

Seattle Department of Transportation

On-Street Parking Study Data Report

2010-2011 Studies

4/24/2012

SDOT On-Street Parking Study Data Report

This report documents the parking studies that were conducted in the fall of 2010 through fall of 2011 in the paid parking neighborhoods of Seattle. Studies were conducted by teams of consultants or by parking enforcement officers throughout the course of a typical weekday, noting the percentage of spaces that were occupied on an hourly or bi-hourly basis. The following table summarizes information about how the studies were conducted.

Study	Month	Times	Frequency	Who conducted
Fall 2010	November	10 am – 7 pm	Every hour	Consultant team
Spring 2011	March and April	9 am – 5 pm	Every other hour	Parking enforcement officers
Summer 2011	June	8 am – 5 pm	Every hour	Consultant team
Fall 2011	September and October	9 am – 5 pm	Every other hour	Parking enforcement officers

The Seattle Department of Transportation (SDOT) uses the data from these studies to set parking rates with the goal of managing demand for on-street parking so that an average of one to two spaces are available per blockface throughout the day. This level of utilization ensures access to businesses and allows drivers to spend less time circling for parking. Based on the average number of spaces per block, SDOT calculates an approximate target occupancy range, and compares actual daytime peak occupancy to that target when considering rate adjustments.

In several neighborhoods occupancy (especially in the evenings) has been recorded at over 100%. This generally occurs because, while SDOT maintains a database of available spaces, these spaces are not marked on pavement, so more cars may fit on a block than are recorded as available.

At the beginning of 2011, hourly rates for on-street paid parking changed in many neighborhoods. In addition, throughout 2011, several neighborhoods saw an extension of paid parking hours to 8 pm, from a previous end time of 6 pm. The chart on page 3 summarizes changes to parking rates and times throughout 2011. The two columns on the right summarize changes anticipated for 2012.

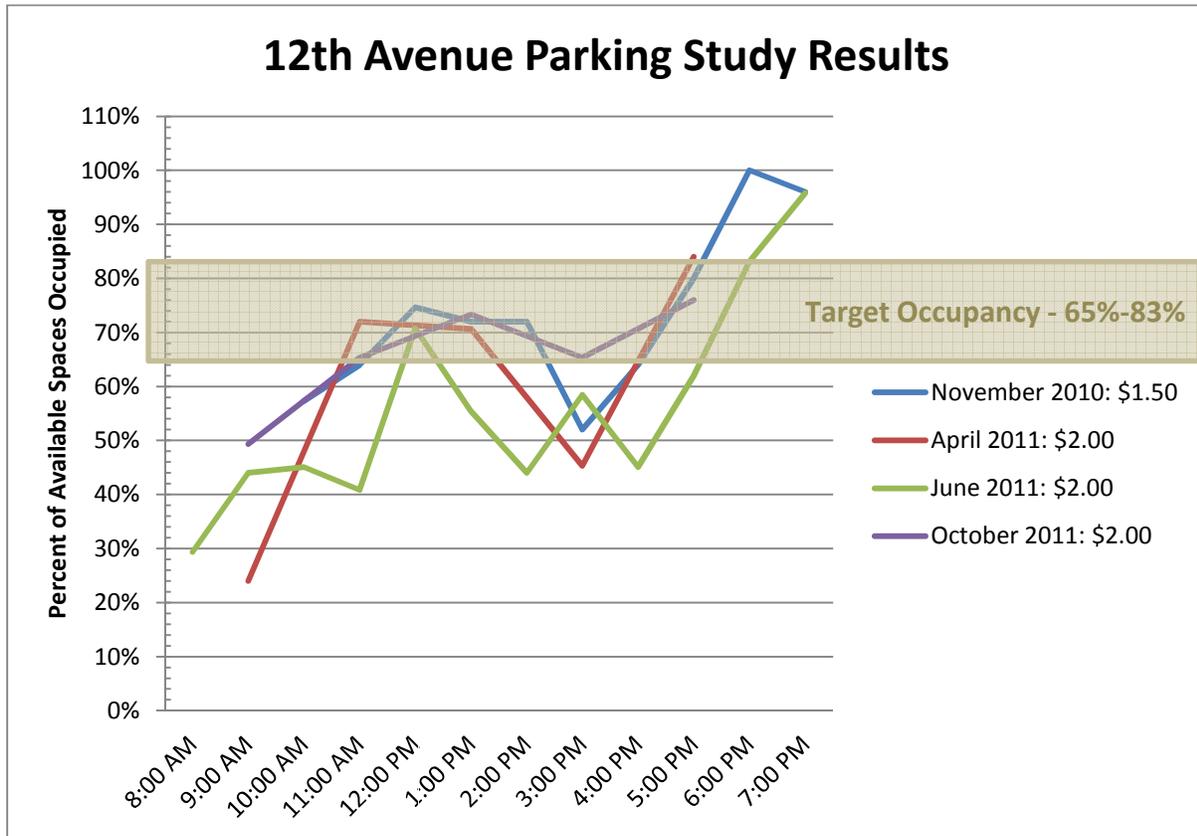
In 2012, SDOT will be conducting another annual parking study in all paid parking neighborhoods. The purpose is to monitor on-street parking conditions and check to see how well various areas are doing against the target occupancy standard. SDOT is especially interested in monitoring early evening parking occupancy, in both areas with evening paid parking and for those where parking ends at 6 pm.

For more information, please contact Mary Catherine Snyder at SDOT at 206-684-8110 or marycatherine.snyder@seattle.gov. This report was produced by Rebecca Edmonds.

Neighborhood	Subarea	2010 Rate	2011 Rate	2010-2011 Rate Change	2011 Paid Hours Change	2012 Rate	2012 Paid Hours Change
12th Avenue		\$1.50	\$1.50	\$0.00		\$1.50	
Ballard	Core	\$2.00	\$1.50	-\$0.50		\$2.00	
Ballard	Edge	\$2.00	\$1.50	-\$0.50		\$1.50	4 hours max
Ballard Locks		\$2.00	\$1.50	-\$0.50		\$1.50	4 hours max
Belltown	North	\$2.50	\$2.00	-\$0.50	8am-8pm	\$2.00	4 hours max
Belltown	South	\$2.50	\$2.00	-\$0.50	8am-8pm	\$2.50	3 hours after 5
Capitol Hill	Core	\$2.00	\$3.00	+\$1.00	8am-8pm	\$3.00	3 hours after 5
Capitol Hill	Edge	\$2.00	\$3.00	+\$1.00	8am-8pm	\$2.50	3 hours after 5
Cherry Hill		\$1.50	\$1.50	\$0.00		\$1.50	
Chinatown/ID		\$2.50	\$2.50	\$0.00	8am-8pm	\$2.50	3 hours after 5
Commercial Core	Retail	\$2.50	\$4.00	+\$1.50	8am-8pm	\$4.00	3 hours after 5
Commercial Core	Financial	\$2.50	\$4.00	+\$1.50	8am-8pm	\$4.00	3 hours after 5
Commercial Core	Waterfront	\$2.50	\$4.00	+\$1.50	8am-8pm	\$4.00	3 hours after 5
Denny Triangle	South	\$2.50	\$2.50	\$0.00		\$2.50	8am-8pm; 3 hours after 5
Denny Triangle	North	\$2.50	\$2.00	-\$0.50		\$2.00	4 hours max
First Hill		\$2.00	\$4.00	+\$2.00		\$4.00	
Fremont		\$1.50	\$1.50	\$0.00		\$1.50	
Green Lake		\$1.50	\$1.00	-\$0.50		\$1.00	
Pike-Pine		\$2.00	\$2.00	\$0.00	8am-8pm	\$2.00 (2-hour spaces) \$1.50 (10-hour spaces)	3 hours after 5
Pioneer Square	Core	\$2.50	\$3.50	+\$1.00		\$3.50	
Pioneer Square	Edge	\$2.50	\$3.50	+\$1.00		\$3.00	
Roosevelt		\$1.50	\$1.00	-\$0.50		\$1.00	
South Lake Union	10-hour	\$1.25	\$1.25	\$0.00		\$1.00 (N. of Broad) \$1.50 (S. of Broad)	More blocks allow 10-hour parking
South Lake Union	2-hour	\$2.00	\$1.50	-\$0.50		\$2.00	
U-District	Core	\$2.00	\$1.50	-\$0.50	8am-8pm	\$2.00	3 hours after 5
U-District	Edge	\$2.00	\$1.50	-\$0.50	8am-8pm	\$1.50	4 hours max
Uptown	Core	\$2.00	\$1.50	-\$0.50	8am-8pm	\$1.50	3 hours after 5
Uptown	Edge	\$2.00	\$1.50	-\$0.50	8am-8pm	\$1.50	4 hours max
Uptown Triangle		\$2.00	\$1.00	-\$1.00			10 hours max
Westlake Ave North		\$1.50	\$1.00	-\$0.50		\$1.00	9am – 4pm

12th Avenue

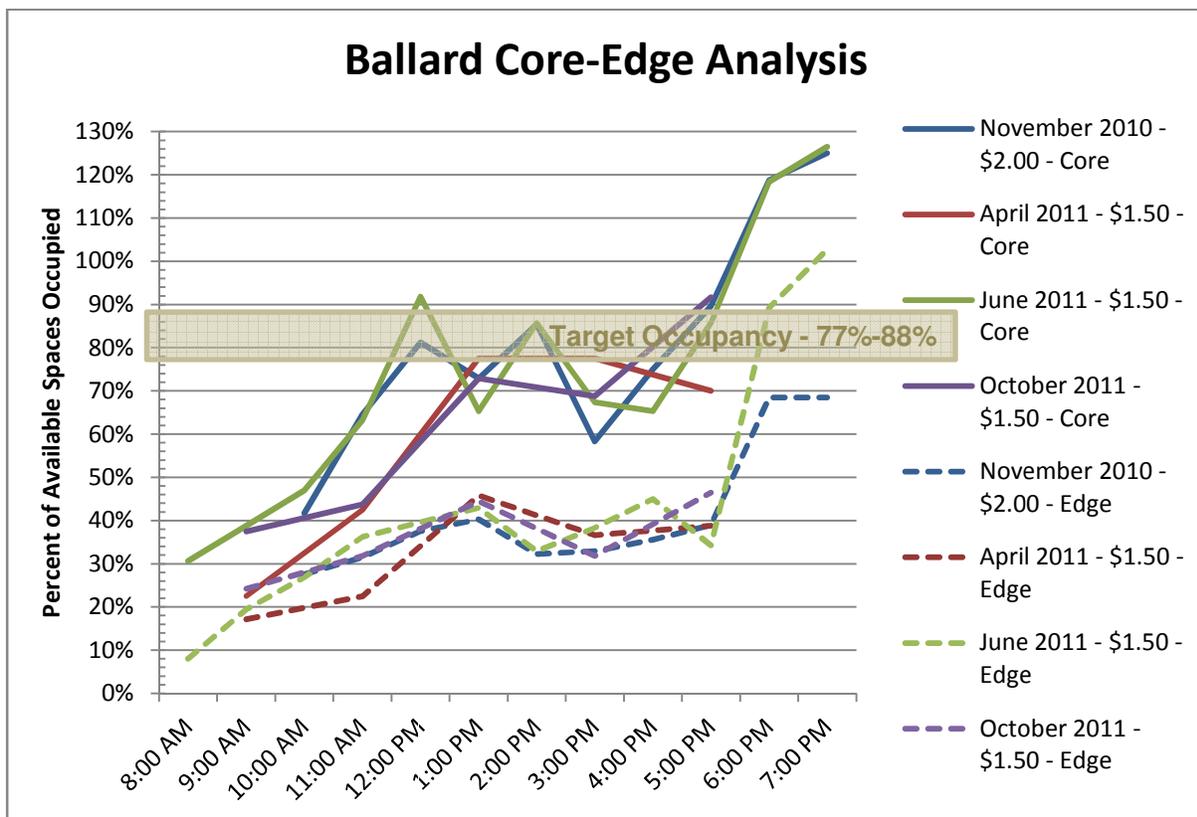
Parking occupancy on 12th Avenue (between E. Madison St. and E. Jefferson St.) is within the target range for much of the day, with a peak around noon and a rise in the evening. The hourly rate is \$1.50 and did not change during the course of these studies. SDOT does not plan to change the rate in 2012. Demand shows strong parking peaks around lunchtime and in the evening.



