

A Review of the Residential Parking Management Program in Bellevue, WA

Dillon Roth

A thesis

submitted in partial fulfillment of the
requirement for the degree of

Master of Urban Planning

University of Washington

2016

Committee:

Fritz Wagner

Scott Rutherford

Mark Hallenbeck

Program Authorized To Offer Degree:

College of Built Environment - Urban Design and Planning

© Copyright 2016

Dillon Roth

University of Washington

Abstract

A Review of the Residential Parking Management Program in Bellevue, WA

Dillon Roth

Chair of the Supervisory Committee:
Research Professor Emeritus Fritz Wagner
Department of Urban Design and Planning

The purpose of this report is to review, evaluate, and make recommendations for Bellevue's Residential Parking Management (RPM) program. To meet this objective, this report uses a literature review of Residential Permit Parking Zone (RPZ) programs, a review of the existing parking policy in Bellevue, a review of Bellevue's comprehensive plans and associated neighborhood plans, a residential survey, a parking study, and an investigation into select RPZ programs across the nation.

In Bellevue, the RPM program is a program that uses various management tools to address spillover parking concerns in residential neighborhoods. The RPZ program is the most common and most resource intensive tool within the RPM program and is therefore a focus of this report. Bellevue's residential parking management program was created in 1985 and although the city has experienced a great deal of growth since then, the RPM program has not been reviewed or undergone major changes.

This report concludes that residential parking management in Bellevue is achieving the goal of residential satisfaction, because the program is highly responsive to residents' concerns with spillover parking. An example of this responsiveness is the criteria for creating new RPZs; as little as three parked cars on a residential street could potentially justify a new RPZ.

However, this report also finds that the RPZ program has outgrown the resources that support it. Therefore, this report suggests implementing new goals for the program that account for the range of issues involved with residential parking concerns. The proposed goals for residential parking management are summarized as: satisfy residential concerns about spillover parking, maintain a quality program, and align parking management with other city goals. These goals provide the context and justification for the set of recommendations made in chapter 8.

Acknowledgements

I would like to formally acknowledge the meaningful contributions of John Murphy and the rest of the Neighborhood Traffic Safety Services staff in Bellevue. John's patience, awareness, and guidance throughout the process significantly increased the quality of this report. His role as a mentor and supervisor have also been greatly appreciated.

Additionally, I would like to thank my thesis committee Fritz Wagner, Scott Rutherford, and Mark Hallenbeck for making this process as smooth as possible and being a joy to work with.

Most importantly I would like to express gratitude to my wife Robyn. Her persistent care and whimsy make me look forward to every moment. Thank you.

Preface

This report was created in conjunction with the Transportation Department of Bellevue, WA. The purpose of this report is to provide Transportation Department staff with a comprehensive review of the Residential Parking Management (RPM) program in Bellevue, provide a summary of other parking management programs across the state and country, and provide recommendations that are appropriate for Bellevue considering the change experienced in the city since the program's inception in 1985.

This report uses an extensive amount of sources to achieve its purpose. Those sources serve as inputs to make informed recommendations for improving the residential parking management in Bellevue. Chapter 1 is a literature review of RPZ programs and presents their legal context, impact on residents, commuters, and the public welfare. Chapter 2 presents the existing residential parking management program and provides a background for the rest of the report. Chapter 3 reviews Bellevue's comprehensive plan and neighborhood plans (herein referred to as the "City Plans") to identify city goals as they relate to parking management. Guiding principles are also identified in this chapter to help ensure that changes to the residential parking management program align with the City Plans. Chapter 4 analyzes a residential survey that was initiated by this review process. Chapter 5 presents a parking study that was also initiated by this review process. Chapter 6 investigates RPZ programs from comparable cities to Bellevue. The chapter has two sections; the first compares specific policies inherent in most RPZ programs and the second section discusses how other programs deal with specific issues like permit fraud. Chapter 7 relies on the previous chapters as inputs to evaluate the strength of the residential parking management program based on seven specific topics. Chapter 8 concludes this report with a set of recommendations for improving the existing program.

Table of Contents

Chapter 1 Literature Review	8
Introduction and Context Description	8
RPZs and the Supreme Court of the United States	8
RPZs and Residents/Permit Holders	10
RPZs and Commuters/Non-Permit Holders	11
RPZs and Public Welfare	13
Conclusion	14
Chapter 2 Existing Policy	16
Introduction	16
RPM versus RPZ	16
Brief History of the Program	16
Current Procedures	17
Existing Zones in Bellevue	18
Parking Enforcement	19
Conclusion	20
Chapter 3 Comprehensive Plan and Neighborhood Plans Review	21
Introduction	21
Overlapping Concepts of the RPM program and the City Plans	21
Discussion of the City Plans as They Relate to the RPM Program	23
Results: Guiding Principles from the City Plans	28
Conclusion	29
Chapter 4 Residential Survey	31
Introduction	31
Outreach Methodology	31
Survey Details	32
Limitations and Assumptions	33
Findings from the Survey	33
Conclusion	41
Chapter 5 Parking Study	42
Introduction	42
Data and Methodology	42
Results from the Parking Study	43
Conclusion	49
Chapter 6 Investigating Select RPZ programs	51
Introduction	51
Section I: City Comparisons	53
Section II: Specific Issues	60
Conclusion	68
Chapter 7 Evaluation of Bellevue's RPM Program	70
Introduction	70
Topic Based Evaluations	70
Conclusion	84
Chapter 8 Recommendations	86

Introduction.....	86
Criteria for Expanding the RPZ Program	87
Context Sensitivity	91
Administrative	94
Conclusion	98
References.....	100
Appendices.....	103
Appendix A. Existing Condition/Description for each Zone and Permit Summary Table	104
Appendix B. Existing RPM Program Brochure.....	115
Appendix C. Parking Review Request Form	117
Appendix D. Complete Residential Survey	119
Appendix E. Estimating the On-Street Parking Supply.....	126
Appendix F. Parking Study Results.....	129
Appendix G. Costs of the RPZ Program for the City.....	130

List of Tables and Figures

Table 4-1 Response Rate to Survey by Zone	35
Table 4-2 Summary of Question 19 from Survey	38
Table 5-1 Summary data from Parking Study.....	44
Table 6-1 Selected RPZ Programs with Municipal Population and Density.....	52
Table 6-2 Details of Selected RPZ Programs.....	56
Table 6-3 Details of Enforcement for Select Cities	58
Table 7-1 Percent of Eligible Households Participating in RPZ Program by Zone	73
Table 7-2 Summary of Scores for each Evaluated Topic	84
Figure 4.1 Response Rate to Survey by Zone	34
Figure 4.2 Requests for Enforcement by Zone	36
Figure 4.3 Summary of Question 13 from Survey	37
Figure 4.4 Residential Satisfaction with RPZ Program.....	38
Figure 4.5 Comparison of Comfortable On-Street Parking Occupancies between Multi-Family and Single Family Tenants	39
Figure 5.1 On-Street Parking Occupancy by Zone	45
Figure 5.2 Raw Data for Permit Compliance	47
Figure 5.3 Comparison of Decals Issued and Decals Observed	48
Figure 6.1 Map of Selected RPZ Programs	52
Figure 6.2 Minimum On-Street Parking Occupancy Thresholds that Justify RPZ Intervention	54
Figure 6.3 Parking Enforcement Officer per Capita.....	57
Figure 6.4 Square Miles of City per Parking Enforcement Officer	58
Figure 6.5 Comparison of Legal Limit for Consecutive Hours Park On-Street.....	59
Figure 7.1 Example of the RPZ Program Removing Street Parking from Residents	72
Figure 7.2 Comparison of Decals Issued and Cars Parked On-Street by Zone.....	74

Chapter 1 Literature Review

Introduction and Context Description

This literature review describes, summarizes, and interprets research as it relates to residential permit parking programs (referred to here as RPZ programs). This literature review will be used in combination with other inputs to inform recommendations for Bellevue's Residential Permit Parking Zone (RPZ) program. The major themes covered in this review are: the U.S. Supreme Court decision that initiated the rapid spread of residential permit programs in the U.S., as well as RPZ programs and their impact on residents, commuters, and the overall public welfare.

Because Bellevue's residential neighborhoods are primarily suburban in character, ideal parking literature would be set in a suburban context. However, most of the literature on residential permit parking programs is in the context of a dense urban city. Growth in Bellevue is currently, and will continue to be, absorbed primarily in two areas: downtown and Bel-Red (City of Bellevue, 2015). Meanwhile, changes to the suburban character (i.e. density, the street network, land use) in the residential neighborhoods will likely only occur very slowly, if at all. The residential neighborhoods of Bellevue exhibit traditional suburban characteristics like low population density, little mixed use zoning, a street network of cul-de-sacs, few street curbs or sidewalks, wide streets, and generally available street parking. These neighborhoods are also where all of the existing Bellevue RPZs are located.

Literature presented in this chapter was not always done in this type of suburban context. Residential permit parking programs are more common in dense urban areas where on-street parking is viewed as a scarce and precious resource. And this urban context is where much of the existing literature has been focused. In this chapter, there is research presented from studies in New York City, the Netherlands, Scotland, the United Kingdom, and San Francisco. For this reason, many specific research findings presented in this review are not generalizable to Bellevue. However, many of the major themes within the literature *are* relevant and useful when recommending changes to Bellevue's RPZ program. The literature on each theme in this chapter will be presented and followed by an analysis of those research findings for the Bellevue context.

RPZs and the Supreme Court of the United States

Although some residential parking permit programs were established in one form or another before 1977, it was not until the *Arlington County Board v. Richards* decision on October 11, 1977 that

A Review of the Residential Parking Management Program in Bellevue, WA

initiated a substantial increase in the number of cities adopting these programs (Parker Jr. & Demetsky, 1980) (Shoup, 1995). The decision upheld Arlington County, Virginia's program that banned non-residents from parking on residential streets adjacent to a major employer (Simkowitz, Heder, & Barber, 1978). Before the U.S. Supreme Court decision the fate of residential parking permit programs was unclear. Many cities were concerned about the legality of programs that banned portions of the public from using public streets and that these programs were "destined to legal challenges in our courts" (Parker Jr. & Demetsky, 1980, pp. C-5). Adding to the uncertain future of permit programs was the fact that different rulings were coming down from different State Supreme Courts (Simkowitz, Heder, & Barber, 1978) (Miller, 1978).

In 1977 in *Commonwealth v. Petralia* the Massachusetts Supreme Court ruled that the residential parking permit program in Cambridge "did not violate the equal protection clause of the Fourteenth Amendment" (Miller, 1978, p. 392). However, earlier in the same year, the Virginia Supreme Court decided that Arlington County's permit program was "an unconstitutionally discriminatory attempt to remedy ... commuter traffic problems" (Miller, 1978, p. 392). Arlington County appealed, and their case went to the U.S. Supreme Court.

Critics argued that permit programs conflict with the constitutionally protected right to travel, the programs are unconstitutionally discriminatory based on residency, and the programs' goals are not related to a legitimate state interest (Miller, 1978). Specifically, the challenge brought to the U.S. Supreme Court in *Arlington County Board v. Richards* was that Richards' "inability to park on the streets in front of his neighbors' homes (while his neighbors were free to park in front of his home) denied him equal protection of the laws" (Miller, 1978, p. 394). Ultimately these arguments proved unconvincing to the Supreme Court and they ruled in favor of the legitimacy of the program.

The U.S. Supreme Court reasoned that the parking program aimed to reduce air pollution and promote the use of car pools and mass transit, both of which are legitimate state interests (Simkowitz, Heder, & Barber, 1978) (Miller, 1978). The Supreme Court specifically noted the fact that the Environmental Protection Agency (EPA) had recommended parking restrictions that discourage automobile commuting to help implement the Clean Air Act (Simkowitz, Heder, & Barber, 1978, p. 53) (Miller, 1978, p. 413). Additionally, the Supreme Court decided that distinguishing between residents and non-residents was a related and justifiable means to obtain the ends (Simkowitz, Heder, & Barber, 1978, p. 53). Those ends were clearly identified in Arlington County's ordinance that implemented the program. The goals included reducing hazardous traffic; protecting residential neighborhoods from polluted air, excessive noise, and litter; protecting access for residents to their neighborhoods;

preserving neighborhood character and property values; and even preserving the ability to perform street maintenance (Simkowitz, Heder, & Barber, 1978, p. 53). These goals justified the existence of the residential parking program and the same goals continue to be echoed throughout the nation in other cities' programs.

The Supreme Court ruling in 1977 gave cities the confidence and legal justification to promote the above goals by implementing permit programs of their own. While there were other important legal cases, the Supreme Court decision served as a watershed moment for the proliferation of residential permit parking programs across the nation (Shoup, 1995).

RPZs and Residents/Permit Holders

RPZ programs are usually created by cities as a response to residents' complaints and concerns about excessive traffic volumes from nearby traffic generators (Parker Jr. & Demetsky, 1980). Many cities have shown they are willing to place restrictions on spillover parking, in part because residents (local voters) usually have more political influence than the people parking in their neighborhoods. Meanwhile, residents have been shown to generally favor residential permit programs for several reasons (Moylan, Schabas, & Deakin, 2014) (Miller, 1978). Arlington County, Virginia has one of the oldest programs in the U.S. and in 1974 they explained their reasoning for implementing their program in a zoning ordinance. They explain that their program protects residents and neighborhoods from the externalities of parking congestion mentioned in the previous section. Externalities like increased noise, litter, pollution, and declining property values are difficult to measure and isolate, therefore the impact of an RPZ program on these externalities have not been well studied. While the benefits to residents are difficult to quantify, based on the wide use of residential permit programs across the country and world, it is likely that residents are generally satisfied with these programs.

Another important factor that is commonly used as an impetus for parking restrictions is the amount of available on-street parking for residents (Parker Jr. & Demetsky, 1980). There is little doubt among practitioners and researchers that residential permit programs increase the amount of on-street parking available for permit holders (DiRenzo, Cima, & Barber, 1980) (Hazell, 1992) (Gou, 2013) (Moylan, Schabas, & Deakin, 2014). Increasing parking availability for residents is an important result of an RPZ program.

Gou (2013) has shown evidence that increasing parking availability also increases vehicle ownership rates. He presents this as an unintended consequence of RPZ programs and other parking

policies (Gou, 2013). While there is evidence in the literature that suggests RPZ programs have pushed some commuters to use a mode other than the single occupant vehicle, Gou's research proposes that those gains may be offset by increases of car ownership rates and possibly vehicle miles travelled by residents in those permit zones. Gou's results "show that free residential street parking increases private car ownership by nearly 9%; that is, the availability of free street parking explains 1 out of 11 cars owned by households with off-street parking" (Gou, 2013, p. 32).

While the quantitative results in Gou's study are not be generalizable to Bellevue, the basic concept is; parking availability influences car ownership. Gou's research highlights a potential contradiction for cities that have an RPZ program that increases parking availability for residents and also have goals of reducing car dependence. According to the comprehensive plan, Bellevue has established goals that increase "non-drive alone" commute trips (City of Bellevue, 2015). The potentially conflicting goals/policies will be described in more detail in the evaluation chapter of this paper.

RPZs and Commuters/Non-Permit Holders

Once an RPZ is created, new restrictions are placed on streets to limit who can park and for how long. The parking restrictions are usually during the peak demand times from non-residential users. For example, if an RPZ is adjacent to a business, the parking restrictions are likely to apply only during business hours. Non-permit holders that used to park on the residential streets adjacent to a business are either restricted by a maximum amount of time, usually one or two hours, or banned from parking altogether which is the case in Bellevue.

Many studies have noted the increased utilization of off-street parking spaces after an RPZ has been established (Meyer & McShane, 1981). Similarly, Washington D.C. and San Francisco had studies that reported a large decrease of on-street parking usage by commuters after RPZ implementation (Meyer & McShane, 1981). These studies confirm what most officials already know, residential parking restrictions change the parking behaviors of commuters and other non-permit holders in those restricted parking zones. One aspect of this that is less understood is the effect of the parking restrictions on the mode share of commuters and how much of the parking spillover is just moved farther into residential zones?

Although attempting to shift the commuter mode share away from single occupant vehicles and promoting the use of transit was an original justification for the U.S. Supreme Court ruling in favor of the implementation of residential parking zones, the actual effect on commuters has not been well studied

A Review of the Residential Parking Management Program in Bellevue, WA

(Rye, Cowan, & Ison, 2006). One study, commonly cited in the RPZ literature, examined the impacts of implementing a residential parking zone in Alexandria, Virginia. The authors conducted a parking study before the implementation of the zone and a survey to commuters after the implementation of the zone restrictions. The study reported that after implementing the permit zone, 12% of commuters shifted modes to bus or carpool, 12% of commuters changed nothing, and 76% of commuters changed their parking patterns (most of them moving to off-street facilities) (Olsson & Miller, 1979). There were more than 100 commuters that responded to the survey and even more that were affected by the creation of this particular RPZ. Although each parking problem is unique and this study is not generalizable to every situation, it does suggest that RPZs can have some impact on the mode split. When the parking problem in question and the associated restrictions are just right, RPZs could be used as part of a commute trip reduction (CTR) strategy and not just mitigation for parking spillover.

In a more hypothetical scenario, a study published in 2006 by Rye et al. was able to survey commuters to understand how large a parking zone expansion should be. Much like any other RPZ, Edinburgh's program was not intended to be part of a commute trip reduction strategy: "The key reason for any expansion of the CPZ [Controlled Parking Zone] would be to deal with parking problems, especially those experienced by residents; any modal shift effect is an added benefit" (Rye, Cowan, & Ison, 2006, p. 77). Increased spillover parking from commuters led to political pressure from residents to expand the CPZ program further into residential neighborhoods. Determining the size of the expansion is a common problem in RPZ programs. Edinburgh decided to survey commuters in advance of the expansion to determine how far away from work they would be willing to park before they chose not to park on a residential street. Commuters were asked if they would change their parking behavior if the zone was expanded by ½ mile, 1 mile, and 1 ½ miles. As expected, an increasing percentage of commuters would change behavior as parking distance from their workplace increased. The reported reduction of commuters searching for on-street parking in residential neighborhoods would decrease by 26.5% at ½ mile, 69.4% at 1 mile, and 75.5% at 1 ½ miles (Rye, Cowan, & Ison, 2006). It is common practice for cities to expand RPZ boundaries by much smaller distances which often results in moving the spillover parking to other residential streets.

It is important to understand that commuters in this study had other modal choices, like the availability of public transit and paid off-street parking. While each city and parking scenario is different, the Rye et al. study has important implications for cities that are expanding RPZ boundaries. Often times when an RPZ is created or expanded, the parking spillover that initiated the RPZ is just pushed to a

different residential street. The Rye et al. study can help practitioners understand how large restricted parking zones need to be to potentially have an impact on the modal split of commuters.

RPZs and Public Welfare

On-street parking can be viewed as a scarce resource in many areas. When street parking is free or underpriced, it can result in a less than optimal allocation of the resource and cause other transportation problems (Shoup, 2006). Residential parking permits also skew the on-street parking allocation system because permits are usually charged at a nominal fee and give parking priority to residents (Simkowitz, Heder, & Barber, 1978). Residential permits are usually acquired at a very low price compared to the hourly rate of on-street parking (Molenda & Sieg, 2013). In cities where paid on-street parking and residential permit zones overlap, the allocation of parking spaces is distorted and moves away from the most efficient allocation of the resource based on price (Ommeren, Groote, & Mingardo, 2014) (Molenda & Sieg, 2013).

Research by Ommeren et al. (2014) in Dutch downtown shopping districts examined the welfare losses of providing residents with inexpensive parking permits. They found that for each permit that is given to residents, there is a loss of about €275 per year. The loss is due to the fact that permit holders are allowed to park on the street for a much smaller price than a visitor would pay. The resident's car precludes the visitor from parking and paying a higher price. Ommeren explains the situation like this, "Arguably, the provision of residential permits distorts the parking market through demand, because (street) parking places are occupied by residents with a willingness to pay for parking that is lower than the visitors' willingness to pay, and through supply, as it encourages supply of expensive (garage) parking to address visitors' demand" (Ommeren, Groote, & Mingardo, 2014, p. 33).

While Ommeren's research in this article focuses primarily on the loss of revenue, Molenda and Sieg (2013) also consider residential permits and the efficient allocation of on-street parking and the economic vitality of shopping districts. Many different interests have a stake in parking in a mixed use shopping district. The diversity of interests make it difficult to optimally allocate parking when parking needs vary greatly between residents, shoppers, employees, and business owners. "A first best solution includes price-discriminated parking fees... but might be difficult to implement" because of residents long term parking needs and desire to park in their neighborhood for free (Molenda & Sieg, 2013, p. 138). The researchers found that if "the decision is made locally" where the residents have sway, more parking spaces will be allocated to residential parking than is optimal for the overall welfare of the

district. The over allocation of parking to residents in this context comes at the expense of visitors and the economic vitality of the shopping district as a whole (Molenda & Sieg, 2013).

The parking context in Bellevue does not resemble that of Dutch downtown shopping districts and Bellevue has zero pay to park on-street spaces, but the concepts still apply. Most notably that there can be an over allocation of parking for residents when the residents' perspective is prioritized over other interests. From a general welfare perspective, it is important for city officials to understand that prioritizing one interest comes at the expense of other interests. In the case of RPZ programs, the over allocation for residents comes at the expense of a higher utilization rate of on-street parking. In Berkeley, Moylan et al. (2014) also found on-street parking to be underused in RPZs. Additionally, based on the parking study done by this report (discussed in detail in chapter 5), the streets restricted by the Bellevue RPZ program generally have a large supply of on-street parking for permit holders and is often an underutilized source of parking.

Conclusion

This literature review focused on the most relevant academic material for reviewing Bellevue's RPZ program. This material focused on the U.S. Supreme Court ruling that legitimized residential permit programs as well as their impact on residents/permit holders, commuters/non-permit holders, and the overall impact on public welfare. There are four major findings from this literature review.

First, local governments have a long legal leash for restricting parking in residential neighborhoods. The U.S. Supreme Court ruling confirmed that regulations on a wide variety of negative externalities associated with parking is justifiable and a legitimate state interest. Additionally, making the distinction between residents and non-residents is a reasonable means to regulate those externalities and does not violate the equal protection clause.

Second, parking availability affects vehicle ownership rates. Gou has shown that if parking is guaranteed and convenient it will likely result in higher ownership rates than if parking was uncertain and difficult. RPZs can contribute to a situation that helps ensure the certainty of residents finding parking and therefore may promote car ownership in some cases.

Third, RPZs have the potential to shift the commuter mode split away from single occupant vehicles. If other factors are present (e.g. availability of transit or carpools, enforcement of the RPZ, availability of off-street parking), then permit zones can be enough of a disincentive for commuters to avoid parking on residential streets. However, zones can only affect the mode split if zones are made big

A Review of the Residential Parking Management Program in Bellevue, WA

enough to discourage parking directly outside of the restricted area on different residential streets and walking to the final destination.

Fourth, RPZ programs commonly allocate parking in a way that favors residents and reduces overall welfare. On streets with RPZ restrictions, the allocation of street parking is a top-down phenomenon. Residents often have influence in the creation of a residential permit zone; the resulting allocation of on-street parking often favors residents. When residential permit zones overlap pay-to-park streets, visitors cannot pay to park in spaces that are occupied by residents. These conditions result in a loss of revenue for the city and an unequal allocation of on-street spaces.

Although some of these findings are more applicable to the Bellevue context than others, the major themes remain notable. Possibly the most relevant finding for Bellevue comes from the Rye et al. (2006) research on the size of zone expansions. Currently, Bellevue's program allows expansions as small as 1,000 feet of block face. Based on the literature presented here, it is unlikely that an expansion of 1,000 feet significantly changes the parking behavior of commuters. Other concepts from this literature review will also be referenced later in this report. These concepts will be used in combination with other inputs to inform and justify the final recommendations to the City of Bellevue.

Chapter 2 Existing Policy

Introduction

This chapter is intended to provide a brief description about the current program. The following report will be best understood with a basic comprehension of the existing program in Bellevue. To provide this basis, this chapter will establish a distinction between Bellevue's Residential Parking Management (RPM) program and the Residential Permit Parking Zone (RPZ) program, a brief description of the history of the RPZ program, an outline of the existing RPZ policies, and a description of the existing condition of parking enforcement. See appendix A, appendix E, and chapter 7 for specific conditions of each zone (e.g. permit utilization, parking utilization, restricted hours by zone, description of zoning classifications in and around zones, etc.).

RPM versus RPZ

Two acronyms are commonly used throughout this report, RPM and RPZ. The RPM program is the program that manages residential parking issues in the right-of-way. The RPM program is only used in areas where residential use is the primary use of the neighborhood. Although there are residents in areas like downtown, the RPM program is not used to manage on-street parking in downtown. The RPM program is the umbrella program under which residential parking management tools are implemented in neighborhoods. The parking management tools within the RPM program include "No Parking Anytime" restrictions, time-based restrictions (two hour parking or "No Parking 8 A.M. to 5 P.M."), and the RPZ program. The RPZ program is a parking management tool that mitigates parking spillover impacts on residents. The RPZ program restricts parking for commuters, employees, and students and issues permits to residents that exempt them from those restrictions. Bellevue's RPM program is usually allocated approximately \$15,000 a year and a majority of this is spent on the RPZ program. Therefore the RPZ program is a focus of this report.

