriction in place and/or the type of parking (metered vs. unmetered). While the block faces with the highest

turnover do have time restrictions, those with the lowest turnover do as well. Turnover rates appear to be influenced more directly by the presence of retail or ground floor commercial businesses that encourage short time stays, such as the areas around REI and on Westlake between Harrison and Mercer.

Figure 35 shows the number of unique vehicles that accessed parking on the surveyed block faces. The second column from the right shows an estimate of total unique vehicles in each zone extrapolated from the survey data and the total number of stalls by type in the study area. The column on the far right shows the ratio of unique vehicles accessing each zone to the total available supply.

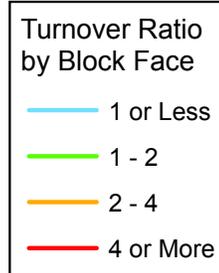
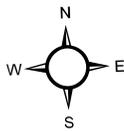
- Only Zone 2 has more than two unique vehicles park per available stall on a typical weekday.
- Zones 3, 4, and 5 have just 1.5 to 1.6 unique vehicles per available stall.

**Figure 34 Turnover Ratio by Block Face**



Source: July 2005 Parking Inventory, GIS Data Provided by City of Seattle

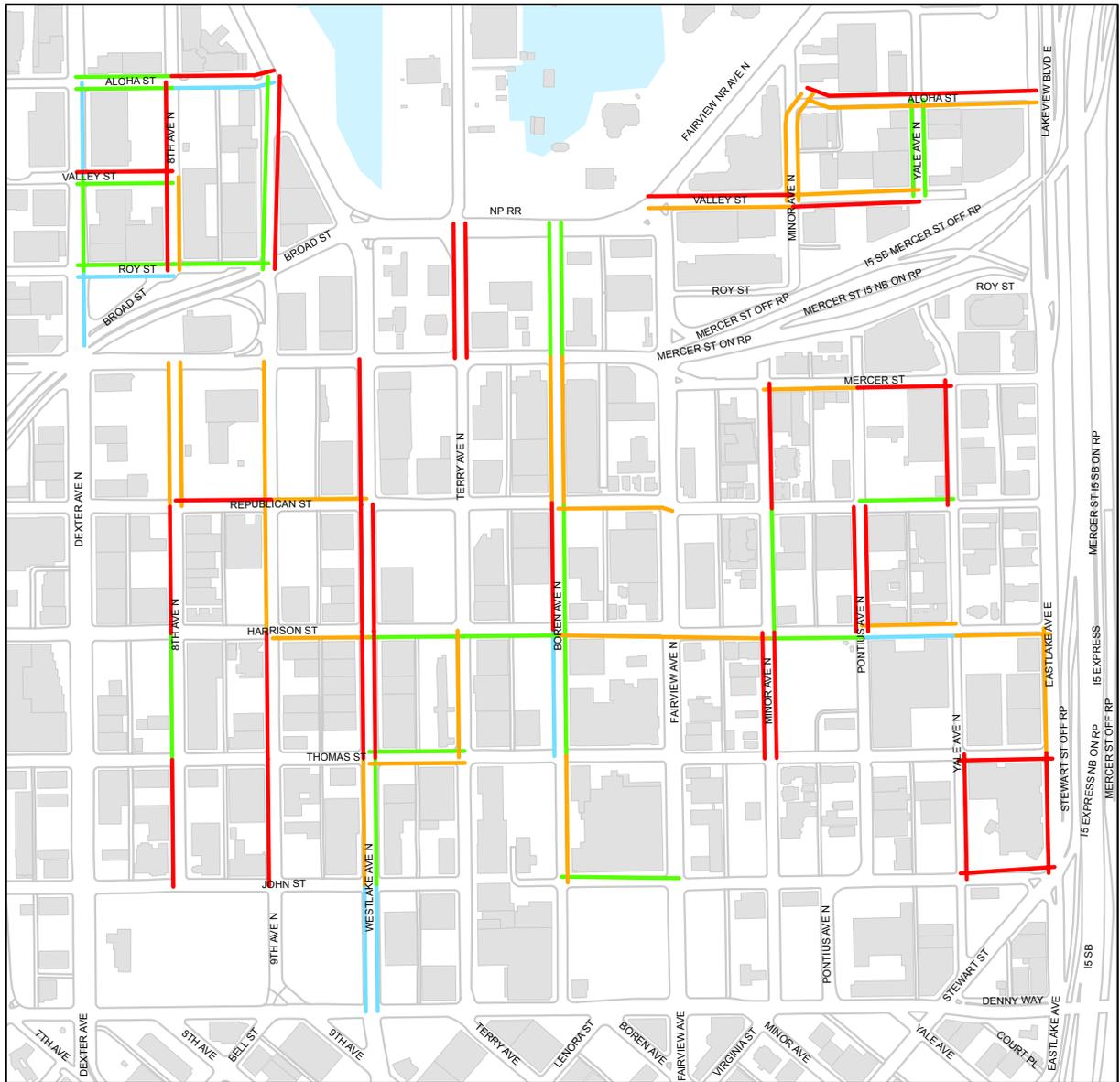
0 250 500 Feet



**Figure 35 Surveyed and Estimated Unique Vehicles by Zone**

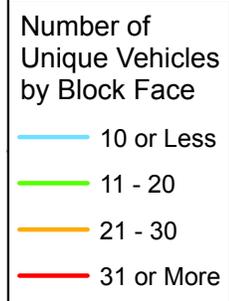
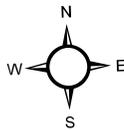
Parking Zone/ Location	Restriction	Number of Unique Vehicles on Surveyed Blocks	Number of Stalls Surveyed	Total Number of Stalls of Same Type in Zone	Estimated Number of Unique Vehicles	Ratio of Unique Vehicles to Available Stalls
Zone 1: Northeast	Unrestricted Space	251	132	229	435	1.9
	2-Hour Space	56	23	26	63	2.4
	Loading Space	13	7	14	26	1.9
	Passenger Loading	6	2	2	6	3.0
	<b>Subtotal</b>	<b>326</b>	<b>164</b>	<b>271</b>	<b>539</b>	<b>2.0</b>
Zone 2: East	Unrestricted Space	149	92	577	934	1.6
	2-Hour Space	319	97	175	576	3.3
	1-Hour Space	95	34	45	126	2.8
	Loading Space	36	19	66	125	1.9
	Passenger Loading	3	1	3	9	3.0
	Other Space	2	1	30	60	2.0
<b>Subtotal</b>	<b>604</b>	<b>244</b>	<b>896</b>	<b>2,218</b>	<b>2.5</b>	
Zone 3: South Lake	Unrestricted Space	52	37	47	66	1.4
	2-Hour Space	15	12	12	15	1.3
	Loading Space	1	1	1	1	1.0
	Other Space	17	5	5	17	3.4
	<b>Subtotal</b>	<b>85</b>	<b>55</b>	<b>65</b>	<b>100</b>	<b>1.5</b>
Zone 4: Central	Unrestricted Space	159	122	407	530	1.3
	2-Hour Space	38	18	76	160	2.1
	2-Hour Meter	8	16	31	16	0.5
	1-Hour Space	151	62	68	166	2.4
	Half-Hour Meter	8	4	5	10	2.0
	Quarter-Hour Meter	13	12	12	13	1.1
	Loading Space	20	14	80	114	1.4
	Loading Meter	3	1	1	3	3.0
	Passenger Loading	1	1	7	7	1.0
	<b>Subtotal</b>	<b>401</b>	<b>250</b>	<b>687</b>	<b>1,102</b>	<b>1.6</b>
Zone 5: Northwest	Unrestricted Space	195	136	178	255	1.4
	2-Hour Space	141	72	88	172	2.0
	1-Hour Space	17	11	11	17	1.5
	Loading Space	11	10	17	19	1.1
	Other Space	2	1	1	2	2.0
	<b>Subtotal</b>	<b>366</b>	<b>230</b>	<b>295</b>	<b>469</b>	<b>1.6</b>
Zone 6: Southwest	Unrestricted Space	120	87	356	491	1.4
	2-Hour Space	123	51	161	388	2.4
	2-Hour Meter	32	28	28	32	1.1
	1-Hour Space	196	69	78	222	2.8
	Loading Space	38	18	95	201	2.1
	Other Space	2	2	21	21	1.0
	<b>Subtotal</b>	<b>511</b>	<b>255</b>	<b>739</b>	<b>1,481</b>	<b>2.0</b>
<b>Total Unique Vehicles in Entire Study Area</b>					<b>5,909</b>	

