

## FINAL MEMORANDUM

Date: July 12, 2013

To: Daniel Rowe, King County Metro

From: Chris Breiland and Jeff Pierson, Fehr & Peers

**Subject: *Parking Requirements and Utilization Gap Analysis***

SE12-0248.01

### EXECUTIVE SUMMARY

This memorandum provides a comparison of local municipal code minimum parking requirements with multifamily off-street parking utilization forecast by the King County Multi-Family Residential Parking Calculator ([www.rightsizeparking.org](http://www.rightsizeparking.org)). This analysis reviews the difference between municipal code and forecast utilization rates to document how well the code aligns with forecast utilization. The motivation behind this research is that misaligned parking requirements may spur the need to supply more parking than is necessary – leading to oversupply and increased housing costs. In addition, misaligned parking requirements can make it difficult to unbundle the price of parking from rent and charge a market rate for parking. Market rate parking pricing, in turn, can support the use of non-auto modes (by making the cost of car ownership a more explicit out-of-pocket cost) and lower the cost of housing (by reducing the level of cross subsidization from rent to parking). The outcome of this comparison is a map and underlying data that details how municipal requirements for parking supply differ from model forecast parking utilization.

Results outline the extent and location where there is a gap between forecast parking utilization and municipal code minimum requirements. The analysis indicates that in most locations, particularly south and east King County, parking requirements are higher than forecast parking utilization, often by around 50%. Minima, in the absence of maxima, do not preclude a developer from supplying parking in excess of the minimum amount required. Thus, the areas with forecast parking utilization above minimum requirements do not constitute a similar gap in municipal code. A subsequent analysis of parking maxima revealed that in Renton, which has a requirement that is both a minimum and a maximum, a few areas have maximum parking requirements that are below forecast utilization.

In addition to the potential that parking minima drive excess supply, there are other potentially negative outcomes of high minimum requirements. Large expanses of parking negatively impacts the scale of a neighborhood, makes walking less attractive, and reinforces car dependency. In addition, excess parking increases the amount of impervious surface, increases the urban heat island effect, reduces the quality of the built environment, and can drive up the cost of development. On the regulatory side, the process of requiring developers to frequently seek project level approval for variances also consumes City staff time, delays the development process, and may result in fewer projects making it out of the early development phase.

Current municipal codes were also compared to a selection of built projects. Data reveal that in Seattle, most of the surveyed developments contain more parking than is currently required. In areas outside Seattle, as many developments provide less than the required minimum parking as provide more than the required minimum. Causes for these discrepancies may be that developments were planned under previous code requirements, reductions or variances were

granted, or that developers simply built more parking than the code required due to anticipated market demand.

The results of this analysis highlight areas where parking requirements should be reviewed to better align with forecast utilization, and address areas where minimum requirements are requiring developments to provide unnecessary parking. This process will feed into a draft of model code language, which will recommend alternative approaches to setting minimum requirements where relevant.

## BACKGROUND

The King County Multi-Family Residential Parking Calculator (“RSP model,” <http://www.rightsizeparking.org/>) forecasts parking utilization per multi-family dwelling unit for parcels throughout King County. The calculator’s estimates are based on a model developed from data collected in the winter and spring of 2012 at over 200 developments in urban and suburban localities in King County, Washington.

Through minimum requirements, cities require parking in a similar fashion – either by dwelling unit or number of bedrooms. These minimum requirements stipulate the least amount of parking that must be built for residents and visitors, but localities do allow reductions to these requirements on a case-by-case basis.

Combining these data sources, the forecast utilization can then be compared to the minimum amount of parking that each development would be required to provide under municipal codes. The analysis is presented at the parcel level, and was completed for areas throughout King County that were likely to be zoned for multi-family development based on information provided by the King County Assessor’s Office and the Puget Sound Regional Council (PSRC) These areas are shown in Figures 1 and 4.

## PARKING UTILIZATION – RIGHT SIZE PARKING MODEL

The RSP model uses inputs from a combination of location (transit availability, population, jobs) and building characteristics (rent, parking price, building form) to forecast parking utilization per dwelling unit. Model development is detailed in a February 7, 2013 Technical Memo ([http://www.rightsizeparking.org/Right\\_Size\\_Parking\\_Technical\\_Memo.pdf](http://www.rightsizeparking.org/Right_Size_Parking_Technical_Memo.pdf)). For this analysis, the area covered by the RSP model was divided into six place types to better reflect local development characteristics. An average building type was identified in each of the six areas that was similar to the actual collected data (for example, developments in urban settings contained a higher percentage of studio and one bedroom units than suburban developments). **Table 1** shows the inputs to the RSP model by place type, rounded to the nearest whole unit. Standard building types were used in each place type such that location characteristics were the key drivers of model parking utilization predictions. This allows for a comparison with municipal codes which vary by City or neighborhood. Model outputs of parking utilization by place type were then joined together in one database for comparison with municipal codes.