Brief History of the Program

In 1985, the City of Bellevue developed a Residential Parking Management (RPM) Program (City of Bellevue, 2015). Within the RPM program, the RPZ program was established to be the primary tool to mitigate spillover parking into residential neighborhoods. When the RPZ program was first initiated,

A Review of the Residential Parking Management Program in Bellevue, WA

residents were able to request and receive an RPZ on their street with relatively few hurdles. There were no review request forms, no occupancy thresholds, and no minimum size requirements. Typically, as long as there was enough support from other residents along the street, an RPZ was implemented and parking was restricted for non-permit holders. Many of the zones that were created allowed for temporary parking by non-permit holders (usually for one or two hours) (Gonzalez, 2016).

As time went on, the program evolved; the program became more standardized and easier to enforce. To make the RPZ program easier to enforce, Transportation Department staff eventually removed the temporary parking allowance for non-permit holders. Rather than chalking tires and returning later in the day, the officer could just issue a ticket if there was no permit displayed. The removal of the temporary parking allowance for non-permit holders was gradual. When zones were renewed and residents agreed, in the interest of reducing the strain on enforcement, temporary parking was removed (Gonzalez, 2016). The only zone that still has temporary parking available for non-permit holders is zone 6 (as a relic of past policies) and the allowance is likely to be discontinued at the next renewal cycle.

Additionally, there have adjustments to the program that have made it more standardized over time. The program operated with very few standard policies until 2010. Since then, residents now must gather signatures from their neighbors in order to establish agreement that there is a perceived parking problem. It is this signature form that initiates an investigation into the problem by the city. The program also now has minimum thresholds that must be satisfied in order to justify intervention by the city. The most recent policy update to the program was in June 2015 (Gonzalez, 2016).

Current Procedures

This is an abbreviated version of the procedures for establishing a new zone or expanding an existing zone. For the complete set of procedures see appendix B.

1. Residents submit a Parking Review Request form (see appendix C for this form) to transportation staff describing the problem, probable cause, and signatures of neighbors who agree there is a problem.
2. Transportation staff initiate a parking study of the location to determine if it qualifies for the RPZ program based on the eligibility guidelines. The eligibility guidelines are:
 - a. At least 10% of the available parking supply is occupied.
 - b. At least 50% of vehicles parked on the street are non-resident.
 - c. The concern is along at least 1,000 feet of block-face.

A Review of the Residential Parking Management Program in Bellevue, WA

3. If it qualifies, staff identify the appropriate parking restriction or other treatment.
4. RPZs and limited no parking restrictions require 65% of all households to approve the restrictions. If “No Parking Anytime” restrictions (or other restrictions that fully restrict parking for all users for any amount of time) are proposed, 100% of all households must approve.
5. If 65% support is not received, an area must wait 12 months before applying again.
6. If 65% support is received, staff will take the proposal to the city council for their review and approval. If approved, an Ordinance is recorded, signs are installed and residents are issued permits. The ordinance takes approximately 30 days to become effective. Enforcement is provided by the Bellevue Police Department and is on a complaint basis or at an officer’s discretion.
7. Residents with homes abutting streets restricted by the RPZ are eligible to receive permits for their personal vehicles, as well as up to four guest permits per home. Properties that are landlocked from the right-of-way and rely on a private driveway to access their home are also eligible for permits if the only access to the property abuts with an RPZ restricted street.
8. Eligible vehicles must be registered to the address in the RPZ. There is no limit to the number of permits issued for personal vehicles per household.
9. There is no fee for either type of permit.
10. Once parking restrictions are implemented, it would take 65% of households to request its removal, via petition.

Existing Zones in Bellevue

The RPZ program consists of specific zones across Bellevue’s residential neighborhoods. The parking restrictions in each zone are specific to the traffic generator adjacent to the RPZ and three types of permits are issued to exempt residents and their guests from these restrictions. The program also consists of a renewal cycle for each zone.

As of this writing there are 14 RPZs in Bellevue. They are primarily identified by their zone numbers. The zones are numbered from 1 to 16 (zone 12 and zone 13 have been phased out by a petition process and no longer exist). There are eight zones around downtown (zone 1, 3, 4, 5, 7, 8, 9, and 15), five zones around high schools (zone 2, 3, 6, 10, and 11), and one zone around a college (zone 14). Note that zone 3 is adjacent to both downtown and Bellevue High School. Lastly, the only zone not near downtown or a high school is zone 16 and is adjacent to a different commercial zone outside of

A Review of the Residential Parking Management Program in Bellevue, WA

downtown. See appendix A for a description of each zone, the impetus for creation, and the hours restricted.

All but one zone bans parking altogether for non-permit holders during restricted hours of the day. Zone 6 is the only zone that allows temporary parking for non-permit holders; it is restricted to a maximum of one hour. This allowance for non-permit holders in zone 6 is a relic of past policies. The hours of the day and days of the week that are restricted in RPZs dependent on the source of the parking spillover. RPZs adjacent to schools typically restrict parking on during school hours and do not restrict parking on the weekends or holidays. RPZs adjacent to commercial areas typically restrict parking during business hours, including weekends and holidays because of the demand for parking on those days.

Residents inside the RPZ are eligible to receive personal vehicle decals, guest permit hang tags, or temporary permit slips. A personal vehicle decal (also referred to as decals or vehicle permits) are specific to the one vehicle that the permit was issued to. That vehicle must be registered to an address that is located inside the RPZ boundary in order to be eligible for a personal vehicle decal. There is no limit to the number of vehicle decals issued per household. Guest permits (also referred to as visitor permits) are in the form of hang tags and they are designed to be transferred from guest to guest as the need arises. The guest permits allow a vehicle to be parked anywhere in the zone and are limited to four per household. Temporary permits are the least common type of permit and are designed to be used for a special occasion where there will be more guests than can be accommodated with guest permits. There is no limit to the number of temporary permits per household. All permits are free of charge and no fees are associated with the program.

Zones are renewed automatically roughly once every four years. The renewal of zones does not happen all in the same year; renewals are spaced out so that there are only a few zones per year that are renewed. Envelopes are mailed to each mailing address in the zone with an application and instructions for obtaining new permits. Permits can be obtained by mail, in person, or through an online system implemented in April 2015.

Parking Enforcement

Parking enforcement in Bellevue is carried out by two entities: private contract and Bellevue Police. The downtown area is the responsibility of Diamond Parking via private contract with the city. There are no RPZs in downtown and currently Diamond Parking does not enforce parking violations in RPZs adjacent to downtown.

A Review of the Residential Parking Management Program in Bellevue, WA

The Bellevue Police Department is responsible for parking enforcement in the rest of the city. Currently, there is one officer dedicated to parking enforcement within the police department. While any police officer has the authority to issue parking tickets, a vast majority of the tickets are written by the parking enforcement officer (VanWieringen, 2016). This particular officer works roughly 40 hours a week, Monday through Friday. Parking enforcement usually does not occur on Saturday or Sunday, outside of downtown.

The parking enforcement officer spends a majority of their time enforcing the “24 hour rule.” The 24 hour rule states that no car can be parked on the street for more than 24 consecutive hours. This rule – codified in Bellevue City Code 11.23.020 – applies to all Bellevue streets and is enforced on a complaint basis. The officer also enforces the RPZs primarily on a complaint basis. In 2015, there were a total of roughly 2,500 complaints about parking that came through various city departments to the enforcement officer and approximately 1,300 tickets were issued (VanWieringen, 2016).

Conclusion

As a summary, the RPM program was created to address spillover parking in residential neighborhoods and consists of tools like the RPZ program. The RPZ program was first created with very few barriers to entry for residents. Although there are established thresholds and policies in the current program, the barriers to entry continue to be minimal. Almost every zone was established because of spillover from downtown or a nearby high school and almost every zone does not allow temporary parking from non-permit holders. Lastly, the parking enforcement is primarily on a complaint basis, because there are not enough enforcement resources to patrol the existing program.

Overall, this chapter is intended to provide context for the following report. A more in depth analysis and evaluation of the current RPM program will be in the evaluation chapter of this report.

Chapter 3 Comprehensive Plan and Neighborhood Plans Review

Introduction

The primary directive of the Residential Parking Management (RPM) program is to address neighborhood concerns with non-resident vehicles parked in neighborhoods adjacent to businesses, schools and other public facilities. Below the surface of this directive, the RPM program impacts neighborhood traffic, the use of public right-of-way, livability, and urban design.

The primary directive does little to provide guidance regarding specific policies addressing these underlying themes. For example, how much parking spillover justifies top-down intervention by the city? Who has the right to use public streets? Is it ok for residents to use the RPZ program as a tool for exclusion? What is the best use of right-of-way (ROW) in residential neighborhoods? As Bellevue continues to urbanize, what changes to residential neighborhoods are acceptable? Which are not? Should residential parking policy be different in an urban neighborhood like Bel-Red than policy in Somerset, a neighborhood dominated with single family residential and no commercial development? These issues present challenges that are not easily reconciled and require additional inputs in order to resolve.

This report takes several approaches for addressing these issues. One such approach is the review of Bellevue's Comprehensive Plan and Neighborhood Subarea Plans (herein referred to collectively as the "City Plans"). The goal for reviewing the City Plans is to identify policy that has been adopted by the city that helps provides guidance, purpose, and direction for the residential parking management program. The review of the City Plans will result in a set of "guiding principles" for the RPM program. These guiding principles will be a summary of the language and policies in the City Plans that relate to the RPM program. The guiding principles can be referred to when assessing whether or not the RPM program is consistent with the City Plans. They will also be relied upon to inform the recommendations for improving the program.

Overlapping Concepts of the RPM program and the City Plans

The RPM program overlaps with many important city-wide issues like traffic, public space, and livability. When trying to address broad issues it is beneficial to use the City Plans as a reference point

A Review of the Residential Parking Management Program in Bellevue, WA

for identifying city-wide values. While the City Plans are not an example of perfect consensus with all stakeholders on all issues, it does provide officially adopted policies on overlapping themes.

There are several overlapping themes that connect residential parking management to the City Plans, because parking plays a role in many different urban arenas and exists within many different contexts of Bellevue. Specifically, on-street parking may be used as a tool to urbanize a commercial area and create a better pedestrian experience. However, on a winding residential street with no curb and no sidewalk, on-street parking may interfere with pedestrian safety, because people may need to walk into travel lanes to walk around parked cars. On-street parking is dynamic in Bellevue, because of the range of interests and issues involved. The range of issues involved overlap many themes in the City Plans. Overlapping themes in the RPM program and City Plans include: the use of public ROW, urbanization, neighborhood livability, and urban design. These themes serve as the nexus between on-street residential parking and city-wide issues addressed in the City Plans.

Specific Overlapping Concepts

The use of public ROW is perhaps the most visible issue that the RPM program impacts. The RPM program addresses not just how the ROW should be used, but also who is allowed to use it. The City Plans address these issues by discussing the mode split and promoting walkability in neighborhoods.

Urbanization in Bellevue is intensifying the use of land and ROW. As population and development increases, there is also an associated increase of demand for the limited amount of street space in the city. The increased demand for ROW may result in a higher utilization rate of on-street parking. An increased demand for ROW may also place more scrutiny on the RPM program to ensure that it is functioning in a way that is aligned with the Comprehensive Plan.

Neighborhood Livability is a term that addresses a range aspects regarding quality of life. In the context of the RPM program neighborhood livability is addressed by protecting the character of residential neighborhoods by managing parking spillover from adjacent traffic generators.

Urban Design communicates the qualitative features of a place. The design is what allows people to take one look at a road and know whether or not it is safe to walk on. For example slow traffic and a physical barrier from travel lanes will help communicate safe places to walk. On-street parking is an important urban design tool that can promote safety for pedestrians by separating sidewalks from travel lanes.

Discussion of the City Plans as They Relate to the RPM Program

This section will present specific policies from city adopted plans and discuss how they relate to, and their implications for, the RPM program. Beginning with the Comprehensive Plan and moving to the Neighborhood Subarea Plans, only policies and excerpts that directly overlap with the RPM program are presented. These are the policies and excerpts that shape the resulting guiding principles discussed in the next section. (Note: policies and excerpts directly from the City Plans are italicized and the discussion is not).

Policies from the Comprehensive Plan:

LU-28 Minimize spillover parking from commercial areas, parks and other facilities encroaching on residential neighborhoods, through residential parking zones and other measures.

This policy articulates the purpose of the RPZ program and explicitly calls for its use.

TR-93 Protect residential neighborhoods adjacent to high capacity transit facilities from spillover impacts, including parking and cut through traffic, resulting from system construction and/or operation, using techniques such as residential parking zone programs and traffic calming measures. Monitor the outcomes of these efforts and make adjustments as needed to ensure continued effectiveness.

This policy explicitly states that RPZs should be used (and monitored over time) to mitigate spillover from high capacity transit facilities and their associated construction. One issue with this policy is the lack of clear direction regarding the amount of spillover or cut through traffic that justifies mitigation. It is unclear if Transportation Department staff should take action to eliminate every spillover parker or if a small amount of spillover is acceptable.

TR-149 Minimize spillover parking into residential neighborhoods through residential parking zones and other measures.

Similar to policy LU-28 and TR-93, this policy also explicitly calls for the use of RPZs. However, this policy also says “minimize” the spillover. This suggests that some amount of spillover might be acceptable and does not justify intervention. Determining the level of acceptable spillover may not be one threshold that applies everywhere. Managing spillover may work best if thresholds for intervention vary by neighborhood and depend on urban characteristics like the presence of a sidewalk, off-street parking availability, and/or permanence of the traffic generator.

TR-61 Allow for repurposing of travel lanes for other uses such as parking, transit or pedestrian and bicycle facilities where excess vehicular capacity exists and/or to optimize person throughput along a corridor.

A Review of the Residential Parking Management Program in Bellevue, WA

This policy encourages the increase of on-street parking when appropriate. As Bellevue continues to urbanize, other uses of the ROW may be more appropriate than vehicle travel lanes.

TR-6 Encourage private developers of adjacent or nearby properties to execute agreements to provide joint use and funding of shared parking facilities.

This policy encourages a land use pattern that attempts to be less fragmented due to the oversupply of parking facilities. It implies the support for an intensified use of off-street parking facilities.

TR-145 Preserve the safety and livability of residential streets through an adequately funded neighborhood traffic safety program.

This policy helps justify funding the RPM and RPZ programs. It represents a continued commitment from the city to improve the ROW in residential neighborhoods.

TR-152 Design or retrofit residential streets to discourage cut-through traffic, while providing for connectivity. & TR-153 Employ traffic calming measures to slow vehicular travel speed along residential streets and to reduce the volume of cut-through traffic.

One tool for discouraging speeding on residential streets that is explored by staff is the narrowing of the ROW through encouraging on-street parking on both sides of the street. Using this tool means promoting on-street parking, but implementing an RPZ would contradict those efforts because it bans non-permit holders from parking during certain hours of the day.

Excerpts from the Comprehensive Plan:

Comprehensive Plan, Neighborhoods Chapter: Bellevue has been successful at cultivating a vibrant urban center downtown, providing amenities that attract a thriving residential and business community. Bel-Red will become another dynamic, vertical neighborhood. As Bellevue continues to grow, most growth will occur in these denser mixed commercial and residential areas. This will increase density in Bellevue's core urban areas, lead to the development of new vertical neighborhoods while protecting established neighborhoods from needing to absorb this growth.

Comprehensive Plan, Neighborhoods Chapter: As Bellevue matures, the variety of expression, history and local amenities in its neighborhoods will enrich the quality of life for the entire community. A balanced and nuanced approach will be necessary to accommodate expected growth and development while preserving neighborhood character. Success will require balancing the needs of the whole city while avoiding a "one size fits all" approach to neighborhood planning that undermines neighborhood distinctiveness.

A Review of the Residential Parking Management Program in Bellevue, WA

The above excerpts support the finding that a majority of growth and urbanization will take place in downtown and Bel-Red. Additionally, while parts of Bellevue are urbanizing, there is a clear direction to protect residential neighborhoods from the negative externalities associated with growth (e.g. spillover parking, increased traffic congestion). There is also a suggestion that the tools used to preserve neighborhood character should be context sensitive and account for the unique features of each neighborhood. For example, a context sensitive RPM program might consider different spillover thresholds appropriate for different neighborhoods.

Comprehensive Plan, Urban Design and the Arts Chapter: Sidewalks need to feel safe and comfortable for all and offer pedestrian amenities at key locations to encourage use. Physical buffers between the sidewalk and traffic, such as street trees, landscaping, public art, or on-street parking, increase the feeling of safety and comfort and help create a more pleasant experience for pedestrians.

This excerpt represents the city acknowledging that on-street parking can contribute to a better pedestrian environment. This is also in the context of an area with sidewalks. It is important to note that many streets in residential neighborhoods do not have sidewalks, therefore on-street parking is not an obvious contributor to pedestrian safety.

Comprehensive Plan, Transportation Element: This vision promotes Downtown Bellevue as a regional Urban Center, identifies areas of activity in BelRed, Eastgate, Factoria, and Crossroads, and emphasizes stability within predominantly single family neighborhoods. The transportation system is designed and scaled to meet the future travel demand and to reflect or enhance the character of the community. Mode of travel, capacity and design for each mode, and priorities for mobility along right-of-way corridors reflect the intensity and mix of land uses and the expectations for safety and livability.

This excerpt acknowledges that transportation policy should reflect the diversity of neighborhoods in Bellevue. This policy advocates the preservation of single family neighborhoods while also advocating activity in more commercial neighborhoods. This can be interpreted as support for a more context sensitive approach to the transportation system and specifically the RPM program. From an RPZ policy perspective, this could mean identifying activity centers as inappropriate neighborhoods to implement the existing RPZ program and limit implementation to only those areas that are primarily residential in character. We could also note here that “single family neighborhoods” are singled out as a distinct form of residential neighborhoods. This may suggest that multi-family neighborhoods have more tolerance for change than single family neighborhoods.

Policies from the Neighborhood Subarea Plans:

A Review of the Residential Parking Management Program in Bellevue, WA

POLICY S-BR-60 (Bel-Red) Include on-street parking where it contributes to the pedestrian environment and other elements of the desired neighborhood character.

POLICY S-BR-25 (Bel-Red) Design and develop an outstanding street environment that promotes streets as key urban places, sensitive to their context and providing an interesting and aesthetically rich experience. Apply a street hierarchy with design guidelines and street standards that provides an appropriate combination of the following elements:

- a. Strong consideration of character and aesthetics in the design and implementation of all street projects;*
- b. Integration of open space and landscaping, including street trees;*
- c. Environmentally sensitive practices, including natural drainage systems where appropriate;*
- d. Sidewalk development standards that promote pedestrian functionality and interest, and avoid obstructions;*
- e. Ground floor differentiation, including preferred uses, visual and physical access;*
- f. Mid-block pedestrian crossings; and*
- g. On-street parking, where it contributes to pedestrian convenience and safety.*

These two policies are addressing the pedestrian experience as it relates to on-street parking in Bel-Red. It is clear that, in Bel-Red, the city views on-street parking as a way to enhance the pedestrian experience.

POLICY S-DT-61 & POLICY S-DT-71 (Downtown) Examine additional opportunities for on-street parking in the district.

POLICY S-DT-158 (Downtown) Provide for the needs of bicycles and pedestrians in the design and construction of new facilities in Downtown, especially in the vicinity of the Transit Center, along the NE 6th Street pedestrian corridor, and on 106th Avenue NE where on-street parking and/ or wider sidewalks may be appropriate.

These three policies are addressing different sections of the downtown. Again, on-street parking is being supported as a way to improve the district.

POLICY S-DT-149 (Downtown) Establish parking requirements specific to the range of uses intended for the Downtown Subarea.

This policy suggests that parking requirements should address the unique context of downtown and various users that need downtown parking. Therefore, this policy is also indirectly stating that the RPZ program as it exists today would be inappropriate in downtown. This is because as of this writing,

A Review of the Residential Parking Management Program in Bellevue, WA

the RPZ program is centered on the needs of residents and is not “specific to the range of uses intended for downtown.”

POLICY S-DT-152 (Downtown) Evaluate the parking requirements in the Land Use Code and regularly monitor the transportation management program, employee population, parking utilization, parking costs paid by commuters and the percentage of those who directly pay for parking. If monitoring indicates that the use of transit and carpool is not approaching the forecast level assumed for this Plan, revise existing parking and transportation management requirements as needed to achieve forecast mode split targets found in the Transportation Element of the Comprehensive Plan.

This policy is important to residential parking policy for two reasons. (1) It suggests that goals for parking in downtown are very separate from goals for parking in residential neighborhoods. In other words, it again suggests that RPZs are inappropriate for downtown. (2) It reinforces the city’s promotion of transit and carpool as preferred modes over the single occupant vehicle.

POLICY S-DT-153 (Downtown) Permit short-term on-street parking on Downtown streets if such action does not create significant traffic problems.

By permitting short-term on-street parking, this policy is indirectly stating that RPZs should not be used downtown. As the RPZ programs exists today, short-term parking by non-permit holders is only allowed in Zone 6 and only exists there as a relic of past RPZ policies. Short-term parking for non-permit holders is not usually considered when creating new zones or expanding existing zones. This is because short-term parking for non-permit holders creates a strain on enforcement resources and therefore has been phased out of the RPZ program over time.

POLICY S-NB-28 (North Bellevue) Discourage on-street parking in residential areas by people working in commercial or office facilities.

This policy is from the North Bellevue Subarea Plan and is a stark contrast to the policies that promote on-street parking in the downtown and Bel-Red plans. It is similar to policies in the Comprehensive Plan that call for the implementation of RPZs to reduce spillover parking in residential neighborhoods.

Excerpts from the Subarea Plans:

Old Bellevue Subarea Plan: This area is home to many small shops and Downtown’s oldest buildings. This district is also home to the 20-acre Downtown Park. Main Street functions like the traditional “Main Street USA”, with low traffic speeds, comfortable sidewalks, and on-street parking — elements that together make this a very safe and enjoyable place to walk.

A Review of the Residential Parking Management Program in Bellevue, WA

This excerpt again reinforces the view that on-street parking contributes to a safe and enjoyable place to walk. Additionally, on-street parking is presented as an important part of the urban design of mixed-use areas.

Newport Hills Subarea Plan: Eastside Catholic High School was built originally as a junior high school, and lacks the sufficient parking capacity of a high school. Students then park on the adjacent public streets. The streets are not designed to accommodate on-street parking, so there is some interference with traffic and pedestrians during school sessions and other events such as special activities after school. Additional on-site parking should not be considered the only solution because of environmental and urban design policies established elsewhere in this subarea plan and because limited land supply in the Subarea should be appropriately used.

This excerpt articulates the problems of many residential streets where the street shoulder doubles as a walking path and on-street parking space. Parked cars on the shoulder interrupt the pedestrian experience and can force pedestrians into the travel lanes when walking around the parked cars. This is an example where on-street parking does not contribute to a safer and more pleasant pedestrian experience. This is reflected in the guiding principles of the City Plans in the next section by stating that on-street parking should only be promoted where it contributes to pedestrian convenience and safety.

Results: Guiding Principles from the City Plans

After reviewing the City Plans there were certain principles that surfaced for residential parking policy. The guiding principles identified here should be used as guidelines that shape residential parking policy in Bellevue. As interpreted by this review, these are the guiding principles inferred from the City Plans that overlap with the RPM program (no particular order):

- Improve the pedestrian experience and promote walkability throughout the city and support on-street parking, where it contributes to pedestrian convenience and safety.
- Absorb most of the expected growth in downtown and Bel-Red urbanizing those areas, while preserving other residential neighborhoods.
- Protect residential neighborhoods from cut-through traffic and spillover impacts with the use of traffic calming measures or RPZs.

These guiding principles are based on themes and concepts that were repeated throughout the City Plans. The principles overlap with the RPM program in several ways and relate to at least one of the

overlapping concepts listed above. These principles will guide the review of the RPM program and inform the recommendations for improving the residential parking policy in Bellevue.

Conclusion

The three guiding principles highlight Bellevue's commitment to improving the ROW and the pedestrian experience. They also highlight one of Bellevue's challenges of planning for change and urbanization while also preserving residential neighborhoods. These issues of improving walkability, absorbing growth, and protecting residential neighborhoods are the nexus between residential parking policy and the City Plans.

As Bellevue evolves and grows, it is clear from the City Plans that the interests of its residents are a high priority. Although, there are a diverse set of stakeholders, the City Plans often identify residential concerns as being some of the most important. This prioritization is visible in practice by the existence and creation of RPZs when parking spillover is perceived by residents as a problem. RPZ programs fundamentally create a top-down allocation system for on-street parking. RPZ programs also place residents' street parking needs at the top of the allocation process by issuing parking permits only to residents. Based on comprehensive plan policies TR-93 and TR-149, prioritizing residential needs over the needs of others is the desired outcome. The guiding principles identify this prioritization of residential needs by advising that residential parking policy "protect" and "preserve" residential neighborhoods.

Another conclusion from the review of the City Plans that is identified in the guiding principles is the general excitement and optimism regarding the growth in downtown and Bel-Red. These neighborhoods are presented as areas that are poised to transform into dense, mixed-use/residential, walkable, and urban environments. Supporting on-street parking is specifically called out in policies S-BR-60 and S-BR-25 in the Bel-Red Plan and policies S-DT-71 and S-DT-61 in the downtown plan. It is also mentioned in the Old Bellevue Subarea Plan that on-street parking should be used to help make a "very safe and enjoyable place to walk." These policies suggest that the City of Bellevue acknowledges that on-street parking influences walkability and is an important part of pleasant urban areas. These policies are also reflected in the guiding principles that advise the RPM program to positively contribute to growth in the urban cores of the city and walkability throughout the city.