**Figure 36 Unique Vehicles by Block Face**



Source: July 2005 Parking Inventory, GIS Data Provided by City of Seattle

0 250 500 Feet



## Compliance

Figures 37, 38 and 39 show a record of overtime, expired meter and illegal parking violations recorded during the study period (8:00 am to 6:00 pm). These only show the violations that occurred on blocks that were surveyed, actual rates of violations and illegal parking are likely much higher. If one thing is clear from these findings, it is that nobody parking regularly in SLU is concerned about enforcement! People parking in one-hour and two-hour spaces stayed an average of almost three hours over the posted time limit. The data shows that people parking in the neighborhood either understand that the supply is not enforced or don't understand the posted time limits.

In all, 585 violations were recorded from the 2,293 unique vehicles counted in South Lake Union during the survey period – a violation rate of one vehicle in every four counted during the survey.<sup>5</sup> The following bullets and tables provide more detail on time-stay violations and illegally parked vehicles.

- Over 463 vehicles were in violation of time-limits posted in non-metered spaces.
- On average vehicles exceeding posted time limits stayed almost 3 additional hours. Many of these vehicles stayed 6 to 8 hours over the posted time limit, indicating that people are using time-limited stalls to park for the entire day.
- An analysis of overtime violations by parking type (Figure 33) shows that two-hour spaces are the most commonly abused. One-hour spaces and loading zones are also commonly used to park for three hours or more.
- The survey recorded 34 vehicles that exceeded meter time limits. On average, these vehicles stayed almost 2 hours longer than the meter limit.

- Meter violations occur most frequently at two-hour meters, which is expected given 2-hour meters are the most common type. Of the 12 quarter-hour meters in the neighborhood, located on the north side of John between Boren and Fairview, eight experienced one or more overtime violations with an average stay of 2.5 hours past the time limit.
- Eighty-seven (87) illegally parked vehicles were recorded by surveyors. On average, these vehicles parked for over three hours. The majority of these vehicles were parked in areas signed as no parking or had squeezed into illegal spaces.

<sup>5</sup> This is likely higher than violation rates district-wide, since the survey sample focused on regulated block faces where violations are most likely to occur.

**Figure 37 Overtime Violations by Zone & Parking Type**

Zone	Spaces with Violations	Unique Vehicles in Violation	Hourly Samples with Violation(1)	Average Length of Violation (Time Over Limit)
1	22	29	105	3.62
2	105	138	398	2.88
3	4	4	18	4.50
4	32	46	142	3.09
5	44	47	134	2.85
6	141	199	574	2.88
<b>Total/Avg.</b>	<b>348</b>	<b>463</b>	<b>1371</b>	<b>2.96</b>
<b>Parking Type</b>				
Space - 1 Hr	132	186	528	2.84
Space - 2 Hr	184	230	698	3.03
Space - Load	27	40	122	3.05
Space - PsgrLoad	2	2	12	6.00

(1) "Hourly sample with violation" describes the total number of hours that vehicles surveyed were in violation. For example, 29 separate vehicles in Zone 1 violated time stay restrictions for an average of 3.62 hours each. This totals 105 hours parked vehicles were in violation.

**Figure 38 Expired Meters by Zone & Meter Type**

Zone	Spaces with Violation	Unique Vehicles in Violation	Hourly Samples with Violation	Average Length of Violation (Time Over Limit)
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	14	18	36	2.00
5	0	0	0	0.00
6	11	16	22	1.38
<b>Total/Avg.</b>	<b>25</b>	<b>34</b>	<b>58</b>	<b>1.71</b>
<b>Meter Type</b>				
Meter - 2 Hr	14	19	26	1.37
Meter - HalfHr	2	3	3	1.00
Meter - Load	1	1	1	1.00
Meter - QtrHr	8	11	28	2.55

**Figure 39 Illegally Parked Vehicles by Zone**

Zone	Spaces with Violation	Unique Vehicles Illegally Parked	Hourly Samples with Violation	Average Length of Violation (Time Illegally Parked)
1	7	11	46	4.18
2	11	15	30	2.00
3	4	7	12	1.71
4	4	6	18	3.00
5	8	11	45	4.09
6	26	38	131	3.45
<b>Total/Avg.</b>	<b>60</b>	<b>88</b>	<b>282</b>	<b>3.20</b>

## Summary

Analysis of the parking data collected during the week of August 8, 2005 shows that on-street parking in South Lake Union is well utilized. Average occupancy between 8:00 am and 6:00 pm is 78% for the entire study area, with peak occupancies over 85% in three of the six study area zones. Use of the on-street supply can be typified as predominantly long-term parkers. Over half of total on-street parking in the area is unrestricted and the average time stay for an unrestricted stall exceeds five hours. Even time restricted stalls tend to have long time stays in relation to the regulated time restriction. For example, the average stay at a two-hour on-street stall is over 2.5 hours. This is likely a sign of very limited enforcement activity in the area.

At 85% occupancy, one out of every eight parking stalls is available. This is generally recognized as the point at which someone searching for parking can find a stall without trolling or spending excessive time searching. Using 85% as an optimum peak occupancy standard, we examined the parking surplus or deficit in each of the six parking zones. In general, the east side of the district showed a deficit of parking (-28 stalls between Zones 1 and 2), the central zones showed a surplus of 78 stalls and the west side of the district had ample surplus capacity (+187 stalls between Zones 5 and 6). This is due in large part to the presence of several major employers in the eastern portion of the district, including The Seattle Times, Pemco and Fred Hutchinson Cancer Research Center.

The ratio of unique vehicles parking in the district between 8:00 am and 6:00 pm to the number of on-street stalls is less than two to one. This reflects a

very low rate of turnover and, once again, supports the finding that longer-term usage is a priority for current users of the on-street supply.