**TABLE 1. GAP ANALYSIS MODEL INPUTS BY PLACE TYPE**

	<b>Urban Downtown</b> (Downtown Seattle)	<b>Regional Center</b> (Downtown Bellevue, Overlake)	<b>Suburban Center</b> (Bel-Red, Northgate)	<b>Suburban Commercial</b> (Aurora Avenue in North Seattle/Shoreline, 85 <sup>th</sup> Street in Kirkland)	<b>Inner Suburb</b> (Loyal Heights, Seattle Central District)	<b>Traditional Suburb</b> (Tukwila, Renton)
<i>Studio Units</i>	63	36	13	12	9	8
<i>1 Br Units</i>	79	67	54	71	66	52
<i>2 Br Units</i>	30	35	29	78	55	83
<i>3 Br Units</i>	4	1	7	10	6	12
<i>Average Bedroom Count<sup>1</sup></i>	1.2	1.3	1.4	1.6	1.5	1.7
<i>Studio Rent</i>	\$957	\$1,148	\$1,014	\$977	\$1,108	\$808
<i>1 Br Rent</i>	\$1,270	\$1,488	\$1,208	\$1,077	\$1,096	\$956
<i>2 Br Rent</i>	\$2,073	\$1,987	\$1,411	\$1,312	\$1,332	\$1,140
<i>3 Br Rent</i>	\$2,742	\$2,005	\$1,325	\$1,593	\$1,424	\$1,360
<i>Average Rent<sup>2</sup></i>	\$1,328	\$1,529	\$1,249	\$1,207	\$1,207	\$1,078
<i>Studio Sq ft</i>	472	564	612	598	527	541
<i>1 Br Sq ft</i>	672	764	812	798	727	741
<i>2 Br Sq ft</i>	872	964	1,012	998	927	941
<i>3 Br Sq ft</i>	1,072	1,164	1,212	1,198	1,127	1,141
<i>Total Building Square Feet<sup>2</sup></i>	113,272	106,396	89,636	153,658	110,472	134,655
<i>Affordable Units</i>	39	20	18	21	20	13
<i>Mo. Parking Cost</i>	\$127	\$103	\$44	\$23	\$17	\$19

<sup>1</sup> Calculated based on other inputs. This input is what the RSP model uses for forecast of parking utilization. Studios count as one bedroom.

<sup>2</sup> Calculated based on other inputs. This input is what the RSP model uses for forecast of parking utilization.

Source: Right Size Parking Data Collection, 2012

## **PARKING SUPPLY – MUNICIPAL CODES**

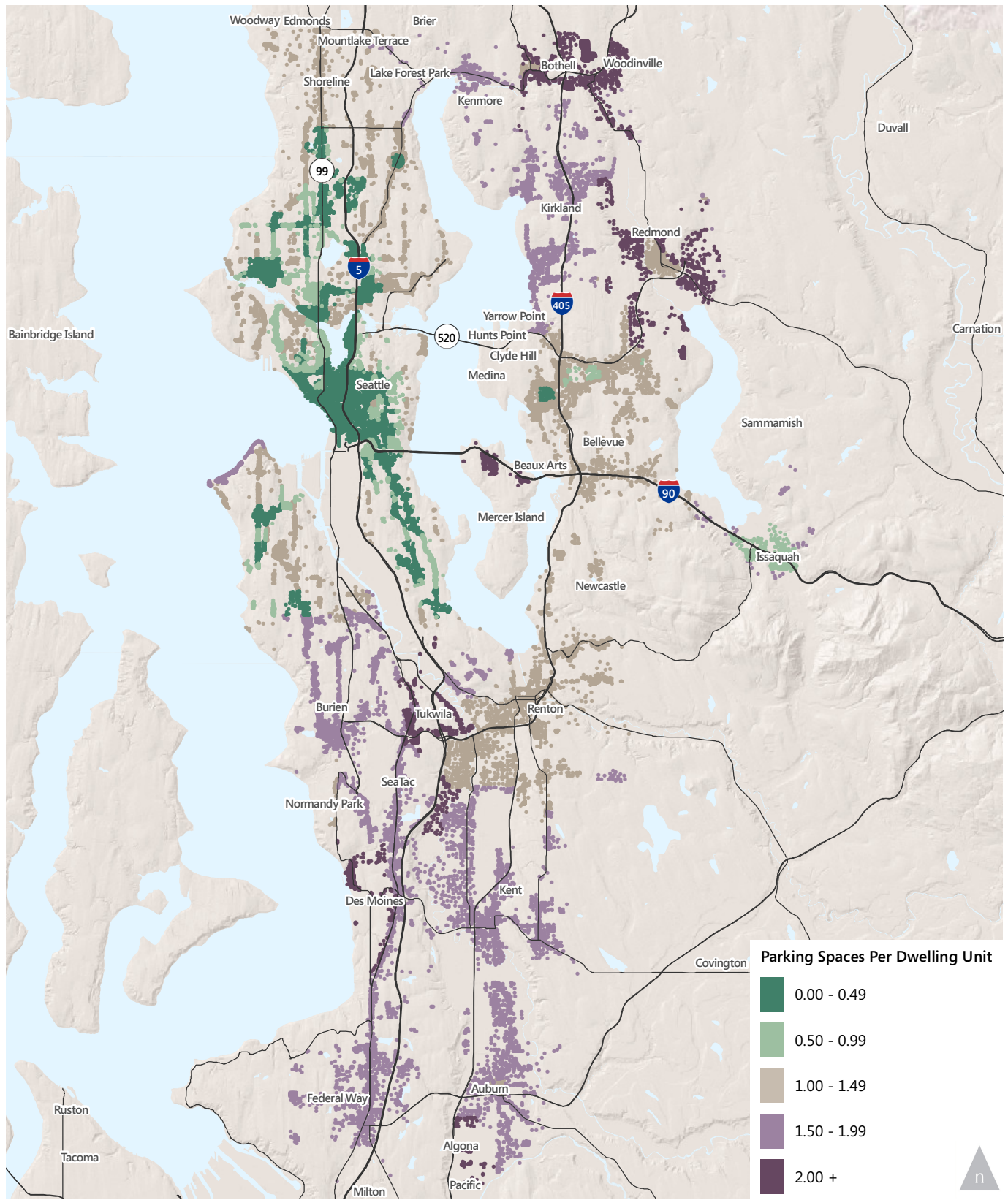
The minimum amount of off-street parking that must be built for multifamily residential units is determined by the municipal code for the jurisdiction where the building is constructed. Cities vary in their approach to off-street parking requirements. For some cities, a single minimum parking rate per multifamily dwelling unit is required for all units citywide. For others, rates vary by zone throughout the city. Finally, within the multifamily parking requirements, some cities require different amounts of parking based on the number of bedrooms within a dwelling unit. **Table 2** shows the required multi-family minimum parking rates for each area within the boundary of the RSP model. Rates are shown for each bedroom type included in the model. For cities that have different parking requirements by zone, these are shown as well. These rates include any required visitor parking. For example, if two parking spaces are required for a two bedroom unit in addition to one visitor space per five units, then the parking requirement is 2.2 for a two bedroom unit.