However, the existing RPZ program may contradict the notion of supporting on-street parking. Currently there are not RPZs in downtown or Bel-Red. But as more residents move into those areas, they could potentially ask for residential permit parking zones. An RPZ in Bel-Red may contradict existing City

A Review of the Residential Parking Management Program in Bellevue, WA

Plan policies because on-street parking utilization rates in existing RPZs is relatively low. There is no policy associated with the program that precludes those areas from the RPZ program. A full discussion on how well the existing RPM program is helping achieve city goals is presented in the evaluation chapter of this report.

In order for the RPM program to be consistent with the City Plans, the program must align with the three guiding principles listed above. The three guiding principles reflect the city's core values and it is important that the city's parking policy compliment these values. The principles provide guidance for how the RPM program should be run and should be referenced when difficult issues need answers. They will also be relied upon and referred to in the final recommendations of this report.

Chapter 4 Residential Survey

Introduction

The Neighborhood Traffic Safety Services (NTSS) division posted an online survey on February 16, 2016. The survey was closed on March 14, 2016 and 235 people responded. The objective of the survey was to gather residents' perspectives on residential parking and Bellevue's Residential Permit Parking Zone (RPZ) program. The primary target audience for this survey was the residents living in RPZs. Residents outside of an RPZ were also given a chance to comment on general residential parking issues. The responses from this survey have been used as another piece of input for the review of the Residential Parking Management (RPM) program in Bellevue.

The survey focuses on several themes that were identified by Bellevue's Transportation Department staff as being of particular interest. These themes include residents' perspectives on parking enforcement, the use of the right-of-way (ROW), their existing parking conditions, how they think the program should work, and their satisfaction and their use of the existing RPZ program. The survey was important because in Bellevue there had never been an attempt to gather the opinions of residents regarding residential parking issues and the RPZ program.

The focus of this chapter is on response rates to the survey, perceptions of enforcement, residential satisfaction with the RPZ program, and perspectives on parking occupancy in residential neighborhoods. These issues were chosen for elaboration because either the survey results were in some way surprising or will influence the evaluation of the program or will influence the final recommendations of this report.

Outreach Methodology

In order to notify residents of the survey, several methods were used. First, a postcard was sent to all addresses within an existing Bellevue RPZ. The postcards had the URL address of the online survey and a QR code that could be scanned by a mobile device to provide direct access. Mapshot - an online geographic information system that is an internal tool for Bellevue employees to access and display information - was used to identify the mailing addresses of all residents in RPZs. Postcards were sent to the 1189 addresses that were generated. Generating mailing addresses is one of many Mapshot functions. However, Mapshot does not have perfectly up to date information and 76 of the 1189

A Review of the Residential Parking Management Program in Bellevue, WA

postcards were returned as undeliverable. Some postcards were returned because the address was vacant or the postcard was “undeliverable as addressed.”

Residents were also notified by email. An email with a direct link to the survey was sent to neighborhood groups. Each neighborhood group then forwarded the email to residents of that neighborhood. Only neighborhood groups that had an RPZ in their neighborhood received an email and five neighborhoods confirmed that they had forwarded the link. Because neighborhood and RPZ boundaries do not align, residents outside of an RPZ were invited to take the survey. Residents outside of the RPZ responded to different questions than residents inside the RPZ, because many survey questions were specific to permit holders and their experience with the RPZ program. This aspect of the survey will be elaborated on later in the next section.

Lastly, a link to the survey was posted on the RPZ webpage of the NTSS division’s website. The link allowed anyone to access the survey from the NTSS website. The survey immediately filtered respondents by residential status with the first question. The survey was primarily based online, but hard copies were mailed upon request.

Survey Details

The survey was made up of 21 questions plus one free response opportunity (question 22). However, the first question filtered respondents into two groups: residents of Bellevue RPZs and people living outside of Bellevue RPZs. Residents of Bellevue RPZs saw the entire survey (questions 1-22), while people living outside the RPZs only saw the first question and the last four (questions 19-22). The filtering of respondents was done so that people answering questions specific to the RPZ program were also familiar with the program (either permit holders or people living within the boundaries of a Bellevue zone). Of the 235 people that took the survey, 196 people identified themselves as residents of an RPZ.

Other details of the survey:

- The survey was anonymous.
- Respondents were only allowed to take the survey once. However, this was limited by setting the survey to only allow one survey per device and we have no way of knowing if the same person took the survey on multiple devices.
- Questions 1, 2, 4, and 6 required responses in order to move forward with the survey. This was done to ensure that respondents recorded whether or not they live in an RPZ, which zone they live in, and if they are permit holders or not. See appendix D for the complete survey.

- Most of the questions in the survey were multiple choice, but there was also a space provided for responders to leave a comment. Leaving comments was completely voluntary. These comments have been left out of appendix D, but summaries of the comments will be included in this chapter.

Limitations and Assumptions

It is important to note that conclusions drawn from this survey also come with an understanding of the limitations. General limitations include, the inability to assume these responses are representative of the community. For example, when examining how people from zone 15 answered questions in the survey, we have to rely on a relatively small amount of respondents that reported living in zone 15 and therefore the sample may not represent the community. The problem of statistically significant data for each zone limits the influence and generalizability of these findings. Additionally, this survey as a whole is not be considered statistically significant data and is only considered as residential input for the RPZ program and neighborhood parking issues.

Additional limitations include: the assumption that one response equals one household, the possibility that one person took the survey multiple times using multiple devices, a possible language barrier, and the relative clarity of the survey question(s) to each responder. The limitations of this survey were considered when using this information to guide recommendations for the RPM program.

Findings from the Survey

This section will summarize and dig deeper into specific aspects of the survey. See appendix D to view the entire survey and summaries of the multiple choice responses. Specific topics presented here are the response rates of each zone, enforcement, satisfaction levels with the RPZ program, comfortable parking occupancy levels, and a summary of the comments.

Overview

During the month that the survey was open, 235 people responded. 196 of those people reported living in a Bellevue RPZ, 21 people reported that they did not live in a Bellevue RPZ, and 18 people did not know if they lived in a Bellevue RPZ. The 39 people that either did not know or did not live in a Bellevue RPZ were directed to the last page of the survey. There, they were given the opportunity to respond to general residential parking issues. The people that did report living in a

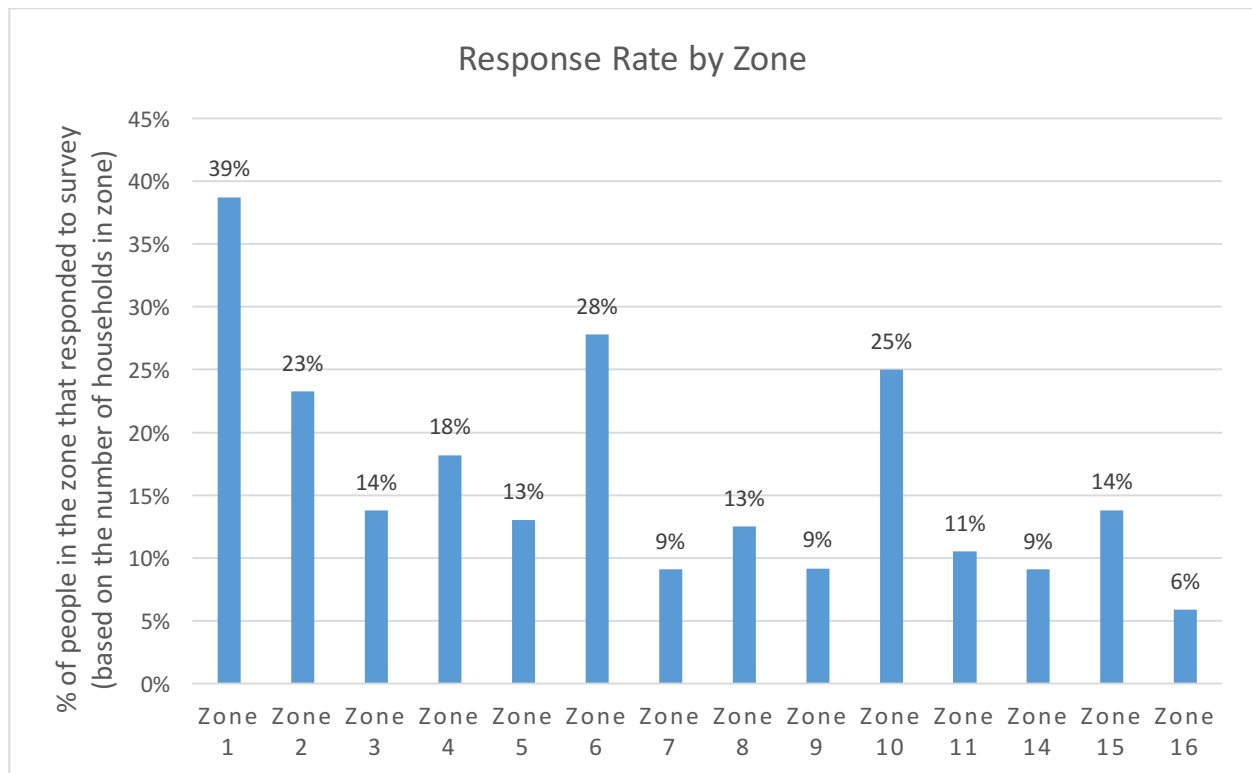
A Review of the Residential Parking Management Program in Bellevue, WA

Bellevue RPZ also had the opportunity to respond to these general residential parking questions. If we assume that one response equals one household (196) and the total number of households equals the total number of mailing addresses generated by Mapshot (1189), the residential response rate was 16.5%. Meaning 16.5% of the residents in Bellevue's RPZs responded to the survey.

Response Rates per Zone

Using the same assumptions to calculate the residential response rate, the response rate per zone was also found. Some of the analysis presented here digs into the differences between responses based on what zone the responder lives in. To better understand the significance of the responses based on zone, the response rate per zone was investigated.

Figure 4.1 Response Rate to Survey by Zone



A Review of the Residential Parking Management Program in Bellevue, WA

Table 4-1 Response Rate to Survey by Zone

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Zone 10	Zone 11	Zone 14	Zone 15	Zone 16
Respondents to survey	48	20	27	12	6	5	1	1	38	10	10	3	4	2
Households in zone	124	86	196	66	46	18	11	8	414	40	95	33	29	34
Response Rate	39%	23%	14%	18%	13%	28%	9%	13%	9%	25%	11%	9%	14%	6%

Table 4-1 shows the wide variety of sizes throughout the zones. Zones range from eight households in zone 8 to 414 households in zone 9. Zones 5, 6, 7, 8, 14, 15, and 16 each had fewer than seven respondents to the survey. Additionally, zone 9 and zone 3 have a relatively high number of responders, but a relatively low response rate. These low sample sizes and response rates bring challenges to the statistical significance of this survey data when breaking questions down to the zonal level. Because of these challenges, the confidence level of this survey is decreased when trying to draw conclusions about specific zones.

The following survey analysis that breaks down the responses by zone considers the limitations presented by low response rates. However, despite response rates, zones 1, 3, and 9 are singled out for their high numbers of responders. Some of the following survey analysis compares the responses in these three zones with the responses from all the survey takers.

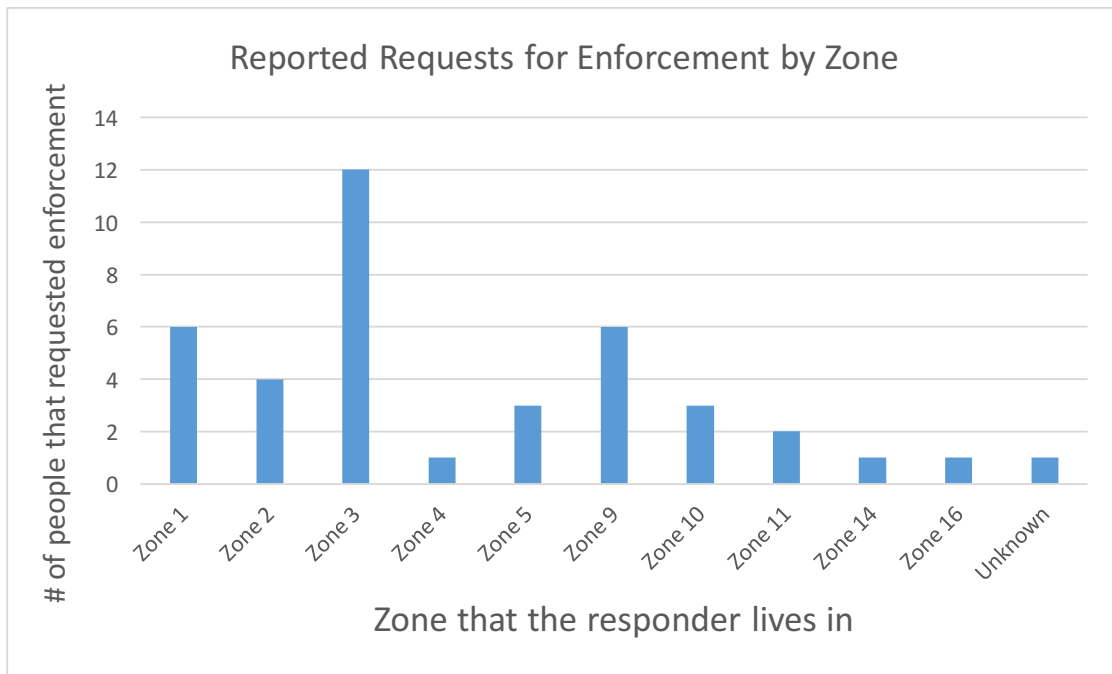
Enforcement

Bellevue has a population of more than 134,000 and a daytime population of 216,000 (City of Bellevue, 2015) and the city is roughly 32 square miles (United States Census Bureau, 2010). The City of Bellevue currently has only one parking enforcement officer to enforce a majority of the city (downtown is enforced by private contract and not the city). The ratio of parking enforcement officers to residents is fairly low (see chapter 6 for comparisons with other cities). Because of this low ratio, parking rules are enforced primarily by complaint only rather than by patrolling. The existing condition of parking enforcement is discussed more in chapters 2 and 7, but because this is a perceived issue, several questions about enforcement were included in the survey.

Figure 4.2 (below) shows what zone the people live in who have requested enforcement. Zone 3 had twice as many people that requested enforcement as the next closest zone. Zone 3 is located next to Bellevue High School. This finding was not terribly surprising to staff because of a history of high

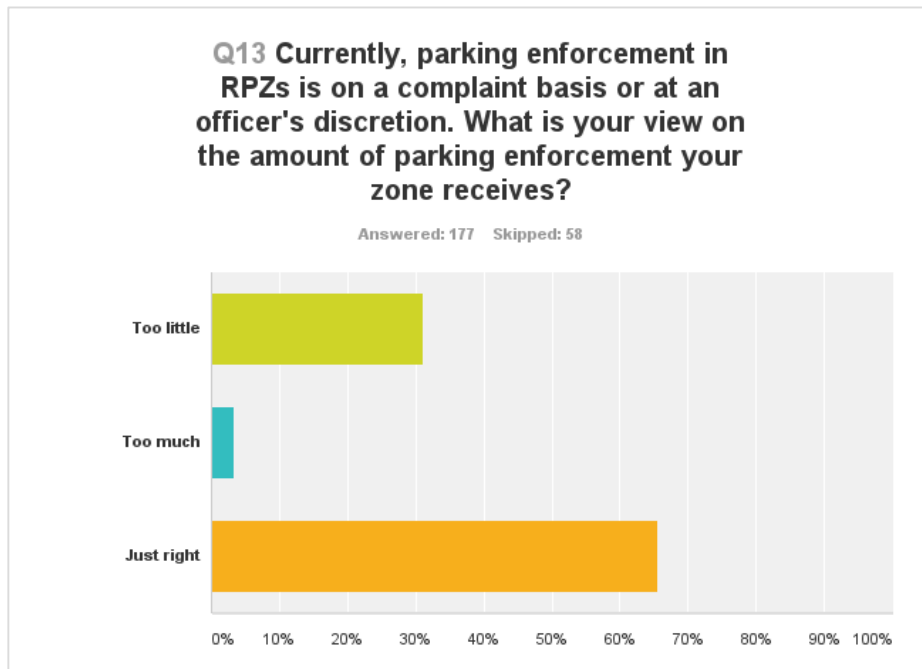
school students abusing the program. Zones that did not have anyone report that they had requested enforcement are not shown in figure 4.2.

Figure 4.2 Requests for Enforcement by Zone



Question 13 (below) addressed residents' perspectives about the amount of enforcement their zone receives. 177 people answered this question. 66% answered that the amount of enforcement was "just right," 31% answered "too little," and 3% answered "too much." Figure 4.3 shows the results for this question. Given the limitations of enforcement resources, it is surprising that two-thirds of respondents said the amount of enforcement is "just right." This question, like most other questions, also had a space for the responder to leave a comment. There were 53 comments with this question which was a relatively high amount compared to other questions in the survey. Unfortunately, the comments were not especially revealing. About half of the comments said enforcement was either too little or too inconsistent. The other half said there were no issues with the amount of enforcement they receive.

Figure 4.3 Summary of Question 13 from Survey



The survey also asked people if they would support a fee for permits if those fees could support additional parking enforcement in their zone (question 14). 81% of people answered no and 19% of people answered yes. The comments for this question reveal that, because a majority of the people think the amount of parking enforcement is “just right,” they do not support a fee for additional enforcement. One interesting connection between question 13 and 14 is that of the 152 people that said they would not support a fee, 35 of them also reported that they think the amount of enforcement is “too little.” The acknowledgement of too little enforcement, but the unwillingness to pay for more, was a common theme in the comments. Many people reported that their property taxes should be enough payment to administer and enforce the RPZ program.

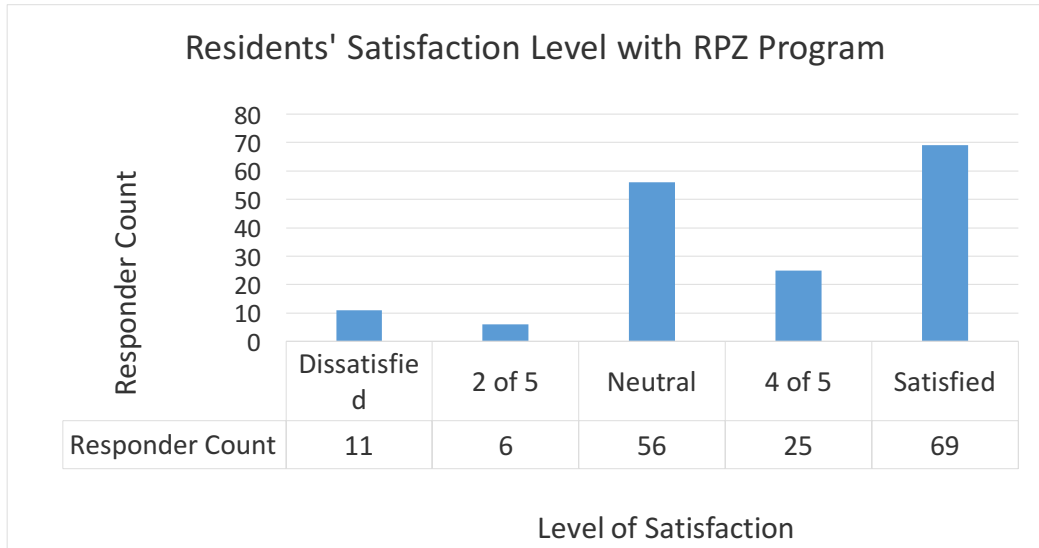
Resident Satisfaction

Ultimately, the RPZ program exists as an effort to respond to residents’ concerns about parking. Question 15 of the survey asked residents how satisfied they were with the program. Note that only people that reported living in an RPZ were able to answer this question. On a scale of 1 to 5 (read as dissatisfied [1] to neutral [3] to satisfied [5]), the average satisfaction level was 3.8. Most people were either satisfied (41% of respondents) or neutral (34% of respondents) about the program. In the comments, a sense of apathy toward the program was mixed with complaints about a lack of enforcement and with a strong support for the program. Supporters of the program cited that the

A Review of the Residential Parking Management Program in Bellevue, WA

streets were more peaceful and praised the program for removing the high school students from the neighborhood. Comments also noted a lack of enforcement and/or noted that there is no need for the program where they live.

Figure 4.4 Residential Satisfaction with RPZ Program



Parking Occupancy

Policy TR-149 in Bellevue's Comprehensive Plan states, "Minimize spillover parking into residential neighborhoods through residential parking zones and other measures" (City of Bellevue, 2015). However, the implementation of this policy has led to a definition of how much spillover justifies intervention from the city. The current thresholds for creating a new zone or expanding an existing one include (not limited to) a total on-street parking occupancy threshold of 10% and a non-resident threshold of 50%. Meaning 10% of the on-street parking spaces must be occupied and 50% of those vehicles must be non-residents in order for an RPZ to be established. Question 19 of the survey is attempting to understand the occupancy threshold that residents are comfortable with. Table 4-2 summarizes the responses from a total of 211 people.

Table 4-2 Summary of Question 19 from Survey

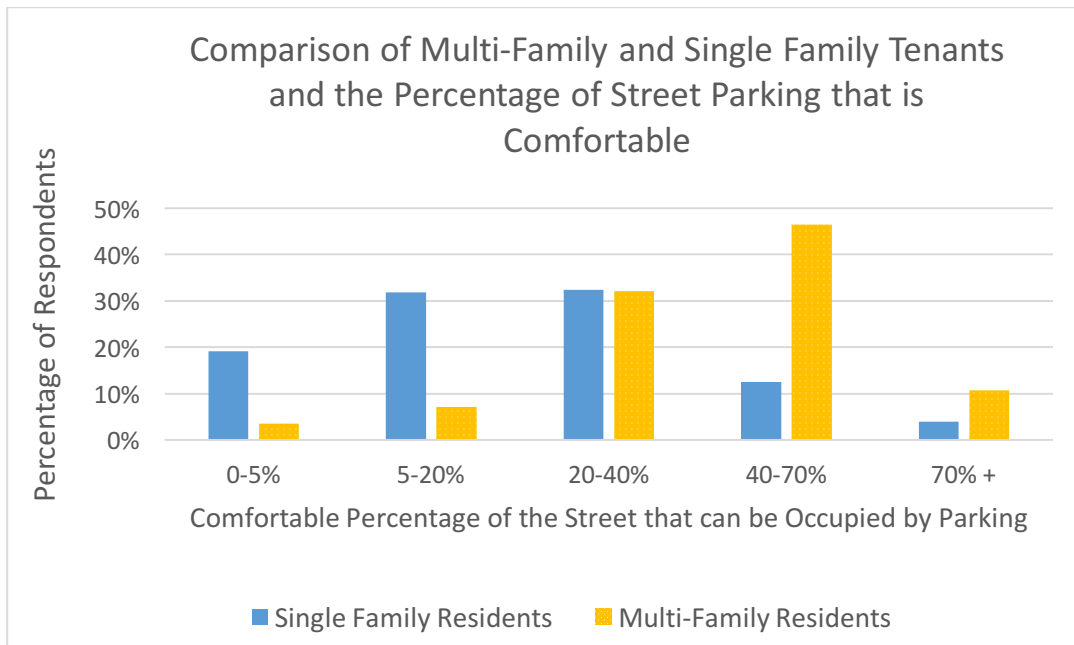
Question 19: Consider your own preferences for how your street should be used. What amount of parked cars are you comfortable with parking on your street?		
Answer Options	Response Percent	Response Count
70% or more of the street can have parked cars.	6.6%	14
40 - 70% of the street can have parked cars.	17.1%	36

A Review of the Residential Parking Management Program in Bellevue, WA

20 - 40% of the street can have parked cars.	29.4%	62
5 - 20% of the street can have parked cars.	28.0%	59
0 - 5%, generally there should not be cars using on-street parking spaces.	19.0%	40

Table 4-2 gives shows the amount of street parking that residents are comfortable with. The majority of people seem to be most comfortable when on-street parking occupancy levels are below 40%. However, there is also evidence that suggests these comfort levels may be correlated with the responders housing type. Figure 4.5 shows a breakdown of the responders that reported living in an apartment or a townhome (orange) compared to responders living in a single family home (blue). The multi-family tenants reported a departure from the rest of the survey takers and showed a much higher tolerance for higher on-street parking occupancy levels. 46% of multi-family tenants reported being comfortable with 40-70% of the street being parked compared to only 13% of single family tenants. Likewise, only 7% of multi-family tenants reported a comfortable level of 5-20% compared to 32% of the single family tenants.

Figure 4.5 Comparison of Comfortable On-Street Parking Occupancies between Multi-Family and Single Family Tenants



Results from this question could help guide a possible adjustment to the existing 10% occupancy threshold for creating new zones. The 10% threshold currently applies to every residential area of the city. The tenant breakdown of this answer could suggest that a more context dependent occupancy threshold would be justified.

A Review of the Residential Parking Management Program in Bellevue, WA

Free Response Summary

There were 79 final comments in the free response space, 23 more than any other question. The comments were a mixed bag of support and complaints. The comments in the free response space did resemble a general summary of all the comments throughout the survey. After categorizing the comments based on their sentiment toward the program, 35 comments were deemed to be generally supportive of the RPZ program, 26 were considered critical of the RPZ program, and 20 were uncategorized (note that some comments had both criticism and praise for the program). Uncategorized comments were commonly in the form of a suggestion for improving the program or an expression of anxiety over the growth and/or congestion they have experienced.

The comments that were in support of the program cited the impact the RPZ program has had on spillover parking from students and downtown commuters. They explain that the program has helped their neighborhood by making the streets more peaceful and safer and that no changes are needed.