Other key findings from this analysis, include:

- In South Lake Union, the two hours from 10:00 am to 12:00 pm represent the peak occupancy for the entire study area. From 11:00 am to 12:00 pm, 74.7% of the on-street stalls are occupied. An almost identical number of stalls are occupied one hour earlier, from 10:00 am to 11:00 am, when 74.6% of the spaces are occupied.
- Unrestricted supply is generally well utilized throughout the day. Most unrestricted blocks average 75% occupancy or higher, including late afternoon hours when occupancy drops off substantially.
- Approximately 70% of block faces surveyed exceeded 90% occupancy at some point during the day.
- The average length of stay in unrestricted stalls is 5.08 hours. This means that less than two unique vehicles use one parking stall in a day and many are occupied by a single vehicle.
- Two-hours spaces have a time stay of 2.53 hours, more than 25% over the maximum stay. This is an indication that enforcement in the area is poor and that time stays are frequently abused.
- Time stays of 2.15 hours in 1-hour spaces, 2.46 hours in quarter-hour spaces, and 2.03 hours in loading zone spaces also indicate that restricted supply is being abused.
- Only Zone 2 has more than two unique vehicles park per available stall on a typical weekday. Zones 3, 4, and 5 accommodate just 1.5 to 1.6 unique vehicles per available stall.
- There are a high number of loading spaces in relation to the total supply. Unique vehicle access to loading spaces is low, with an average of less than two vehicles per day. Sup-

ported by visual surveys, this indicates that many loading zones may be outdated due to recent development or a change in business activity.

- Parking violation data shows that people parking in South Lake Union are not concerned about parking enforcement. Those parking in one-hour and two-hour spaces stayed an average of almost three hours over the posted time limit. This shows that people either understand that there is no regular enforcement or time regulations are not clearly posted.
- The rate of violations at meters was lower than at time limited stalls; however, the survey recorded 35 vehicles that exceeded meter time limits. On average, these vehicles stayed almost 2 hours longer than the meter limit.

- Eighty-seven (87) illegally parked vehicles were recorded by surveyors. On average, these vehicles parked for over three hours. The majority of these vehicles were parked in areas signed as no parking or had squeezed into illegal spaces.

Figure 40 provides a summary of total parking supply, peak occupancy and unique vehicle access by zone for South Lake Union.

**Figure 40 Summary by Study Area Zone**

Zone	Total Parking Stalls in Zone(1)	Peak Occupancy Rate	Time of Peak Occupancy	85% Deficit/Surplus at Peak Hour	Estimated Number of Unique Vehicles(2)	Violations & Illegally Parked Vehicles(3)
1	281	89.0%	9-11am	-11	539	40
2	896	86.9%	11am-12pm	-17	2,218	153
3	65	85.5%	1-2pm	0	100	11
4	687	73.6%	11am-12pm	78	1,102	70
5	295	65.7%	10-11am	57	469	58
6	739	68.6%	12-1pm	130	1,481	253
Total/Avg.	2963	78.22%		237	5,909	585

(1) In this tables, the "Total Parking Stalls in Subarea" refers to the total number of parking stalls identified in the parking inventory. The "85% Deficit/Surplus at Peak Hour" is based on a projection of occupancy data collected in the utilization survey and is intended to represent the entire subarea.

(2) This is the estimated total number of unique vehicles parking in the study area, projected based on the sample of surveyed blocks and the total parking supply by type of parking.

(3) This is the actual number of violations and illegally parked vehicles recorded. This does not include a projection for blocks not surveyed and should not be compared against the "Estimated Number of Unique Vehicles" column. The 589 violations were recorded from the 2,293 unique vehicles actually counted, a violation rate of 1 vehicle in every 4 parked in the neighborhood.

# PARKING MANAGEMENT RECOMMENDATIONS

This section recommends parking management policies and strategies for the South Lake Union neighborhood. It builds on the more general citywide recommendations provided in the Seattle Parking Management Study, but also includes recommendations that expand the range of traditional City parking management practices. Recommendations are designed to promote orderly use of the public on-street parking supply and ensure that parking is available at all times for those who require short-term access to businesses, parks and residences in South Lake Union. Parking management strategies also find a place for long-term parkers such as neighborhood residents and employees, but ensure that these long-term users do not clog the most convenient on-street parking spaces that are in highest demand, thereby adding frustration for shoppers and other short-term parkers who chose to visit South Lake Union by car.

South Lake Union is a rapidly developing and highly dynamic area. Getting parking management right with a set of inflexible regulations and policies would be almost impossible, since nearly half the land uses in the neighborhood will change in the next 10 to 15 years. Luckily, improved parking technology allows for management strategies that are flexible and responsive to inevitable changes in demand for on-street parking over time. This report outlines a series of policy principles to guide current and future parking management in South Lake Union, as well as a set of strategies that will allow the management of the neighborhood’s on-street supply to evolve along with the neighborhood itself, while supporting the neighborhood’s overall access priorities and revitalization goals.

Recommendations include for the following areas:

- Parking meter installation (locations and hours of operation)
- Parking pricing strategies
- Parking meter technology (i.e., automated pay stations)
- Parking operations and enforcement
- Location and regulation of commercial, passenger, bus and taxi loading zone locations
- Other special curb uses such as disabled parking and permit zones
- Parking layout (i.e., back-in angle, parallel, etc.)
- On-street residential parking in South Lake Union

## RECOMMENDATIONS SUMMARY

Recommendations	Implementation Logistics
<b>Pay Station Installation Rollout</b>	
<ul style="list-style-type: none"> <li>The Plan recommends a one-time roll-out of pay stations in 2007 to achieve the most effective results from demand-responsive pricing strategy. A full neighborhood installation could require 300-400 pay stations and take four to six months.</li> </ul>	<ul style="list-style-type: none"> <li>The Plan will require new graphic designs for pay stations and signage.</li> <li>New educational materials will need to be developed to explain the flexible rate structure.</li> </ul>
<b>On-Street Parking Pricing</b>	
<ul style="list-style-type: none"> <li>The Plan recommends that on-street parking rates be set to achieve an optimal 85% occupancy rate and that time limits be removed to allow pricing to work effectively.</li> <li>Premium rates or time limits on certain stalls near key retail can be used to ensure short-term parking is available for business access.</li> <li>SDOT will conduct regular data collection occupancy checks (using available technology) and adjust rates accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>SDOT is working to determine whether Seattle Municipal Code changes are required to:               <ul style="list-style-type: none"> <li>– grant SDOT authority for demand-responsive rate changes.</li> </ul> </li> <li>If Plan is approved, SDOT will finalize a data collection and monitoring process to set hourly parking rates based on demand.</li> </ul>
<b>Parking Enforcement</b>	
<ul style="list-style-type: none"> <li>Add three enforcement personnel and required equipment to ensure high levels of compliance (brings total area patrol staff to four).</li> </ul>	<ul style="list-style-type: none"> <li>The City will need to consider this potential budget increase in the 2007-08 budget planning.</li> </ul>
<b>Residential Parking</b>	
<b>Short-Term</b>	<ul style="list-style-type: none"> <li>SDOT is pursuing whether SMC changes may allow limits on RPZ permit sales. These limitations have been requested from U-District and other RPZ zones. Any changes will need careful review to avoid setting unacceptable precedents.</li> <li>Short-term residential parking strategies are aimed at accommodating current Cascade neighborhood residents.</li> <li>SDOT will determine legal and logistic feasibility of offering monthly market-rate residential passes, outside of SDOT's RPZ program.</li> </ul>
<b>Longer Term</b>	
<ul style="list-style-type: none"> <li>The Plan recommends the implementation of a 2-year “pilot” Residential Parking Zone (RPZ) that sets aside a minimum amount of on-street parking for residential use. (An upcoming SDOT RPZ Policy Review will address how to effectively implement RPZs in mixed-use neighborhoods).</li> </ul>	
<ul style="list-style-type: none"> <li>Implement appropriate tools from RPZ Policy Review, including potentially limiting the number of permits per household or grandfathering in existing residents.</li> <li>Charge a monthly “market-rate” for on-street parking for residents. SDOT would make a monthly parking pass available to park anywhere in neighborhood and not pay daily rate at pay station.</li> </ul>	