Ballard

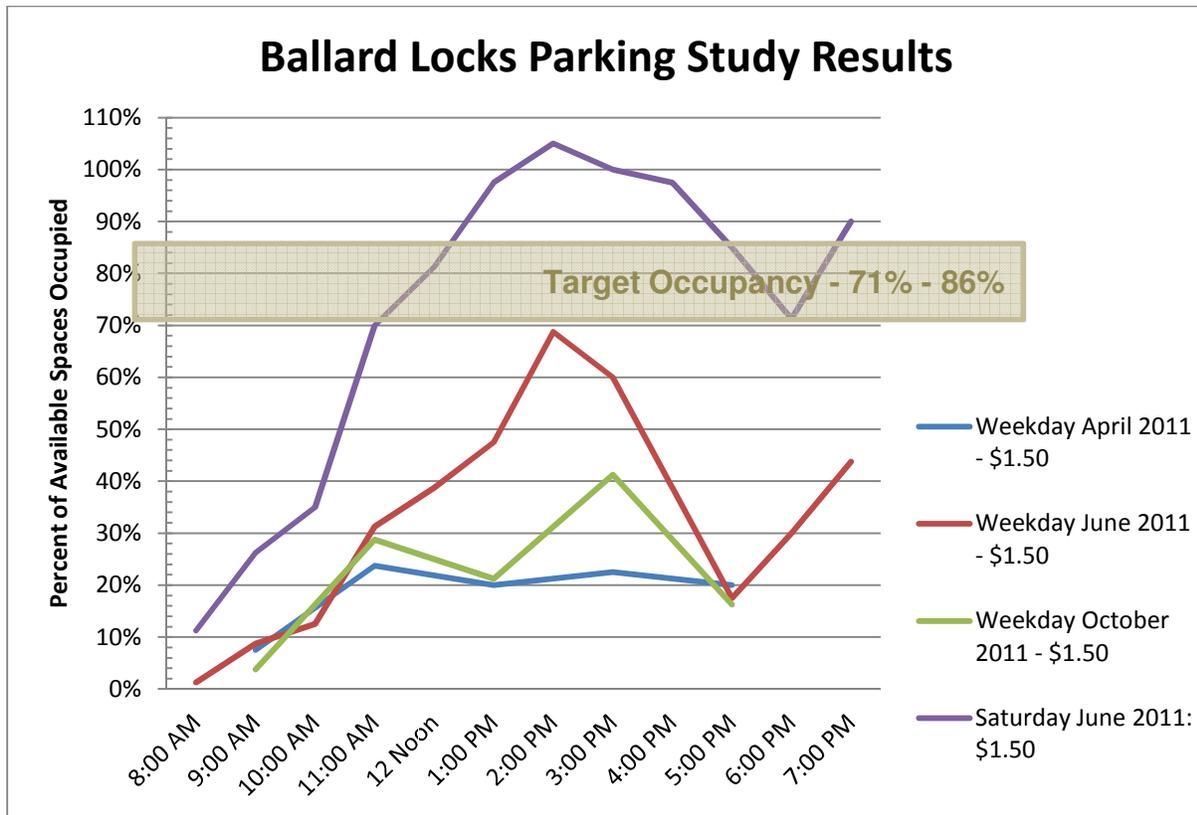
In response to low overall average occupancy, rates were lowered in 2011 from \$2.00 per hour to \$1.50 per hour throughout Ballard. Upon closer examination, however, there are two distinct patterns of occupancy in Ballard, with occupancies in the core (the blocks around the intersection of NW Market St. and 22nd Ave. NW) frequently within target ranges, and the edge blocks consistently below target. The average difference in occupancy throughout the day is 30 percentage points between the core and the edge areas.

Rates in the core area will be raised back to \$2.00 in 2012. In the edge areas, time limits will increase to 4 hours while the rate remains at \$1.50 per hour.



Ballard Locks

Because the Ballard Locks are a recreation destination, parking occupancy there shows significant variation by season and by day of the week. The following chart shows studies from 2011 weekdays and one Saturday in June. As expected, occupancy is higher in the summer months and on Saturdays.

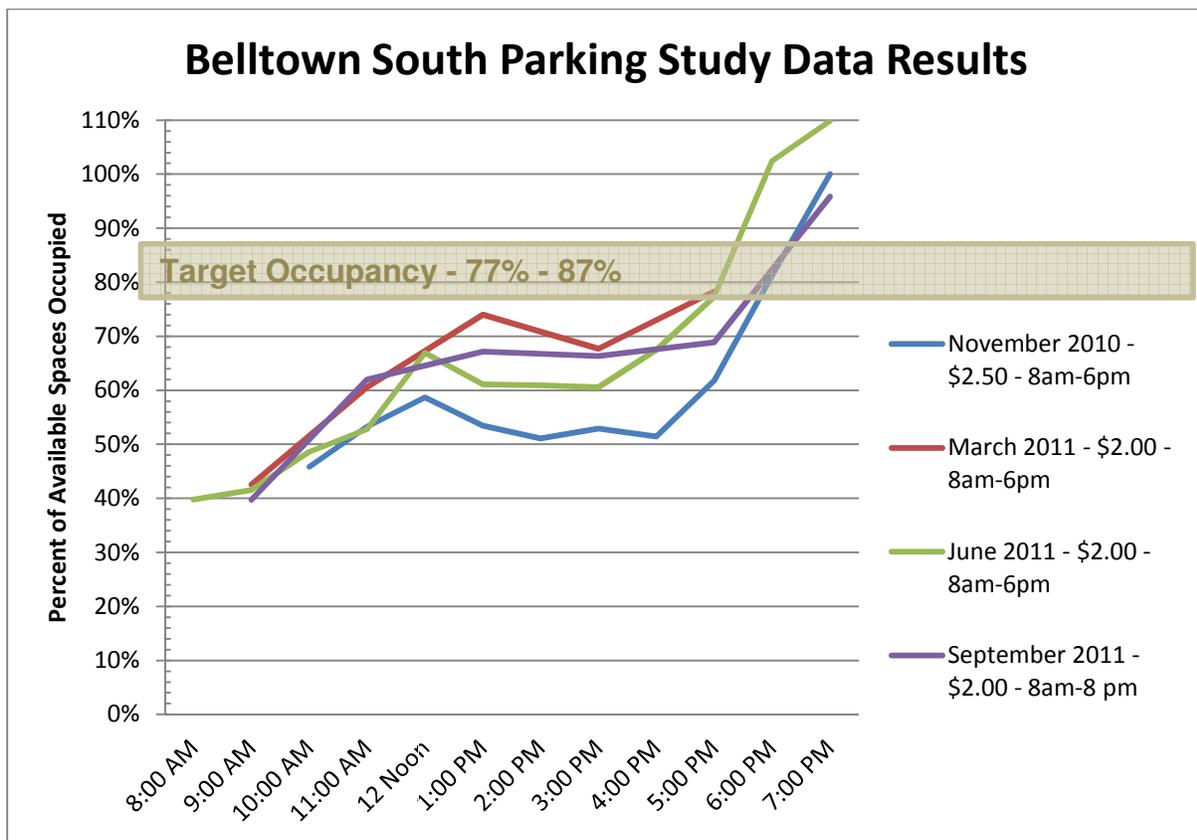


Belltown

In 2011, as part of that year's parking rate changes, SDOT divided the Belltown neighborhood into two subareas: North (Battery St., Denny Way, Elliott Bay, 6th Ave.) and South (Battery St., 6th Ave., Stewart/Olive Streets, Elliott Bay). In early 2011, Belltown North and Belltown South had their rates lowered from \$2.50 per hour to \$2.00 per hour. In June and July of 2011, paid parking hours were extended to 8pm.

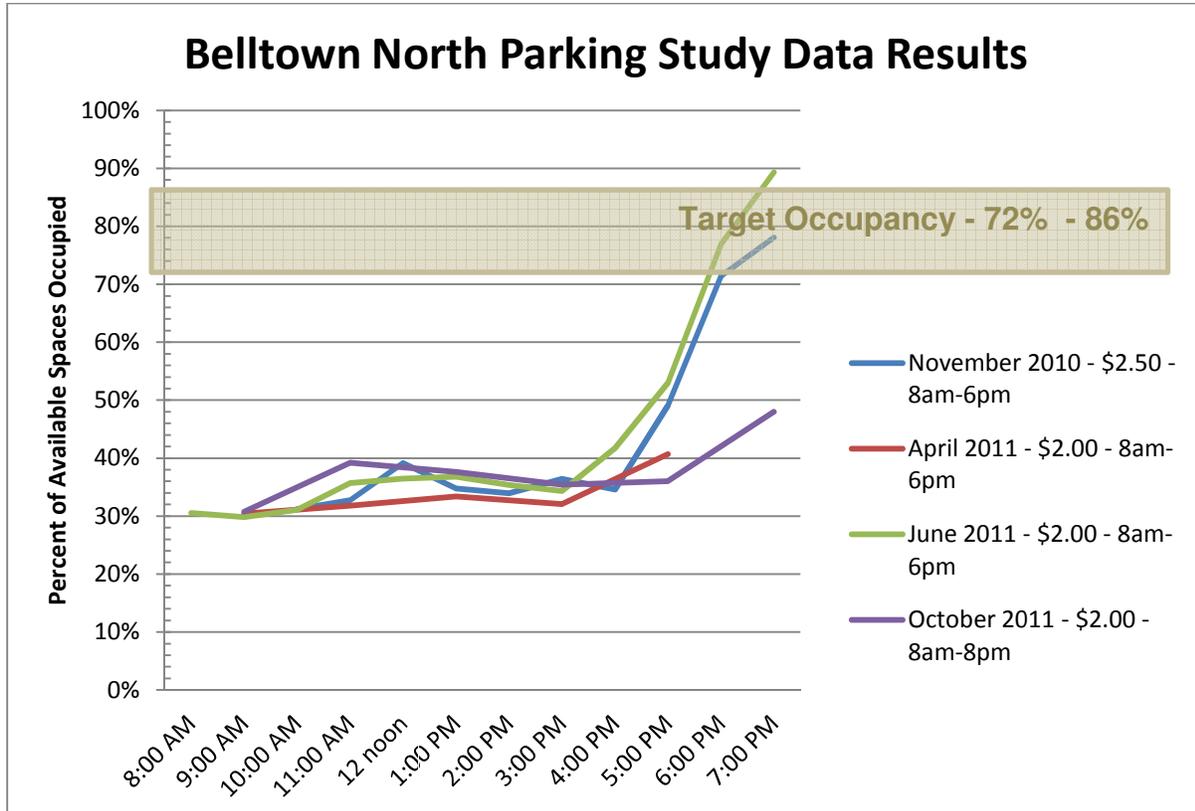
South Subarea

The results from parking studies show that demand in Belltown South has been slightly below target throughout much of the day, with a peak to full occupancy in the evening. Occupancy rates appear to have risen in response to the lower price. However, SDOT was not able to collect manual counts in the blocks between Lenora St and Olive Way in 2011. Paid parking transaction data shows high occupancy in that area. SDOT expects that average occupancies in 2010-2011 in Belltown South were higher than those depicted in this chart.



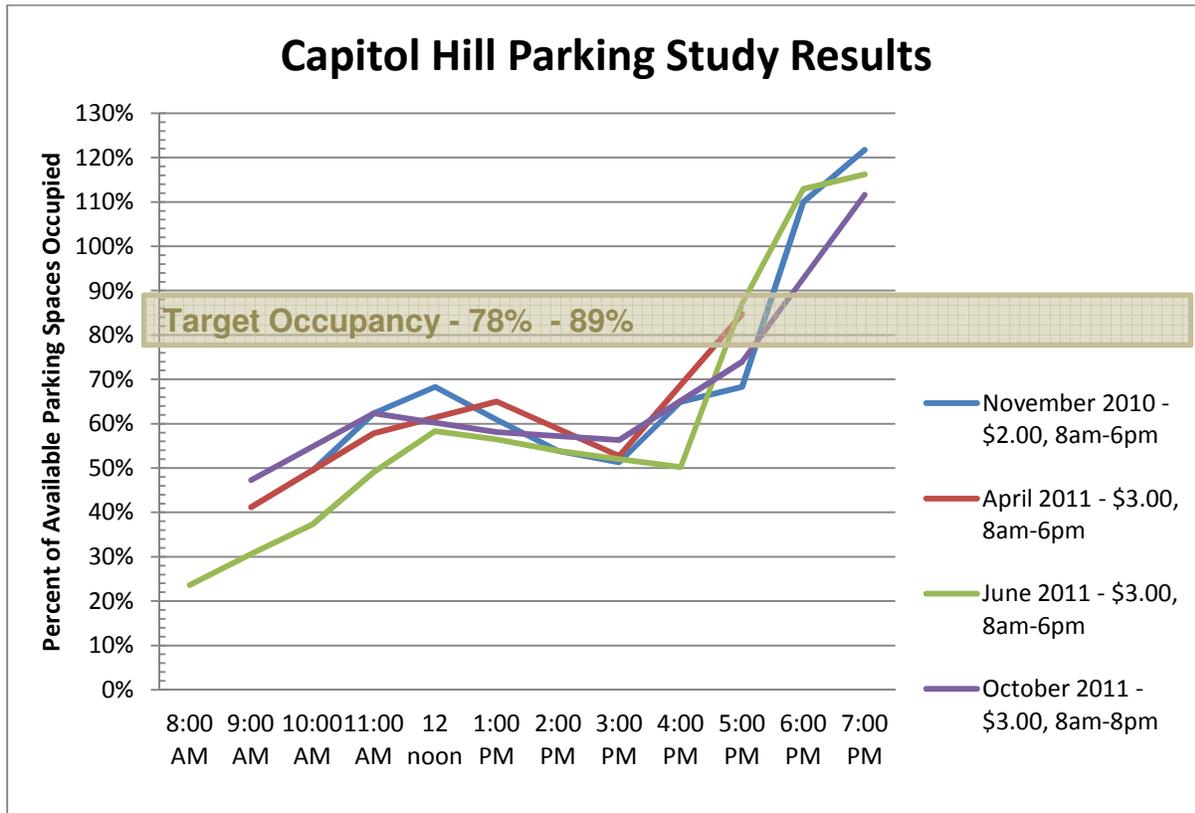
North Subarea

Belltown North has shown occupancies consistently below target levels, with a peak in the evening. Rates were lowered from \$2.50 to \$2.00 per hour in 2011, but this does not appear to have had much discernible effect on occupancy. SDOT is changing the maximum time limit from 2 to 4 hours in 2012.