Criticism of the program mostly centered on a lack of enforcement. Considering two-thirds of responders to question 13 said the amount of enforcement their zone receives is “just right,” the relatively common criticism for a lack of enforcement is somewhat surprising. However, this seems due to the notion that if the responder was unsatisfied with the level of enforcement, then they were more likely to leave a comment.

The next most common criticism of the program was the perception that the program is not needed in their neighborhood. The respondents leaving this type of comment were not concentrated in one zone. These comments came from people in zones 1, 3, 4, 5, 9, and 16; which includes some of the most heavily parked and enforced zones in Bellevue. It is important to understand these comments in the context of the existing program. As previously described, for much of the day the Bellevue RPZ program does not allow non-permit holders to park in RPZs for any amount of time. It is possible that the perceived lack of a spillover problem exists because there is an RPZ in place and not because there is no demand for the on-street residential parking. Unfortunately, Transportation Department staff have very few tools available that can help them understand the amount of demand from the general public for on-street parking in existing RPZs. As a counter balance, there was also criticism of the RPZ program from some comments for not being bigger and expanding farther into residential neighborhoods.

Along with the themes already mentioned here (enforcement, calmer/safer streets), there were also three other issues that surfaced in the comments. First, many on-street parking spaces in Bellevue

A Review of the Residential Parking Management Program in Bellevue, WA

are on streets with no fog line, no curb, and no sidewalk. On these streets the transition from travel lane to front yard is often blurry. Because it can be difficult to determine where property lines end and where right-of-way starts, the “on-street parking” can feel as if it is on private property. It is this context that helps influence property owners to feel possessive of the parking space in front of their house. This possessiveness of on-street parking was revealed again and again in the comments. Although 76% of responders said that they are OK with their neighbors parking in front of their homes, many comments said that parking there would only be OK if it was not habitual.

Second, a small background presence of a fear of strangers exists among some survey takers. Six comments noted that one of their parking problems is that strangers park on their residential streets. Many people also praised the program for removing non-residents from their neighborhood. Specifically, comments mentioned being pleased that high school students no longer hang out on their street since the implementation of the RPZ program. Commenters also seemed to show a strong support for keeping the RPZ program for residential uses only. Meaning that any non-residential use needing parking in a residential area should be excluded from on-street parking via the RPZ program.

Lastly, a common theme in the comments was a general anxiety about growth and urbanization. People cited increased traffic and increased spillover parking to explain their concerns about continued growth in Bellevue.

Conclusion

The survey was the primary source of input from the public regarding this review of the Residential Parking Management (RPM) program in Bellevue. The 196 respondents living in RPZs and the 235 total survey takers provided this review with important information. While understanding differences among zones remains limited due to the low response rates in some zones, the survey provided valuable input for the program as a whole.

For example, the survey revealed that over 80% of responders that reported living in RPZs support limiting the number of permits issued per household. Additionally, 85% of that same group reported that they park off-street. Satisfaction with the program was generally widespread, and even considering the criticism for a lack of enforcement, two-thirds of responders think it is “just right.”

The responses presented here reflect some of the influential findings, they do not represent the full breadth of analysis that took place or that can take place. Despite the limitations with the survey, there are several conclusions that can be drawn with some confidence. This survey will help influence the final recommendations and the limitations will be considered.

Chapter 5 Parking Study

Introduction

The purpose of this parking study was to understand how much on-street parking is being utilized in RPZs at peak residential demand and during restricted hours. This count will provide a snapshot of parking utilization for each RPZ. It will help us understand the amount of demand from permit holders for on-street parking. If the need to count arises again in the future, this count can be referred to as a baseline for parking utilization and the amount of change could be measured. Although more empirical data would be needed, this parking study could begin to answer whether or not residents rely on on-street parking for storing their vehicles. Additionally, this study counted the number of vehicles with legal permits. This piece of information will help determine how much non-compliant parking exists in RPZs.

Data and Methodology

The data collected in this parking study are: the number of cars parked on the street and of those cars, the number of cars displaying a legal permit (the date and time of the parking study was also recorded). An estimate of the existing parking supply was also calculated in order to determine a parking utilization rate for each zone. Data was collected by driving every street of every zone and counting cars clearly parked in the right-of-way. Cars were counted even if they were parked illegally, as long as they were on-street. Note that commercial vehicles (e.g. utility trucks, tow trucks, service trucks, etc.) were not counted in this study. However, the personal vehicles of construction workers were counted when they were parked on the street.

Cars were counted in each RPZ at two different times, one count occurred outside the restricted hours and the other count occurred inside the restricted hours. The count outside the restricted hours took place early in the morning, between 5 A.M. and 6 A.M. The early morning times were chosen to capture the overnight demand for on-street parking (San Francisco Transportation Board, 2009). This report assumes that the overnight demand for on-street parking represents the peak residential demand for on-street parking in RPZs, because RPZs are located in residential neighborhoods only and allow anyone to parking overnight with or without a permit. The parking counts done during the

afternoon (the restricted hours of the RPZ) were usually done on the same day as the morning count. All RPZs with schools adjacent, were only counted when school was in session.

Counting the number of cars with legal permits was only done during the restricted hours of the RPZ. Because non-permit holders can park on the street outside of the restricted hours, distinguishing between cars with permits and cars without permits is less informative at those times. Combining the number of cars displaying permits with the total number of cars observed during the study will allow us to calculate a snapshot for the rate of permit compliance for each zone.

Estimating the on-street parking supply was done one of two ways, depending on the size of the zone. A *manual count* of the parking spaces was done using Google Street View to virtually drive through a zone and record the segments of the street that could be legally parked. A segment of the street was only counted as a parking space if 22 feet of uninterrupted street was observed (no mailboxes, fire hydrants, stop signs, intersections, or driveways). Those segments were then measured and added using Mapshot. This method was used to measure zones 4, 5, 7, 8, 10, 14, and 16.

The other method for finding the on-street supply was a more automated process to determine an *estimated count*. This method relied on geographic information to locate and count fire hydrants, stop signs, yield signs, no parking anytime signs, parcels, RPZ boundaries, and street center lines. This method added street center lines to determine a gross parkable length, then subtracted lengths that were unparkable (i.e. in front of fire hydrants and driveways etc.) to find a net parkable curb length. This net parkable curb length figure was divided by 22 feet to find the number of on-street parking spaces. This method was used to measure zones 1, 2, 3, 6, 9, 11, and 15. See appendix E for more details of the methodology, verification, and limitations for estimating the on-street supply of parking spaces.

Results from the Parking Study

The parking study was conducted on Tuesday March 29, Thursday March 31, and Tuesday April 5. Data collected during the morning count was generally between 5 and 6 A.M. Data collected during the afternoon count was between 12:30 and 3 P.M.

Similar to the survey data, this data should also be considered along with its limitations. This data is also impacted by a small sample size. Rather than counting cars at the same time over multiple days and averaging the results, this dataset relies on a one time count (in the morning and afternoon) that presents a snapshot of the parking conditions. The limitation here is that the snapshot may not be representative of the true condition of the neighborhood. The true condition of parking may still be unknown due to the possibility that normal parking behaviors were not observed during this parking

A Review of the Residential Parking Management Program in Bellevue, WA

study. A summary of the data collected during the parking study is displayed in table 5-1 (see appendix F for the complete set of parking data).

Table 5-1 Summary data from Parking Study

	On-street parking percent occupied (A.M.) [# of A.M. cars / # of spaces]	On-street parking percent occupied (P.M.) [# of P.M. cars / # of spaces]	Rate of permit compliance [# of P.M. cars / total permits]
Zone 1	11%	8%	45%
Zone 2	8%	5%	11%
Zone 3	17%	18%	54%
Zone 4	13%	11%	31%
Zone 5	15%	12%	31%
Zone 6	2%	0%	NA
Zone 7	20%	30%	50%
Zone 8	25%	0%	NA
Zone 9	21%	18%	51%
Zone 10	8%	8%	57%
Zone 11	27%	30%	23%
Zone 14	9%	6%	33%
Zone 15	7%	4%	0%
Zone 16	14%	5%	100%

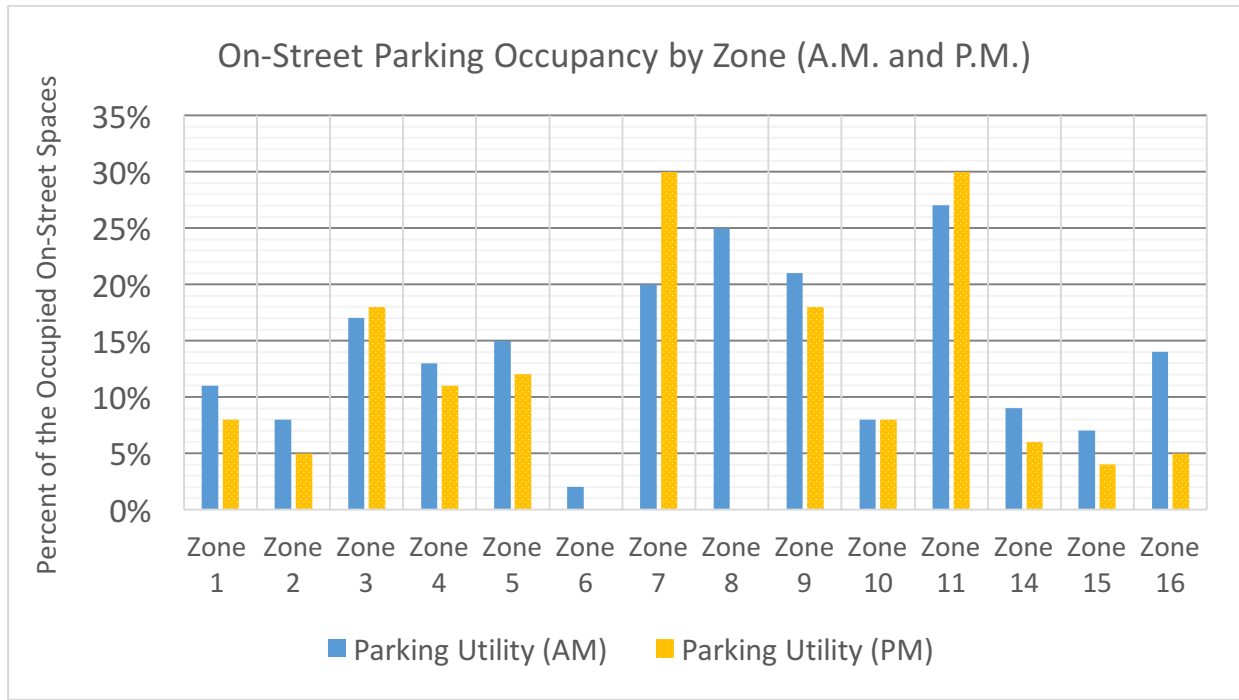
The existing zones in Bellevue’s RPZ program vary greatly by geographic size. The estimated number of on-street parking spaces also varies widely; the smallest amount of parking spaces in all RPZs is 8 in zone 8 and the largest is 366 in zone 1 (see appendix A for all zones and the estimated number of parking spaces in them). Not shown in the data table are the environmental conditions in the zone that affect parking. For example, the condition of the street and sidewalk, the underlying land use classification, the adjacent land uses, or the impetus for creating the RPZ. These are important factors that have influenced the parking conditions listed in table 5-1 and will be discussed in more detail in the evaluation chapter and appendix A.

Parking Occupancy

A majority of the zones were observed to have on-street parking occupancy rates of between 5 and 20% during the morning and afternoon counts. Anecdotally, it is worth adding that in many zones there were clusters of densely parked cars. For example in zone 11, most of the zone was relatively empty, but the zone was considered to be roughly 30% parked, because the northwest section (along SE 4th Pl) had one of the highest rates of parking occupancy throughout all zones. These clusters were

averaged out throughout each zone and are relatively lost in the parking occupancy data and it remains unknown why these clusters exist.

Figure 5.1 On-Street Parking Occupancy by Zone



While these occupancy levels in figure 5.1 may not equal residential demand perfectly, the parking count in the morning is the best representation of peak residential demand for on-street parking (San Francisco Transportation Board, 2009). During the morning count it is possible that some residents had left for work, were on vacation, or were otherwise not exhibiting normal parking behavior. However, assuming these factors are limited in significance, the observed occupancy in the early morning is likely similar to peak residential demand for on-street parking. The on-street parking occupancy ranged from 2 – 27% in the morning throughout all the zones with an overall average of 14% of the street parking being occupied. The observed utilization of on-street parking is not surprising considering the amount of off-street supply that exists in Bellevue RPZs and the survey to RPZ residents. Based on the survey presented in this report, 85% of people said they park off-street in their driveway, garage, or carport. These two findings combine to suggest that residents in RPZs do not rely on on-street parking to store their vehicles.

Another finding from figure 5.1 is the comparison of A.M. and P.M. occupancy levels. Considering the restrictions on non-permit holders within the restricted hours, it is surprising that some zones were observed with a higher occupancy rate during the afternoon count as shown in figure 5.1.

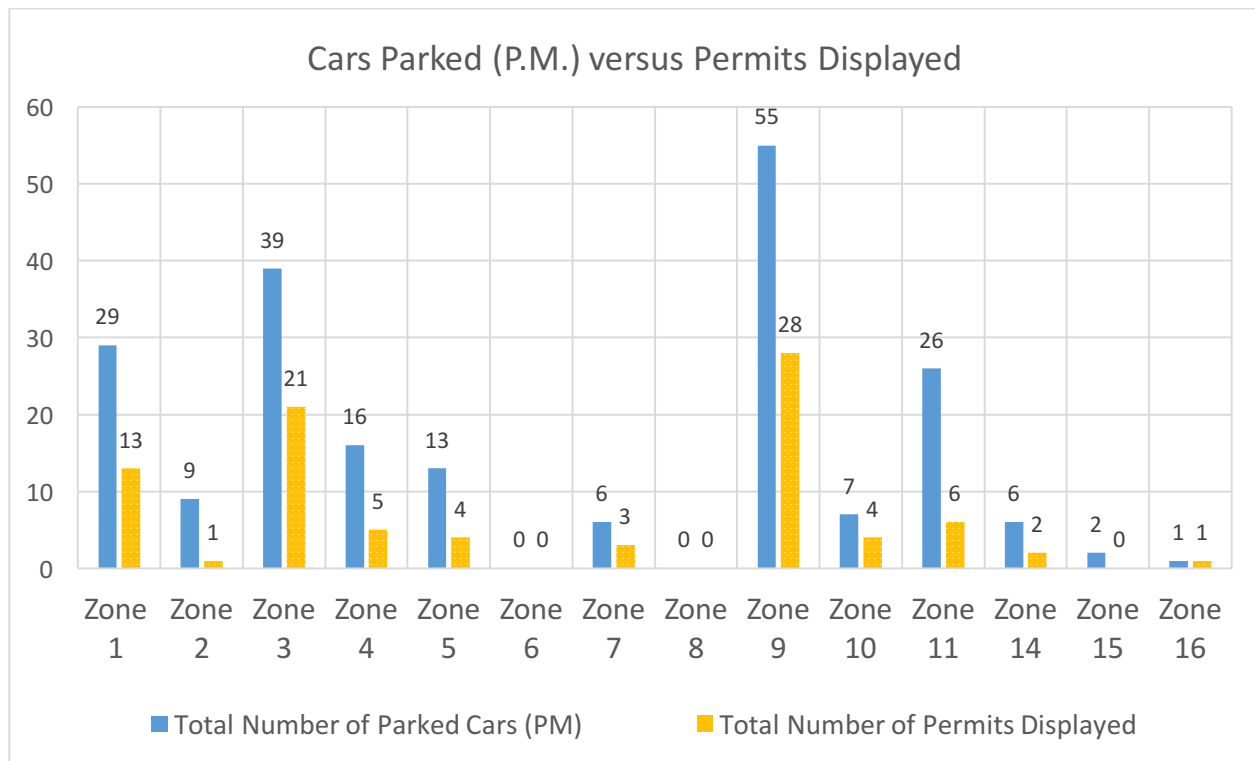
A Review of the Residential Parking Management Program in Bellevue, WA

Non-permit holders are not allowed to park for any amount of time during the restricted hours. Therefore, more cars should not be observed during the restricted hours than outside of the restricted hours. This expectation is met for a majority of the zones. However, zones 3, 7, and 11 were observed to have more cars during the restricted hours than outside of the restricted hours. There are three possible explanations for the observed increase. First, some residents were not observed in their neighborhood at 5 A.M., but were observed in their neighborhood in the afternoon, or the amount of residents' guests coming to the neighborhood is greater than the amount of residents leaving, or lastly, there are people driving to the neighborhood and parking without a permit. The following results of permit compliance suggests that the last explanation is the most likely explanation.

Permit Compliance

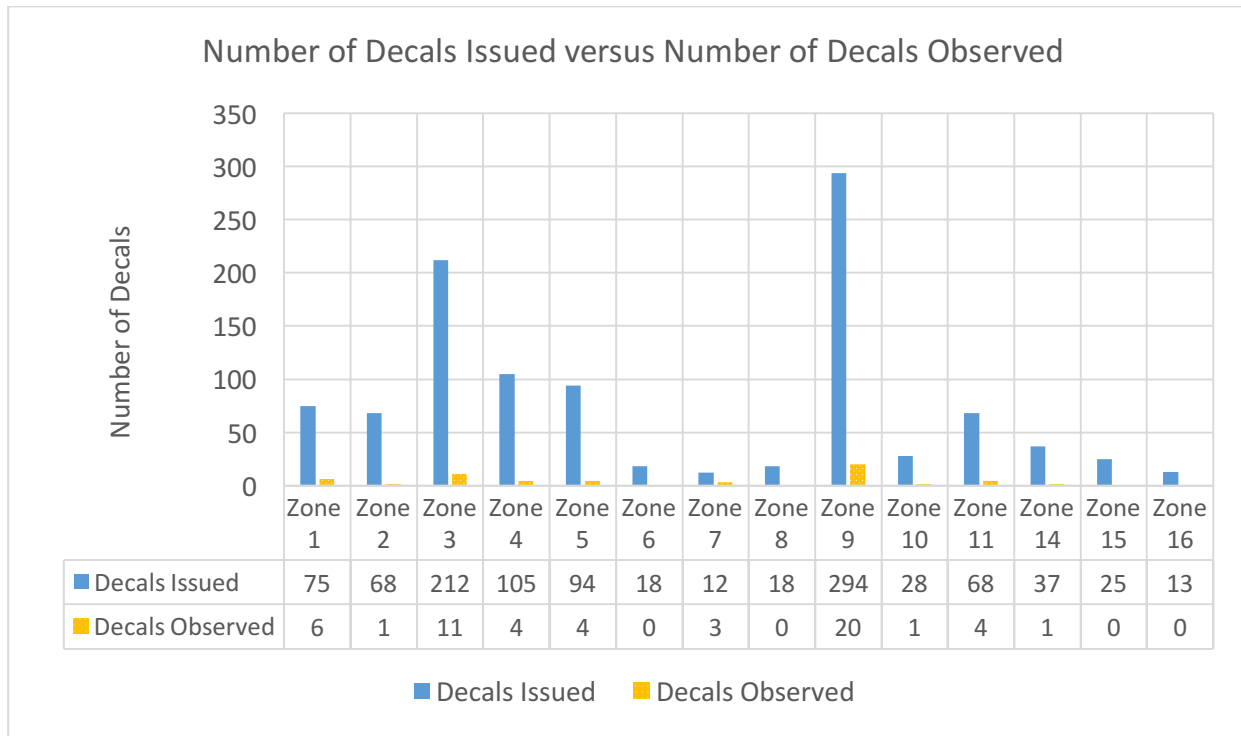
Figure 5.2 shows the amount of parked cars and the number of permits displayed in those parked cars for each zone. Only the afternoon parking count is shown because permits were only counted during the afternoon. Figure 5.2 shows a low rate of compliance throughout all RPZs (with the exception of zone 16 where only one car was observed and it was displaying a permit). Combining these results with the survey results produces mixed conclusions. Two-thirds of people said the level of enforcement they receive is "just right" and 65% of people reported that they have never seen abuse of RPZ permits (including parking without a permit). More discussion on permit compliance and enforcement is in the Conclusion section of this chapter. Observed permit compliance ranged from 0 – 100%. However, after excluding zones with fewer than five parked cars, compliance ranged from 11 – 57%. Of the zones with the highest amount of parked cars (zones 1, 3, 9, and 11), compliance was 45%, 54%, 51%, and 23%, respectively. (Also refer to appendix F for the complete set of parking study data).

Figure 5.2 Raw Data for Permit Compliance



It is also worth noting the amount of permits that have been issued by Transportation Department staff. More discussion on the number of permits issued for each zone and the average amount issued per zone, etc. will be in the evaluation chapter. Figure 5.2 (above) shows the amount of permits issued for each zone compared to the amount of permits observed during this parking study. There is an enormous gap between the amount of permits issued to residents and the amount of permits on parked cars. (Note that figure 5.3 [below] does not show visitor permits issued or visitor permits observed. The chart only shows decals, which is the term for permits associated with a personal vehicle [vehicle permit is also a term used to describe this type of permit]. The permits differ in that visitor permits are not specific to a car and are a hang tag; decals are only valid on the car that the permit was issued to and are affixed on the windshield).

Figure 5.3 Comparison of Decals Issued and Decals Observed



The large difference between decals issued and decals observed can be partially explained by the fact that many cars that have decals are not parked in the RPZ during the day. It is conceivable that although zone 3 only had 11 cars with decals, many cars with zone 3 decals were not parked in zone 3 streets on the afternoon of March 29. However, most of the cars that have zone 3 decals and use on-street parking would have likely been counted during the morning count. Although there were 38 parked cars on the street in the morning count, there is still a large discrepancy between the number of cars using on-street parking and the number of permits issued.

The difference is likely explained due to the fact that residents get permits on the off chance they will need on-street parking someday. It may be that the primary reason residents get permits is based on the irregular event that they will need to park on the street during restricted hours. Because RPZ restrictions do not allow any on-street parking by non-permit holders, the restrictions could be incentivizing residents to get permits even though they do not need them. Drawing this conclusion one step further could suggest that just because residents are participating in the program, that does not necessarily mean they need to. Meaning, obtaining permits does not mean permit holders rely on on-street parking for the storage of their vehicles. This conclusion is supported by the survey results that report 85% of people are parking in their garage.

Conclusion

The conclusions supported by this parking study are that most residents in the RPZs do not rely on on-street parking for the storage of their vehicles and that there is a low compliance rate regarding displaying permits during the restricted RPZ hours.

Evidence that supports the conclusion that most residents do not rely on on-street parking for their parking needs comes from parking occupancy rates never reaching over 30% during observation, a large difference in the number of decals issued and the number of cars parked on the street, and survey results suggesting most people park their cars off-street. It is difficult to know whether or not residents would easily find the parking they need if there was no RPZ in place. With that said, the morning count in this parking study reveals that the residential need for on-street parking in RPZs may be fairly low (occupancies observed at 2% to 27%). There are other factors to consider when making assumptions about the residential need for on-street parking space (e.g. the safety of on-street parking), but in terms of relying on on-street parking for storing vehicles, it is likely that few RPZ residents need the space.

The compliance rate observed during the parking study raises questions about enforcement and residents' perceptions of enforcement. The major discrepancy is the survey results reporting that two-thirds of residents think the amount of enforcement is "just right" versus the low rate of observed permit compliance. It is difficult to pin down one explanation for this. It is possible that most residents are unaware of the compliance rate or are aware and do not care. It is possible that the people that think there is not enough enforcement also live amongst a cluster of non-compliant vehicles and because those clusters are not normal throughout RPZs, most people believe compliance and enforcement is where it should be. It is also possible that the existence of the RPZ signs self-police the program enough to satisfy residents' concerns about spillover parking. The current level of enforcement in RPZs will be discussed in the evaluation chapter, but based on interviews with the enforcement officer, enforcing RPZs consists of a minority of his time and is almost exclusively complaint based (VanWieringen, 2016). Squaring the level of actual enforcement with the perceived level of enforcement with the observed compliance rate is complex. The evaluation chapter will continue to dig into this relationship.

Although this parking study has limitations, the conclusions stated above can be made with relative confidence, because they also rely on other inputs. Stating that most RPZ residents do not rely on on-street parking for their parking needs is supported by survey results and the observed parking occupancy rates. Stating that there is a low permit compliance rate is supported by interviews with

A Review of the Residential Parking Management Program in Bellevue, WA

Transportation Department staff and the enforcement officer and the small amount of observed permits during the parking study.

Chapter 6 Investigating Select RPZ programs

Introduction

In this chapter aspects of various RPZ programs around the nation are presented. The chapter is intended to put Bellevue's RPZ program into a national context of residential parking management. There are two primary sections in this chapter. The first section is a set of comparisons between other cities' programs. These comparisons are a straightforward look at specific policies that are a part of most RPZ programs. Comparisons include parking occupancy thresholds that justify intervention with permit parking programs, fees and limits for permits, amount of total parking enforcement, and the amount of time cars can park in the right-of-way (ROW). The second section is a closer look at how other programs deal with specific issues. For example, this section investigates how other programs deal with residential barriers to entry, permit fraud and misuse, other on-street parking management tools, context sensitivity, creating boundaries for permit eligibility areas, buffer areas around signed zones, and businesses in zones. The comparisons and issues described in sections one and two were chosen based on inquiries from Bellevue's staff. Because these topics are key to most RPZ programs, the topics provide a common thread between most cities' programs that facilitates a nationwide comparison.