# Pricing On-Street Parking in South Lake Union

## Current City Pricing Policy

As part of the City’s 2004 budget, the City Council approved a meter rate increase from \$1.00 to \$1.50 per hour for pay stations and electronic meters - the first increase in on-street parking rates in more than ten years. The new rates are consistent with inflation during that period and are still much lower than off-street parking in downtown Seattle.

The current on-street parking rate structure is as follows:

- 2 minutes = \$0.05
- 4 minutes = \$0.10
- 10 minutes = \$0.25
- 40 minutes = \$1.00
- 60 minutes = \$1.50

This policy assumes that the same pricing structure makes sense in all Seattle neighborhoods. In fact, the elasticity of demand for parking varies substantially based on adjacent land uses, the type of demand (short-term vs. long-term) and the availability and price of off-street parking. For example, people might be more willing to pay more than \$1.50 per hour to park on-street downtown where two-hours of off-street parking can cost \$7.00, compared to Ballard where the meter and off-street parking rate are comparable. .

## What should the price of metered parking be?

This plan recommends installing the same basic parking pay stations being used in other Seattle neighborhoods and applying technological advancements that are in widespread use by numerous other cities and institutions. These technologies will allow SDOT to optimize demand through fair market pricing, rather than traditional parking management methods that use inflexible flat hourly pricing and time limits regardless of demand patterns, which can vary substantially by location and over time (day of week, time of day, etc).

Rather than adopt the City’s standard hourly rate, South Lake Union on-street parking prices should be set to:

- Keep occupancy rates at an optimal 85% (so that 1 in 8 spaces will always be available). This rate is a widely-accepted industry standard that provides a minimum level of convenience for parkers and reduces circling for parking which contributes to increased traffic congestion and collisions, transit delays, and air pollution).<sup>6</sup>
- Encourage turnover of most convenient curb parking spaces for customers, particularly where there are concentrations of ground floor retail businesses.
- Provide cost-competitive on-street parking for long-term parkers in areas where there is little need to encourage turnover and off-street parking supply is limited.
- Ensure that installing pay station meters will be revenue positive for the City.

<sup>6</sup> The City of Seattle considers parking occupancy rates of approximately 75% to be the threshold where Residential Parking Zones and other parking management techniques should be considered. Other factors are considered as well..

## On-Street Parking Pricing Recommendations

1. Set parking rates to achieve an optimal 85% occupancy rate.

The price of on-street parking should be set to create an optimal occupancy rate of 85% and be adjusted periodically based on actual observed demand. Any existing time limitations (with the exception of passenger, commercial, and truck loading zones) should be removed, allowing the actual cost of parking to control demand. Research and practical experience show that fair market prices are a more effective way to manage demand for limited parking than time limits, allowing parkers to purchase as little or as much time as they need, and reduces the occurrence of long-term parkers engaging in the “two-hour shuffle” (moving their cars every two hours from one free space to another) and increases visitor convenience by eliminating “ticket anxiety” over exceeding time limits. **In doing so, SDOT will manage on-street parking based on fair market pricing rather than a complicated mix of time limitations and metering.**

The Plan recommends that initial daytime (8:00 am to 6:00 pm) prices be set at \$0.75 per hour (equivalent to \$6.00 for an 8 hour day). It is impossible to know what customers consider a fair market price without some trial and error. It is logical to start pricing low, since a high percentage of current parkers are long-term. If initial prices are set too high and are not competitive with off-street parking, on-street demand could drop to a point where the on-street supply is not being utilized efficiently, potentially impacting local businesses.

A survey conducted by the Puget Sound Regional Council (PSRC) indicates that off-street parking prices at private lots in South Lake Union range from \$5 to \$10 per day.<sup>7</sup> There are few lots that offer monthly rates. Fred Hutchinson offers monthly parking passes to employees for \$70 per month (equivalent to \$3.50 per day).

It is important to recognize that initial recommended rates and hours are based on

<sup>7</sup> These rates are likely to increase substantially as new development displaces surface parking.



Off-street parking in South Lake Union soon to be removed to make way for the four building Interurban Exchange complex.

existing parking demand patterns and competing off-street rates, but that new development (and pricing itself) will affect demand, so that prices will increase or decrease post-implementation.

**2. Grant staff authority to adjust hourly rates based on adopted optimum occupancy standard (85%).**

In order for fair market rate pricing to be effective, SDOT will need to be able to respond quickly when occupancy rates dip well below or go over the optimal standard (85% of stalls occupied). Staff will not have the time to go to the City Council to request approval for meter rate changes, nor should the Council be asked to address minor rate changes multiple times each year. If not already available, City staff will need full authority to make periodic adjustments to meter rates to achieve the optimal occupancy standard and maximize the efficient use of the limited on-street parking supply and customer convenience for different types of parking needs.

**3. Plan regular occupancy checks and adjust rates.**

This Plan recommends that occupancy checks and rate adjustments (if necessary) be made at minimum on a quarterly basis during the first year.<sup>8</sup> After the first year demand patterns should be more firmly established and rate adjustments can be made less frequently. Occupancy checks and subsequent rate adjustments should be conducted at least twice a year. At each of these regular intervals rates should be adjusted upward or downward based on the goal of achieving the optimal average occupancy rate of 85%. Regular occupancy checks (weekly or at least monthly) should be conducted (using wire-

less networked pay station technology) and rates adjusted:

- Upward if occupancy regularly exceeds 90% during more than 2 hours of the day assuming a 10-hour revenue day of 8 am to 6 pm (e.g. equivalent to 20% or more of meter revenue hours) or if peak hour occupancy ever exceeds 95%.
- Downward if peak hour occupancy does not exceed 75% and and/or average occupancy is below 65%.

Hourly rates should be adjusted by minimum increments of \$0.25, as this is the smallest increment that is likely to have a significant impact on parker behavior and smaller increments reduce customer convenience in calculating and paying parking prices.