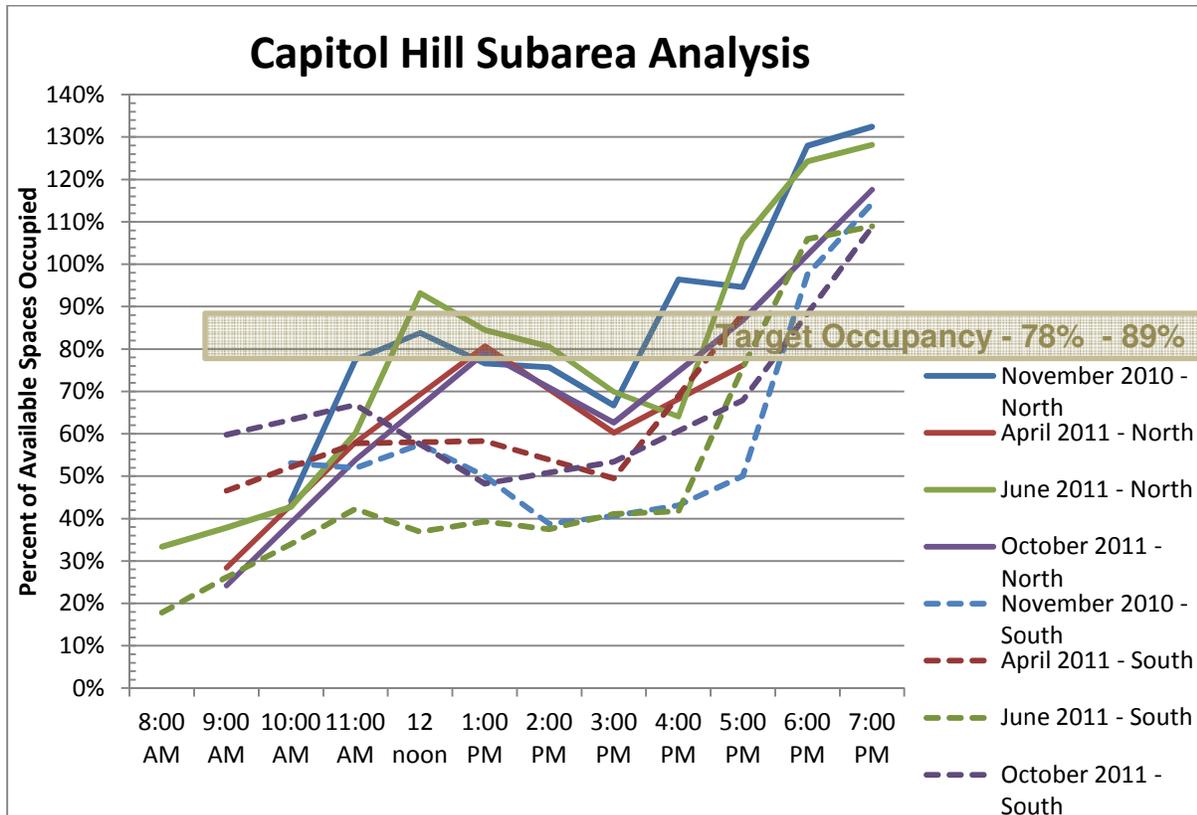
Capitol Hill

Capitol Hill shows moderate demand throughout the day and very high demand (exceeding 100% occupancy) in the evenings. In 2011, rates were increased from \$2.00 to \$3.00 per hour. In August of 2011 paid parking hours were extended until 8pm. While this may have driven demand for parking down slightly in the evenings, occupancy remains well above the target after 6 pm.



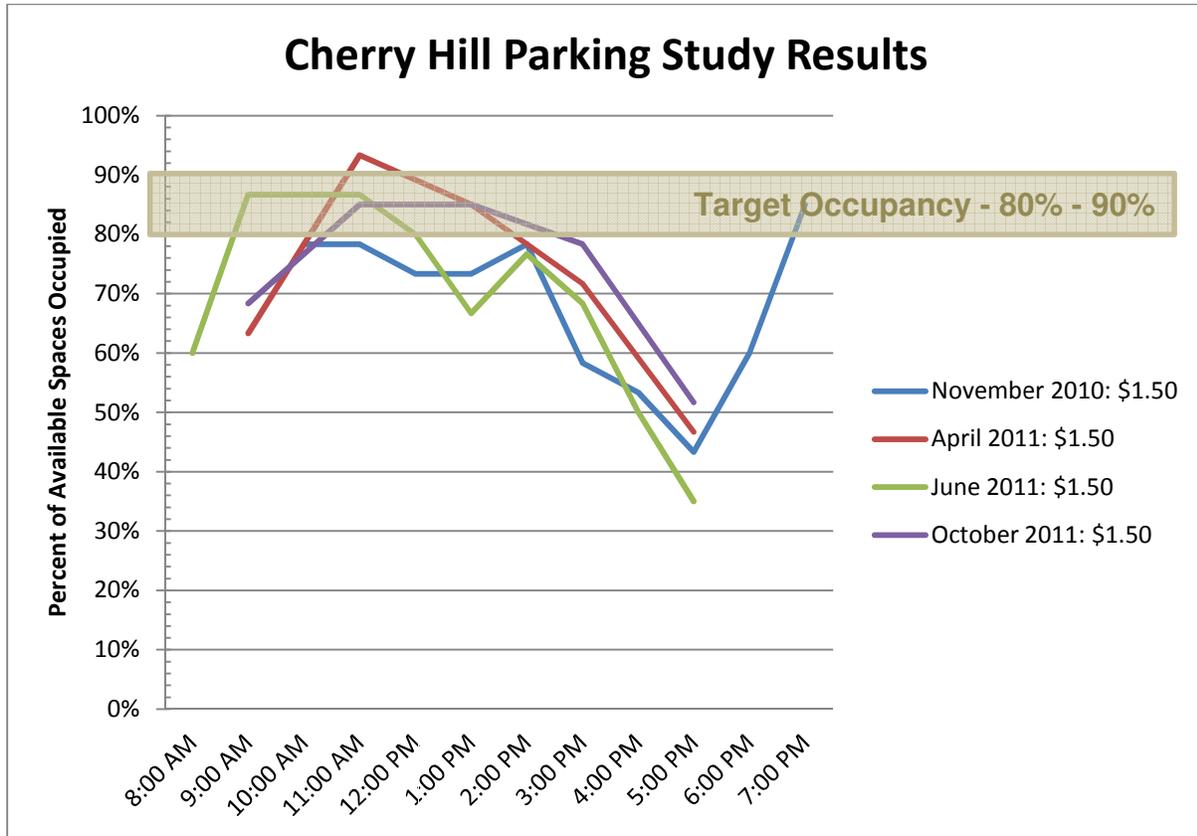
Capitol Hill Subarea Analysis

In 2012, SDOT will create North (E. John St. and north on Broadway and nearby blocks) and South (south of E. John, north of E. Pine St.) subareas on Capitol Hill to reflect different occupancy conditions in the two areas. Both subareas showed very high demand in the evenings, but the North subarea has higher demand throughout the day. SDOT plans to lower the hourly parking rate from \$3.00 to \$2.50 per hour in the South Subarea in 2012.



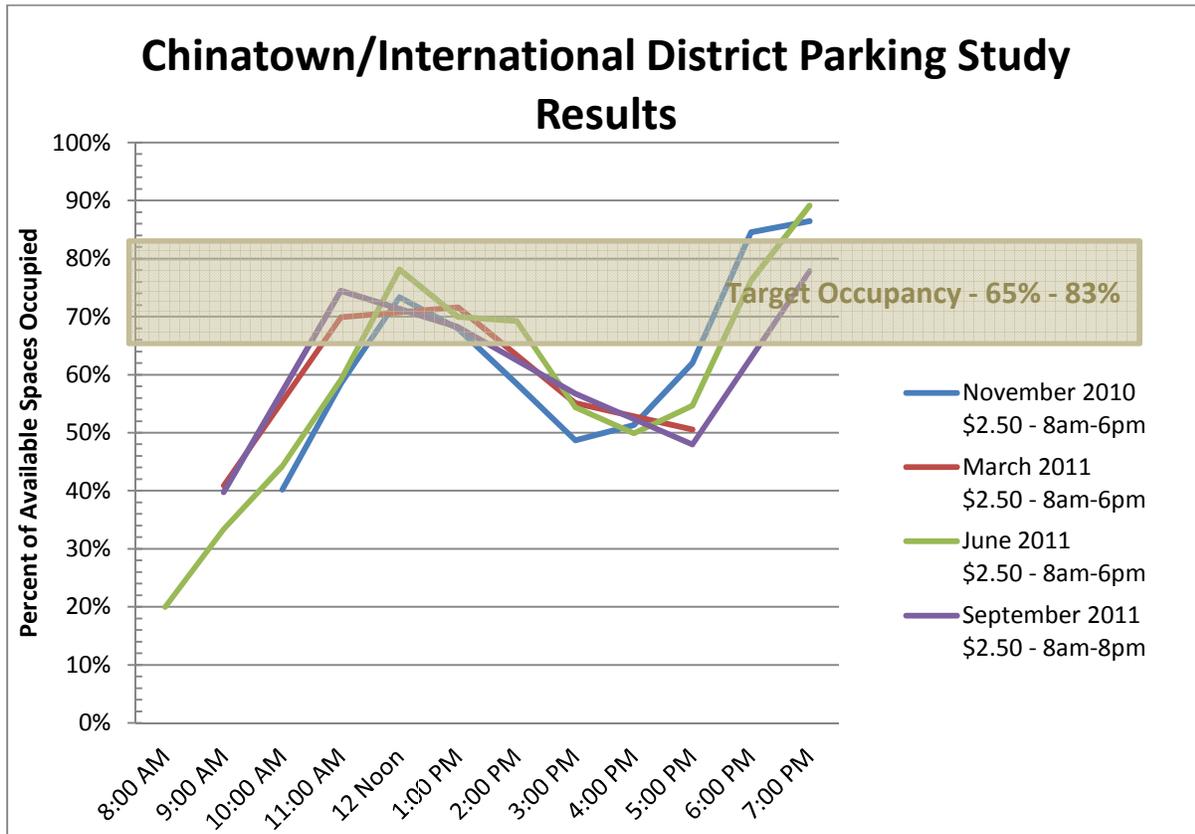
Cherry Hill

Across all of the studies, Cherry Hill (the area around Swedish Medical Center-Cherry Hill Campus) saw demand consistently within the target range of 80%-90% occupancy, with a dip around 4-5 pm. The hourly rate was constant at \$1.50, and the paid hours were 8 am-6 pm daily throughout all studies.



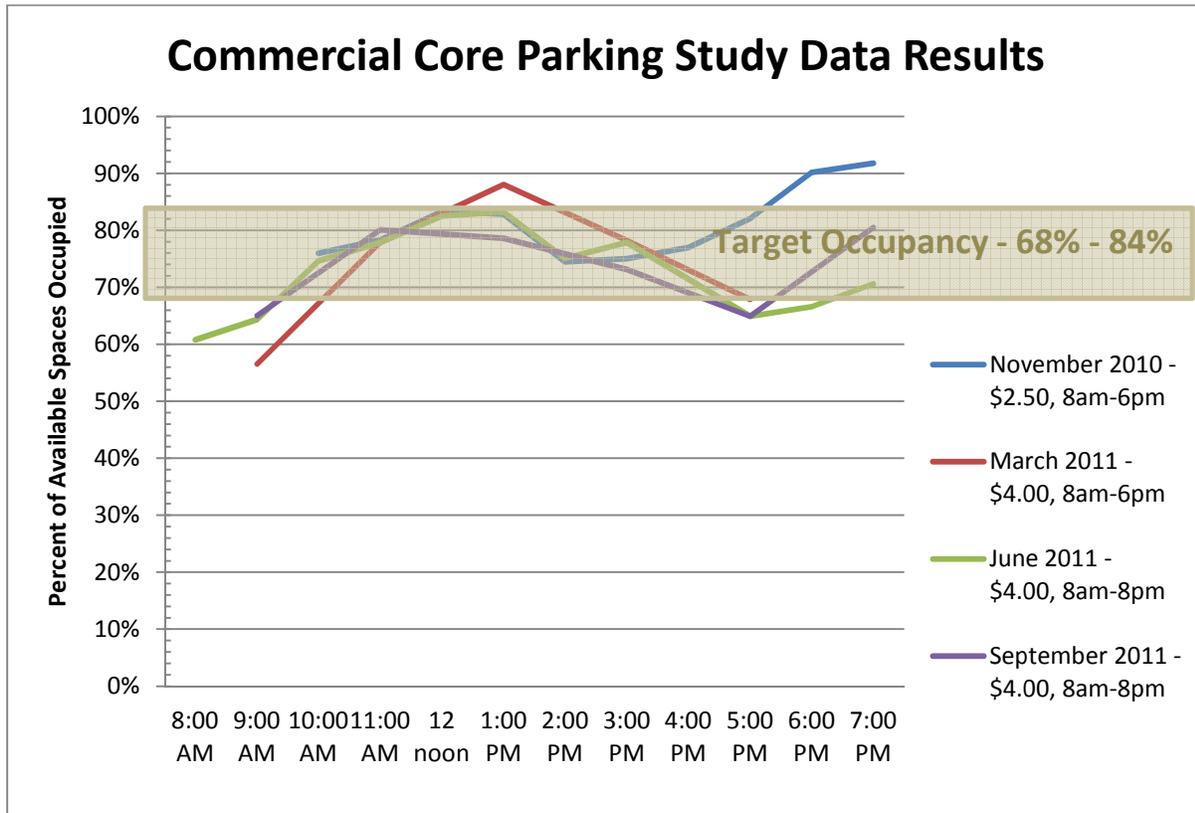
Chinatown/International District

Demand for parking in the Chinatown/International District neighborhood shows peaks around lunchtime and in the evening. In 2011, rates were held constant at \$2.50 per hour. In August 2011, paid parking hours were extended to 8 pm. Occupancy at 7 pm was at 86% (above the target range) as shown in the November 2010 study. After declined to 78% (within the target range) by the September 2011 study.