Selecting Programs to Investigate

These cities were chosen based on their potential to be similar to Bellevue. The similarity could have regarded shared suburban characteristics, similar population size and/or density, located in the same state, or experienced rapid growth in recent decades. After brainstorming a list of 41 cities similar to Bellevue, each city was examined to determine whether or not there was an RPZ program; 25 of the cities had some sort of residential permit parking program. This chapter mostly consists of the information published on the municipalities' website. If there was not information published online, cities were contacted by email or phone to help fill the gaps. However, some cities did not respond to inquiries and were therefore not investigated further. Information was gathered from the 19 cities shown in figure 6.1 and listed in table 6-1 (the cities used in each comparison changes based on the details being investigated).

A Review of the Residential Parking Management Program in Bellevue, WA

Figure 6.1 Map of Selected RPZ Programs



Table 6-1 Selected RPZ Programs with Municipal Population and Density

City, State	2014 Total Population Estimate*	Population per Square Mile*
Bellevue, WA	136,426	3,828
Bellingham, WA	83,365	2,987
Bremerton, WA	38,572	1,328
Mercer Island, WA	24,326	3,591
Olympia, WA	49,218	2,608
Seattle, WA	668,342	7,251
Shoreline, WA	55,174	4,541
Tacoma, WA	205,159	3,990
Salem, OR	161,637	3,229
Mill Valley, CA	14,403	2,919
Palo Alto, CA	66,955	2,697
Sacramento, CA	485,199	4,764
San Mateo, CA	102,893	8,014
Fort Collins, CO	156,480	2,653
Littleton, CO	44,669	3,216
Lubbock, TX	243,839	1,875
Houston, TX	2,239,558	3,506
Montgomery County, MD	1,030,447	1,978
Arlington County, VA	226,908	7,994

* (United States Census Bureau, 2010)

The various programs presented in this chapter differ in several ways. While all programs have a primary goal of helping residents in some way, other programs also have subsidiary goals that help shape the program. For example, some programs also have RPZ goals of maximizing the use of the ROW (Huseby, 2016) or supporting mixed-use neighborhoods and local business districts (SDOT, 2009) (more discussion on supplementary goals for RPZ programs is in the evaluation chapter). Cities also differ in what they call their programs. These types of programs are commonly referred to as Residential Permit Parking programs, but will be referred to as RPZ programs for simplicity. Programs are only presented here if they are foundationally the same: on-street parking is restricted except by permit and residents of the area are generally the only stakeholders eligible to receive permits. Parking Benefit Districts or other programs on the fringe of the residential permit concept were not investigated in this report.

Section I: City Comparisons

The following section is a comparison of key aspects of most RPZ programs. The specific cities presented here are listed because they were the cities that had information accessible either through their website, emails, or phone calls. The cities that are presented in each comparison differ because not all programs include the same details. The first comparison is the parking occupancy thresholds required in order to justify intervention from the city. The second comparison regards fees, limits on permits, and the frequency of the renewal cycle. The next is a comparison of the amount of parking enforcement officers on staff to enforce each city. Lastly, there is a comparison of select Washington State cities' rule for maximum length of time a vehicle can be parked in the ROW. These topics were chosen because each is a key aspect of most RPZ programs and therefore provide efficient points to compare other programs. They were also chosen based on Bellevue staff's request.

Parking Occupancy Threshold Comparisons

Before comparing the occupancy thresholds of each program, it is helpful to understand the usual process of establishing zones and therefore understand the significance of the thresholds within RPZ programs. Typically, parking restrictions are desired by residents when there is observed or perceived parking congestion in a residential neighborhood that is caused by a non-residential use. For example, residents may submit a request to a city for an RPZ near a high school if students are parking their cars in an adjacent residential neighborhood. Typically, the city will initiate a parking study and determine if an RPZ is warranted based on the parking problem observed. If an RPZ is determined to be

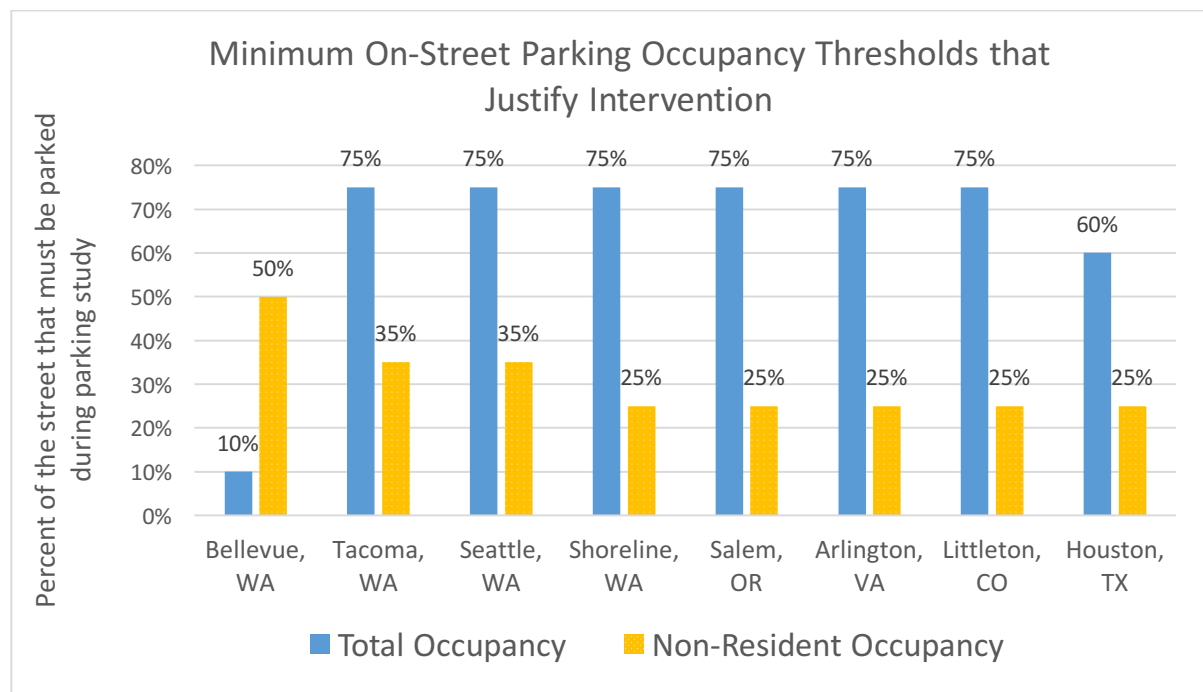
A Review of the Residential Parking Management Program in Bellevue, WA

the appropriate means of addressing the parking spillover, residents usually have an opportunity to vote for or against implementing an RPZ in their neighborhood. If the residents approve the RPZ, the city council or a department director will finalize approval and the zone will be implemented.

These thresholds are a critical part during the initial parking study and represent a quantitative way for staff to measure the parking spillover and describe the severity a parking problem. These thresholds are expressed as a percentage of the street that must be parked in order to qualify as a problem worthy of intervention. Additionally, there is often a minimum percentage of non-resident vehicles that must be present during the parking study (all thresholds must be met to qualify). RPZ programs are designed to mitigate spillover impacts on residents. Non-resident thresholds are used to distinguish a street congested with residential vehicles versus a street congested with spillover parking from an adjacent traffic generator.

Of the 19 cities investigated, the 8 cities presented in figure 6.2 are the only cities that published both total occupancy and non-residential occupancy. Not every city that was examined had established both of these thresholds. Some cities had established thresholds, but do not publish them because they are only used as guidelines while other parking solutions are considered based on the context of the neighborhood and parking problem in question. For example, Palo Alto, CA does not rely on established figures, but also considers the permanence and regularity of the spillover, the location of the spillover, and/or stakeholder input in order to understand the severity of the problem in each specific context.

Figure 6.2 Minimum On-Street Parking Occupancy Thresholds that Justify RPZ Intervention



A Review of the Residential Parking Management Program in Bellevue, WA

Bellevue has by far the lowest total occupancy threshold of the cities presented. Bellevue's 10% / 50% occupancy thresholds mean that if 10% of the street has parked cars and of those parked cars 50% of them belong to non-residents, then the parking problem is severe enough to justify intervention by the city. Based on the programs that were investigated, Bellevue's thresholds are highly irregular. Most cities considered intervening in a spillover problem using an RPZ program only when parking was much more congested. The eight cities in figure 6.2 were the only cities that published both of these occupancy thresholds, but a total of 11 cities published the total occupancy threshold. Excluding Bellevue, the range for the total occupancy threshold was 50 - 75% (one at 50%, two at 60%, one at 70%, and six at 75%).

Bellevue has the highest non-resident occupancy threshold at 50%. Because the 10% total occupancy threshold is so low, it makes sense that the non-resident occupancy threshold would be higher than other cities. Bellevue's parking thresholds suggest that even a small amount of spillover parking on to residential streets is not tolerated. For example, if there are 30 on-street parking spaces along a block, then these thresholds justify intervention if there are three parked cars on the entire block and two of them belong to non-residents. In contrast, using Shoreline, WA's thresholds, 23 of the 30 available parking spaces would need to be occupied and 8 of those 23 vehicles would have to belong to non-residents.

Overall, these parking thresholds in RPZ programs combine to communicate the amount of parking congestion and spillover parking that is tolerated in each cities' residential neighborhoods. Bellevue's program is by far the most responsive, while other cities seem to tolerate much more on-street parking in neighborhoods.

Fees, Limits, and Renewal Cycle Comparison

Another detail of RPZ programs is the fee associated with obtaining permits. The pricing system of all 19 cities was examined. Based on the literature review, cities typically charge nominal fees to residents for obtaining permits. These fees help support administering and enforcing the program (Simkowitz, Heder, & Barber, 1978). There are different prices for different types of permits (person vehicle permits, guest permits, or temporary permits are the most common).

The pricing structure of each program investigated was different. In an effort to make the pricing structures comparable, only the annual cost of the household's first personal vehicle permit is compared. Table 6-2 does not compare the prices of guest permits or temporary permits or the price of the second or third vehicle permits if the price is different from the first vehicle permit. Table 6-2 shows

A Review of the Residential Parking Management Program in Bellevue, WA

the cities that were investigated, whether or not there is a fee system in place, the annual cost of the household's first vehicle permit, whether or not fees escalate based on the number of permits issued, whether or not the number of permits issued per household is limited, and the frequency of permit renewal.

Table 6-2 Details of Selected RPZ Programs

City, State	Fee System	Cost of First Permit / Year	Escalating Fee System	Limited Permits Issued	Renewal Cycle
Bellevue, WA	No	\$ -	-	No	4 year
Bellingham, WA	No	\$ -	-	Yes	1 year
Mercer Island, WA	Yes	\$ 5.00	No	No	2 year
Tacoma, WA*	Yes	\$ 60.00	Yes	No	1 year
Seattle, WA	Yes	\$ 32.50	No	Yes	2 year
Shoreline, WA	Yes	\$ 17.50	No	No	1 year
Olympia, WA	Yes	\$ 10.00	No	Yes	1 year
Bremerton, WA	Yes	\$ -	Yes	Yes	1 year
Salem, OR	Yes	\$ 15.00	No	No	1 year
Montgomery County, MD	Yes	\$ 20.00	No	No	2 year
Sacramento, CA	No	\$ -	-	No	2 year
Arlington County, VA	Yes	\$ 20.00	Yes	Yes	1 year
Fort Collins, CO	Yes	\$ -	Yes	Yes	1 year
Littleton, CO	No	\$ -	-	No	2 year
Palo Alto, CA	Yes	\$ -	Yes	Yes	1 year
Lubbock, TX	Yes	\$ 5.00	No	Yes	1 year
Mill Valley, CA	Yes	\$ 20.00	No	Yes	1 year
Houston, TX	Yes	\$ 28.00	No	Yes	1 year
San Mateo, CA	No	\$ -	-	No	2 year
Totals (19 cities)	(5, No fee)	(\$5 - \$60)	(9, No escalation)	(9, No limit)	(1, 4 year)

*As of this writing the program in Tacoma is being revised. Data here is proposed policy only as of 4/23/16.

Of the 19 cities in table 6-2, 14 (74%) of them have fees associated with their RPZ program. Within those 14 programs, the cost of the first permit ranges from \$5 to \$60 per year at an average of \$24.42. Of the 14 programs with fees nine of them do not increase the fee based on the number of permits obtained per household. Just under half of the programs have no limit on the number of permits issued per household. All of the 19 programs, except Bellevue, renew permits on an annual or biennial basis.

Bellevue's renewal frequency and the absence of fees puts Bellevue's program in the minority in these categories among the compared cities. Bellevue's RPZ program is not irregular by allowing an

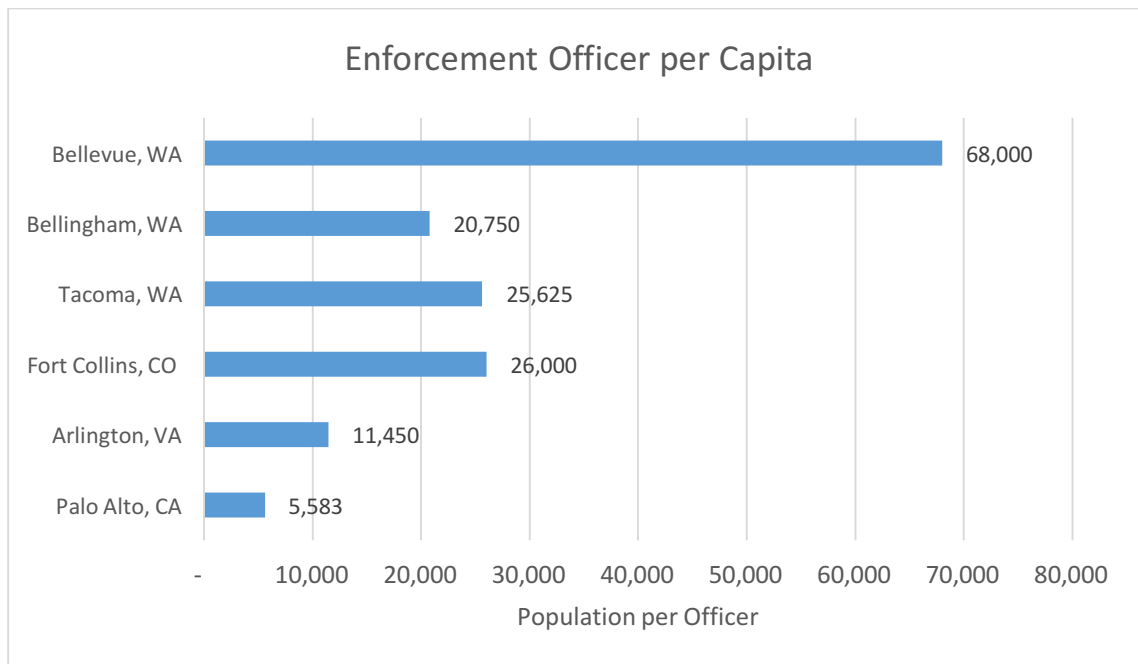
A Review of the Residential Parking Management Program in Bellevue, WA

unlimited number of permits to be issued to a household given that the permitted vehicles are registered to an eligible address.

Enforcement Officer Comparison

Enforcement is an essential piece for the success of every parking program and it is a reoccurring theme of this report. The information presented here is a comparison of ratios based on the total number of all parking enforcement officers per city and not just officers dedicated to the RPZ program. The total number of enforcement officers is a combination of private enforcement and enforcement done by the local police department. Several cities had a combination of private and public enforcement. For example, in Palo Alto, parking in the city at large is enforced by the local police department, but the RPZ program is enforced by four private enforcement officers. Figure 6.3 is a comparison of parking enforcement officers per capita and figure 6.4 is a comparison of parking enforcement officers per square miles of land in the city. The six cities presented here are all of the cities that responded to inquiries about the amount of enforcement officers they have.

Figure 6.3 Parking Enforcement Officer per Capita



While Bellevue is not the most populous city of the six listed, it has the most people per parking enforcement officer. There are 68,000 people in Bellevue for every enforcement officer compared to 5,583 people in Palo Alto, CA for every officer. Bellevue has over 2.5 times the amount of people per enforcement officer than the next closest city Fort Collins, CO.

A Review of the Residential Parking Management Program in Bellevue, WA

Figure 6.4 Square Miles of City per Parking Enforcement Officer

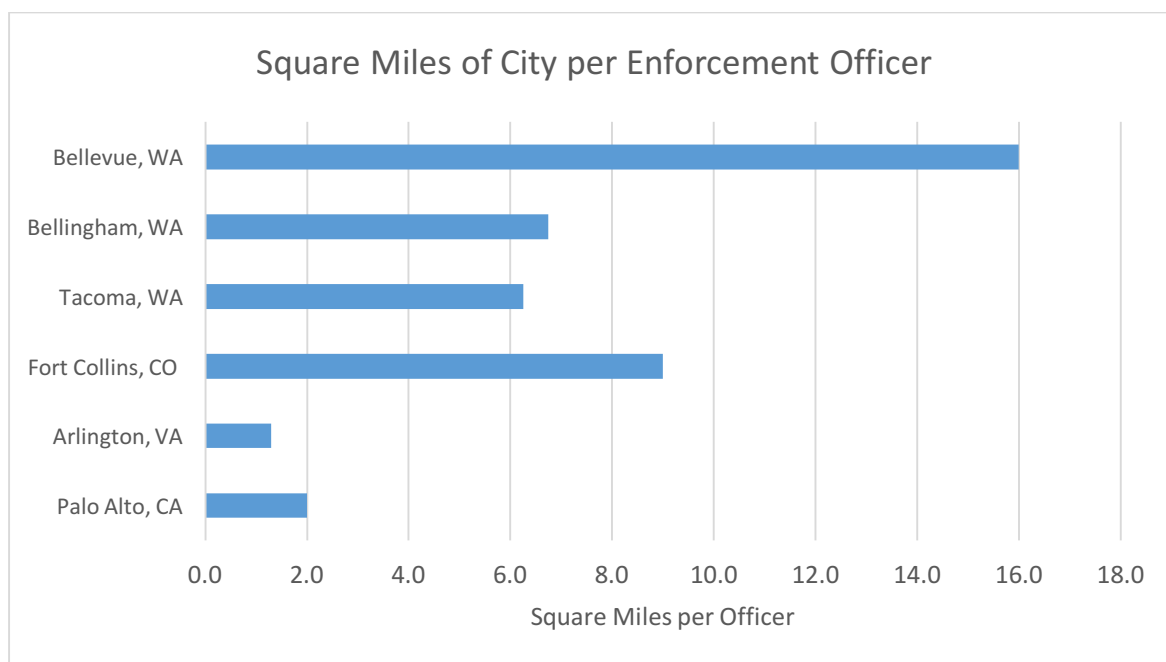


Figure 6.4 shows that the parking enforcement officers in Bellevue must cover much more ground on average than the other cities. There is 16 square miles of city for every enforcement officer in Bellevue compared to 1.3 square miles of city for every officer in Arlington County, VA.

Table 6-3 shows the data that supports the above graphs. Bellevue has one parking enforcement officer with the Bellevue Police Department to enforce the city outside of downtown and one officer on private contract to enforce the downtown. Figures 6.3 and 6.4 represent ratios only and are used to compare ratios to other cities, they do not reflect the actual amount of land or people each parking enforcement officer is responsible for.

Table 6-3 Details of Enforcement for Select Cities

City, State	Population*	Square Miles of City**	Number of Officers
Bellevue, WA	136,000	32	2*
Palo Alto, CA	67,000	24	12**
Arlington, VA	229,000	26	20
Fort Collins, CO	156,000	54	6
Tacoma, WA	205,000	50	8***
Bellingham, WA	83,000	27	4

*1 for downtown (private), 1 for whole city (PD); **8 for whole city (PD), 4 for RPZ program (private); ***7 for downtown (private), 1 for RPZ program (proposed)

*2014 estimates rounded to nearest 1,000 (United States Census Bureau, 2010)

** (United States Census Bureau, 2010)

A Review of the Residential Parking Management Program in Bellevue, WA

One method for reducing the amount of time required for enforcing permit parking is by using a license plate recognition (LPR) system. LPR systems consist of cameras on enforcement vehicles that read license plate numbers as the officer drives and compares each plate to an existing database of permitted vehicles (Genetec, 2015). License plates not in an existing database of permitted vehicles can be issued tickets automatically. The City of Tacoma will soon be implementing this type of system to help patrol their RPZs (Huseby, 2016).

Allowable Hours of Parking in the ROW

The last comparison presented here is not associated with the RPZ program. It relates to the maximum amount of time a car can be legally parked on the street without moving. This only relates to personal vehicles and not RVs, trailers, or boats as there are usually different limits for those types of vehicle. This law is applicable to the entire city and not just residential streets. However, it is part of the on-street parking management system in Bellevue and demands a majority of the police department's parking enforcement resources (see the evaluation chapter for a description of the enforcement process and a description of Tacoma's process). The law is presented here to see how the time limit compares to other cities in Washington State.

Figure 6.5 Comparison of Legal Limit for Consecutive Hours Park On-Street

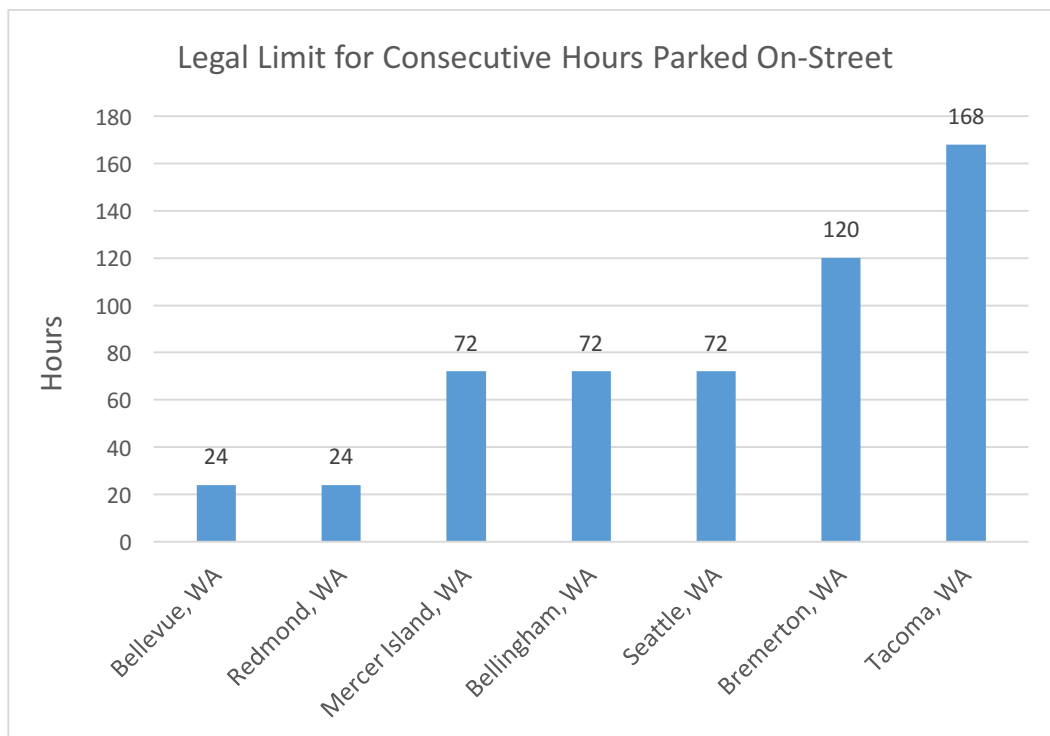


Figure 6.5 shows Bellevue and Redmond to have set maximum parking durations at 24 hours, while other cities ranged from 72 hours to seven days. Only cities in Washington State are shown here, but several cities outside of the state were also examined. No city was observed to have a shorter maximum duration of 72 hours. Palo Alto, Ca; Roseville, CA; Mill Valley, CA; and Sacramento, CA established 72 hours as their maximum and Arlington County, VA had a maximum of 10 days.

Section II: Specific Issues

Section two of this chapter will discuss how other cities deal with specific issues inherent to administering an RPZ program. The section will highlight certain programs or provide a synthesis of other programs for the following issues: residential barriers to entry, permit fraud and misuse, other on-street parking management tools, context sensitivity within RPZ programs, creating boundaries for eligibility areas, buffer areas around zones, and businesses in zones.

Barriers to Entry

This section considers the various barriers of entry into the RPZ program from residents, primarily when expanding or creating a new zone. While RPZ programs exist in cities to benefit residents, it is also acknowledged that not every square inch of the city can become restricted by permit zones. Cities want to constrain the implementation of RPZs to some degree because there is a desire to ensure a quality level of service in all zones, limit the staff time and financial costs associated with the program, allow non-residents to park on streets to some degree, not overextend enforcement resources, and maintain resident satisfaction. Too many zones threatens these basic city interests.

In an effort to maintain an overall quality program, cities have implemented certain barriers for residents when residents are attempting to expand the RPZ program to their street. These barriers come in the form of fees, occupancy thresholds, required neighborhood support, or even a lengthy government process for implementation. These barriers will be discussed and examples from other cities' programs will be used when applicable.

Fees: Based on the literature and this investigation into other cities' RPZ programs, most RPZ programs have fees for the residents that benefit from the program. Fees come in several types and all can be considered as a deterrent for residents requesting a new RPZ. In addition to fees for vehicle permits, guest permits, and temporary permits, some RPZ programs also have initial fees for a parking study, an application fee, or a public hearing. In Lubbock, Texas permits only cost \$5 a year, but when expanding the RPZ program to a new area there is a \$50 application fee plus a \$200 fee for each sign

A Review of the Residential Parking Management Program in Bellevue, WA

that is installed (City of Lubbock, 2016). A different example of an initial fee is used in Montgomery County, MD. When a new zone is established their process requires a public hearing. There is a \$250 fee for scheduling a public hearing and the fee is the responsibility of the residents requesting the zone (MCDOT, 2016).