While parking dynamics are slightly different in the various neighborhood sub-areas analyzed, the Plan recommends that a pricing structure be implemented district-wide. This will help to balance demand and prevent parkers from seeking cheaper options elsewhere in the district (e.g. “spillover parking”). As key retail streets develop, premium rates can be set to encourage higher levels of turnover (See Section 4 below).

**Conducting Paid Parking Occupancy Checks**

Conducting visual surveys of on-street parking occupancy is time consuming and expensive. SDOT should utilize the data capture and reporting features available through the parking pay stations. The City’s current pay-and-display meters transmit wireless data to a central control station, allowing the City to determine paid parking occupancy for a series of spaces or block face, i.e., the total number of hours of parking purchased on any single block face over the

<sup>8</sup> With proper technology, as recommended in this plan, SDOT should have the capability to monitor hour-by-hour occupancy. Meter rate changes could then be made from the SDOT control center without any need for expensive on-street surveying or staff to adjust meter pricing displays.

course of the day.<sup>9</sup> This does not provide completely accurate occupancy data because not all parkers pay for parking (i.e., vehicles with disabled parking permits or commercial vehicles with building service permits (blue hoods)—leading to a lower reported occupancy than reality. However, it can be used as a base measure of occupancy by:

1. Calculating total hours purchased in a sub-area (we recommend using the same analysis zones we used for this study).
2. Dividing total hours purchased by total hours available (stalls x span of meter operations).

Analyzing data over the course of the entire three to six month period will increase the reliability of this method.

SDOT should also conduct visual spot checks to substantiate data collected through pay stations. This can be done with minimal staff effort by selecting small sub-areas of two to three blocks and conducting occupancy counts at the peak hours indicated in the data analysis. Spot checks should be rectified against occupancy estimates from hourly parking sales data described above.

#### 4. Set Premium Rates As Needed

District-wide demand-responsive pricing is designed to ensure at least 15% of stalls are vacant in the district at all times. Instituting a single hourly rate makes all parking equally accessible and affordable. In areas where there is high employment (higher demand for long-term parking) and significant ground floor retail activity (need for short-term parking) this may cause some conflict among these different parking needs. Land uses that are not consistent with those around them could be penalized. For example, if meter rates are set based on

demand for parking in an area that is dominated by large employers, a single block of retail that includes a hair salon, convenience store and coffee shop may be penalized by under-priced parking that fails to promote the level of turnover necessary for them to attract customers.

In these areas prices should be set at a premium to ensure that a vacancy rate of 15% or better is maintained immediately adjacent to retail and service businesses, allowing for good customer access.

Areas that should be closely monitored and considered for premium pricing if occupancy is consistently above 85% are:

1. Westlake Avenue North north of Thomas Street and adjacent streets
2. The REI block including: John, Yale and Thomas Streets

Over the long-term, ground-floor retail is expected to flourish along Westlake Avenue and Valley Street. As these areas redevelop, small sub-area surveys will reveal whether premium pricing is needed to ensure adequate customer access. Retail uses are expected to be scattered throughout the rest of the neighborhood, particularly along arterial streets.

#### 5. Employ Dynamic Messaging and Signage to Announce Rates.

Dynamic message displays are not currently available on the Parkeon pay-stations used by SDOT. The City should encourage Parkeon to introduce this technology in future pay stations to be purchased for South Lake Union. The company has indicated that they are working on developing dynamic messaging for future pay station models.

Dynamic messaging would allow SDOT staff to adjust meter rates from a centralized control center and have them displayed on a dynamic message board on the meter

<sup>9</sup> Based on discussions with SDOT staff and the current contract with Parkeon, we assume that South Lake Union pay stations will be produced by this vendor.

itself. Without this technology, the City will likely be forced to use decals that need to be changed manually on each pay station.

Additionally, where premium rates are in effect, the City should consider using highly visible signage to indicate to customers they are parking on a premium block. Simply using dynamic messaging to display premium rates will not be effective, since parkers won't know they've chosen a higher priced block until they exit their vehicle and reach the meter. For example if a formerly "premium rate" can no longer be justified on a certain block, it will be important that parkers who are price sensitive know about the change. The opposite situation could also occur if a formerly "basic rate" block sees increased demand high enough to justify premium rates. Signage could be affixed to the top of the meter or placed near it so that it can be read from all sides. It should be large enough to be legible from across the street and down the block. This could be supplemented by making parking rate information available on the web and/or by cell phone to help occasional parkers to check current rates (i.e., a potential employee coming for a job interview, someone coming to the park for a family reunion). Regular parkers will know which spaces are most convenient and where demand and prices are highest.

## Time-Stay Limits

Limiting time stays has historically been an important management tool to promote turnover of on-street parking supply. Time limitations can be used either independently or in conjunction with metering. SDOT currently imposes a wide range of time limitations on parking in South Lake Union. About 60% of the on-street supply has no time-stay limitation; the remaining stalls have time limits ranging from ¼ hour to two hours.

Recommendations to manage parking demand (and turnover) through demand-responsive pricing (see previous section "On-Street Parking Pricing Recommendations") eliminate the need to impose specific time-limitations on individual block faces. This strategy will be particularly effective in South Lake Union, where there is a higher demand for long-time stays and less need for "turnover" parking spaces to accommodate a maximum number of vehicles in support of street-level retail business.

The recommendations on time-limitations are simple:

### 1. Eliminate time limits for metered supply.

Effective market rate pricing eliminates the need for time limitations for on-street parking stalls. Since prices are adjusted to ensure that vacancy rates stay at 15% or higher, there is no need to set limits on the amount of time that customers stay parked on street. Basic economic principles of supply and demand ensure that there is a comfortable level of parking access at all times.

Customers appreciate being free from time limitations because it allows them to avoid unnecessary parking tickets or the hassle of moving their vehicle to avoid enforcement.

In areas where retail or service businesses require higher levels of turnover than promoted through district-wide pricing, we recommend using premium pricing rather than imposing time-stay limitations (see Pricing Recommendation 4).

## Meter Operation and Enforcement

### What hours & days should meters operate?

As long-term district-wide policy, we would recommend that meters initially operate between 8:00 am and 6:00 pm on weekdays and Saturdays. As parking demand changes over time with new development, transit improvements, and other community infrastructure, we would recommend that demand be monitored and on-street be priced at any time when parking demand is high and occupancy consistently exceeds 85%, including evenings and Sundays as appropriate.

As the neighborhood grows and there is increased evening events and dining activity, SDOT should consider extending meter hours based on demand. This will require additional on-the-ground manual parking surveys, since no data will be available from existing pay stations after 6:00 pm.

Given the technology available to set progressive prices based on time of day, a separate evening price structure could be considered. Many cities, including Chicago and New York, use progressive pricing strategies, charging lower hourly rates during evening hours. Current pay station equipment used by SDOT is capable of charging variable prices based on time of day.