In addition to required off-street parking spaces, a most cities allow for optional reductions to parking supply based on unique building attributes or opportunities (for example, shared parking). Generally these reductions must be documented and approved through an independent parking analysis, and are subject to Development Director approval. These types of case-by-case modifications were not included in this analysis.

For each place type (as described in the previous section), the minimum parking requirements were calculated to match the building type entered into the RSP model. The results of this exercise are parcel-level parking requirements for an average multifamily development. These requirements are shown in **Figure 1**.

<b>TABLE 2. MULTI-FAMILY OFF STREET PARKING MINIMUM REQUIREMENTS BY CITY &amp; ZONE<sup>1</sup></b>				
<b>City or Zone</b>	<b>Studio</b>	<b>1 Br</b>	<b>2 Br</b>	<b>3 Br</b>
Algona	2.0	2.0	2.5	2.5
Auburn	1.5	1.5	1.5	2.0
<i>Downtown Urban Core</i>	1.0	1.0	1.0	1.0
Bellevue	1.2	1.2	1.6	1.6
<i>DNTN-O1, -O2</i>	0.0	0.0	0.0	0.0
<i>DNTN-R, -MU, -OB, -OLB</i>	1.0	1.0	1.0	1.0
<i>BR-MO1, -OR1, -OR2, -RC1, -RC2, -RC3</i>	0.75	0.75	0.75	0.75
<i>BR-MO, -OR, -RC, -CR, -GC, -R, -ORT</i>	1.0	1.0	1.0	1.0
Bothell	2.2	2.2	2.2	2.2
<i>Downtown Core, Transition, and Neighborhood Districts</i>	0.75	0.75	1.5	2.25
Burien	1.8	1.8	1.8	1.8
Des Moines	2.1	2.1	2.1	2.1
<i>Pacific Ridge Neighborhood</i>	1.5	1.5	2.1	2.1
Federal Way	1.7	1.7	1.7	1.7
Issaquah	1.0	2.0	2.0	2.0
<i>CBD Zone</i>	0.85	1.7	1.7	1.7
<i>Central Issaquah</i>	0.75	1.0	1.0	1.0
Kenmore	1.4	1.7	1.9	2.2
<i>Downtown Commercial &amp; Residential west of 68<sup>th</sup> Ave NE</i>	1.2	1.2	1.7	1.9
Kent	1.0	2.0	2.0	2.0
Kirkland	1.7	1.7	1.7	1.7
<i>CBD-1, -2, -8</i>	1.1	1.1	2.2	3.3
<i>Totem Lake</i>	[a]	[a]	[a]	[a]
Lake Forest Park	1.5	1.5	1.5	1.5
Mercer Island	2.0	2.0	2.0	2.0
Newcastle	1.0	1.0	1.5	2.0
Normandy Park	1.0	1.0	1.0	1.0
Pacific	2.0	2.0	2.0	2.0
Redmond	2.0	2.0	2.0	2.0
<i>Downtown, Overlake Village, &amp; Neighborhood Commercial</i>	1.25	1.25	1.25	1.25
Renton	1.0	1.0	1.0	1.0
<i>Center Downtown</i>	1.0	1.0	1.0	1.0
<i>RM-U, -T, -F, -R14, -R10</i>	1.0	1.0	1.4	1.6
Sammamish	1.2	1.5	1.7	2.0
SeaTac	1.0	1.5	2.0	2.0
Seattle	1.0	1.0	1.0	1.0
<i>UW Parking District</i>	1.0	1.0	1.5	1.5
<i>Alki Parking Area</i>	1.5	1.5	1.5	1.5
<i>Urban Centers &amp; Urban Villages within Frequent Transit Corridor</i>	0.0	0.0	0.0	0.0
<i>Other Areas Within Frequent Transit Corridor</i>	0.5	0.5	0.5	0.5
Shoreline	0.75	0.75	1.5	1.5
Tukwila	2.0	2.0	2.0	2.0
<i>Urban Renewal Overlay</i>	1.0	1.5	2.0	2.5
Woodinville <sup>2</sup>	2.0	2.0	2.0	2.0
King County	1.2	1.5	1.7	2.0