Occupancy thresholds and spillover generators: One of the most straight forward barriers to entry is the establishment of parking occupancy thresholds. These thresholds represent the amount of parking occupancy that justifies intervention by a city. The higher the threshold, the bigger the barrier to entry. For example if a total occupancy threshold is 75%, then three quarters of the available parking supply must be occupied before the city will expand their RPZ program to a new area. Additionally, some programs also require that a spillover generator must be identified. These generators often cannot be residential, meaning parking spillover from a multi-family building cannot be the impetus for creating an RPZ. In Seattle, examples of parking generators that must be identified could be a university or hospital (SDOT, 2014).

Minimum size of smallest zone: Establishing a minimum street length that must be impacted is also a barrier to entry. Similar to other barriers, a minimum size requirement can preclude the implementation of a new zone for small areas. This is another way a city can determine if a parking problem is severe enough to intervene. Bellevue's current minimum size requirement is 1,000 feet of block-face. Tacoma's minimum size for an RPZ is proposed to be four contiguous block-faces (Huseby, 2016) and Seattle's is 20 contiguous block-faces (SDOT, 2014).

Neighborhood support: Another policy within RPZ programs that limits the programs' proliferation is required neighborhood support. A resident wanting an RPZ in front of their house must also get the support of their neighbors. This support is gathered two ways. Many cities require initial residential support just to begin a parking study on an area. Support is usually proven via a signature form that shows a number of neighbors that agree there is a problem (see appendix C for Bellevue's signature form). The other type of support is gathered via a survey issued by the city. All cities investigated here require a majority of support that varied between simple majority and 67% of households in the zone. Additionally, in San Mateo, CA and Fort Collins, CO there is also a requirement that at least 50% of the households must participate in the neighborhood survey (City of San Mateo, 2005) (Moyer, 2016).

Implementation process and permanence of spillover: A lengthy implementation process can also serve as a barrier to entry because it can weed out the areas that experience less of a spillover problem. In Palo Alto, CA residents must first organize and submit a petition to the city. Petitions are

A Review of the Residential Parking Management Program in Bellevue, WA

collected throughout the year, but only reviewed beginning April 1. Petitions received after March 31 are kept until the next year for review. Petitions then go to the Planning and Transportation Commission for prioritization. Then the petitions go to the city council for further evaluation. After council, staff then initiate a parking study and community engagement to determine if an RPZ is the most appropriate strategy or if another parking management tool should be used (Atkinson, 2016). This lengthy process and various level of review ensures that the city only intervenes into the most serious parking problems. In Arlington, VA there is also a requirement that the spillover parking is experienced for at least nine months out of the year and four days of the week (Arlington County, 2013). This requirement eliminates the possibility of implementing an RPZ for temporary or non-routine spillover issues.

Permit renewal cycle: Additionally, a permit renewal cycle could also be interpreted as process that is a barrier to continuing participation. All programs surveyed in this report had a renewal cycle of two years or less (with the exception of Bellevue). A frequent renewal cycle continuously forces residents to consider whether or not they need to participate in the RPZ program and whether or not they want to vote on removing the zone altogether. A neighborhood that does not experience a severe spillover problem may be more likely to petition for the removal of their neighborhood from the RPZ program if there is a frequent renewal cycle that creates a bureaucratic hassle for residents.

Permit Fraud and Misuse

Preventing permit fraud and misuse is embedded into every RPZ program in some way. Fraud prevention methods include penalties, individualizing permits to prevent transfer, and restricting the amount of street space that permits are valid.

Programs commonly include the threat of expulsion and a fine of several hundred dollars for deliberately misusing permits. Sacramento, CA was observed to have the highest fine for permit fraud of the programs examined. While permits are issued for free in Sacramento's program, the fine for fraud is \$500 (City of Sacramento, 2016).

Requiring that vehicle permits are not transferrable is another common policy in RPZ programs. Personal vehicle permits are issued to one vehicle and the license plate of the vehicle is tied to the permit. This is done several ways. Bellevue's current system records permit numbers and license plate numbers in an internal online information system called TIMS. The enforcement officer can look at the permit number and use their computer in the field to confirm the permit number matches the license plate number. In Seattle individualized permits is done by printing the license plate number on the permit itself.

A Review of the Residential Parking Management Program in Bellevue, WA

One problem commonly experienced in Bellevue is the transfer and illegal use of guest permits. Guest permits are designed to be transferred, but this has occasionally resulted in misuse because people give or sell the permits to non-residents for their personal use. Proving fraud is very difficult in Bellevue because a visitor permit allows the visitor to park anywhere in the zone. Some programs have restricted the area that visitor permits are valid. For example, Bellingham, WA, Bremerton, WA, and Sacramento, CA all require that guest permits only be used within a certain distance from the address they were issued to. This is easily enforced by including a code on the guest permit that coincides with a specific block in the zone. The enforcement officer can easily see if a guest permit is being misused if the permit is outside of the valid area.

Other On-Street Parking Management Tools

Because RPZ programs represent a long-term obligation for a city that must be maintained and enforced indefinitely, cities often explore other management tools before implementing an RPZ. An RPZ represents just one way to address spillover parking, but several others exist. Other strategies include banning parking altogether, time restricted parking, increasing the capacity of on-street parking, increasing utilization of off-street parking facilities, and contacting the generator of the spillover to investigate non-institutional solutions.

No parking anytime restrictions: When beginning an investigation into a specific parking problem, many cities including Bellevue, first examine the relative safety of on-street parking as a feature of the road design. If on-street parking is considered by staff to be unsafe or restricts the access of emergency vehicles, then on-street parking may be banned.

Time restrictions: Sometimes parking spillover can be managed with blanket time restrictions that apply to all vehicles parking on the street. These time restrictions could allow a vehicle to use on-street parking for a maximum of two hours. A two hour maximum limits most commuters from parking, but also limits residents from parking on the street for extended periods of time. This strategy may work best when enforcement is regular and residents do not rely on on-street parking. RPZ programs often combine time limits with permits that exempt residents from the limits.

Increase on-street parking capacity: In Arlington County, VA transportation staff may investigate the possibility of adding more on-street parking spaces before implementing an RPZ (Temmermand, 2016). Increasing the number of parking spaces is done with the hope that more spaces will alleviate the shortage and result in residents having an easier time finding street parking. Therefore, residents will not feel the need for an RPZ.

A Review of the Residential Parking Management Program in Bellevue, WA

Increasing utilization of off-street parking facilities: One institutional response to spillover is the creation of park-and-ride lots in churches or other underutilized parking lots during the workweek. Rather than implementing an RPZ to restrict on-street parking, a city or transit agency can provide off-street parking for employees, commuters, and/or transit riders. Existing park-and-rides have a high utilization rate in Puget Sound, but a new possible solution to this problem is to use parking lots in multi-family developments as an opportunity to share parking with transit riders (Burseth, 2015).

Contacting the generator of the parking spillover: Addressing the generator of parking spillover directly is also done by some cities before implementing an RPZ. If a parking generator can be easily identified, Palo Alto, CA staff reach out to them to discuss possible mitigation efforts. Efforts may include shuttles, parking agreements with adjacent properties, or other parking demand management measures (Atkinson, 2016) (City of Palo Alto, 2015). It is possible that Palo Alto recognizes that a new RPZ is a long-term city commitment and therefore understands the benefits of finding other strategies to mitigate spillover.

The use of other parking management tools can help ensure a quality RPZ program. By finding other ways to mitigate spillover, cities can preserve their RPZ program for use when other strategies fail. Using the RPZ program as a tool of last resort will result in a reduced proliferation of the program. A limited RPZ program can limit the staff time and financial costs associated with the program, allow non-residents to park on streets to some degree, not overextend enforcement resources, and maintain resident satisfaction.

Context Sensitivity

Context sensitivity that is built into RPZ programs means that the program's policy changes based on where in the city the zone exists or is proposed. For example, Arlington County, VA has an RPZ program that treats multi-family buildings different based on when they were constructed and the off-street parking supply (see the *creating boundaries for eligibility areas* section below for more details on multi-family buildings in Arlington County's RPZ program). Context sensitive programs have the ability to implement the appropriate policies based on a number of factors. Programs may adjust policies based on zoning classification, off-street parking capacity, or the amount of reliance on on-street parking by non-residents. A few programs that have context sensitivity built into their programs will be discussed here. Then a discussion on the pros and cons of context sensitivity in RPZ programs will follow.

Currently Bellevue's RPZ program has only a small amount of context sensitivity. Generally, the policies are applied to the entire city regardless of location or context. However, although it is not an

A Review of the Residential Parking Management Program in Bellevue, WA

official policy in the RPZ program, in practice the program is sensitive to land use. The current practice has been to not implement an RPZ in downtown. Even though there are residents in the downtown, these residents have been denied an RPZ because of the non-residential character of downtown and different parking management strategies already in place. In this way, Bellevue's program exhibits some context sensitivity, because its implementation is based on location.

Seattle's RPZ program is an example of a program that does change in several ways based on several factors. Businesses located in a Seattle RPZ may or may not get permits depending on which zone they are in or whether or not there is enough on-street parking capacity in the zone to issue a few more permits. The residential parcels that are eligible to receive permits is also not directed by a hard and fast rule. Generally, residential parcels are eligible to receive permits if they are on a street that is restricted by the RPZ. However, parcels not on an RPZ restricted street may also get permits depending on the parking restrictions on their street (Edmonds, 2016). This detail is discussed more in the next section of this chapter regarding eligibility areas.

Arlington County, VA's RPZ program has several context sensitive policies regarding issuing permits to multi-family buildings. Multi-family buildings are examined on a case-by-case basis to determine eligibility. Staff examine the building's off-street parking condition and must show that the building has maximized the capacity of the off-street lot, that off-street parking cannot be obtained within two blocks of the building, and that the building does not charge for parking separate from rents, among other requirements (Arlington County, 2013).

Lastly, Palo Alto has a context sensitive RPZ program by having very few policies that apply to every parking problem. When the staff investigates a parking problem there are no occupancy thresholds that are relied upon, no required regularity of parking spillover, and no traffic generators that must be identified. Each parking problem is investigated separately and a variety of stakeholders are included in the process of finding a solution (Atkinson, 2016).

There are pros and cons to having a context sensitive program. Context sensitivity in an RPZ program gives staff flexibility to adjust policies based on what is most appropriate for the area. However, because policy changes based on different inputs, one straightforward set of rules is not held constant. Having a program that is easily understandable for residents and city staff was a goal for the City of Seattle during an RPZ policy review in 2009 (SDOT, 2009). A context sensitive program can be a barrier to an easily understandable program, because there must sufficient amounts of documentation to explain why a decision was made. Context sensitivity can also be a barrier to an easily administered program, because existing policies cannot simply be reference for a clear answer when issues arise.

A Review of the Residential Parking Management Program in Bellevue, WA

When issues arise in a context sensitive program, solutions and next steps are debated amongst staff and stakeholders to determine the best course of action.

On the other hand, the process of debate and the flexibility to change, can also result in the most appropriate solution being found for each area. For example, most programs have policies regarding which parcels are eligible to receive permits, these parcels are inside the “eligibility area.” Some programs will allow more flexibility when including parcels into an eligibility area that are not adjacent to an RPZ restricted street. If a residential parcel is negatively affected by the RPZ program, then the parcel may be eligible to receive permits on a case-by-case basis in a more context sensitive program. Context sensitive programs will issue permits to parcels that would otherwise not be eligible in the name of fairness and mitigation of the negative impacts an RPZ program might create for residents.

Creating Boundaries for Eligibility Areas

An eligibility area consists of the parcels that are eligible to receive permits. In Bellevue, only parcels that border or rely on access to RPZ streets are eligible to receive permits. This is a straightforward policy that does not have exceptions in Bellevue. Other cities also have a very similar policy, but exceptions to the rule are also made on a case-by-case basis. In Seattle, Bremerton, and Bellingham, WA parcels not abutting an RPZ street may also be eligible for permits if circumstances exist where staff deem it acceptable to issue permits.

Currently in Seattle, if a resident lives on a street that is metered by the hour, then they may be eligible for RPZ permits if there are no unrestricted streets closer than the RPZ street. Meaning, if a resident lives among RPZ streets, but their street is regulated by parking meters, then they may be eligible to receive RPZ permits.

Similarly in Bellingham and Bremerton, WA parcels that do not abut RPZ streets may also get permits. If staff determine that the RPZ program has severely restricted a parcels access to on-street parking in their own neighborhood, then they may be issued permits. In both cities this is a rare occurrence and is only done with director approval (Bellingham, 2016) (Bremerton, 2016).

In Bremerton, WA the RPZ program is only for single family parcels. When creating eligibility areas in Bremerton, multifamily buildings are excluded with no exceptions. In Arlington, VA multi-family buildings are only eligible for permits if the building satisfies an extra set of criteria. In order for multi-family buildings to be eligible for permits they must:

- meet the standard on-street parking occupancy thresholds,

A Review of the Residential Parking Management Program in Bellevue, WA

- have been built before the current zoning standards, have a site plan that was not approved under a specific process,
- prove that they are maximizing the existing off-street parking, must prove that the building does not charge a separate price for parking that is greater than the price RPZ permits, and
- prove that off-street parking cannot be obtained within two blocks of the building through a parking agreement (Arlington County, 2013).

Bellevue's program is not unusual for its inflexibility regarding not issuing permits beyond the abutting properties of the RPZ streets. Bellevue is also not unusual for treating multi-family parcels the same as single family parcels. However, precedents exist in other cities to issue permits beyond the RPZ streets and have different eligibility criteria for multi-family parcels.

Buffer Areas

One problem experienced in Bellevue is the strain on staff time that comes from incremental expansions of RPZs. The current process (abbreviated) for expanding zones requires a parking study, then a survey of residential support, and then city council approval. Going to the city council every time a zone is expanded requires an influx of staff time to prepare the RPZ for approval. One strategy that has been used by other cities and has been suggested by Bellevue staff is to create a "buffer area" around new zones that is pre-approved by Council.

A buffer area (exact terms vary by city) consists of properties that are likely to be impacted from spillover parking after an RPZ is created. Typically in practice, spillover is experienced on a select amount of street space. An RPZ is implemented and signs are installed on that certain street space and spillover then moves to the next street. The buffer area accounts for this movement of spillover. When a buffer area is pre-approved by council, an incremental expansion of the RPZ streets can be done without council approval. A pre-approved buffer area means that when spillover moves to a new street staff can have signs installed and issue permits to residents without going back to council for approval.

Palo Alto, CA also has a similar concept included in their current program. In Palo Alto, they have an area outside of an RPZ that is pre-approved by council for the future addition into the zone that it borders. As spillover becomes a problem for residents, staff can have RPZ signs installed and expand the existing zone without council approving the incremental expansions (Atkinson, 2016). Tacoma, WA is currently undergoing major changes to their RPZ program and buffer areas are a proposed part for the updated program (Huseby, 2016).

A Review of the Residential Parking Management Program in Bellevue, WA

Businesses in Zones

Dealing with businesses in RPZs is done in a variety of ways. Fort Collins, CO allows businesses to obtain permits, Seattle and Bremerton allow some businesses to get permits, and Salem, OR does not issue permits to businesses without exception.

Fort Collins, CO treats businesses like any other parcel in the RPZ. They are allowed to obtain permits for the same prices as residents and in the same quantity (City of Fort Collins, 2016). Seattle, WA on the other hand issues a select amount of permits to businesses in RPZs that are near the Link Light Rail in south Seattle. Additionally, businesses in other Seattle RPZs can apply for permits and may be issued permits depending on the on-street parking availability in the area (Edmonds, 2016).

Currently, there are two businesses in two different RPZs in Bellevue. Neither of these businesses have RPZ permits, but there is no policy that makes them ineligible to receive them. Because the program is intended for residents and their concerns about spillover parking, it may be more appropriate for Bellevue to adopt policy more similar to Salem, OR and remove the businesses from the RPZ program. More discussion regarding the businesses in Bellevue's RPZs will be in chapter 8 of this report.

Conclusion

Investigating other RPZ programs helps put Bellevue's program in context. Based on the comparisons presented in section one of this chapter, Bellevue's RPZ program is not consistent with many of the criteria examined compared to the majority of other programs. Bellevue's program is irregular regarding parking occupancy thresholds, not including a fee system, having a long renewal cycle, having a small amount of parking enforcement officers per capita and per square mile of city, and having a short allowable length time for parking in the ROW. Bellevue's program is not irregular regarding having no limit on the number of permits issued per eligible household.

Section two of this chapter presented how other cities handle certain issues inherent with RPZ programs. This section shows how diverse programs can be when addressing different issues. Many of these strategies discussed in section two will be revisited in the recommendation chapter of this report. The evaluation chapter will discuss Bellevue's program in detail and identify areas where it may be most appropriate to use some of the strategies presented here.

During the information gathering process of this chapter it became clear that no program was without flaws. Staff in other cities that was reached by phone or email often communicated the problems with their own programs. Staff in Arlington, VA, Palo Alto, CA, Tacoma, WA, and Seattle, WA

A Review of the Residential Parking Management Program in Bellevue, WA

all reported that they had recently made changes or are planning to make changes to their RPZ program. Those four cities plus Bellevue makes five out of the 19 cities investigated. Meaning that over a quarter of the programs examined happened to be making changes. This suggests that an RPZ program commonly experiences issues that justify changes to the program. This could also suggest that regardless of the changes made, RPZ programs are destined for contention. Because RPZ programs are fundamentally a top-down parking allocation system that prioritizes certain users over other, it should not be surprising that RPZ programs may be contentious and are commonly being tweaked to help satisfy more stakeholders.

Chapter 7 Evaluation of Bellevue's RPM Program

Introduction

This chapter evaluates Bellevue's RPM and RPZ programs based on seven different topics. These topics were chosen based on their inclusion of a variety of issues within parking management programs. The topics are residential satisfaction, residential use of the program, the program's impact on the right-of-way (ROW), alignment with the comprehensive plan and neighborhood plans (herein referred to as the "City Plans"), the program's pricing mechanism, enforcement, and administration. These topics are evaluated by this report using descriptions of the condition of each topic and ultimately assigning values. The values assigned to each topic are either strength, weakness, or neutral. These values are intended to help quickly communicate the topic's efficacy. These are subjective scores that are supported by the descriptions of each topic. The scores are based on the context of Bellevue, but also in consideration of viable alternatives to the existing condition.

In order for a topic to be considered a strength, the RPZ or RPM program must be currently functioning in a way that satisfies most stakeholders, is achieving any applicable goals, and uses the most appropriate policy tools given the precedent for alternatives in other programs. A topic is considered a weakness if the program is not meeting the needs of most stakeholders, is not achieving applicable goals, and does not use the most appropriate tools despite examples from other programs. A topic is considered neutral when there is a combination of achievement and failure relating to stakeholder needs and applicable goals considering viable alternatives.

Before values are assigned, each topic is discussed in detail using the previous chapters as evidence that supports the findings. In the conclusion each topic is summarized and values are reiterated.

Topic Based Evaluations

Resident Satisfaction

The RPZ program was established to address residential concerns regarding spillover traffic and spillover parking from nearby non-residential uses. Residential satisfaction was the original intent of the program and remains the only clear goal for the RPZ program. It seems fitting then that one evaluation metric of this report be residential satisfaction. The residential survey is the primary source that is used

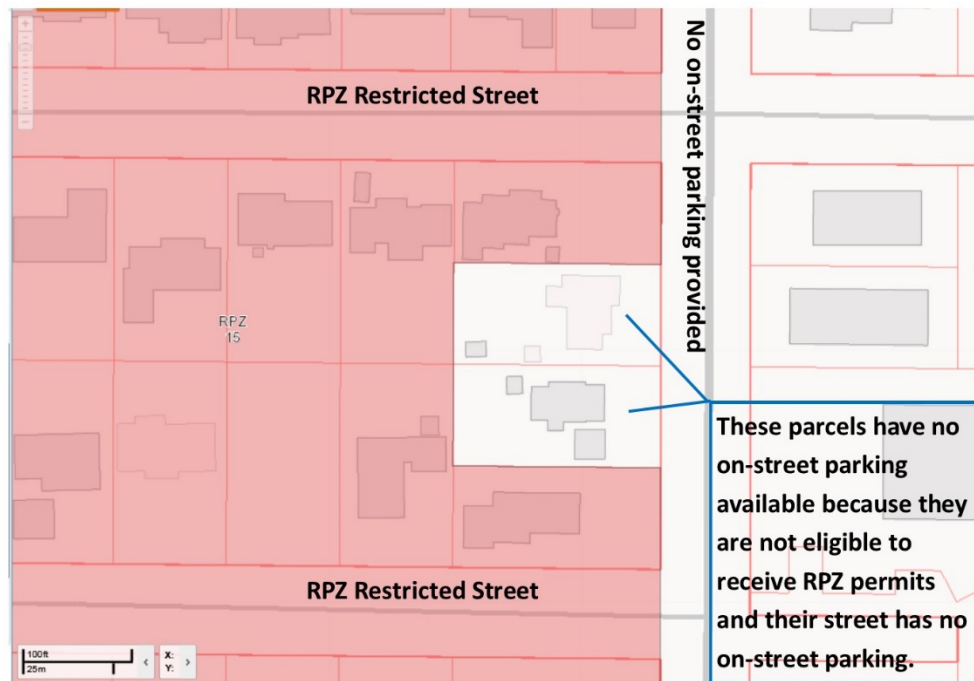
A Review of the Residential Parking Management Program in Bellevue, WA

to evaluate residents' satisfaction of the RPZ program. A second source is a consideration of how RPZ boundaries affect residents just outside of the zone and are ineligible for permits. This consideration is influenced by staff interviews and existing policy.

As was described in chapter 4, residents reported their satisfaction with the RPZ program as being somewhere between neutral and satisfied. On a scale of 1 to 5 (read as dissatisfied [1] to neutral [3] to satisfied [5]), the average satisfaction level was 3.8. Most people were either satisfied (41% of respondents) or neutral (34% of respondents) with the program. Supporters of the program commented that the streets were more peaceful and praised the program for removing the high school students from the neighborhood. While the comments were also mixed with negative views, the average rating of 3.8 suggests that people with negative views were more likely to comment than people satisfied with the program. Even among many of the negative comments, criticism usually did not suggest the outright removal of the program. Note that only people that reported living in an RPZ were able to answer this question.

The RPZ program is intended to address residential concerns about spillover parking, but inevitably the program also excludes some residents from getting permits. An evaluation of residential satisfaction should consider all Bellevue residents, even those that are ineligible to receive permits but live in the same neighborhood as an RPZ. The properties that are eligible for permits are only the properties that abut or directly access an RPZ street. Therefore, a resident that lives next to - but does not abut - an RPZ street is not able to park on the restricted section of the street. There are examples in Bellevue's program where an RPZ has eliminated street parking for residents that were ultimately not eligible for permits once the program was implemented. Figure 7.1 shows an example of the exclusion of residents. While eliminating street parking for some residents is clearly a negative impact, the magnitude of that impact cannot be reported, because the lack of information about parking needs and perspectives of those particular residents remains unclear. There are currently no policies that would allow residents on ineligible properties to obtain permits, even if street parking was their only source of parking. For Bellevue, no exceptions to the eligibility rule have been made.

Figure 7.1 Example of the RPZ Program Removing Street Parking from Residents



While the RPZ program is not intended to restrict parking for neighbors of the RPZ, there still must be a line demarcating the RPZ boundary. However, there is precedent in other programs for issuing permits to properties that do not abut RPZ streets. In light of a viable alternative observed in other cities to mitigate the impact of the RPZ boundary on residents on ineligible properties, this is considered a weakness in the Bellevue program. However, speculating on the severity of this impact does limit the scope of this weakness. While it has happened, the RPZ program has only rarely eliminated on-street parking for ineligible residents. Additionally, most residents, especially in single family neighborhoods have off-street parking available. Because of the infrequency with which on-street parking is removed for ineligible residents and the availability of other parking options, this weakness is limited in scope.

This evaluation of residential satisfaction considers this topic to be a strength in Bellevue's RPZ program. The score reflects the self-reported satisfaction levels of residents inside RPZs and the alignment of the program policies with comments received from the survey. While the RPZ has reduced parking options for some residents that are outside of an RPZ and ineligible for permits, the limited scope of the problem reduces the significance of this weakness.

Residential Use of the RPZ Program

A Review of the Residential Parking Management Program in Bellevue, WA

This section provides an evaluation of how residents in RPZs are using the program. Data addressing the amount of participation in the program by eligible residents, the amount of permit compliance observed during the parking study, and the amount of permits issued will be presented and discussed. This section is informed by the internal information management system used by Transportation Department staff that records data regarding the RPZ program. This section is also informed by the parking study presented in chapter 5. The score presented for this section is an attempt to qualify residents' need for the program and the usefulness of issuing permits to residents for the procurement of parking.

The RPZ program in Bellevue has a participation rate of 50% for eligible residents. Meaning of the roughly 1200 households eligible to receive permits, approximately 600 of those households have been issued permits. Because of the restrictions on non-permit holders, a 50% participation rate means that half of the residents inside an RPZ cannot park on their own street during the day without risking a ticket. The residential survey in chapter 4 and the parking study in chapter 5 concluded that many residents do not rely on on-street parking to store their vehicles, and instead use off-street parking options. Also it is likely that many residents only have permits because they did not want to risk parking tickets on the off chance they may need to park on the street. These findings suggests that half of the residents in RPZs do not need on-street parking at all and the majority of the other half usually do not need on-street parking. The participation rate of eligible residents in the RPZ program of each zone is presented in appendix A and here in table 7-1.