### Enforcement’s Role in Managing SLU Parking

The City of Seattle Police Department handles parking enforcement in all Seattle neighborhoods. Seattle’s Parking Enforcement Officers (PEO) enforce parking regulations at over 10,000 paid on-street parking spaces throughout the city, in addition to time-restricted zones, residential parking zones, and special zones such as bus stops and

layover, truck loading, and disabled parking spaces. The Parking Enforcement Unit is part of the Seattle Police Department Traffic Section. There are currently (2005) six supervisors for seven squads and a total of 67 PEOs<sup>10</sup>.

Parking Enforcement Officers play a critical role in ensuring that parking regulations (metering or time-limitations) work effectively. Pricing or time-limit restrictions imposed to ensure a sufficient rate of turnover or to maintain a desired rate of occupancy simply will not work without visible and consistent enforcement of on-street parking regulations. Extremely high violation rates in South Lake Union show that regular users know regulations are not frequently enforced.

In order for this plan to succeed, the Parking Enforcement Unit will need to provide proper levels of enforcement during meter operation hours in order to make sure that parking enforcement is the same for all visitors and to reduce the temptation for regular long-term parkers to try to evade paying fair market prices for parking.

<sup>10</sup> City of Seattle Police Department Parking Enforcement web page. [http://www.ci.seattle.wa.us/police/Units/parking\\_enforcement.htm](http://www.ci.seattle.wa.us/police/Units/parking_enforcement.htm)



Two-hour time limit parking sign.

## Meter Operation and Enforcement Recommendations

### 1. Set base hours of operation.

Based on a review of existing parking policies in Seattle neighborhoods, we suggest that the initial hours/days of operation for South Lake Union pay-station meters be:

- **Weekdays:** 8 am to 6 pm
- **Weekends:** Saturday Only 8 am to 6 pm
- **Evenings:** We do not recommend charging during evening hours initially, but occupancy should be monitored once pay-stations are in place and meter hours extended to any time occupancy exceeds 85%.

### 3. Add enforcement personnel and resources to ensure compliance.

Recent utilization survey data provides evidence that there is currently limited enforcement of time-limited or metered parking in South Lake Union. This is not surprising

given the fragmented layout of regulated parking and the inherent difficulty it creates in providing efficient enforcement.

The implementation of paid parking in the neighborhood will require increased parking enforcement. According to the Seattle Police Department Parking Division there is currently one PEO working in South Lake Union. Once metering recommendations are implemented, it is recommended that:

- Three additional PEOs be added, bringing the total to four in South Lake Union; and
- The district be split into three patrol areas.

### 3. Expand hours of meter operations and enforcement based on demand.

Using parking demand data collected through pay stations (and supplemented by visual surveys if necessary), SDOT should consider extending meter operations later in



Enforcement is currently minimal in South Lake Union. On blocks without time restrictions, cars can remain unmoved for months.

the evening or earlier in the morning. The following standard should be applied:

- If occupancy in South Lake Union or any subarea of the neighborhood exceeds 85% for a two hour period (outside the normal hours of operation), meter times should be extended to include this period and any interim hours.
- A discounted off-peak rate should be considered for hours of operation added before 8:00 am and after 6:00 pm.
- We recommend metering in the evening and on Sundays if occupancy rates meet the 85% threshold.
- Enforcement should be extended in conjunction with any extension of meter hours of operation.

## Meter Technology & Installation

### The Advantages of Improving Parking Meter Technology

Innovations in meter technology are rapidly changing the way cities across the United State manage parking. The City of Seattle is phasing in multi-space, pay-and-display pay stations throughout the city, replacing single-head meters and adding paid parking in previously un-metered areas. Downtown Seattle and several neighborhoods have converted to pay-and-display pay stations, which have been well received by the public. Pay-and-display pay stations have several advantages over traditional single-space meters.

- **Customer Convenience:** Pay stations provide more payment options. Some stations offer the ability to pay by credit/debit cards, smart cards, coins or bills. This makes payment more convenient for parkers and eliminates the burden on street-level businesses that were frequently asked to make change so that parkers could feed the meters.

- **Better Information:** Pay stations can provide a higher level of customer information using electronic screens. Some stations are able to provide dynamic messaging controlled through a central computer (SDOT's current stations have the ability to display a customized message unique to individual pay stations).
- **Street Design:** Pay stations eliminate the need for a post and meter head at every parking space, promoting more open, pedestrian-friendly sidewalks and eliminating a visual distraction. This is particularly true on block faces with angled parking, where single-space meters are placed closely together.
- **Revenue:** Almost universally, cities that have implemented pay-and-display stations have found that parking revenues increase over conventional meters. Because payment is associated with the vehicle rather than the space, parkers are unable to use the remaining time from someone who overpaid their stay. As well, credit/debit card acceptance greatly increases payment compliance.
- **Data Collection:** Pay station meters produce detailed records of their use that can be easily analyzed using computer software. This allows parking managers to respond much more quickly and accurately to parking issues caused by ineffective pricing or policies.
- **Capital Costs:** Although individual pay station meters are substantially more expensive than individual single-space meters, the economy achieved by covering 6 to 10 spaces with a single multi-space meter often makes this technology cheaper overall.
- **Operating & Maintenance Costs:** Some pay stations are designed with the capability to contact parking managers, PEOs or maintenance staff if the meter fails for some reason. This reduces maintenance costs since each meter doesn't have to be inspected manually (it also has the beneficial effect of minimizing downtime which in turn increases revenue). Also automating payment results in more cost effective revenue collection and auditing.

- **Power Supply:** Meters are run using a battery that is kept charged by solar power from a photovoltaic panel installed on top of the meter, eliminating the need for electric power supply and the associated capital costs of providing overhead or underground connections to the power grid.



Parkeon pay stations are being installed in all newly metered areas in Seattle.

## SDOT Pay-Station Installation Policies

SDOT has made a commitment to upgrading existing single-space meters to pay stations. Currently, the City has over 10,000 paid on-street parking spaces, an increase from 8,600 in 2002. Pay stations are SDOT's preferred meter technology for any new areas, such as South Lake Union, that merit implementation of paid parking.

SDOT lists four primary purposes for metering on-street supply:

1. To create short-term parking close to retail and other businesses (especially where time-limit signs do not encourage sufficient turnover).
2. To reduce vehicle trips by charging vehicle users for parking.
3. To improve traffic circulation and economic viability of commercial areas by maximizing the number of patron visits by car.
4. To generate revenue for the City of Seattle. About \$9.5 million was collected in 2002 for transportation, fire, police, social services and other government purposes.<sup>11</sup>

Additionally, SDOT uses a number of criteria to determine whether installation of parking meters or pay stations is appropriate for a neighborhood, including:

- Businesses or services needing good turnover in parking
- A relatively dense business base
- Heavily used, existing time-limited parking
- Limited or costly off-street parking
- Areas with curbs and sidewalks

<sup>11</sup> City of Seattle Parking Web Site. <http://www.ci.seattle.wa.us/transportation/parking/parkingmeters.htm>.

- Little likelihood of customers choosing neighborhood parking over metered parking
- Community support

This plan recommends that City policy regarding the purpose of on-street meters/pay stations be broadened to consider the use of available technology in developing more dynamic parking management systems for both short- and long-term on-street parking. This may mean bypassing the use of time-limited parking in certain areas that now have completely unregulated and unmanaged parking, despite SDOT’s current practice of implementing time limits as a preliminary step to paid parking.