<sup>1</sup> These values assume no reductions that would require municipal approval.  
<sup>2</sup> Woodinville does not have specific requirements for MF housing. In practice, most developers complete parking studies. 2.0 spaces per DU is the traditional requirement.  
 [a] Developments within the close-in Urban Center zones of Totem Lake do not have a specified minimum and refer to Kirkland Zoning Code 105.25 where the Planning Official establishes a requirement on a case-by-case basis.  
 Source: Fehr & Peers, 2013, Based on Jurisdictional Municipal Codes



**Figure 1.**  
**Municipal Minimum Parking Requirements**



## RESULTS

### *Minimum Parking Requirements*

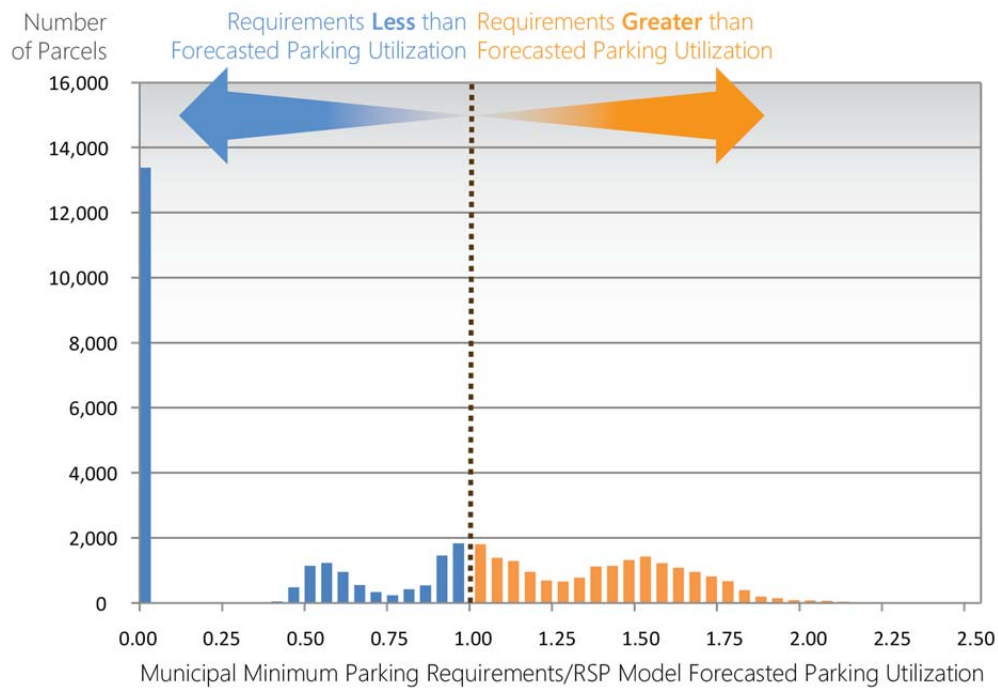
To compare the RSP Model forecast utilization to the municipal minimum parking requirements, the required parking (based on assumed building types in Table 1) was divided by the forecast parking utilization for each parcel. Any value below 1.0 indicates that the minimum requirements are below the forecast utilization, while any value above 1.0 indicates that the minimum requirements are greater than the forecast utilization. **Figure 2** displays the region-wide distribution of results. Overall, 55% of parcels have minimum parking requirements that are equal or less than the RSP model utilization (including 33% of parcels which have a requirement of zero), and 45% have requirements above the RSP model utilization.

Since a majority of the parcels in Seattle have minimum parking requirements below forecast utilization in the RSP model, the distribution of parcels outside of the City of Seattle was also examined. This distribution is shown as **Figure 3**. After removing the City of Seattle, 82% of parcels have minimum parking requirements that are greater than the RSP model utilization. **Appendix A** contains additional city-level histograms.