Table 7-1 Percent of Eligible Households Participating in RPZ Program by Zone

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	Zone 10	Zone 11	Zone 14	Zone 15	Zone 16	ALL
33%	44%	54%	70%	83%	33%	73%	63%	55%	33%	35%	52%	34%	21%	50%

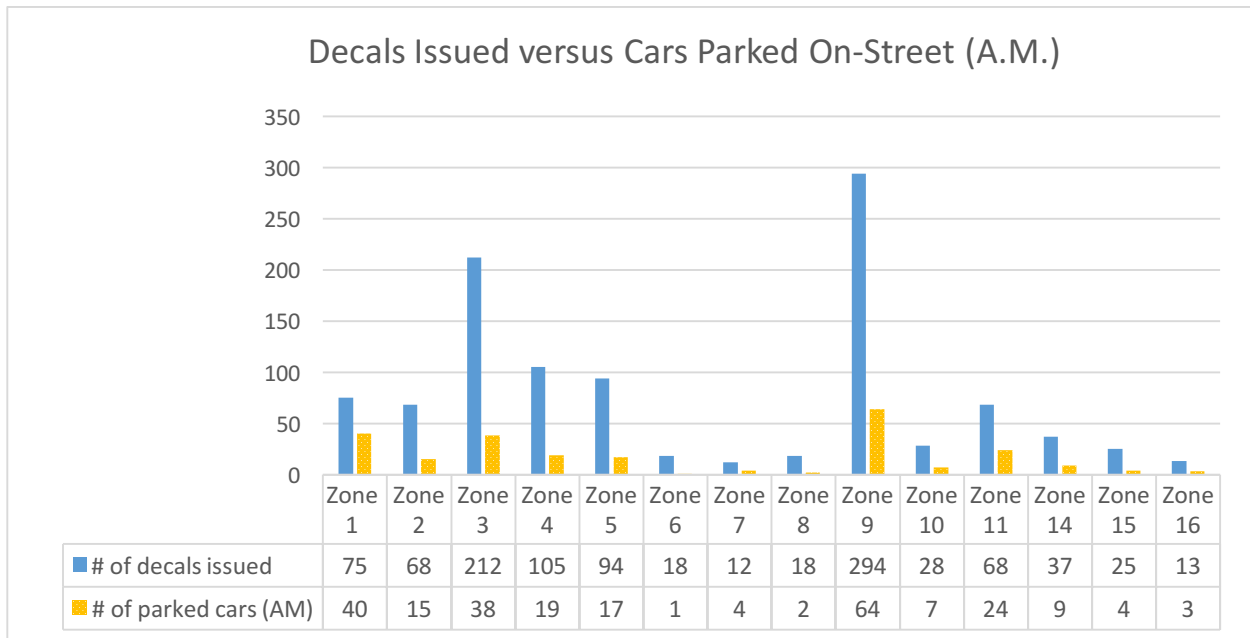
As previously discussed in chapter 5, the parking study reported that the permit compliance rate is low. For zones where more than five cars were parked, the compliance rate for legally permitted cars ranged from 11 - 57%. The compliance rate is presented again here to help describe the existing use of the program.

Although there is a low compliance rate, there are a significant amount of permits issued throughout the RPZ program. Of the 594 participating households in the entire program, there were on average five total permits (guest permits plus personal vehicle permits) issued to each residence. Because of the reliance on off-street parking for most residents, it is likely that most permits are on cars that are in driveways and garages rather than on the street.

A Review of the Residential Parking Management Program in Bellevue, WA

To summarize this section, it appears that staff are issuing a great deal of permits to cars that do not regularly park on the street. Based on the parking study, the average on-street parking occupancy rate throughout all of the RPZs was 14% occupied. Meanwhile, 50% of the households in those RPZs have permits (at rate of five total permits per household). Figure 7.1 shows that there are a lot of permits issued, but not a lot of cars using on-street parking. In total, there are 4.2 vehicle decals issued for every parked car that was observed in the early morning count.

Figure 7.2 Comparison of Decals Issued and Cars Parked On-Street by Zone



This evaluation of residential use of the RPZ program considers this topic a weakness of Bellevue's RPZ program. This topic is a weakness, because city resources are dedicated to buying and issuing permits to cars that usually park off-street and do not rely on on-street parking. One finding from this report is that the RPZ program in Bellevue is not meant to help residents find on-street parking. Rather, the program is intended to respond to residential concerns about spillover parking unrelated to the procurement of on-street parking for residents. As a result of the RPZ restrictions on non-permit holders, most residents of RPZs likely obtain permits in order to not risk a ticket on the off chance that they may eventually need on-street parking.

Impact on the ROW

As Bellevue continues to urbanize, demand for the ROW is likely to increase. Considering the importance of the ROW to urban areas, the RPZ program's influence on the ROW was chosen for evaluation. This section of the evaluation is based on inputs from the parking study, current RPZ policies,

A Review of the Residential Parking Management Program in Bellevue, WA

comprehensive plan policies, and comments from the residential survey. This section will address the impacts that the RPZ program has on the ROW.

The parking study in chapter 5 concluded that there is a relatively low occupancy rate of on-street parking during the early morning and the afternoon in existing RPZs. No zone was ever observed with an average occupancy rate higher than 30%. The existing level of residential demand for on-street parking likely does not exceed the early morning occupancy count (San Francisco Transportation Board, 2009). Therefore, if the parking study was reflective of regular parking behavior, then residential demand for on-street parking is relatively low (never observed to be higher than 30% and for most zones between 5 - 20%). If residents are using 30% or fewer of the parking spaces in RPZs, then 70% or more of spaces are available. Because the RPZ program restricts all parking for non-permit holders and no temporary parking is allowed during the day, at least 70% of parking remains unused.

Combining information about residential on-street parking demand with the 10% total occupancy threshold for creating new zones and no temporary parking allowed for non-permit holders, it suggests that the RPZ program is designed to minimize the existence of on-street parking. The 10% threshold means that an RPZ can be established in most places that experience even small amounts of spillover parking. The ban on temporary parking means that no one but permit holders will park on the street. The parking study suggests that residential demand averages roughly 14% throughout all zones. All this suggests that the RPZ program is designed to discourage on-street parking while preserving the option for residents to choose on-street parking if they wish. Based on these inputs, this report concludes that the RPZ program does not maximize the use of the ROW.

While this conclusion may be considered a weakness in other cities, this evaluation first considers the context of Bellevue's program. Maximizing the use of the ROW is not an established goal for the Bellevue RPZ program. Additionally, some residents in RPZs commented in the survey that the RPZ program should minimize on-street parking, because parking on narrow streets with no sidewalks presents a safety concern for pedestrians. Several comments praised the program for reducing parking congestion. Also, 83% of residents of single family homes are most comfortable with on-street parking when it occupies less than 40% of the street. Considering the majority opinion from residents, it is likely that the program does not maximize use of the ROW because most residents do not want the ROW to be maximized.

However, there is an example of where minimizing the presence of on-street parking is in direct conflict with goals and policies in the comprehensive plan. As discussed in the review of the City Plans, the city hopes to absorb growth in downtown and Bel-Red. According to the City Plans, part of the

A Review of the Residential Parking Management Program in Bellevue, WA

urbanization process for those two areas is the promotion of on-street parking, especially when it contributes to a better pedestrian experience (Policy S-BR-60, Policy S-BR-25, Policy S-DT-61, Policy S-DT-71, and Policy S-DT-158). Although there are no RPZs in downtown or Bel-Red, there are also no policies that prevent the program's implementation there.

The RPZ program does not maximize the use of the ROW, but is that good or bad? It depends on the neighborhood where the RPZ is proposed or exists. In single family neighborhoods, a minimal amount of street parking may be preferred by the residents (note from the survey: multi-family residents had a much higher average tolerance for on-street parking). However, in downtown and Bel-Red, minimizing the amount of on-street parking conflicts with the City Plans.

This evaluation of the RPZ program's impact on the ROW considers this topic to be neutral for Bellevue's RPZ program. The program seems to be working the way most single family residents inside an RPZ would like it to, because the program minimizes the rate of on-street parking. However, this evaluation also considers the conflicts that could occur if an RPZ was established in Bel-Red or in a context where minimal on-street parking is not desired (e.g. multi-family areas with adequate sidewalks and street widths). Overall, the impact on the ROW is a strength regarding residential preferences and a weakness regarding the lack of consideration for neighborhood context. Therefore this topic is considered neutral.

Alignment with City Plans

The RPZ program is a tool within the RPM program. The RPM program manages residential on-street parking and operates within a city wide on-street parking management system that includes non-residential areas like downtown and other commercial centers. The on-street parking management system combined with off-street minimums and maximums make up the overall system of parking policies. The overall system of parking policies that govern on and off-street facilities should, to the extent possible, align with broader city goals. Traditionally, parking policies have been used as a means of accommodating automobile traffic (McShane & Meyer, 1982). However, parking policies can significantly impact a wider range of city goals like economic vitality and walkability (McShane & Meyer, 1982). It is important to align the RPM program with the City Plans' policies and goals, because of the influence parking policy can have on broader objectives.

This section examines how well the RPZ program is achieving the guiding principles that were inferred from the City Plans. This section will also include a brief discussion on the impact of the RPZ program on promoting transit ridership and mode choice. This evaluation relies on the review of City

A Review of the Residential Parking Management Program in Bellevue, WA

Plans and staff interviews in order to provide a score for the RPM program's consistency with the City Plans.

The guiding principles for the RPM program that were identified in chapter 3 were the result of reviewing the City Plans. Those guiding principles were based on repeated themes and concepts in the City Plans that related to the RPM program. The guiding principles were: improve the pedestrian experience throughout the city and support on-street parking where it contributes to pedestrian convenience and safety; absorb Bellevue's expected growth in downtown and Bel-Red while preserving other residential neighborhoods; and protect residential neighborhoods from cut-through traffic and spillover impacts with the use of traffic calming measures or RPZs. Each principle will be discussed regarding its consistency to the RPM program.

As discussed throughout this report, on-street parking in Bellevue has been observed to both increase pedestrian convenience and safety in some locations (e.g. where an adequate sidewalk exists) and decrease pedestrian convenience and safety in others (e.g. where an adequate street shoulder and sidewalk does not exist). The current RPZ program has been shown to minimize the existence of on-street parking regardless of other environmental conditions. Whether or not on-street parking is safe or not is considered in the initial phase of the parking study done by Transportation Department staff when investigating a spillover problem. Staff would not implement an RPZ if they deemed it unsafe to park on the street. However, concerns about pedestrian convenience and pedestrian safety would not be enough to implement "No Parking Anytime" instead of implementing an RPZ if other criteria were also met. This should not necessarily be considered a weakness. In fact, because the RPZ program minimizes the existence of on-street parking, an RPZ in an area where on-street parking decreases the quality of the pedestrian environment may be considered a strength. Ultimately, however, the RPZ program does not distinguish between situations where on-street parking should be encouraged and where it should not.

Absorbing growth in downtown and Bel-Red while preserving residential neighborhoods is another principle that the RPM program should help to achieve. Translating this to relate to the RPM program means urbanizing certain areas by promoting on-street parking while using the RPZ program in other areas to mitigate any spillover from non-residential uses. As previously discussed, while the program reduces the likelihood of congested on-street parking, there is no mechanism in the program to preclude the implementation of the RPZ program in those activity centers. Currently there are no RPZs in any activity center including Crossroads, Eastgate, and Factoria. This is a strength, but the lack of policy that precludes the program from residential land uses in growth areas is a weakness.

A Review of the Residential Parking Management Program in Bellevue, WA

Protecting residential neighborhoods from spillover impacts is a principle that the RPZ program is clearly achieving. The RPZ program restricts parking to permit holders only, and the program is an effective means for reducing spillover parking on restricted streets (Gonzalez, 2016). Although permit fraud and inconsistent enforcement may play a role in some parking still spilling over into RPZs, the scope of this problem is probably limited considering the observed average total occupancy levels of on-street parking in RPZs. Due to a low observed parking occupancy rate in all RPZs, the program is “protecting” and “preserving” residential neighborhoods from non-residential impacts.

Beyond the guiding principles inferred from the City Plans, there is also language in the comprehensive plan to suggest that promoting transit ridership into downtown is also a city goal. Additionally, Transportation Department staff have also identified increased transit ridership as a goal that conflicts with the RPZ program. The two conflict because RPZs discourage commuters from driving to a neighborhood, parking near a bus stop, and riding the bus to work. It is clear from the survey that residents of RPZs support the restriction of commuter parking in their neighborhoods. While restricting commuter parking in residential neighborhoods is seen as a legitimate goal for an RPZ program, it deserves to be noted that removing parking near a bus stop could impact transit ridership.

Lastly, and not directly related to the RPZ program, is the law regarding the maximum amount of time a vehicle can be legally parked in the ROW. This is a city wide policy that covers on-street parking in all areas. As described in chapter 6, BCC 11.23.020 states that parking for more than 24 hours in a public place (like the ROW) is illegal. Bellevue’s time limit was tied for the lowest amount that was reported from other cities in Washington State. Requiring drivers who use on-street parking to move their vehicles every 24 hours should be considered a barrier to mode choice and transit ridership. The 24 hour rule is a barrier, because requiring people to drive everyday may make them less likely to use another mode; the law places a burden on those who use on-street parking but do not drive every day.

This evaluation of the RPM program’s alignment with City Plans considers this topic a strength. The program could be better if there was some consideration given to the neighborhood context and the pedestrian environment during the determination of whether or not to implement an RPZ. With that said, the RPZ program has not been implemented in areas where it would be inappropriate (i.e. residential land uses in activity centers like Bel-Red) and therefore receives a better evaluation. The RPZ program and the 24 hour rule may also play a role in discouraging mode choice and transit ridership (both of which are objectives in the City Plans), but more study would be needed to assess the significance of that impact.

A Review of the Residential Parking Management Program in Bellevue, WA

Pricing Mechanism

This section investigates the monetary aspect of Bellevue's RPM program and focuses on revenue sources rather than costs. Costs will be examined in the administration section of this chapter. This is an evaluation based on viable alternatives observed in other cities' programs and considers the financial sustainability of the RPM program. Inputs for this section include the investigation of select RPZ program presented in chapter 6 of this report, staff interviews, and the existing RPZ policy.

The current RPM program is normally allocated approximately \$15,000 per year and has no external revenue sources. There are no fees for permits, no application fees, and fees generated from parking tickets go back to the general fund and do not directly support the RPM program (Gonzalez, 2016). The money allocated to the program comes from the general fund which relies on tax revenues from the city at large. The lack of a pricing system in the RPZ program is considered a weakness for four reasons. First, the lack of revenue from permits hinders the programs ability to pay for itself and decreases the sustainability of the program, because it must rely on a fixed allocated budget to pay for costs that fluctuate. Second, the presence of pricing systems in other cities provides a common precedent for RPZ programs. Third, because there is no price for obtaining permits, there is no mechanism in place to account for the privilege of having restricted parking on certain residential streets. Fourth, a lack of a pricing system contributes to having low barriers for entry and likely results in residents supporting new RPZs and obtaining permits even though they may not feel strongly one way or another and do not regularly use on-street parking.

The financial sustainability of the RPZ program is impacted by not having fees built into the program. Although the allocated \$15,000 is likely a stable source of funding, the program has costs that fluctuate from year to year. Cost surges can result from creating a new zone, expanding an existing zone, or having several zones renew permits in the same year. The cost increases associated with expanding the RPZ program could be mitigated if fees were charged to permits. The budget for the RPM program has increased to anticipate a cost surge like transferring the administrative process to online, but cost surges like creating new zones are usually not accounted for when the program is allocated its standard amount. See appendix G for an itemization of predictable estimated costs for the RPZ program.

RPZ programs examined in chapter 6 provide several examples of pricing systems. Although fees were often nominal, 74% of the programs investigated in this report had fees associated with permits. Bellevue's lack of a pricing system is a weakness considering the high number of viable alternatives for pricing permits.

A Review of the Residential Parking Management Program in Bellevue, WA

Next, only a small group of Bellevue's residents benefit from the program. A pricing system would help account for the discrepancy of who benefits and who pays. Additionally, some residents have been negatively affected by the program (as explained in the residential satisfaction section of this chapter).

Lastly, prices for permits represent the most visible barrier for residents to enter the RPZ program. A lack of a pricing system may be leading to the finding that staff issue more permits than residents need. A pricing system could not only raise revenues, but will also likely help rein in costs of buying permits and spending time issuing more permits than are needed. Implementing a pricing system to the Bellevue RPZ program could be a big step to slowing the proliferation of the program, because it will force residents to more carefully consider their desire for permit restricted parking.

This evaluation of the RPZ program's pricing system is considered a weakness, because there is not one. A pricing system in Bellevue's program could create a more financially sustainable program, align Bellevue's program with programs in comparable cities, account for the privilege of permit restrictions on public streets, and serve as a highly visible barrier to entry for residents.

Enforcement

Enforcement is a key issue in any parking management program. This section presents the current level of enforcement, describes the process of enforcing the 24 hour rule, describes the City of Tacoma's process (because of its simplicity), and the process for enforcing RPZs. Additionally, there will be a discussion on expanding the RPZ program to new areas without expanding resources for parking enforcement. The score for this section is an attempt to reflect the effectiveness of the current state of enforcement for residential on-street parking.

Parking enforcement in Bellevue is carried out by two entities: private contract and Bellevue Police. The enforcement done by the Police Department will be the focus of this section, because the private contract currently only covers the downtown area where the RPM program is not applicable.

Enforcing parking outside of downtown is the primary responsibility of the parking enforcement officer within the Police Department. This officer spends a majority of their time enforcing parking, but is also pulled away from parking enforcement for various other duties like transferring prisoners. According to the officer, the school year creates an influx in complaints in RPZs and the need to enforce those areas increases. During the school year the officer estimates that two hours per day is spent enforcing the RPZ program. However, overall roughly 80% of their time is spent enforcing the 24 hour rule throughout the city (VanWieringen, 2016). Nearly all of the enforcement done by Bellevue Police is

A Review of the Residential Parking Management Program in Bellevue, WA

on a complaint basis. With around 2,500 parking complaints in 2015, the officer does not have time to proactively patrol RPZs for permit compliance.

Enforcing the 24 hour rule requires a majority of the officer's time, not because 24 hours is short, but because the process requires several trips and an attempt to give notice to the owner. There is one trip to mark the vehicle, another to check the mark 24 hours later and give 24 hours notice prior to impounding, and another to ensure the vehicle was not moved after the notice was given and start the impounding process. Additionally, the officer must make a records and registration check with the State Department of Licensing and make a reasonable effort to contact the registered owner prior to impounding (City of Bellevue, 2016). A \$40 ticket is also issued for violating the 24 hour rule.

In contrast, the City of Tacoma does not enforce this rule with Police Department resources. Enforcement is done through a branch of the Transportation Department. Rather than 24 hours, the maximum amount of time a vehicle can be parking in the ROW is seven days. In Tacoma, this rule is also enforced by complaint only. When a complaint is received, Transportation Department staff mark the vehicle and leave a notice of impoundment. Seven days later, if the vehicle is still there, it is towed (Huseby, 2016).

Like the 24 hour rule, Bellevue's RPZ program is also enforced primarily on a complaint basis. The enforcement officer only needs to see if a valid permit is displayed in the correct location and can issue a ticket on the spot if the car is not compliant. The most common type of permit misuse is the transfer of visitor permits to non-residents with no intention of visiting the resident (Gonzalez, 2016). For example, this has been observed near Bellevue High School. A resident inside the RPZ will give a student a visitor permit and the student will use the permit to habitually park on residential streets near the school. This type of misuse is difficult to enforce and on occasion the school has been contacted to help address the issue (Gonzalez, 2016). Some cities have restricted the use of visitor permits to be invalid if they are not used to park next to the address they were issued to.

Although some fraud and misuse exists, non-compliant vehicles likely make up a majority of the parking infractions that exist. Non-compliant vehicles made up roughly half of all the vehicles parked on the street during the parking study. Most residents however, reported that enforcement is "just right" on the residential survey. Based on field reviews during the parking study, non-compliant vehicles seemed to be spread out throughout zones rather than clustered near high schools or commercial areas. All this could suggest that the RPZ program polices itself to some extent. If the survey was representative of the population and if the parking study was representative of normal parking behavior, then 66% of residents think enforcement is "just right" while only 50% of the cars are

A Review of the Residential Parking Management Program in Bellevue, WA

permitted. It is possible that some of the non-permitted cars belong to residents that do not want more enforcement because they are happy the way things are. It is possible that residents of RPZs know that enforcement is irregular and risk parking without permits while commuters are less aware and avoid the RPZ because of the assumed risk.

This evaluation of the RPM program's condition of enforcement is considered a weakness. Enforcement suffers from a lack of resources to patrol RPZs and provide consistent regular enforcement, a time-consuming process for enforcing the 24 hour rule, and in comparisons to other cities enforcement resources. However, the level of enforcement seems to satisfy many survey takers and the threat of tickets may be just enough to keep most commuters and spillover parking outside of RPZs.

Administration

This section will consider the effectiveness of the RPZ program in terms of how it is administered. Specifically, the process for establishing an RPZ and the costs to administer the program will be examined in closer detail. This evaluation relies on staff interviews, the existing policy, and the parking study, and the review of other cities program. The score for this section is an attempt to reflect the ease and efficiency of administration in the context of viable alternatives.

Compared to other cities, Bellevue's RPZ program has very low barriers to creating new RPZs. The 10% total occupancy threshold, no fees for residents, and ease of initiating a parking study all make the program easily accessible for residents to request and receive a new RPZ. These same criteria in other cities were a minimum of 75% total occupancy, a nominal fee paid every year, and longer governmental process were all commonly required in order for to expand an RPZ program.

Low barriers to entry can lead to the proliferation of new zones or expansions. An ever expanding RPZ program can create overly restrictive on-street parking in many areas of the city and it can strain enforcement and administration resources past the point of maintaining a quality program. Future demand among residents for the RPZ program could increase with the closure of the South Bellevue Park and Ride, new East Link stations, and the continued development of Bel-Red. If barriers to entry remain low, the RPZ program could significantly outgrow already strained enforcement and administration resources and the program's overall quality could suffer.

Residents only need to submit a form with at least five signatures to initiate a parking study. Once the form is submitted, Transportation Department staff will invest their time into examining the parking problem that was reported. Because the 10% threshold is so low, nearly every spillover problem in residential neighborhoods "justifies" governmental intervention with the RPZ program. Usually, a

A Review of the Residential Parking Management Program in Bellevue, WA

majority of residents welcome the implementation of the RPZ program because it costs them nothing, gives residents exclusive access to street parking, and is not a hassle to renew permits only once every four years.

The 10% parking occupancy threshold is especially problematic considering the parking study revealed an average of 14% parking occupancy in the early morning count throughout all the zones. The early morning count best reflects residential demand for on-street parking because most residents are presumed to be home at 5 A.M. This means that on average the amount of parking used just by residents is enough to initiate a parking study. In order to establish an RPZ, 50% of those parked cars would have to belong to non-residents, but this would only be discovered after staff had invested their time into completing the parking study.

Low barriers to entry and an easily initiated parking study suggest that Bellevue's Transportation Department staff is highly responsive to residential parking concerns. While this likely makes residents happy, it may also be contributing to the RPZ program outgrowing the budgeted resources. If the program continues to grow, without increased resources, the program's level of service could decrease.

The RPM program is allocated a budget from the general fund and is approximately \$15,000 a year. In the past, the budget has increased if a large project is planned. For example, the budget was increased when the internal information management system was implemented. The budget does not account for fluctuating costs to the program that are associated with unanticipated events like zone expansions (Gonzalez, 2016). This report estimates that roughly \$2,800 a year is spent on buying permits and \$16,000 a year is spent on routine administration (not including unforeseen zone expansions or zone creations). The replacement or installment of signs is a cost that fluctuates widely based on the size of expansion or new zones created in a given year. According to invoices of a private contract in 2009, zone 1 signs were replaced at a cost of \$8,735 or about \$70 per sign. Additionally, \$20,000 a year is the estimated cost of only the staff time for enforcing the program on a complaint basis, but enforcement is paid for by a separate budget in the Police Department. See appendix G for an itemization of predictable estimated costs for the RPZ program.

This evaluation of the RPZ program's administration is considered neutral. The administrative process seems to be achieving its primary goal of residential satisfaction. The program is highly responsive to residents' concerns about spillover parking and the program is easily accessible for residents experiencing parking spillover. However, low barriers to entry have already created a program so large that it regularly exceeds its budget, cannot be proactively patrolled by enforcement, and is primarily enforced on a compliant basis and self-policed. Future demand for the RPZ program will

A Review of the Residential Parking Management Program in Bellevue, WA

increase due to the South Bellevue Park and Ride closure, East Link extension, and Bel-Red development. Increased demand for the program coupled with continued low barriers to entry could result in a proliferation of the RPZ program to a point where the quality of the program suffers.

Conclusion

Each section of this chapter was chosen for its important role within the larger context of the RPM program. Major findings and conclusions from each section will be briefly summarized. Table 7-2 shows the scores for each category.

Table 7-2 Summary of Scores for each Evaluated Topic

Resident Satisfaction	Strength
Residential Use of the Program	Weakness
Impact on the ROW	Neutral
Alignment with City Plans	Strength
Pricing Mechanism	Weakness
Enforcement	Weakness
Administration	Neutral

Residential satisfaction of the RPZ program was evaluated as a strength because of the self-reported satisfaction level in the survey, the responsiveness that residents receive from Transportation Department staff regarding their parking concerns, and the lack of fees and other barriers that make the program so accessible for residents near traffic generators. The program only suffers in this category because it has been observed to remove on-street parking for some residents not eligible for permits.