### Meter Recommendations

This plan assumes that the City of Seattle will continue to use its standard pay-and-display stations as the primary metering tool in South Lake Union.

We recommend the following actions for implementing pay stations and other metering technology in South Lake Union.

**1. Install multi-space, pay-stations throughout South Lake Union, replacing traditional single-space meters where they are already in place.**

New parking technology allows parking managers to change prices instantly through networked pay-station meters. Historically, cities have resisted changing on-street meter rates due, in part, to the hassle associated with adjusting single-space meters. With wirelessly-networked pay stations in place there is no longer a need to mechanically adjust each meter; price adjustments can be made quickly and universally. Some pay stations are available with large dynamic messaging screens that display prices electroni-

cally, rather than in print on the machine.<sup>12</sup>

Centralized control of parking pricing is a key functional element of our recommendations for establishing fair market pricing in South Lake Union.

**2. Plan one-time rollout of pay stations in South Lake Union.**

Although it will require a significant capital investment to install pay stations throughout the entire South Lake Union at one time, a district-wide implementation will ensure better results. We recommend that pay stations be installed on all study area streets before pricing goes into effect. A single district-wide rollout will allow SDOT to send a much clearer message about parking management goals and policies in the neighborhood.

**3. Consider complementary meter and monitoring technology.**

South Lake Union is expected to be at the forefront of biotech research and will increasingly be home to technologically savvy residents and employees. Accustomed to using the conveniences provide by digital technology, residents and employees may benefit from other meter technologies. These are included for future consideration and are not recommended for immediate implementation:

- **Smart Cards:** Parking “smart cards” allow regular users to load value on a card that can be used in any pay-and-display meters. These cards also allow the City to offer additional customer conveniences, such as the ability to refund offer price discounts to carpoolers or residents. To date, smart card use has been minimal for systems that also accept credit cards. The City should monitor the parking industry’s ability to leverage new smart card programs for transit systems,

<sup>12</sup> Parkeon technology used by SDOT offer limited dynamic messaging screens. If possible, SDOT should encourage Parkeon to consider expanding these capabilities in a large pay-station order for South Lake Union.

such as the one being developed for the Puget Sound Region.

- **In-car meters:** These devices hang from the rearview mirror and allow users to load up to \$100 in prepaid parking. The meter counts down the remaining parking minutes. These can be used at any priced on-street parking space throughout the city in-lieu of the curb meter, and can also be used in public off-street garages and lots as well as functioning as a residential parking permit.
- **Pay by cell phone:** Parkeon systems allows for cell phone payments. Using this technology users can place a call and have the pay station print out a proof of payment receipt for displaying on their vehicle. The parking is charged to the registered credit card or cell phone bill (this works better with pay-by-space meters than with pay-and-display to allow customers to extend their stays.)

## Recommendations for other Curbside Uses

There are, of course, a number of other important uses of curb space that compete with public on-street parking. SDOT has adopted priorities for assigning curb uses. In business or commercial areas, including blocks with mixed-use buildings containing residential units, the basic priority ordering is:

1. Transit use (bus stops and spaces for bus layover);
2. Passenger and commercial vehicle loading zones
3. Short-term customer parking (time limit signs and paid parking typically for one- or two-hours);
4. Parking for shared vehicles; and
5. Vehicular capacity.

## Recommendations for Other Curbside Uses in South Lake Union

- **Bus/transit zones:** Bus zones are the highest priority curb use designate by SDOT. Accommodating on-street bus stops and streetcar loading platforms should continue to be the highest priority use for curb space on transit carrying streets in South Lake Union.
    - Streetcar and bus loading zones and platforms should be given priority over all other on-street parking and loading uses.
2. **Loading zones:** SDOT considers loading zones second in priority to transit for curb uses and higher in priority than on-street parking. SDOT has four types of load zones, including: generic Load/Unload, Passenger Load/Unload, Truck Only, and Commercial Vehicle Load. We recommend that SDOT take the following steps to ensure that sufficient, but not excessive, loading uses are sited along with the implementation of paid parking in South Lake Union:
- Conduct a visual survey of commercial or passenger load zones before pay stations are installed. Additional surveys should be conducted on a regular basis to ensure that on-street loading zones are still needed as development patterns change. Unused loading zones are a poor use of valuable curb space and limit capacity and potential meter revenue.
  - Maintain needed commercial vehicle and passenger load zones and remove those that no longer serve adjacent land uses. Work with businesses and property owners to make loading zone changes.
  - Where possible, consolidate commercial vehicle load zones to ends of blocks or alleys. This helps to reduce the walking distance to the pay station machines.
  - Restrict loading to periods when demand for on street parking is low.

3. **Taxi zones:** Standard city policies and procedures for assigning curb-side taxi zones should apply in South Lake Union. Future hotel or large-scale residential developments may trigger the need for on-street stalls for taxis to wait between calls. When possible taxi zones should be located near demand centers where taxis are needed to transport guest, residents or employees.
4. **Disabled parking:** Washington State law requires the City to allow on-street parking at no cost to holders of Disabled Parking Permits, which are issued by the State of Washington. The State Department of Licensing can issue disabled parking placards (either red-temporary or blue-permanent) and/or disabled parking license plates.

Disabled permit holders are allowed to park without charge in metered spaces and are not required to comply with time-limit restrictions at metered spaces and in time-limited signed areas. Therefore, good parking management techniques that ensure an adequate number of stalls are available also ensure access for disabled parkers.

There are currently only three disabled permit stalls located in the entire neighborhood, all in the southwest. There is likely little need to add disabled permit parking unless a special request is submitted or a new land use with a high number of disabled visitors is sited in the neighborhood. SDOT should determine if there is an existing need to continue exclusive designations of the three existing disabled permit spaces.

Future allocation of disabled permit parking should be made on a case-by-case basis. Current SDOT policy, which dictates disabled permits spaces only be installed adjacent to residential buildings, should be maintained.

5. **Carpool parking:** SDOT currently allocates a limited numbers of free on-street stalls for registered carpool parking in most neighborhoods. While there are benefits to providing priority parking for registered carpoolers, free parking for carpoolers is not recommended in conjunction with demand based pricing. The act of carpooling itself provides a discount opportunity between the vehicle drivers and passengers.

## Parking Layout and Design

### Back-In/Head-Out Angle Parking

The Seattle Department of Transportation's practice has been to install back-in angle parking, as distinct from head-in angle parking, since at least the late 1960s. The only locations where head-in angle parking is considered are on one-way downhill streets.

As with parallel parking, the driver enters the stall by stopping and backing, but need not maneuver the front of the vehicle against the curb. When leaving the stall, the driver can simply pull out of the stall, and has a better view of the oncoming traffic. In addition, back-in/head-out angle parking:

- Is safer for bicyclists;
- Provides better visibility for motorists when exiting a stall;
- Allows drivers to curb their wheels on steep terrain;
- Can be used to place disable parking stalls close to existing curb ramps, improving safety for wheelchair-using drivers; and
- Improves ease and safety for loading and unloading from the trunk or back seat of parked vehicles, since this happens at the curb rather than in the street.