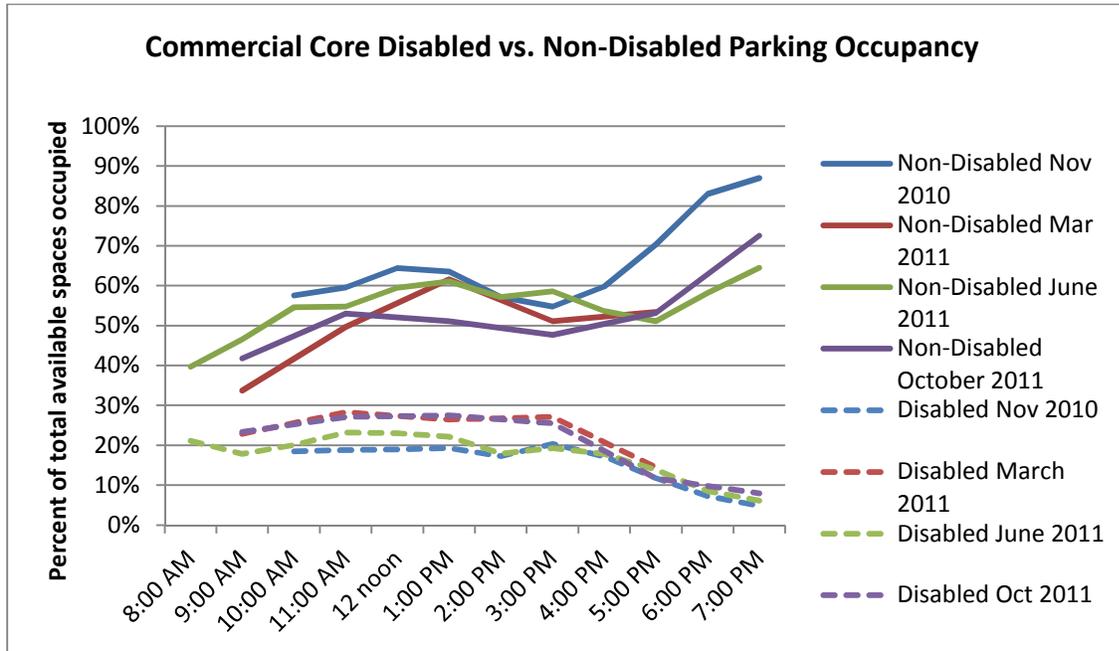
Commercial Core

Occupancy in the Commercial Core has been strong all day in all studies. In 2011 rates were raised to \$4.00 per hour, and in April and May paid parking hours were extended to 8 pm. Occupancy throughout the day has remained steady. Evening occupancy has lowered from over 90% occupancy to within the target range, perhaps as a result of the combination of evening paid hours and the rate increase.

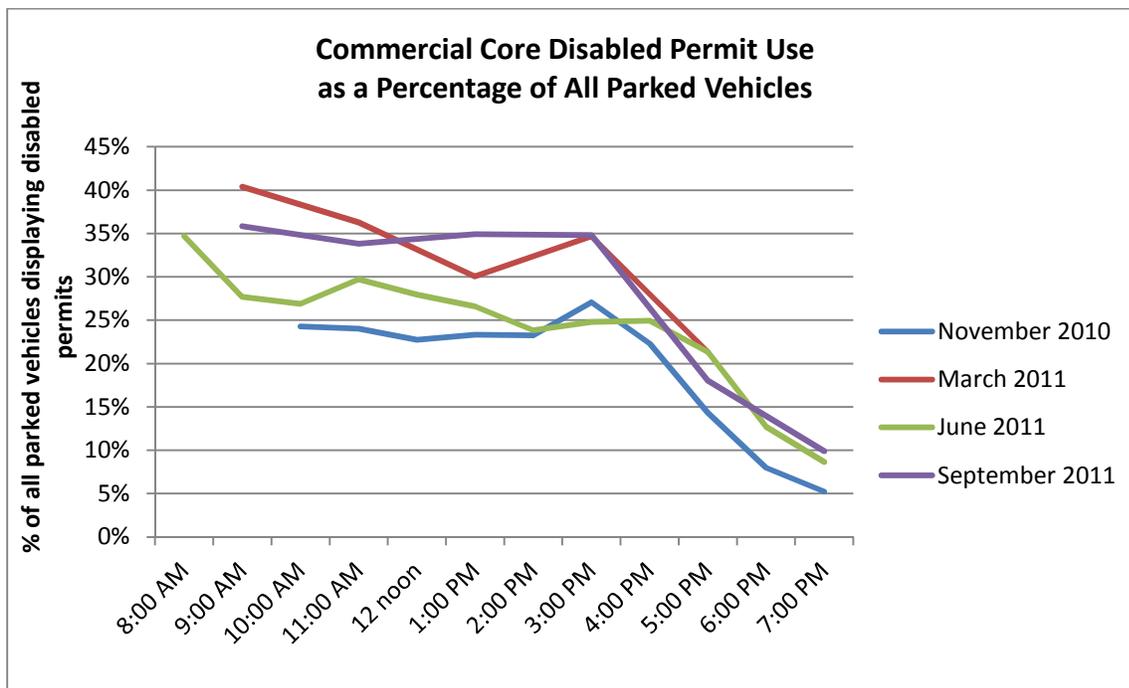


Commercial Core Disabled Parking Permit Use

A substantial portion of the vehicles parked in the Commercial Core display disabled parking permits. This chart compares non-disabled parking occupancy with disabled parking, both as a percentage of total spaces available. Vehicles with disabled parking permits occupy 22% on average (17%-28%) of the available spaces before 3 pm, with a decline in the late afternoon.



Vehicles with disabled parking permits made up between 25% and 40% of all vehicles parked in the Commercial Core throughout the day in during the studies, with a decline around 3-4 pm.

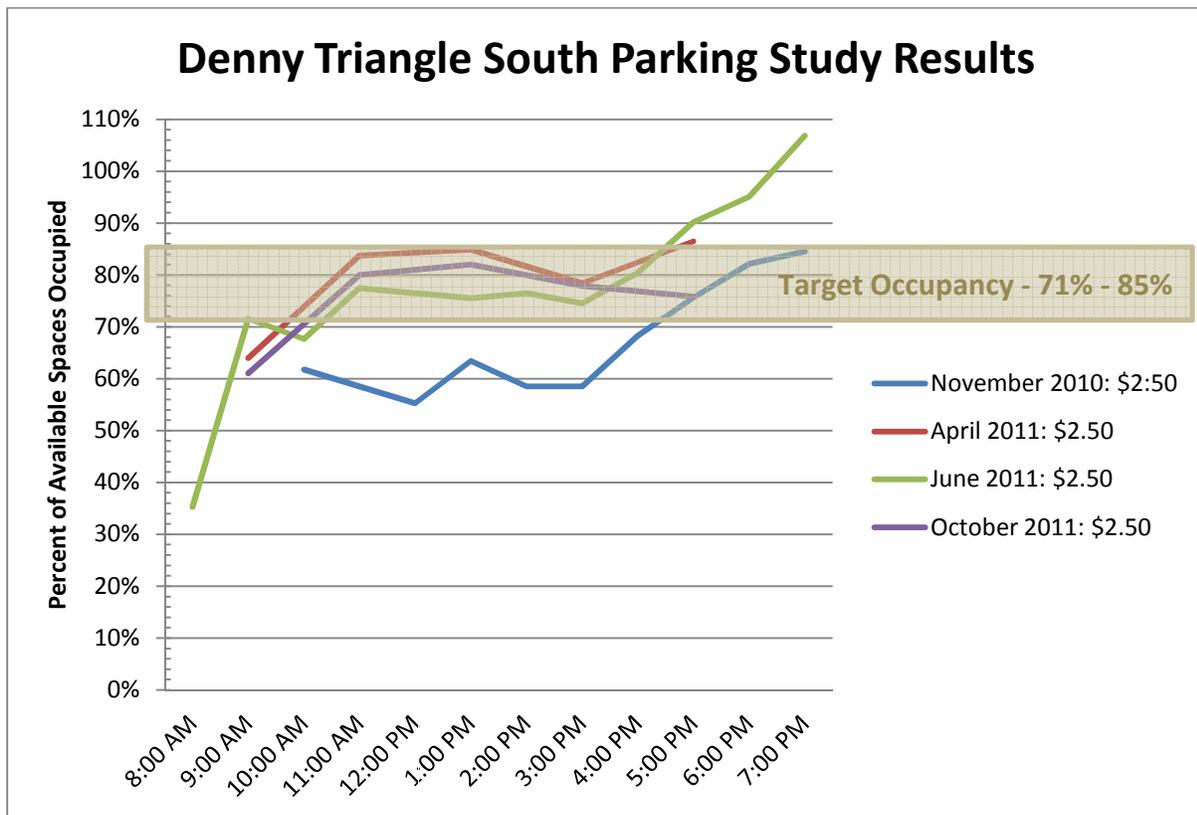


Denny Triangle

In 2011, as part of that year's parking rate changes, SDOT divided the Denny Triangle neighborhood into two subareas: North (bounded by 6th Ave., Denny Way, Lenora Ave., 8th Ave., Stewart St. and I-5) and South (bounded by 6th Ave., Lenora St., Stewart St. and 8th Ave.).

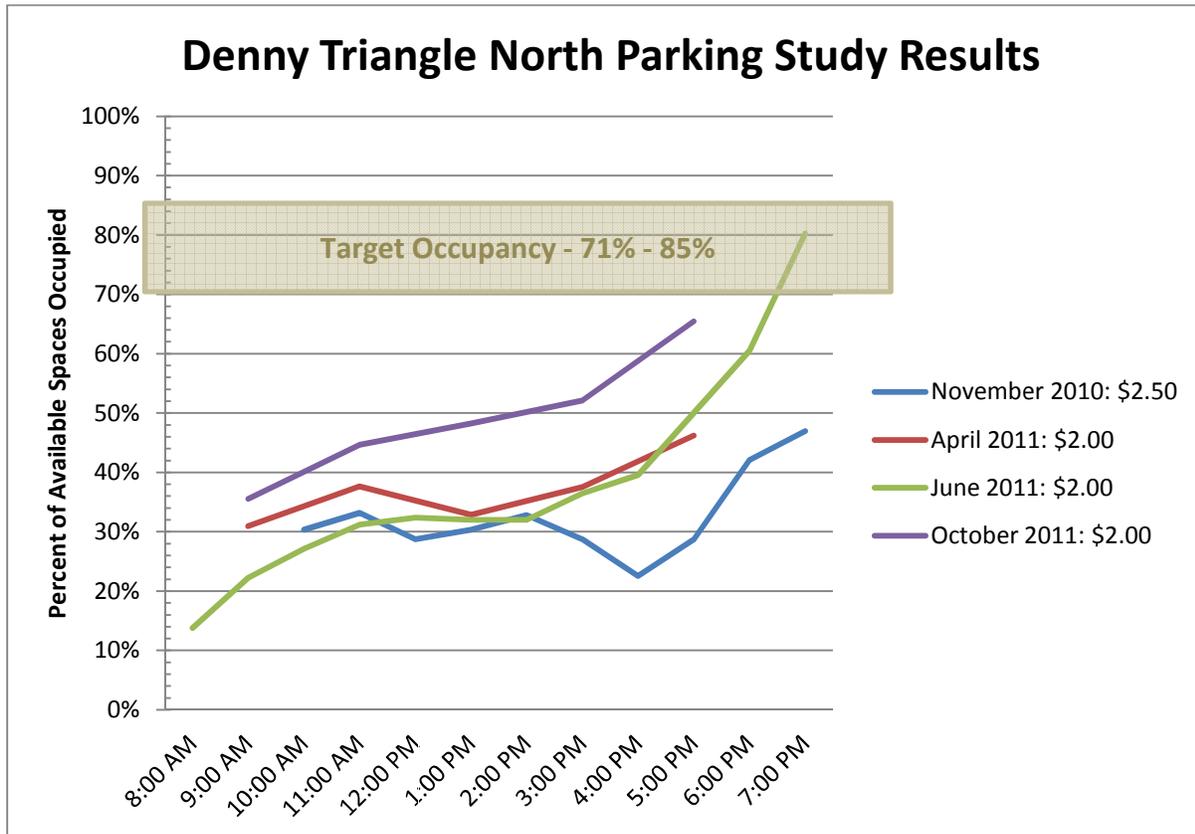
South Subarea

In the South subarea of Denny Triangle, occupancies have generally been within the target range for much of the day. Rates have been held constant at \$2.50 per hour. Parking occupancy was reported above the target occupancy in the early evening in the June 2011 study. In 2012, SDOT will extend paid parking hours to 8 pm and increasing the time limit to 3 hours maximum after 5 pm.