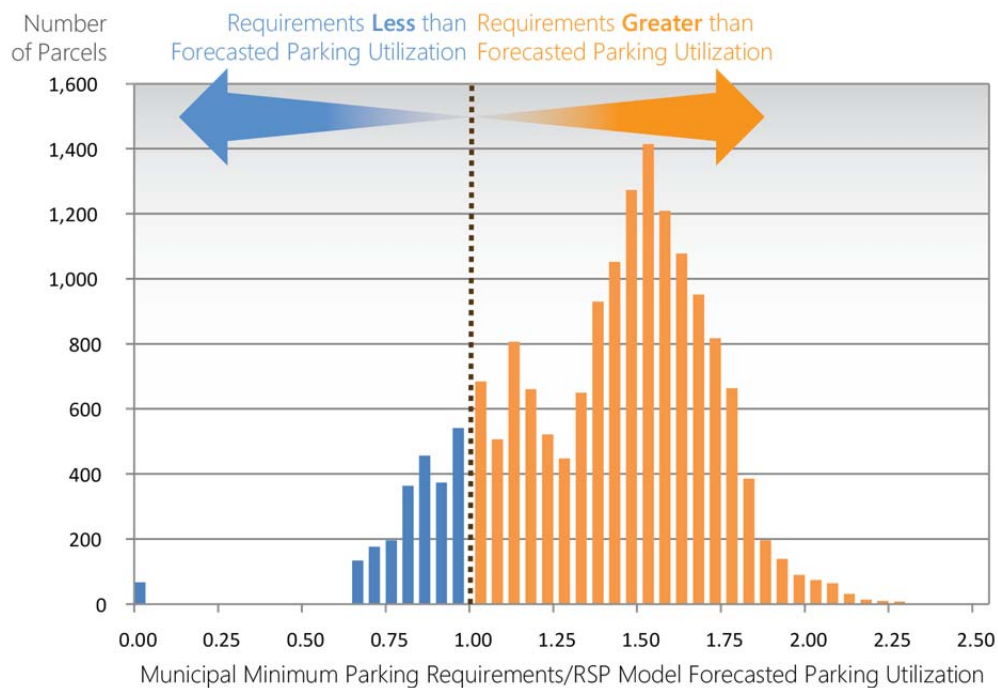
**Figure 4** displays the full region-wide gap analysis. Most of the Eastside and South King County require more parking than forecast utilization. Seattle, Normandy Park, Shoreline, Issaquah, Renton, and parts of Bellevue have minimum parking requirements that are below forecast utilization values.

**Table 3** provides the City or zone level summary of the average gap. As shown in Figure 4, the difference between code and forecast utilization varies at the parcel level. Thus, while the average provides a point of comparison with city code, the actual utilization for parcels can vary widely inside of a single City or zone.

The table also includes the number of RSP survey sites within each zone and the average utilization at these locations. These values show that the forecasted utilization rates are mostly consistent with observed utilization rates. Care should be taken before drawing any conclusions from zones with a limited number of sample sites (<5). Differences in forecasted and observed utilization rates may arise from unique characteristics of the sample site or an additional explanatory variable unique to the city or zone that was not captured in the model.