### Parking Layout/Design

## Recommendations

### 1. Employ back-in/head-out angle parking where street widths permit

Back-in/head-out angle parking should be used wherever street widths permit and there are no conflicts with transit service or other street uses.

- Back-in/head-out angle parking should be prohibited on segments of Westlake or Terry where the South Lake Union Streetcar alignment is planned. Oversized vehicles protruding into the travel lane and vehicles backing up into stalls can create conflicts with streetcars. This prohibition only applies to the curb adjacent to the streetcar tracks.
- Back-in/head-out angle parking is acceptable and even preferable on streets where there are striped bike lanes, if street widths permit. Rear-in parking enhances sight lines for vehicle operators exiting parking stalls and prohibits conflicts with car doors opening into bicycle lanes.

Many streets in the South Lake Union neighborhood are too narrow to employ back-in/head-out angle parking. Potential sites where it should be considered include:

- Minor Avenue and Pontius Avenue: Angle parking is already utilized on seg-

ments of both of these streets. While street widths don't allow angle parking on both sides, it could be expanded to the east side of both streets between Mercer and John.

- 8th Avenue: This minor street on the west side of the neighborhood is a good candidate for angle-in parking, although street width would likely only allow for one side to be configured in this manner.
- John Street: This minor street on the south side of the district does not connect between Terry and Boren, limiting traffic flows. Angle-in parking is already used just north of Denny Park.

### 2. Parallel parking

Where street widths are too narrow to permit rear-in angle parking, parallel curb parking should be employed. This is currently the most standard parking layout in the neighborhood and is the method of parking users are most accustomed to.

Parallel parking should be used for all on-street parking adjacent to the future South Lake Union streetcar line.

## Residential Parking

### SDOT's Residential Parking Zone



Back-in/head-out angle parking in South Lake Union.

## Program (RPZ)

The City of Seattle's Residential Parking Zone (RPZ) program was created in 1979 to help ease parking congestion in residential neighborhoods, while walking a fine line to balance the needs of all people to be able to use the public streets. Curb space is part of the public street system, and as such, it is a public good available for all people to use. To restrict the use of curb space for just some people to park requires a compelling reason. There are about 25 RPZs in the city, with most surrounding universities, colleges, hospitals, and other major traffic generators.

RPZs are typically only established in primary residential areas, bordering business districts or other significant demand generators. Residents in South Lake Union face similar challenges, but not due to spillover parking, rather the apartments or condominiums they live in are the minority use in a district with large employers, light industrial uses and a variety of businesses. Currently, there are less than 1,000 residents in South Lake Union, according to the 2000 US Census. New residential units are under construction, and many more are planned for development in the next 10 years.

## South Lake Union Off-Street Parking Requirements

The City of Seattle land use code currently requires a minimum of off-street parking be constructed for new residential development. Minimum parking requirements vary by zone. The Seattle Mixed Zone is the dominant zone in South Lake Union; the multi-family parking requirement in this zone is one space per unit (regardless of the number of units in the building or bedrooms in the units). In the commercial or other zones in South Lake Union, parking requirements vary from 1.1 to

1.5 spaces per unit. Codes do allow additions and exceptions for certain conditions, such as low-income housing.

The Neighborhood Business District Strategy, which is now being considered by the City Council, recommends the elimination of minimum parking requirements in commercial zones in Urban Centers, including in South Lake Union. While many new residential developments will provide off-street parking for residents, the lack of a minimum requirement offers developers flexibility to respond to the market and their site conditions. With respect to on-street parking, SDOT's policies for managing residential parking on-street may impact developer choices about whether or how much off-street parking to build, and through the self-selection consumer preference process, both of these factors will influence the car ownership rates of new residents who chose to move to the neighborhood.

In other Center City neighborhoods such as First Hill and Capitol Hill, it is more apparent that that residential vehicle storage is not the highest priority use for public curb space. Residents choosing to live in dense urban areas are accustomed to paying for off-street parking, living without a car, or searching for the last free on-street space. Still, given the opportunity to park free or below market rate, residents will use any available on-street supply. Once again, the Plan's recommendations rely on pricing to control long-term on-street parking demand.

## South Lake Union Residential Parking

## Recommendations

Metering most of South Lake Union’s on-street parking could have an impact on residents who currently store their vehicles on-street during the daytime. To date, residents of the neighborhood have enjoyed the benefit of free on-street parking, not afforded in many urban neighborhoods with comparable proximity to a major downtown. The implementation of metering in the district will prohibit residents from parking for free on-street during the day.

Some older multi-family buildings in the neighborhood have no available off-street parking (although surface parking lots are generally available nearby). Due to the limited available supply of on-street parking and dramatic projected increases in the Cascade neighborhood, residential parking recommendations need to be sensitive to issues of capacity and equity. The recommendations provide a short-term solution to managing on-street residential parking and leave room for future changes after SDOT completes a planned RPZ program review in 2006.

### 1. Implement Two-Year “Pilot” Residential Parking Zone (RPZ) in Cascade (Short-Term)

This RPZ would provide a minimum amount of exclusive on-street parking for Cascade residents. Exclusive daytime parking could be provided on blocks adjacent to residential developments, and other blocks as the City deems appropriate. Residential parkers would also be able to park at metered spaces between the hours of 6:00 pm and 8:00 am, providing more capacity for residents that commute out of the neighborhood by car during daytime working hours.

### 2. Implement Appropriate Tools from

## RPZ Policy Review (Post-2006)

SDOT is planning a major review of the RPZ program during 2006. This review will explore potential precedent setting issues that impact other neighborhoods as well, such as placing limits on the number of RPZ permits sold in a zone. One example of this work is to investigate the appropriateness of establishing a grandfather clause that allows only existing residents to purchase residential permits or would otherwise limit permits to certain residential units. It will be important to develop strategies that make clear to developers that the on-street supply is not an alternative to building needed off-street parking.

### 3. Charge a Monthly “Market Rate” for On-Street Parking for Residents (Alternative Long-Term Approach)

In keeping with the market-rate pricing approach to parking management proposed in this report, SDOT may wish to consider using pricing rather than the RPZ program to manage demand for on-street parking for residents. SDOT could offer for sale a “market rate” residential permit that allows on-street parking anywhere in South Lake Union. Permit prices should be set at a slight premium to monthly/annual cost for private off-street parking in the area. This will discourage anyone who has access to off-street parking from using the on-street supply, but still provide access to the on-street system for those who need it.

SDOT currently does not have a program such as this and would need to review the legal, logistical, budget and policy issues with setting up this kind of program.

The purpose of offering residential permits is

not to encourage residents to park on-street, but rather to provide relief for residents currently living in the district or those moving into older buildings that don't have off-street parking available. Premium prices will discourage overuse of the program and limit applicants to those who absolutely must have a car but who do not have access to off-street parking.

SDOT should consider limiting the number of permits sold per unit and require proof of residency to be eligible. Permit rates should be adjusted at least once a year to ensure that they are at or above off-street market rates. If residential parkers begin to impact business access, rates should be raised to encourage more parkers to move to off-street lots.