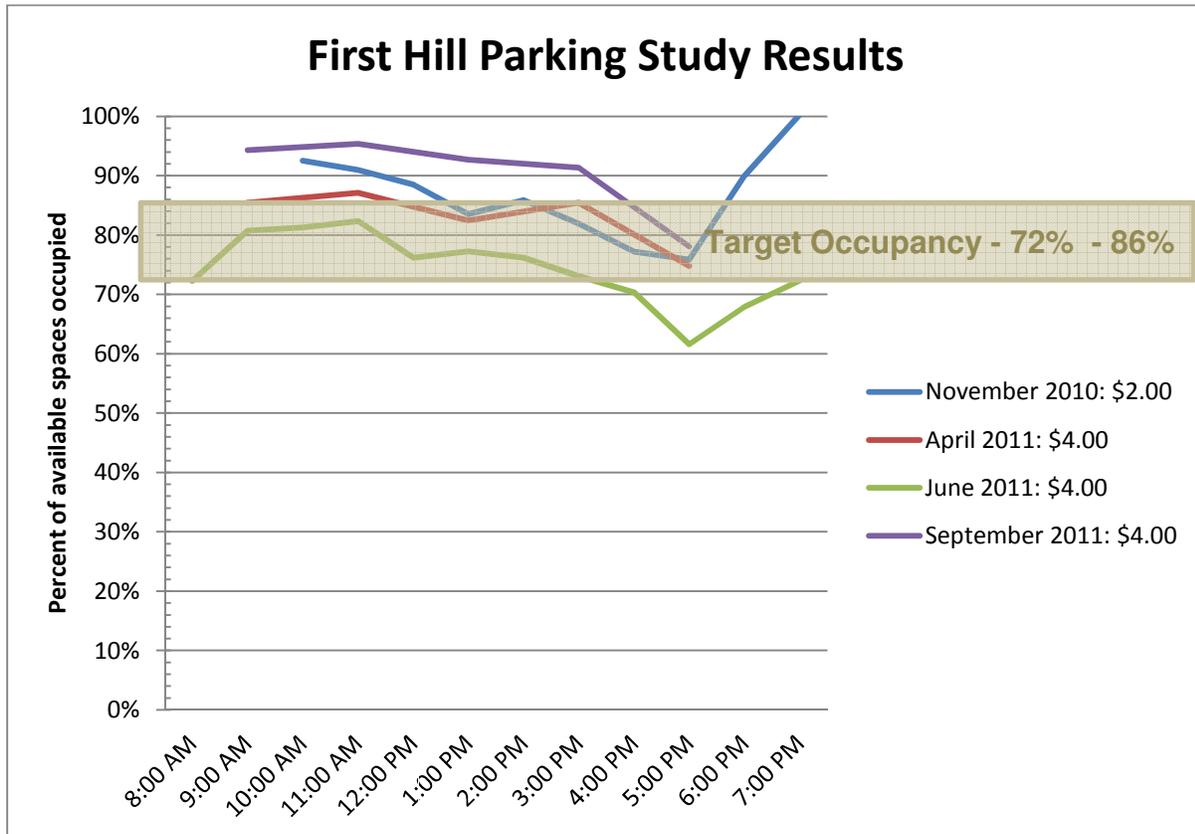
North Subarea

The North subarea of the Denny Triangle neighborhood has shown consistently low demand, with peak occupancy in the late afternoon. In early 2011, rates were lowered from \$2.50 per hour to \$2.00 per hour. Occupancy appears to have risen slightly since the rate change, with late afternoon peaks within the target range in the June 2011 study. In 2012, SDOT will change the maximum time limit from 2-hours to 4-hours, with the expectation that occupancy will increase to meet the target occupancy range.



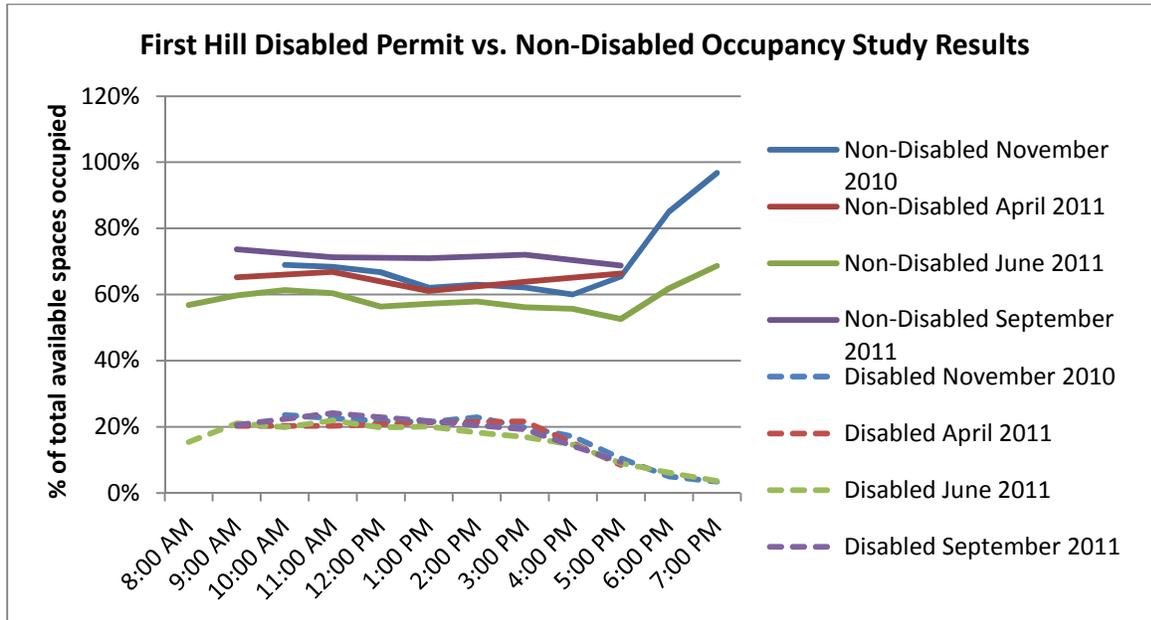
First Hill

First Hill shows strong, all-day parking demand. In 2011, rates were raised from \$2.00 per hour to \$4.00. Occupancy declined by an average of 11 percentage points from November 2010 to June 2011, perhaps due to the increase in the rate. In June 2011, occupancy was within the target range for most of the day, but occupancy rose again by September 2011.

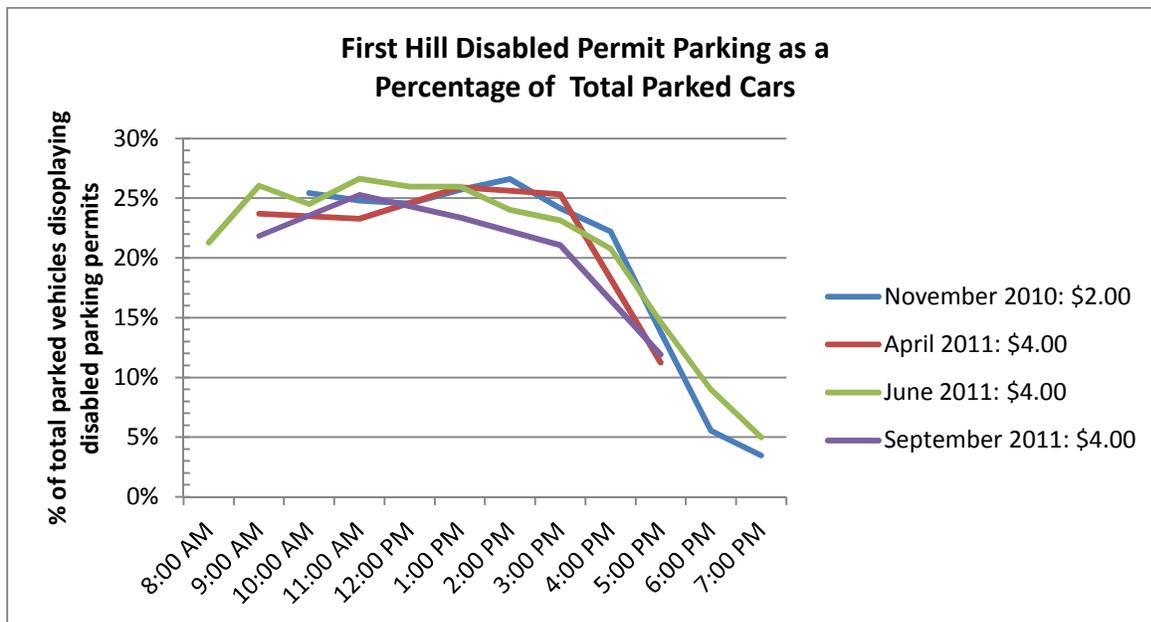


First Hill Disabled Permit Use

A substantial portion of the spaces on First Hill are occupied by vehicles with state issued disabled parking permits. This chart compares non-disabled parking occupancy with disabled parking, both as a percentage of total spaces available. Vehicles with disabled permits occupy an average of 20% of the available spaces before 3 pm, with a decline in the late afternoon.

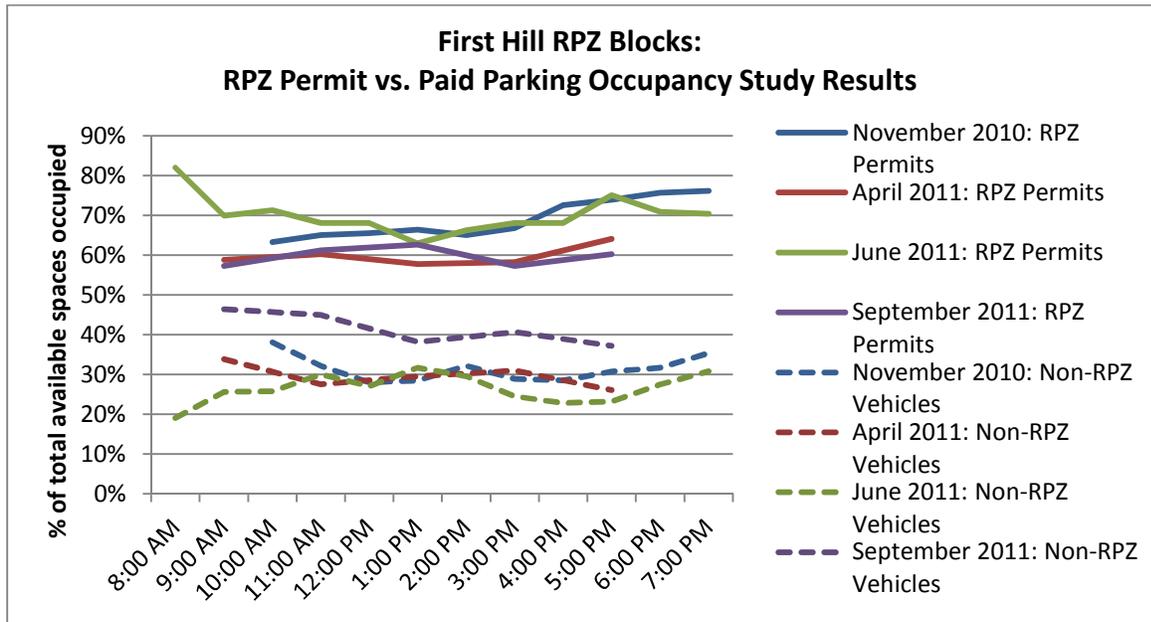


The following chart displays vehicles with disabled parking permits as a percentage of all parked vehicles on First Hill. Vehicles make up about 25% of all parked vehicles on First Hill for most of the day, with a decline in the late afternoon as the number vehicles without disabled parking permits increases.

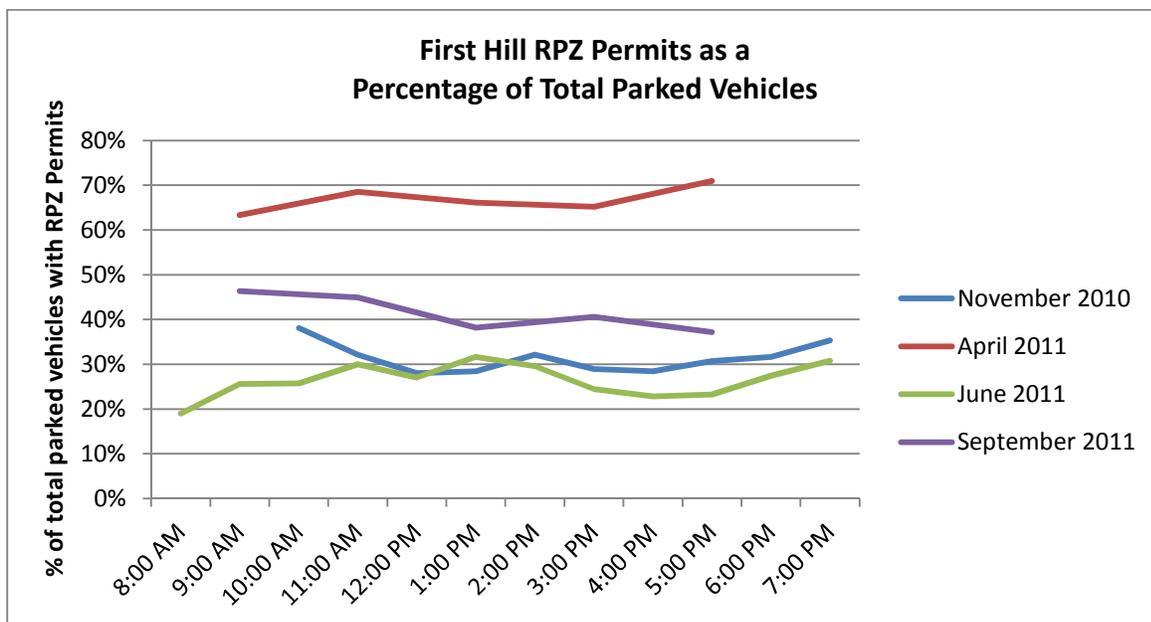


First Hill Restricted Parking Zones

First Hill has several blocks that allow for both paid short-term parking and long-term parking for area residents with a Restricted Parking Zone (RPZ) permit. RPZ occupancy peaks in the early morning and late afternoon, and has been higher (with a mid-day average of about 64%) than short-term paid parking (average of 33%) throughout the day in all studies. The following chart displays parking occupancy on these RPZ-paid parking hybrid blocks for vehicles with and without RPZ permits.