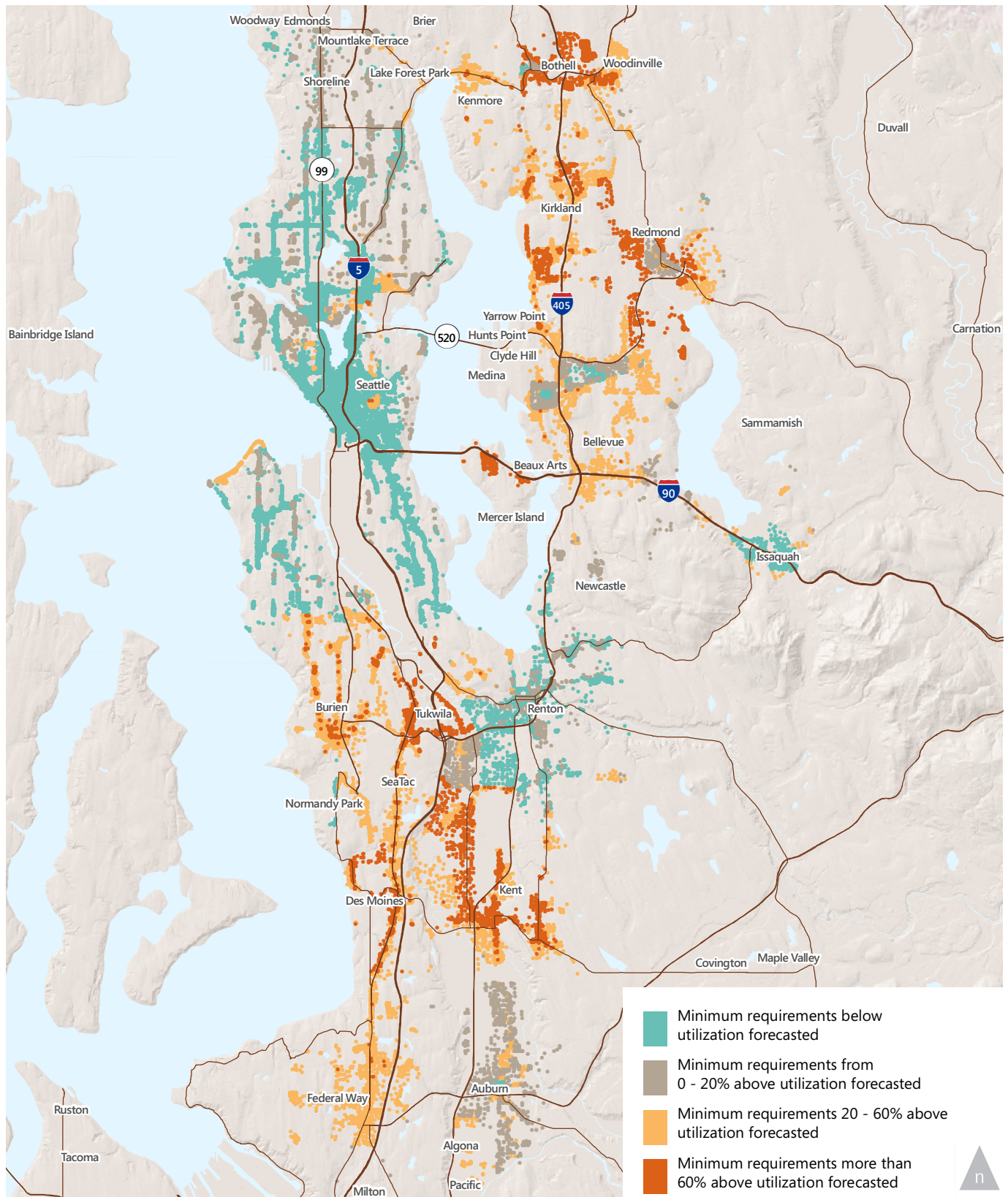


**Figure 2. Ratio of Supply to Demand for Multi-family parcels in King County**



**Figure 3. Ratio of Supply to Demand for Multi-family parcels in King County (Non-Seattle)**





**Figure 4.**  
**Municipal Minimum Parking Requirements Compared to**  
**RSP Model Parking Utilization**

**TABLE 3. COMPARISON OF MUNICIPAL PARKING CODE REQUIREMENTS,  
 RSP FORECAST UTILIZATION, AND OBSERVED SITE UTILIZATION**

City or Zone	Average Required Minimum <sup>1</sup> (Spaces/DU)	Average Forecast Utilization (Spaces/DU)	Difference <sup>2</sup> (Spaces/DU)	RSP Survey Sites	Observed Average Utilization (Spaces/DU)
Algona	2.04	1.39	0.65	0	-
Auburn	1.53	1.31	0.22	0	-
<i>Downtown Urban Core</i>	1.00	1.23	-0.23	0	-
Bellevue	1.41	1.09	0.32	20	1.21
<i>DNTN-O1, -O2</i>	0.00	0.83	-0.83	2	1.14
<i>DNTN-R, -MU, -OB, -OLB</i>	1.00	0.88	0.12	2	1.98
<i>BR-MO1, -OR1, -OR2, -RC1, -RC2, -RC3</i>	0.75	0.98	-0.23	0	-
<i>BR-MO, -OR, -RC, -CR, -GC, -R, -ORT</i>	1.00	0.97	0.03	2	1.23
Bothell	2.20	1.26	0.94	1	1.5
<i>Downtown Core, Transition, and Neighborhood</i>	1.20	1.17	0.03	0	-
Burien	1.80	1.17	0.63	4	1.14
Des Moines	2.10	1.28	0.82	3	1.22
<i>Pacific Ridge Neighborhood</i>	1.77	1.16	0.61	2	1.28
Federal Way	1.70	1.23	0.47	7	1.23
Issaquah	1.94	1.45	0.48	3	1.50
<i>CBD Zone</i>	N/A <sup>3</sup>	N/A <sup>3</sup>	N/A <sup>3</sup>	0	-
<i>Central Issaquah</i>	0.98	1.40	-0.42	0	-
Kenmore	1.83	1.24	0.59	0	-
<i>Downtown Comm. &amp; Res. west of 68<sup>th</sup> Ave NE</i>	1.52	1.19	0.33	0	-
Kent	1.94	1.20	0.74	9	1.37
Kirkland	1.70	1.10	0.60	10	1.16
<i>CBD-1, -2, -8</i>	1.56	1.04	0.52	0	-
Lake Forest Park	1.50	1.16	0.34	0	-
Mercer Island	2.00	1.18	0.82	1	1.06
Newcastle	1.35	1.28	0.06	1	1.37
Normandy Park	1.00	1.33	-0.33	0	-
Pacific	2.00	1.45	0.55	0	-
Redmond	2.00	1.18	0.82	6	1.28
<i>Downtown, Overlake Village, &amp; Neighborhood Comm.</i>	1.25	1.03	0.22	10	1.05
Renton	1.00	1.15	-0.15	3	1.24
<i>Center Downtown</i>	1.00	1.04	-0.04	0	-
<i>RM-U, -T, -F, -R14, -R10</i>	1.24	1.20	0.04	4	1.34
Sammamish	1.63	1.44	0.19	0	-
SeaTac	1.75	1.19	0.56	4	1.02
Seattle	1.00	0.98	0.02	3	0.85
<i>UW Parking District</i>	1.18	0.85	0.33	1	0.90
<i>Alki Parking Area</i>	1.50	1.15	0.35	0	-
<i>Urban Centers &amp; Villages within Frequent Transit Cor.</i>	0.00	0.83	-0.83	86	0.66
<i>Other Areas Within Frequent Transit Corridor</i>	0.50	0.88	-0.38	5	0.86
Shoreline	1.16	1.13	0.03	2	0.80
Tukwila	2.00	1.12	0.88	7	1.20
<i>Urban Renewal Overlay</i>	1.80	1.11	0.70	1	1.00
Woodinville <sup>4</sup>	2.00	1.31	0.69	1	1.90
King County	1.62	1.14	0.48	7	1.30

<sup>1</sup> These values assume no reductions that would require municipal approval and include any required off-street guest parking spaces.

<sup>2</sup> Positive values indicate minimum requirements are above RSP forecast utilization.

<sup>3</sup> The CBD in Issaquah is not an area included in the RSP Model.

<sup>4</sup> Woodinville does not have specific requirements for MF housing. In practice, most developers complete parking studies.

Source: Fehr & Peers, 2013, Based on Jurisdictional Municipal Codes and RSP Model

### ***Gaps between Forecast Utilization and Required Supply***

Figure 3 indicates that outside of Seattle, local cities require on average 0.4 extra parking spaces per dwelling unit for every occupied multifamily dwelling unit relative to utilization. If developments were constructed to code, the implications of this policy are increased housing costs and a general oversupply of parking that is likely in contrast with many long-term community goals that encourage transit use and active transportation. Supplying excess parking relative to demand also makes potential efforts to unbundle parking<sup>1</sup>, reduce development and housing costs, and manage supply through price infeasible.

From Figure 4 and Table 3, the largest gaps occur in Bothell, Des Moines, Mercer Island, Redmond, and Tukwila, not including any areas with reduced requirements (for example, downtown Redmond). These cities individually require on average 0.75 spaces or more extra per dwelling unit as compared to forecast utilization. The RSP model was based on an average multifamily development site of 150 units. Based on this size of development and outside of any variances, the minimum codes in these cities would require developers to build over 110 surplus parking spaces per development.

Many cities have adopted lower minimum requirements within their downtown area or other similar neighborhoods. For example, Redmond reduces the citywide minimum requirement from 2.0 spaces per dwelling unit to 1.25 spaces in their downtown. This reduces the gap in forecast utilization from 0.78 spaces to 0.20 spaces. Neighborhood or area requirements like these are a more accurate means to apply minima and recognize the increased density and transit options in more urban and mixed use contexts.

On the other end of the spectrum, the minimum parking requirements are less than forecast utilization in much of Seattle and in parts of Issaquah, Renton, and Bellevue. Parking requirements less than forecast utilization could also be seen as a gap. However, a low minimum does not automatically translate to low levels of parking supply. Rather, this approach allows more flexibility during the development process and reduces the need for City-approved reductions.

### ***Maximum Parking Requirements***

In suburban settings, low maxima could help address a glut of existing excess parking by encouraging shared parking options. In urban settings, maxima are often coupled with residential parking permit systems or metered on-street parking to address potential spillover. Only seven cities within the study area have parking maxima for multifamily residential developments. These locations are within Auburn, Bellevue, Bothell, Issaquah, Normandy Park, Redmond, and Renton. **Table 4** shows the parking minima and maxima for these areas and the RSP model forecast utilization ranges.

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<sup>1</sup> Excessive parking supply makes it difficult to unbundle parking pricing since there is less of an ability charge for/increase parking prices in a competitive environment where all multifamily properties have ample parking, which can be used as a free or very low cost amenity to attract tenants.

**TABLE 4. MAXIMUM PARKING REQUIREMENTS AND FORECAST PARKING UTILIZATION**

City and Zone	Parking Minimum	Parking Maximum	Forecast Utilization Range	Forecast Utilization Average	Difference (Max-Avg)
Auburn	-	-	-	-	-
<i>DUC</i>	1	2 <sup>1</sup>	1.0 – 1.3	1.2	0.8
Bellevue	-	-	-	-	-
<i>Bellevue DNTN-O1, -O2</i>	0	2	0.7 – 0.9	0.8	1.2
<i>Bellevue DNTN-R, -MU, -OB, -OLB</i>	1	2	0.7 – 1.0	0.9	1.1
<i>Bellevue BR-MO1, -OR1, -OR2, -RC1, -RC2, -RC3</i>	0.75	2	0.8 – 1.0	1.0	1.0
<i>Bellevue BR-MO, -OR, -RC, -CR, -GC, -R, -ORT</i>	1	2	0.7 – 1.1	1.0	1.0
Bothell	-	-	-	-	-
<i>Downtown Core, Transition, and Neighborhood</i>	1.2 <sup>2</sup>	1.6 <sup>2</sup>	1.0 – 1.3	1.2	0.0
Issaquah	-	-	-	-	-
<i>Central Issaquah</i>	1.0 <sup>3</sup>	1.6 – 1.7 <sup>4</sup>	1.2 – 1.5	1.4	0.3
Normandy Park	1	2	1.2 – 1.4	1.3	0.7
Redmond	-	-	-	-	-
<i>Downtown, Overlake Village, &amp; Neighborhood Comm.</i>	1.25	2.5	0.8 – 1.4	1.0	1.5
Renton	1	1.75	0.8 – 1.4	1.2	0.55
<i>Center Downtown</i>	1	1	0.8 – 1.1 <sup>5</sup>	1.0	0.0
<i>RM-U, -T, -F, -R14, -R10</i>	1.2 – 1.3 <sup>6</sup>	1.2 – 1.3 <sup>6</sup>	0.9 – 1.4 <sup>7</sup>	1.2	0.1

<sup>1</sup> Maximum is for surface parking.