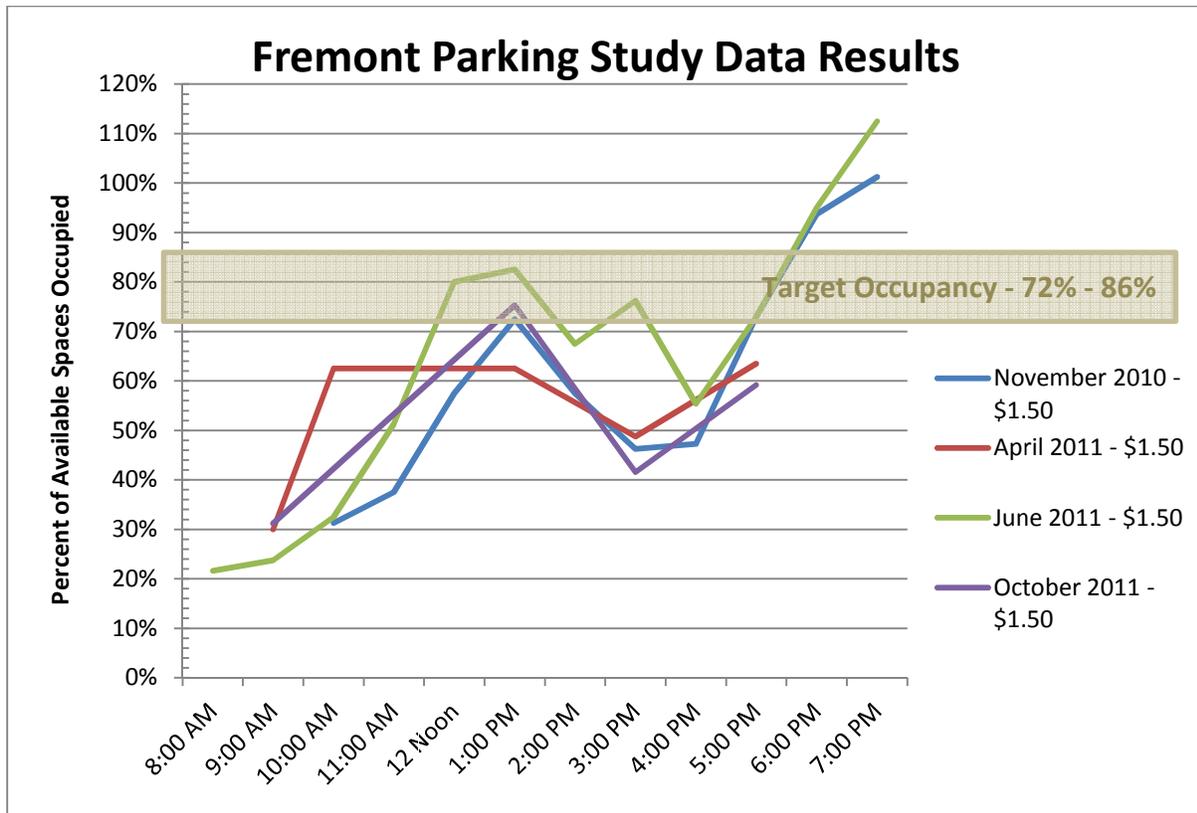


The following chart displays vehicles with RPZ permits (on RPZ-designated blocks) as a percentage of the total vehicles parked. This varied throughout the studies, from around 20% to over 70%.



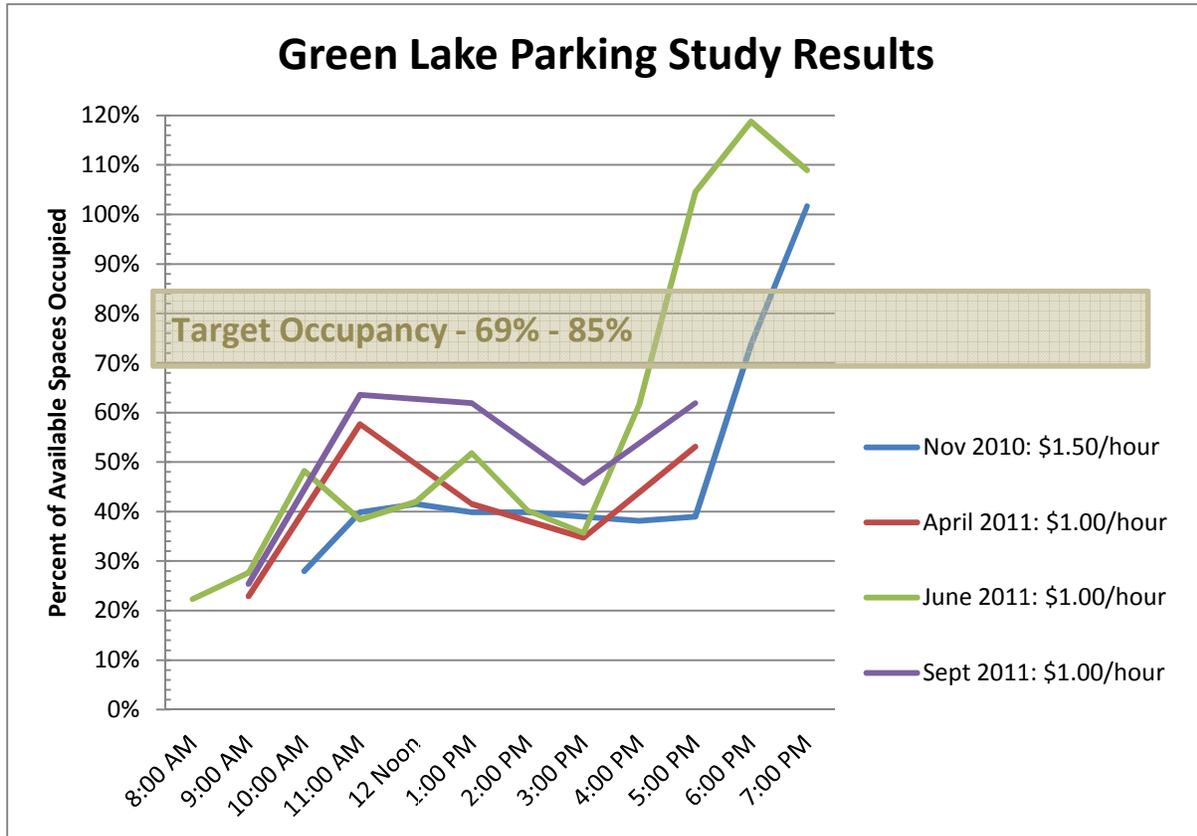
Fremont

Fremont shows midday peaks within the target occupancy range, and very high occupancy in the evening. Rates were held constant at \$1.50 per hour, and paid hours at 8 am-6 pm in 2011. No changes are planned in 2012.



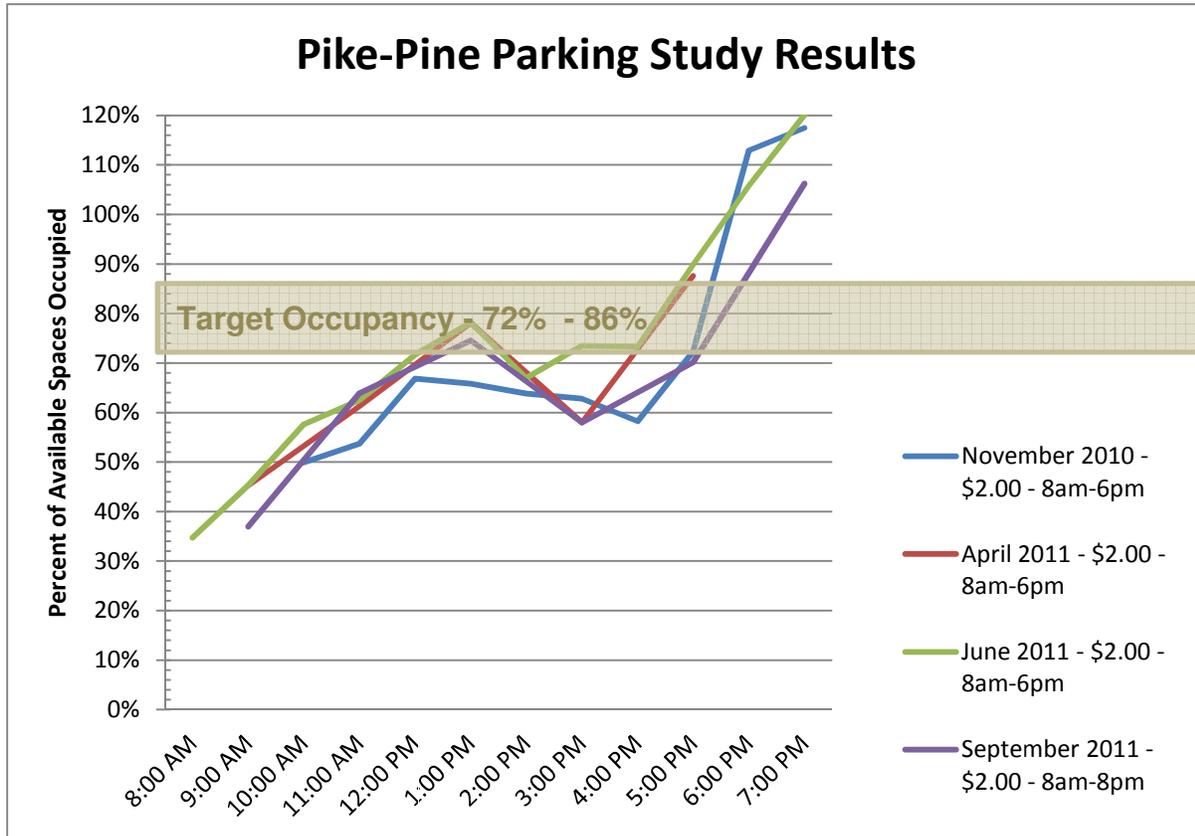
Green Lake

Paid parking in Green Lake has shown occupancy below target levels for most of the day, with increases to occupancy in excess of 100% in the evenings. Parking rates in Green Lake were lowered from \$1.50 per hour to \$1.00 per hour in 2011, though this did not seem to have a consistent impact on occupancy. Green Lake may be affected by seasonal differences in travel. In 2012, the hourly rate will not be changed, as it is currently at the base rate.



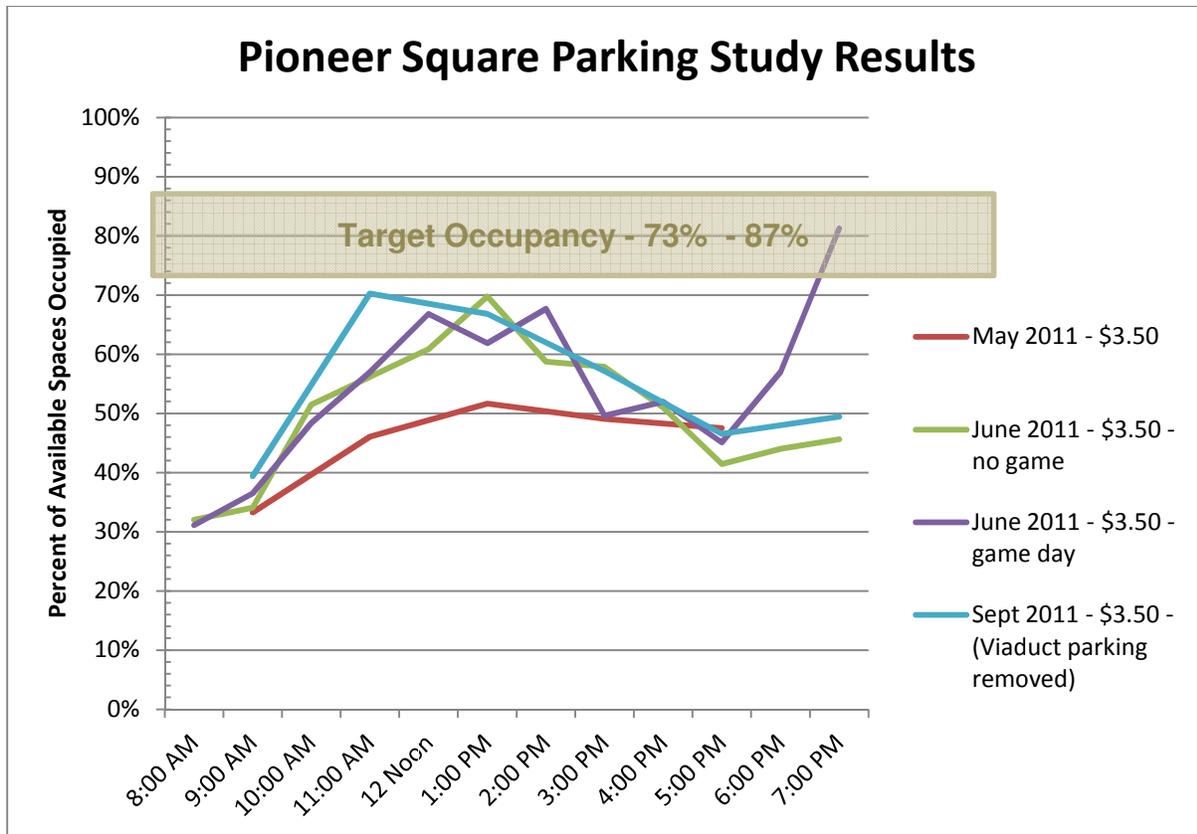
Pike-Pine

Pike-Pine frequently has occupancy levels within the target occupancy range, with very high occupancy (in excess of 100%) during evening hours. Paid parking hours were extended to 8 pm in August of 2011, while rates were held constant at \$2.00 per hour. The increase in paid parking hours may have contributed to the slightly lower evening occupancy seen in the September 2011 study (105%) compared to the November 2010 and June 2011 studies (117% and 120%).