<sup>2</sup> Minimum and maximum parking are calculated by number of bedrooms. The minimum is 0.75 per bedroom and the maximum is 1.0 per bedroom. The provided value is the requirement by dwelling unit based on the assumed average building type.

<sup>3</sup> Varies by unit size. The minimum is 0.75 per unit less than 600 sq. ft. and 1.0 for all other unit types. The provided value is the averages by dwelling unit based on the assumed average building type.

<sup>4</sup> Varies by number of bedrooms. The maximum is 1.0 per studio, 1.25 per 1 bedroom, and 2.0 per two bedroom or larger unit. The provided value is the average by dwelling unit based on the assumed average building type.

<sup>5</sup> Utilization exceeds maxima for 87% of parcels under assumed average building types.

<sup>6</sup> Varies by number of bedrooms. The minima and maxima are 1.0 per 1 bedroom or studio dwelling unit, 1.4 per 2 bedroom dwelling unit, and 1.6 per 3 bedroom or larger dwelling unit.

<sup>7</sup> Utilization exceeds maxima for 4% of parcels under assumed average building types.

Fehr & Peers, 2013

For the most part, maxima are set at levels considerably above anticipated utilization. In Downtown Renton and Renton zones RM-U, -T, -F, -R14, and -R10, the RSP model utilization for some parcels exceeded the maximum allowed parking rates. However, the excess demand was never greater than 0.1 spaces per unit.

#### **BUILT PARKING COMPARED TO MINIMUM PARKING REQUIREMENTS**

The previous analysis compared standard municipal codes to forecast utilization. Comparing the built parking supply of over 200 multifamily sites with their current minimum code requirements revealed that most developments do not build parking exactly to code. In Seattle, where many locations have a minimum of 0 or 0.5 spaces per dwelling unit, projects provided on average 0.85 spaces more than current zoning requires.

Outside of Seattle, the average built supply of survey sites was equal to minimum requirements, but only 20% of developments were within +/- 0.10 spaces of the requirement. The remaining 80% were split evenly above and below the minimum requirement. The discrepancies between minimum requirement and built parking appear to be caused by (1) changes in code requirements, (2) reductions for transit accessible or affordable housing, (3) shared parking between commercial uses, (4) and overbuilding in planning for potential condominium conversion. **Table 5** provides a subset of the 200 survey sites which includes only buildings built since 2008 when, presumably, there have been few substantial changes to municipal code requirements.

TABLE 5. MUNICIPAL CODE PARKING REQUIREMENTS AND BUILT PARKING SUPPLY, 2008-2011 DEVELOPMENTS		
Required/DU	Built/DU	Difference
1.25	1.20	-0.05
1.25	1.10	-0.15
1	1.85	0.85
1	1.48	0.48
0.5	1.39	0.89
0.5	0.99	0.49
0	1.70	1.70
0	1.31	1.31
0	1.27	1.27
0	1.23	1.23
0	1.19	1.19
0	1.03	1.03
0	0.98	0.98
0	0.97	0.97
0	0.88	0.88
0	0.79	0.79
0	0.78	0.78
0	0.72	0.72
0	0.69	0.69
0	0.67	0.67
0	0.65	0.65
0	0.59	0.59
0	0.53	0.53
Fehr & Peers, 2013		

The data in Table 5 indicate two key points regarding minimum parking requirements. First, where requirements are high, developers may secure reductions to lower how much parking they are required to build. Second, low or no parking requirements do not translate into developers providing no parking. The actual parking supply decisions are affected by other site or development specific variables.

## **CONCLUSION**

Outside of Seattle, most municipal parking codes currently require more parking than the RSP model predicts will be utilized. On average, this amount is around 0.4 spaces per dwelling unit, and a small group of cities require over 0.75 extra spaces for each dwelling unit. This excess parking likely drives new developments to either build expensive and unused parking or delay projects to apply for reductions to reduce their required parking. Seattle has very low requirements, but historically developers have built more parking than is required by code.

Multiple cities have reduced minimums in their downtown zones. This can be an effective way to reduce the gap between required and utilized parking, and recognizes that less parking is often needed in more urban or mixed use contexts where transit is available.

The results of this memorandum can be used to fine-tune minimum parking requirements to reduce the potential of oversupply or excessive variances. Similarly, the results also suggest that areas with parking maxima could explore options to ensure that the code is working effectively to reduce parking space construction while providing adequate flexibility.



**APPENDIX A – ADDITIONAL CITY-LEVEL COMPARISONS OF MUNICIPAL MINIMUM PARKING REQUIREMENTS AND RSP MODEL FORE CASTED UTILIZATION**