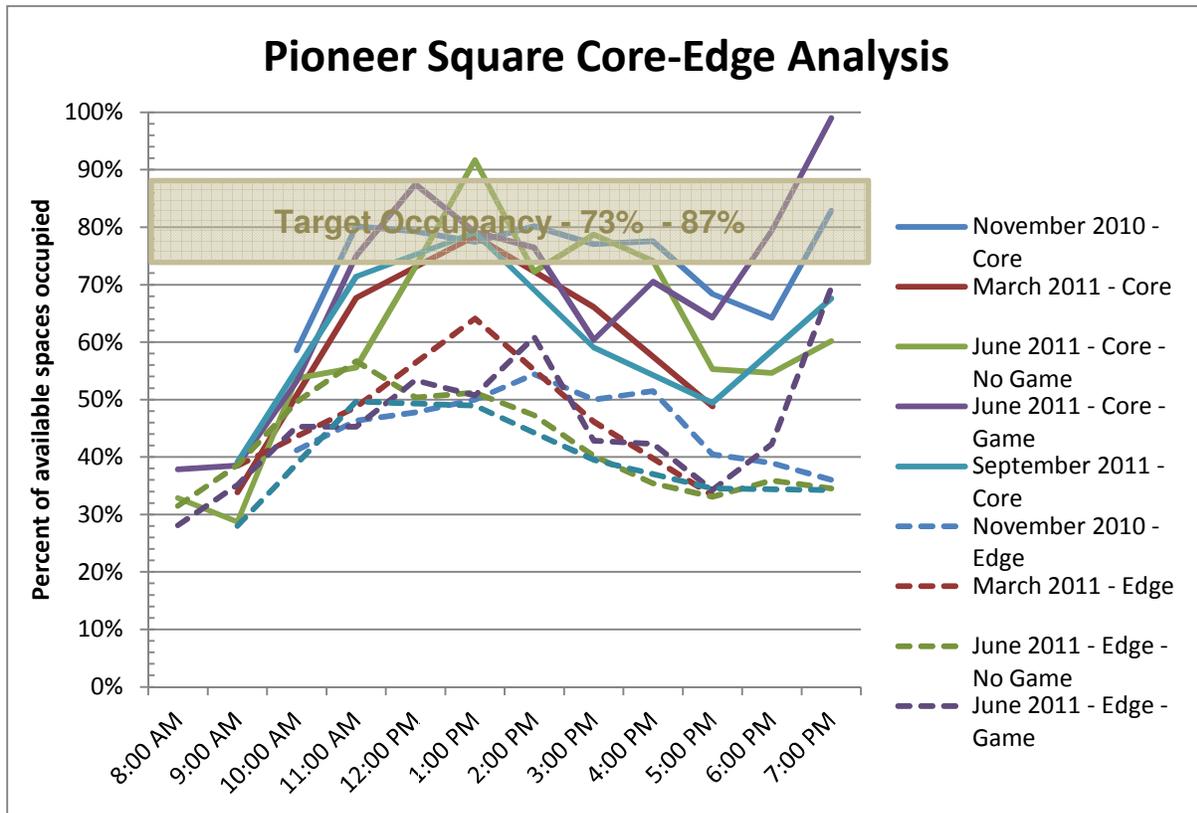
Pioneer Square

The studies of Pioneer Square have been conducted under a variety of conditions: days with and without sporting events, and a day after Alaskan Way Viaduct construction caused removal of some spaces. In 2011, the rates were raised from \$2.50 per hour to \$3.50 per hour. Peak demand occurs in the evening on sporting event days. Note that in November 2010, only a subarea of Pioneer Square was used for the 2011 rate setting process, so the data from that study is not included in this chart. A more detailed analysis of the studies demonstrated different occupancy patterns in the core and edge areas, depicted on the following page.



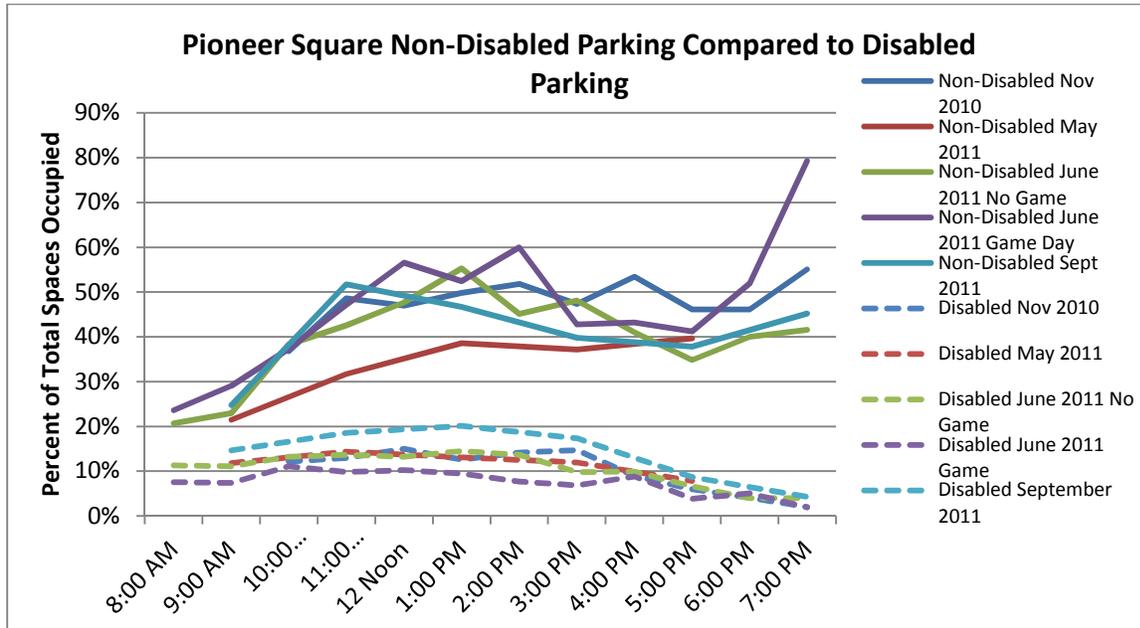
Pioneer Square Core-Edge Analysis

Beginning in 2012, SDOT plans to establish a core area (between 1st and 2nd Avenues and S. Jackson St. and Columbia St., Cherry St. and James St. to 3rd Ave.) and an edge area (South of Columbia St. and west of 1st Avenue, King St. and blocks south of King, and east of 2nd Avenue). These two areas will reflect different occupancy conditions in the two areas; the rate for the edge will be lowered to \$3.00 per hour while the core will remain at \$3.50 per hour. The following chart displays core and edge conditions observed during the parking studies. Note that this area is subject to significant fluctuations due to special events.

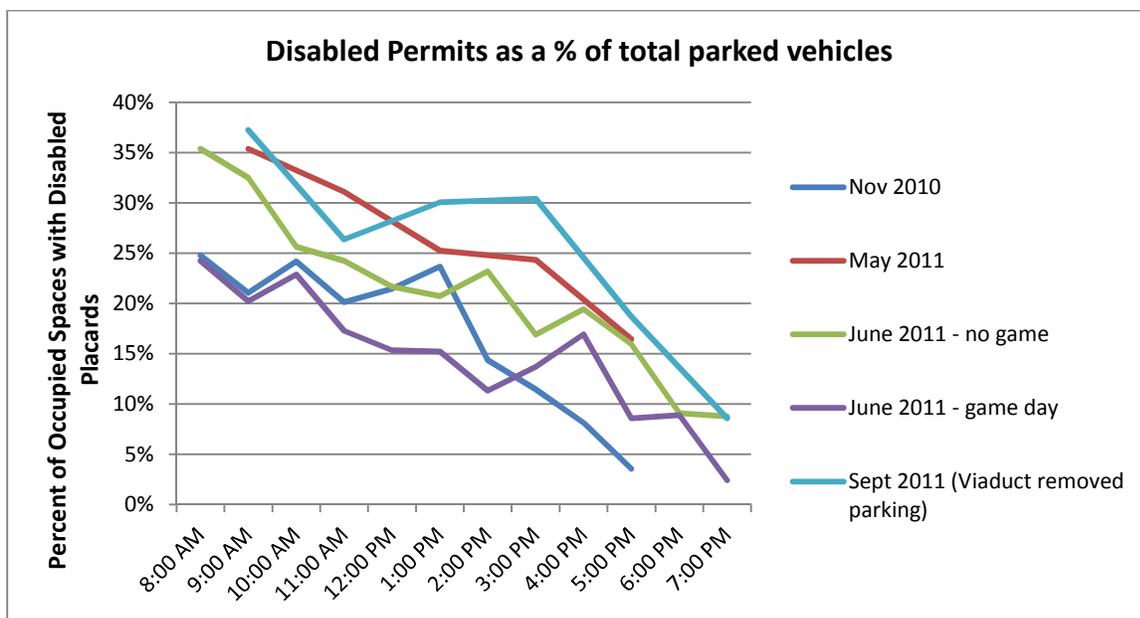


Disabled Parking in Pioneer Square

On street parking in Pioneer Square is occupied by a substantial number of vehicles displaying disabled parking permits. The following chart depicts the percent of total spaces occupied by non-disabled vehicles compared to those with disabled permits. The use of disabled parking permits is steady throughout the day and declines around 3-4pm, at which point non-disabled parking occupancy begins to increase.

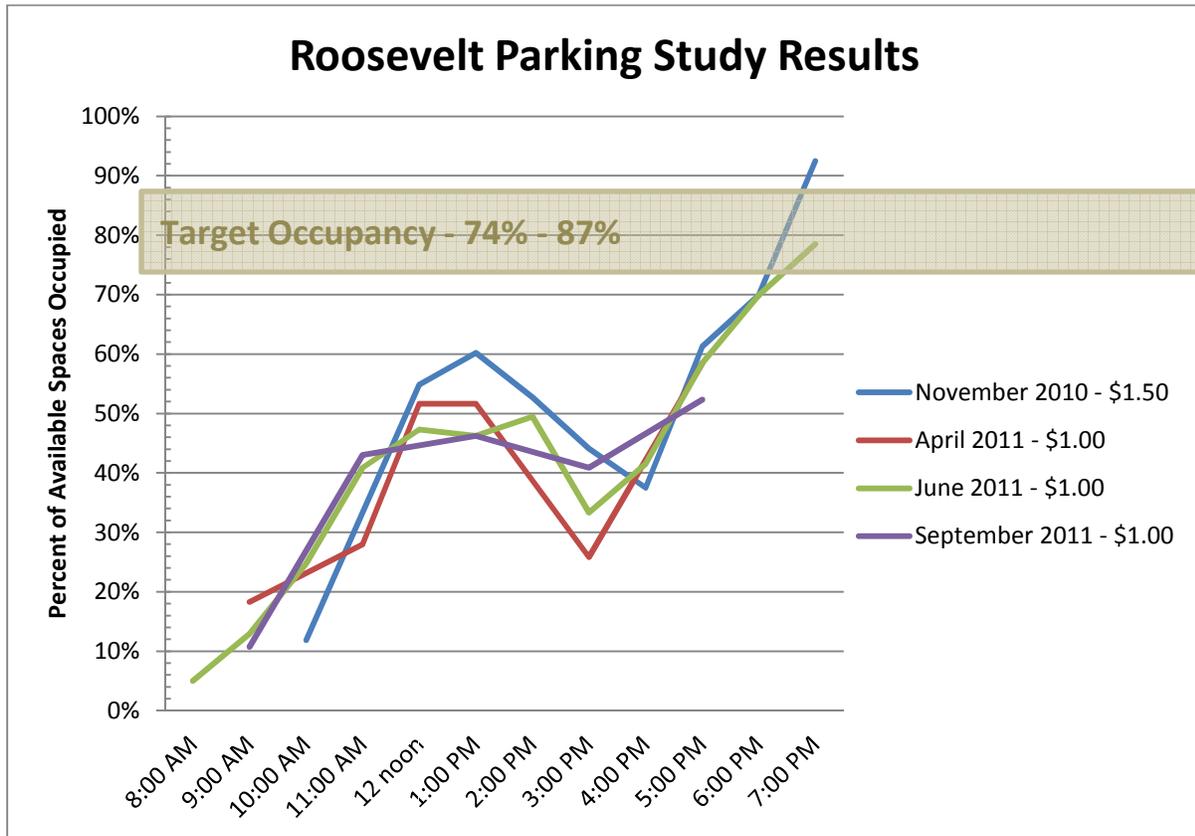


The following chart displays disabled permit occupancy as a percent of total parked vehicles. The relative occupancy by disabled vehicles peaks at around 35% of all parked vehicles, and appears to decline throughout the day.



Roosevelt

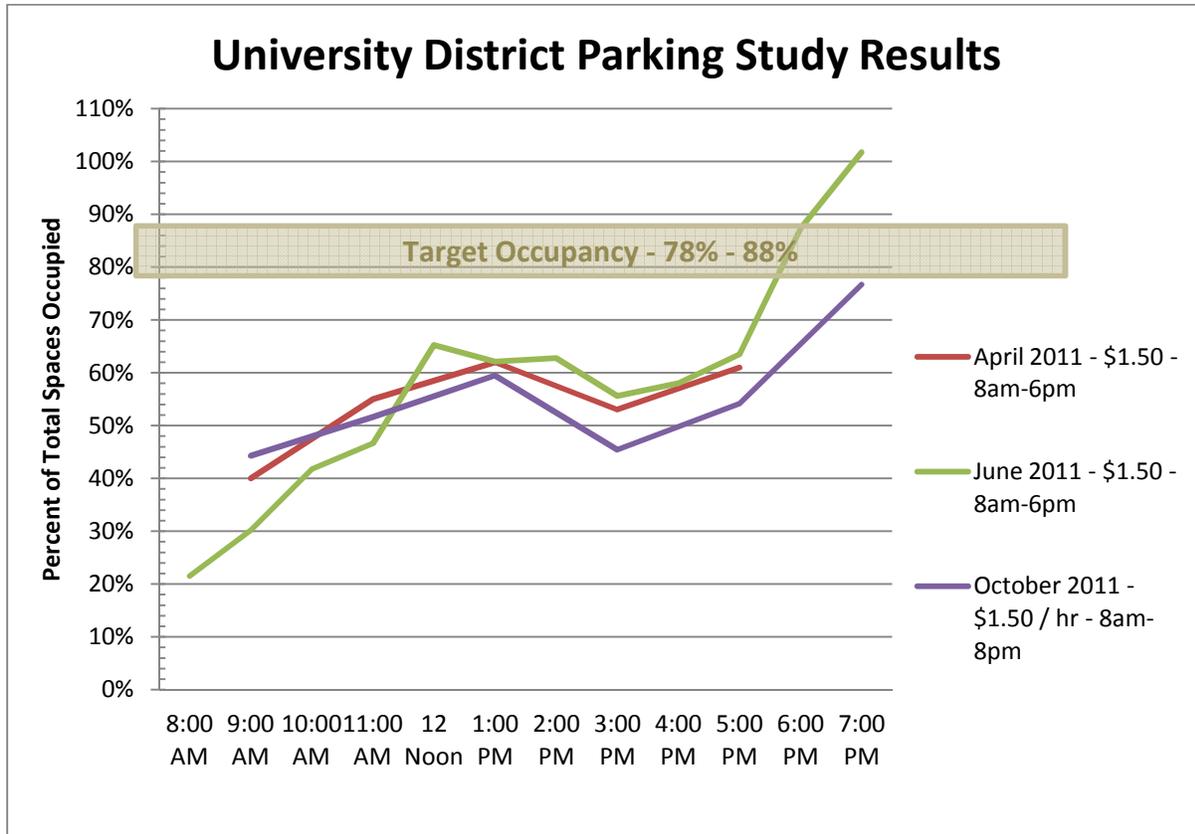
Occupancy in Roosevelt has been consistently below target levels, with an increase in the evenings. In 2011, rates were lowered from \$1.50 per hour to \$1.00 per hour. The data from these studies appear to show that when the rate was lowered, occupancy also declined. In 2012, SDOT is changing all paid spaces from a 2-hour maximum to a 4-hour maximum time limit.



University District

On average throughout the neighborhood, demand for parking in the U-District is below target levels for most of the day, with an increase in the evenings. However, a more detailed analysis (see p. 28) showed that there is a much more full core surrounded by edge areas with lower occupancy rates.

In September 2011, paid parking hours were extended to 8 pm, which likely contributed to a reduction in occupancy in the evening, to close to the target range. In 2012 the U-District will have differentiated rates and time limits for core and edge areas.



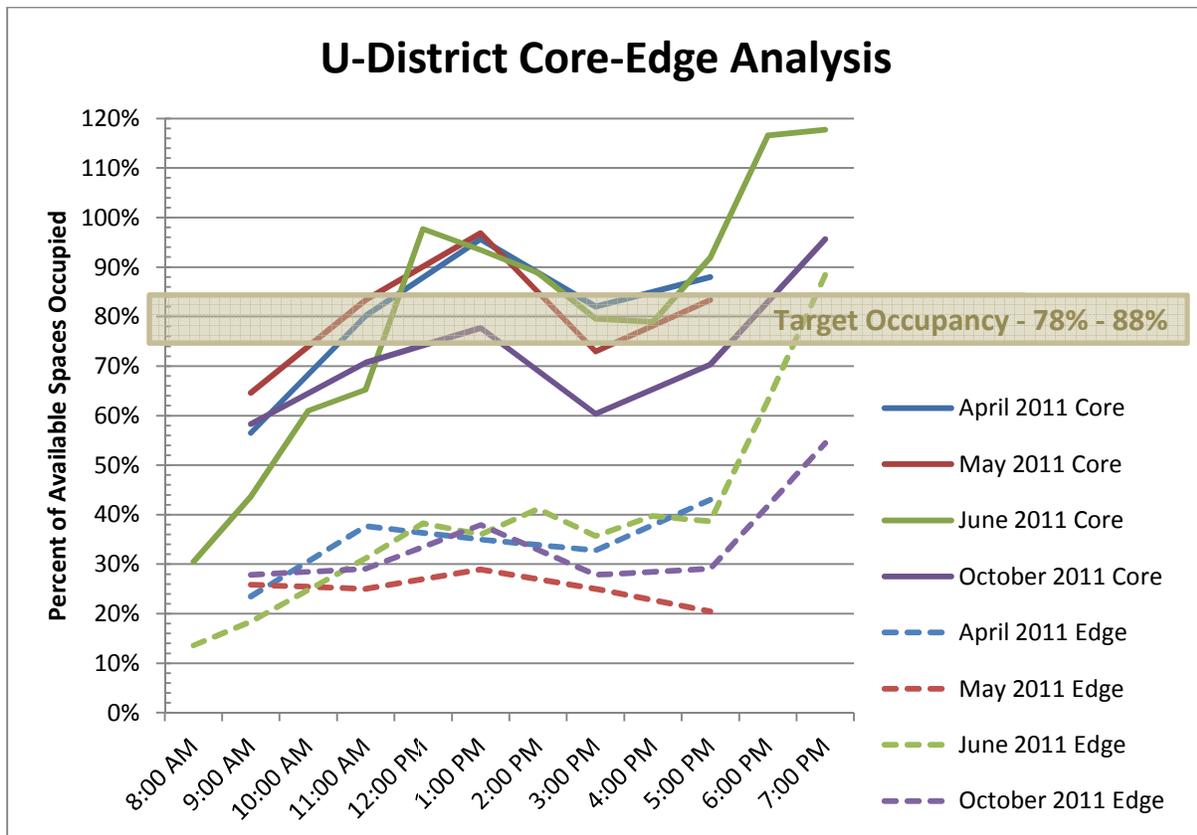
Note that the data collected in fall of 2010 were not able to be included in this format.

U-District Subarea Analysis

The U-District has different occupancy patterns in the core versus edge areas. The core is generally bounded by Boat St. to the south, 15th Ave. NE to the east, NE 45th to the north, and Brooklyn Ave. NE to the west. University Way north of NE 45th St. is also included in the core area. A map of the outline of the core area is shown to the right. Below, the chart depicts the difference in occupancy in each area throughout four different study periods: April, May, June, and October 2011. This analysis shows that the core area is consistently near or within target occupancy levels (with a notable drop during the October 2011 study), while the edge areas are consistently well below target levels. The average difference in occupancy between core and edge was 44 percentage points.



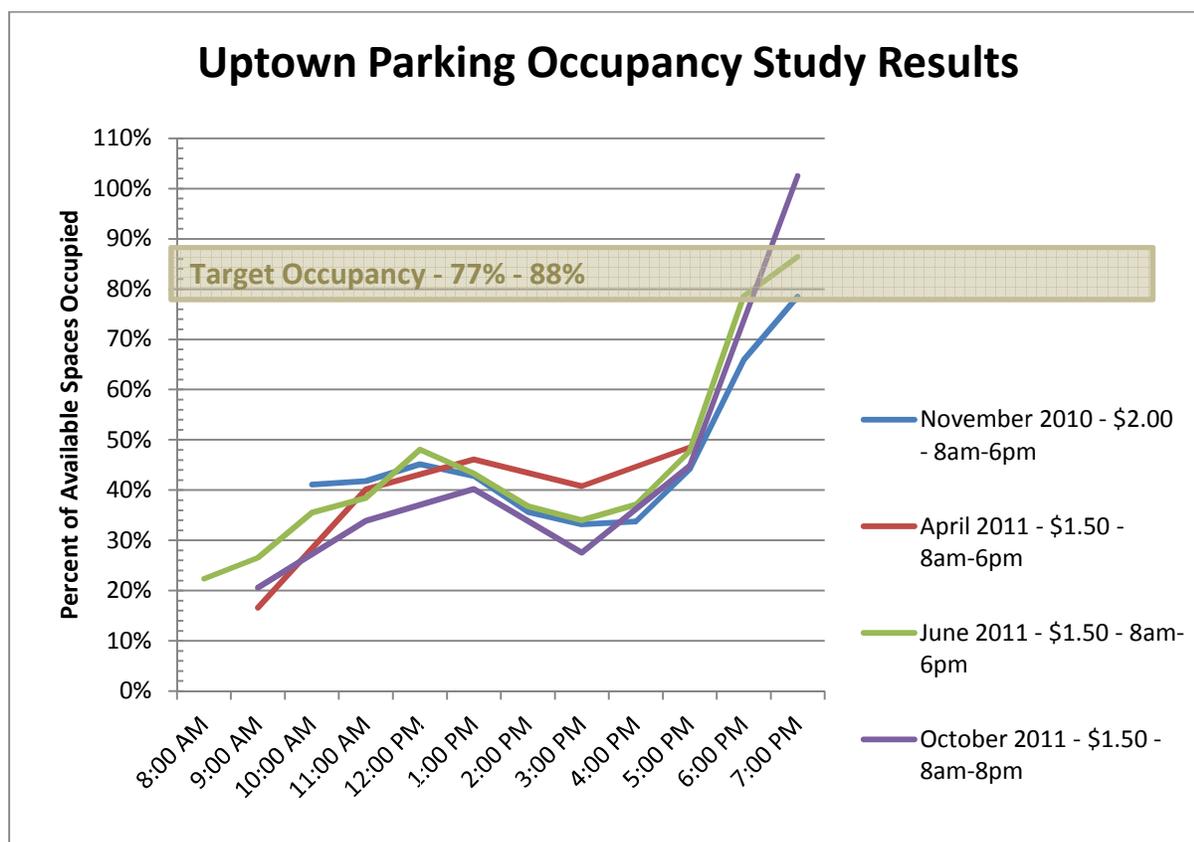
In 2012 SDOT will differentiate rates and time limits in core versus edge areas to align with demonstrated occupancy patterns. The edge areas will remain at \$1.50 per hour and the time limit for parking there will increase to 4 hours. The core area's rate will increase to \$2.00 per hour with a 2-hour time limit.



Uptown

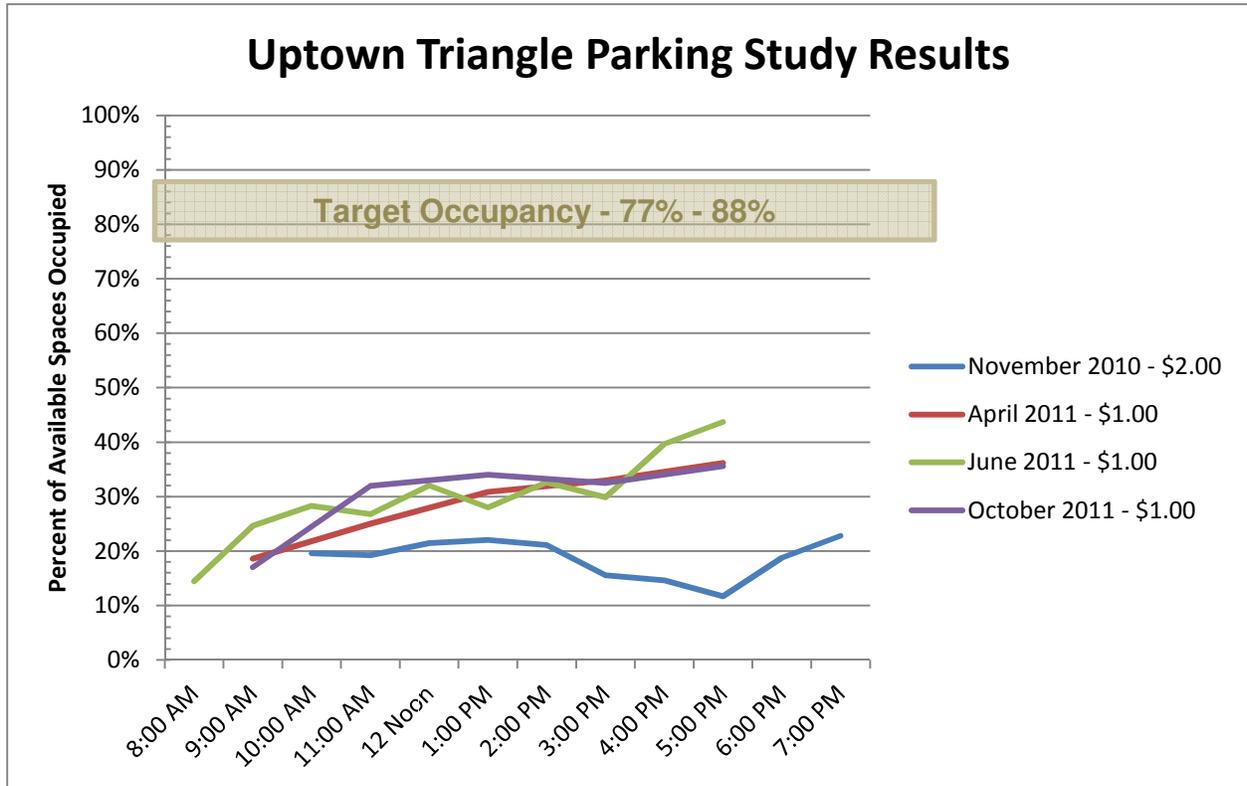
Uptown parking occupancies have been consistently low throughout the day, with a substantial increase in the evening. In 2011, rates were lowered from \$2.00 per hour to \$1.50 per hour. Paid parking hours were extended to 8 pm in September of 2011 to mitigate excess demand in the evenings. The studies do not indicate a significant change in occupancy as a result of the rate change.

In 2012, the hourly rate will remain at \$1.50 throughout the area. Uptown will also be divided into core and edge areas. The time limit in the edge areas will increase to 4 hours, while the time limit in the core will remain at 2 hours, with a 3-hour time limit after 5 pm.



Uptown Triangle

The Uptown Triangle (bounded by Aurora Ave. N., Denny Way, and Broad St.) has consistently shown occupancy levels below target. In 2011, rates were lowered from \$2.00 per hour to \$1.00 per hour. This appears to have generated a notable increase in occupancy, although occupancy is still well below target levels. In 2012, the rate will remain at \$1.00 per hour, but time limits will increase to 10 hours (8 am – 6 pm).



Westlake Avenue North

Westlake Avenue North has had occupancy levels consistently below target. In 2011, rates were lowered from \$1.50 per hour to \$1.00 per hour, which may have slightly increased occupancy levels. Westlake may also experience different demand levels depending on the season.

In 2012, the rate will remain at \$1.00 per hour, while time limits will be extended to offer all-day parking (enforced 9 am – 4 pm).