Residential use of the RPZ program was evaluated poorly because of the lack of need for on-street parking combined with the high amount of permits issued. The average household has five total permits (roughly two decals and three guest permits), but also has ample off-street parking and does not need to park on the street to store their vehicles. City resources are dedicated to buying and issuing permits to vehicles that usually do not park on the street. Therefore, the residential desire for the RPZ program in Bellevue primarily stems from reasons other than the need to procure on-street parking. Furthermore, this report concludes that residential desire for the program also does not primarily stem from safety concerns with on-street parking, because Transportation Department staff would not implement an RPZ if on-street parking was deemed unsafe.

The impact on the ROW from the RPZ program results in minimizing the overall existence of on-street parking. This was determined to be both a strength and a weakness depending on the location. To date, the RPZ program has not been implemented in an area where the city wants to promote on-street

A Review of the Residential Parking Management Program in Bellevue, WA

parking (e.g. downtown or Bel-Red). However, the program does not have policy that would preclude its implementation if residents were to request an RPZ in a place like Bel-Red.

Alignment of the City Plans was considered a strength of the program. The City Plans call for the RPZ program to do what it is doing – respond to residential concerns about spillover parking in residential neighborhoods and protect those areas from non-residential uses. The impact of the RPZ and the 24 hour rule needs to be studied further to understand the significance of how these policies may be decreasing transit ridership and mode choice. Although the impact may be small because the enforcement is done only on a complaint basis, requiring people who use on-street parking to drive their vehicles everyday directly conflicts with policies supporting mode choice.

Pricing mechanism is a section in this chapter because of the frequency with which other comparable cities had them. Although free permits likely contributes to residential satisfaction, no pricing mechanism is considered a weakness because the program is less financially sustainable, occurs in 78% of other cities investigated, and no system is in place to account for the privilege of permit restrictions on public streets.

Enforcement of the RPZ program was considered a relative weakness because of the lack of resources needed to regularly patrol RPZs, the commonality of non-compliant vehicles, and the time consuming process for enforcing the 24 hour rule. However, signs and the threat of tickets appear to be enough of a deterrent to keep most spillover outside of RPZs.

Administration of the RPZ program has been focused more on residential satisfaction than on sustaining a manageable program indefinitely. As demand for the program increases, the existing criteria to expand the program are too small to discourage the proliferation of the program. A widespread RPZ program is still consistent with City Plans and stakeholder interests as long as the quality of the program is maintained. However, if resources to support the RPZ program do not also increase with the expansion and creation of zones, the level of service could suffer.

It is the conclusion of this evaluation that the existing program is achieving the goal of residential satisfaction. However, in order to maintain a quality program and increase the program's performance in other categories, new goals should be established. Goals that are complimentary of residential satisfaction can be established to increase the overall quality and performance of residential parking management in Bellevue. While no program is without flaws, new goals can help facilitate adjustments to the existing program that work to achieve a broader set of objectives now and into the future.

Chapter 8 Recommendations

Introduction

Bellevue has experienced a great deal of population growth and development since 1985 when the RPM program was first created. Furthermore, Bellevue is expected to continue to grow and develop. The RPM program on the other hand, has not undergone an extensive review or a major restructuring since its inception. The purpose of this review was to understand how the program is working and to ensure that the program can meet its goals for current and future stakeholders. Considering the observed and expected changes throughout the city, it is important that the RPM program adapt. In addition to satisfying the original intent of the RPM program, parking policies have been shown to have a strong link to the attainment of other city goals (McShane & Meyer, 1982).

The original intent for the program was to satisfy residential concerns about spillover parking on residential streets and this remains the only established focus. This report proposes a set of goals for the RPM program that supplement and compliment the goal of residential satisfaction. Establishing goals for the program will help the program address new challenges that did not exist when the program was established over 30 years ago. In no particular order, these goals are:

- *Use the RPM program to satisfy residential concerns with spillover parking.*
- *Sustain a quality RPM and RPZ program for current and future users by ensuring enough resources are allocated to implement, maintain, and enforce the programs.*
- *Use the RPM program in a way that is consistent with established City of Bellevue goals by implementing the most appropriate management solution for each spillover issue.*

These official goals will help ensure that residential concerns about spillover parking are responded to with a quality program that aligns with broader city goals. These goals acknowledge that a quality program is one that is properly maintained with the resources that are allocated to it and has enough resources to be responsive to residents' concerns now and into the future. These goals also serve as the context that the following recommendations are made. Each recommendation strives to create a program that satisfies residential concerns about spillover parking, ensures a quality parking management program for current and future users, and aligns with other city goals.

This report has used extensive sources as inputs to shape these goals and recommendations. These sources include a literature review, a review of the comprehensive plan and neighborhood plans

(herein referred to the “City Plans”), a residential survey, a parking study, and an investigation into comparable cities’ programs. These goals and recommendations are also influenced by internal staff interviews and conversations that help identify the desired direction for residential parking management. The following recommendations have been grouped into three categories: changing the criteria for expanding the RPZ program, creating a context sensitive program, and adjusting the administrative process.

Criteria for Expanding the RPZ Program

This section presents findings and recommendations of this report as they relate to the process and criteria that are used to establish new zones and expand the RPZ program. The criteria that Transportation Department staff use to create new zones is easily satisfied by most spillover parking problems. This means that the RPZ program is easily expandable. An easily expandable program is not necessarily considered a weakness. However, this report does consider an easily expandable program a weakness when the resources needed to enforce and maintain that program are not also expanded. The recommendations are based on the assumption that a quality program is one that does not need more resources than it is allocated and achieving this balance is beneficial to all stakeholders. Therefore, increasing the budget for the RPZ program as the program expands is also considered an effective means of reaching that balance. However, the following recommendations assume a static budget and therefore are focused on balancing the growth of the program with the existing resources.

Finding: Bellevue’s RPZ program is expected to continue to expand.

Supporting data:

- Development in Bellevue that increases density and intensifies the use of ROW (e.g. East Link extension, Bel-Red development, and the closure of the South Bellevue Park and Ride) combined with a citywide effort to protect and preserve single family neighborhoods will result in the continued residential demand for the RPZ program.

Finding: Bellevue’s RPZ program has easily satisfied criteria for expanding the RPZ program compared to comparable cities’ programs and has no fee for permits.

Supporting data:

A Review of the Residential Parking Management Program in Bellevue, WA

- The 10% total occupancy threshold is far lower than the thresholds observed in other cities' programs; usually ranging from 50-75% total occupancy. The 10% threshold is even lower than the estimated average residential demand for on-street parking (14%).
- Fees also were observed in most cities (74% of the cities investigated). Bellevue has no fees for any type of permit or an application fee.
- Bellevue's Transportation Department staff are relatively quick to respond to residential spillover concerns which contributes to an easily expandable RPZ program. Other cities were observed to be slower and/or more methodical about implementing new zones or expanding existing zones. Palo Alto collects spillover complaints over the course of the year, then the Transportation Commission prioritizes them, then the city council evaluates further, then the staff initiate a parking study (Atkinson, 2016). The long process ensures that only the most severe spillover problems are justifying intervention with an RPZ program. Seattle, Shoreline, and Montgomery County, MD also report that implementation takes six to 12 months (SDOT, 2014) (City of Shoreline, 2016) (MCDOT, 2016). Additionally, in Littleton, CO the establishment of a zone is subject to the availability of funds (City of Littleton, 2016).

Finding: The existing Bellevue RPZ program has outgrown the resources that support it.

Supporting data:

- The program is enforced primarily by complaint only because there are not enough enforcement resources to regularly patrol zones for permit compliance.
- Only 41% of the cars in the parking study were observed to be permit compliant. This suggests that the program does not receive regular patrolling of zones.
- Parking violations in residential neighborhoods are rarely enforced when the Police Department's parking enforcement officer is not on duty, because other officers usually do not write parking tickets.
- Routine costs to maintain the existing program exceed the regular annual budget of \$15,000.

Recommendation: Change the criteria for expanding the RPZ program in an effort to balance the growth of the program with the existing resources.

Why do this?

- The RPZ program is a long-term commitment of resources from the City of Bellevue to address parking spillover. The average cost to maintain the program (enforce and staff)

A Review of the Residential Parking Management Program in Bellevue, WA

permanently increases when the program is expanded. If the program continues to expand without an increase in resources, then the quality of the program could suffer.

- The continued proliferation of the program could negatively impact the quality of service that current and future users expect if there are not enough resources to respond to enforcement calls or requests for parking studies.
- Expanding the RPZ program without expanding enforcement resources spreads the current parking enforcement resources over a larger geographic area. This will decrease the amount of enforcement that existing zones currently receive and could eventually result in residential complaints not being responded to.
- Expenses to operate the program will increase due to more permits being issued, more staff time required to implement and maintain zones, and more installations of signs. More expenses will increase the frequency at which the RPZ program goes over budget if the budget does not increase as the program expands.
- Most residents do not need an RPZ program in order to find parking near their home. They also don't need an RPZ to address safety concerns with on-street parking, because staff would not implement an RPZ if on-street parking was deemed unsafe.
- Barriers to creating new RPZs or expanding existing zones should be large enough to exclude the spillover problems that are not severe enough to justify the long-term commitment of RPZ intervention.
- Changing the criteria for expanding the program would also help align Bellevue's program with other comparable cities' criteria.

How to do this:

1. *Increase the 10% threshold to 30% for the entire program.*

According to the survey, a majority (53%) of people are comfortable with a parking occupancy level of 20% or more on their street. The threshold should be larger than 20% to account for the need to maintain a program of manageable size. A 30% total parking occupancy threshold still achieves all of the three goals created for the RPZ program in this report (satisfy residents' concerns, maintain quality program, and align with city goals). A 30% threshold is still low enough to be responsive to residential concerns about spillover parking while being high enough that it could slow the overall rate at which the program expands into new areas. According to appendix E, 1,000 feet of curb length in Bellevue RPZs equals roughly 25 parking spaces. If 10% of those parking spaces are occupied, it only takes 3

A Review of the Residential Parking Management Program in Bellevue, WA

parked cars to initiate a new RPZ if two of those cars belong to non-residents. Increasing these thresholds to 30% total occupancy will mean that an RPZ can be established if 8 cars are parked on the street and 4 of them belong to non-residents.

2. *Increase the minimum size of zone expansions and creations from 1,000 feet of block-face to 2,000 feet of block-face.*

A 2,000-foot minimum size will reduce the amount of incremental expansions that occur when zones force the spillover parking to a different residential street. Although the minimum expansion is proposed to be 2,000 feet, the parking study will still consider 1,000 foot sections of impacted streets for determining the total occupancy of on-street parking.

3. *Establish certain types of generators that justify creating an RPZ.*

The current policies state that businesses, downtown office buildings, high schools, and shopping malls are examples of major generators of vehicular parking that may cause an RPZ to be established if spillover is experienced on residential streets. Public parks and multi-family buildings should be called out as generators of vehicular parking that do not justify intervention.

4. *Implement a nominal application fee to renew and obtain permits.*

Based on the survey, most residents oppose any fee associated with the RPZ program. Another complication would be the lack of any pay-to-park on-street parking in Bellevue. However, this recommendation supports the goal for maintaining a quality level of service by introducing a way to slow the expansion of the program. A fee will help ensure that an RPZ is only being established where it is most needed, a fee helps maintain a financially stable program that is less likely to exceed its budget, a fee would align with other cities' programs, and a fee can account for the privilege of permit restrictions on public streets. A fee would not be intended to make profit for the city.

5. *Review the "Request for Parking Review" forms twice a year rather than as they are submitted. Additionally, increase the number of signatures on the form from five to 10.*

These changes are intended to ensure that a parking problem has more initial residential support and to better control the rate at which the RPZ program expands. Gathering request for review forms and reviewing those forms twice a year can help increase the predictability of zone expansions and zone creations. Knowing when and where the RPZ program will need to expand can help the practitioners advocate for a budget that reflects an increase of costs

A Review of the Residential Parking Management Program in Bellevue, WA

associated with expanding the program. Exceptions can be made if there are safety concerns regarding the parking spillover problem that presents imminent danger to the community. The number of signatures needed to initiate a parking study is recommended to increase from five to 10. Based on a recent expansion of roughly 1,000 feet of block-face, there were 14 homes that were added to the RPZ program due to the expansion. This means roughly 30 homes might be expected from a zone with 2,000 feet of block-face. Of the 30 homes, 20 (two-thirds) of them will have to eventually support the RPZ implementation. An initial requirement of 10 signatures ensures that half of the eventual support is already gathered.

6. *Only implement an RPZ if the parking spillover is a regular occurrence. A regular occurrence would be defined as at least nine months out of the year and 4 days a week.*

This policy ensures that parking spillover that is irregular does not create an RPZ that is permanent. This policy was observed in other comparable cities' programs.

Context Sensitivity

While establishing specific criteria to measure the severity of a spillover problem is important, a parking management program should also acknowledge that the severity of a problem may depend on other factors like land use, neighborhood location, or residential preferences. Consideration of the context of the parking spillover can ensure that the most appropriate management solution is implemented. This section is intended to recommend policy that would help the program acknowledge the surrounding context and implement the best solution.

Finding: The existing policy in the RPZ program generally does not account for most conditions that may affect the appropriateness of on-street parking. This leads to a program that is administered the same in every scenario regardless of whether or not it is the most appropriate solution.

Supporting data:

- There is no policy that precludes the implementation of the RPZ program in areas like downtown or Bel-Red.
- There is no policy in the existing program that considers whether or not implementing an RPZ and reducing the existence of on-street parking is appropriate for that specific area.
- There is no policy that accounts for the large difference in opinion between residents in multi-family homes and residents in single family homes about the comfortable amount of on-street parking for their street.

A Review of the Residential Parking Management Program in Bellevue, WA

- There is no policy that makes exceptions for residents to obtain permits if they are not in the eligibility area, even if those residents have had their on-street parking removed because of the RPZ.
- The existing RPZ program has certain policies and thresholds that are published and exceptions are not made to those policies.

Finding: The RPZ program minimizes the existence of on-street parking on residential streets.

Supporting data:

- Estimated peak residential demand for on-street parking is no greater than 30% of the available on-street parking spaces in RPZs and was commonly observed between 5-20%.
- Most (13 out of 14) zones do not allow any temporary on-street parking for non-permit holders during the day.

Finding: Most Bellevue residents want an RPZ for a reason other than to help them procure on-street parking.

Supporting data:

- Most RPZ residents have off-street parking options; 85% of RPZ residents reported in the survey that they park in their garage, driveway, or carport.
- The 10% total parking occupancy threshold means that intervention results not because on-street parking is hard to find for residents.

Recommendation: Create a more context sensitive program.

Why do this?

- A more context sensitive program ensures that using the RPZ program is the most appropriate management tool for a given spillover problem within the unique context of each problem.
- A more context sensitive program ensures that other parking management tools were also considered in an effort to reach the optimal management solution.
- A more context sensitive program can ensure that more residents are benefitting from the program and fewer residents are unnecessarily restricted by the program.
- A more context sensitive program can also adjust the established thresholds in an effort to implement or not implement an RPZ based on environmental conditions like sidewalks/walkability, location of neighborhood, and the appropriateness of on-street parking in a particular location.

A Review of the Residential Parking Management Program in Bellevue, WA

How to do this:

1. *Increase the total parking occupancy threshold to 50% on streets that are primarily in multi-family areas.*

According to the residential survey, 57% of residents in multi-family homes are comfortable with more than 40% of the street being parked. This change will impact a very small amount of streets because most streets in multi-family zones are private streets and an RPZ would not be established on a private street. Additionally, many of the public streets in multi-family zones do not have provisions for on-street parking. This change will help minimize the growth of the RPZ program and will likely align with residential preferences for on-street parking.

2. *Restrict the implementation of the RPZ program in Bel-Red and downtown.*

This restriction aligns with established city goals that aim to promote the presence of on-street parking in downtown and Bel-Red. Because the RPZ program has been shown to minimize the existence of on-street parking, the program should not be implemented where on-street parking is promoted. While the RPZ program is not appropriate in downtown or Bel-Red, a different type of program should be created to manage on-street parking in those areas. Because downtown and Bel-Red are fundamentally different than the residential neighborhoods and because parking policies impact urban form and mode choices, a new parking management program could better pursue the goals in the City Plans for these two areas. Restricting the RPZ program from being implemented in downtown and Bel-Red is only half of the solution. A new program would be able to link urban goals (like mode split targets and increased walkability) with parking policies.

3. *Only permit the implementation of the RPZ program along residential frontages.*

This restriction would exclude mixed-use zones from being eligible for the RPZ program. This policy would be consistent with the existing program on the ground and it would be consistent with promoting on-street parking in activity centers. It also remains consistent with the goal of protecting residential neighborhoods from spillover parking and traffic.

4. *Allow for the issuance of temporary permits to residents adjacent to RPZ boundaries if the RPZ removed their on-street parking.*

As the program exists today, there are some parcels that do not have access to on-street parking near their home, because the RPZ program restricted the street parking and deemed those residential parcels ineligible to receive permits. This policy would allow those

A Review of the Residential Parking Management Program in Bellevue, WA

residents who have been negatively affected by the program to receive temporary permits in the event that they have more guests than their off-street parking availability can accommodate. This policy does not allow the issuance of regular permits for homes outside of the eligibility area.

5. *Allow for the issuance of a limited number of permits to residents adjacent to RPZ boundaries that have no off-street parking available if the RPZ removed their on-street parking.*

This policy would allow residents to obtain a limited number of regular permits if they are outside of the eligibility area, border an eligible property, have no off-street parking, and have had their on-street parking removed because of the RPZ program's restrictions. There are no known examples of residents having all of these conditions. However, because the program is intended to help residents, it is important to have a program that is flexible enough to accommodate residents in irregular scenarios.

6. *Remove the parking occupancy thresholds and other policies that are used to establish an RPZ from the City of Bellevue Transportation website, but retain those thresholds for internal use only.*

Removing the parking occupancy thresholds from the website allows staff to be more flexible while determining the most appropriate management solution to a spillover problem. A context sensitive program gives staff the authority to implement an RPZ even if the thresholds and criteria are not met, because other considerations were deemed equally important to the thresholds.

7. *Allow Transportation Department staff to have the final authority to adjust the criteria for expanding the RPZ program based on the appropriateness of on-street parking for each particular spillover issue.*

Along with this recommendation will be to establish a list of factors to consider that may influence the appropriateness of on-street parking. This list will help practitioners determine the best parking management tool for each spillover issue by considering the impacts of on-street parking on other city goals like walkability and transit ridership.

Administrative

This section serves as a catch-all segment of this chapter. Findings and recommendations presented here are from a range of topics loosely associated with how the program is administered.

A Review of the Residential Parking Management Program in Bellevue, WA

Enforcement, the “24 hour rule,” the details of expanding RPZs, limiting the number of permits issued per household, and using location specific guest permits are all aspects of this section.

Finding: The current processes and policies for administering the RPM and RPZ programs are contributing to a quality level of service. However, there are areas where administration could improve.

Supporting data:

- Incremental expansions of RPZs create cost surges due to increased demands for staff time, increased demands for enforcement, needing to order more permits, and needing to install more signs.
- Determining the amount of non-resident vehicles using on-street parking is done by recording the license plates and checking them against DMV records for registration addresses. If the area has a new resident, this method may count a resident’s car as a non-resident’s car if the vehicle is not registered to the new address.
- The process for enforcing the 24 hour rule is time consuming and does not allow enough time for the patrolling of RPZs for permit compliance.
- The 24 hour rule requires residents that use on-street parking to drive their vehicles every day. This rule conflicts with goals that aim to promote mode choice in the transportation system.
- There have been reoccurring problems with permit misuse regarding the transfer of visitor permits to students who use the permits to park on residential streets near Bellevue High School.

Recommendation: Adjust the way the program is administered.

Why do this?

- Adjusting the administrative policies in the RPM and RPZ programs can address some of the weaknesses of the current parking management process.

How to do this?

1. *The RPZ program should be used as a strategy of last resort. Refer to other cities chapter and the good neighbor parking program for other strategies to investigate before implementing a new zone or expanding an existing zone (examples include no parking anytime restrictions, time restrictions, and contacting the spillover generator to reach a parking agreement).*

A Review of the Residential Parking Management Program in Bellevue, WA

Low criteria for expanding the RPZ program means that nearly all spillover problems justify intervention with the RPZ program. Because the RPZ program is a long-term commitment of resources from the city, other strategies that are not so resource intensive should be investigated first. This policy would formalize a common existing practice for staff.

2. *Change the way RPZs are incrementally expanded. When establishing a new RPZ or expanding an existing zone, ensure that the area approved by the city council is large and considers the movement of spillover vehicles from one residential street to the next.*

The area that is approved by council should represent a “buffer zone” around the street that is signed and restricted on the ground. The buffer zone is a pre-approved area where the transportation director has the authority to incrementally expand zones instead of the council. This expedites the expansion process and reduces the influx of staff hours required to expand zones.

3. *Implement a pilot program in zone 3 that uses location specific visitor’s permits.*

This type of visitor permit would be new to the Bellevue RPZ program, but was observed in other cities. A location specific visitor permit is only valid on the block that the permits were issued to. This will reduce the likelihood of the illegal transfer of guest permits to high school students for the habitual use of parking in the neighborhood near Bellevue High School.

4. *Change the process for enforcing the 24 hour rule.*

The current process is to mark the vehicle, return 24 hours later and initiate impounding the vehicle with a notice to impound. Rather than initiating the impound process, parking enforcement officers could issue a ticket or a series of tickets. This would delay the impounding process and give the owner a chance to move the vehicle. Delaying the impounding process could reduce the strain on parking enforcement resources.

5. *Increase the maximum amount of time that a vehicle can park legally in the right of way from 24 hours to 72 hours.*

Increasing this restriction will better align with goals regarding transportation mode choice, because it will not force residents who use on-street parking to drive every day. This increase also aligns with many other cities in Washington State. The increased length of time could potentially reduce the amount of complaints that are received from residents, because residents may wait longer to notify the city. Increasing the length of allowable time

A Review of the Residential Parking Management Program in Bellevue, WA

and changes the process of enforcing this rule could reduce the strain on parking enforcement resources.

6. *Increase the amount of enforcement to a level that can regularly patrol RPZs for permit compliance.*

The current level of enforcement can primarily only respond to complaints about parking issues and does not have time to patrol zones. To maintain a quality program, RPZs should be regularly enforced to minimize spillover.

7. *When doing a parking study to investigate a spillover parking concern, the non-resident vehicle count should be done early in the morning before residents have left for work (between 4:30 A.M. and 5:00 A.M.).*

Counting vehicles in the early morning will reduce the likelihood that residents' vehicles are considered non-resident spillover parking. If a resident's vehicle is misidentified, then it could wrongly tip the scales in favor of justifying an RPZ because there are too many spillover vehicles on the street.

8. *Make efforts to eliminate duplicate addresses in the internal database that manages the RPZ program's data.*

When an RPZ permit holder moves away and a new tenant moves in, there is the chance that the same address will be issued permits under a new name without the old permits being categorized as expired. This scenario leads to duplicate addresses in the database and results in inaccurate data about current amount of permits that are issued. This policy helps increase the accuracy of the database.

9. *Limit the amount of permits that are issued to each household.*

Currently there is no limit to the number of permit issued per household as long as the vehicle is registered to an eligible address. Limiting the number of permits allowed for each household could increase the predictability of how many permits will be issued in a given year, discourage residents from having an excessive amount of vehicles parked on the street, and encourage a more efficient program where permits are issued to vehicles that need on-street parking rather than on vehicles that park off-street.

Conclusion

The recommendations in this report are made in an attempt to address the specific findings presented in this chapter. The findings are grouped into three categories: changing the criteria for expanding the RPZ program, creating context sensitivity, and adjusting the administrative process.

This report recommends creating goals for the program to continuously provide direction and communicate purpose for the RPM program. The goals suggested here align with the original intent of the program, but also aims for sustained quality and the acknowledgement of other city goals. While these goals are usually complimentary of each other, there are times when they will conflict. For example, changing the criteria to expand the program may help sustain a quality program for the long-term, but may also agitate residents who want permit restrictions without the bureaucratic process. In these cases, Transportation Department staff will consider the trade-offs and make a decision. Regardless of the trade-offs that are ultimately made, the goals will force all stakeholders (residents and practitioners) to consider the long-term impacts and broader policy implications of the parking management strategy that is chosen.

Changing the criteria for expanding the RPZ program is a focus of this report and the recommendations made in this chapter. The primary purpose for changing the criteria used to expand the RPZ program is to ensure that the program does not further exceed the resources that are allocated to it. These criteria can help bring a balance to the program where resources for enforcement and transportation staff are robust enough to respond to residents' requests for enforcement calls and parking studies. This is ultimately aimed at the need for the city to be able to indefinitely respond to residential parking concerns with a quality program. The changes to the criteria that are recommended here are used in other programs across the nation and are appropriate for the Bellevue context.

Creating a more context sensitive program is recommended to ensure that the most appropriate parking management strategy is always found. Just because a particular spillover problem may satisfy the occupancy thresholds in the RPZ program, an RPZ may not be the most appropriate strategy. It was recommended that neighborhood context be considered and depending on the location, thresholds be adjusted in order to better manage parking in each context.

Adjusting the administrative process of the RPM program is recommended to address some of the identified weaknesses of the program. The recommendations in this category have a wide scope. The major changes that are recommended adjust the process for incrementally expanding zones, change the length of time that a vehicle can park in the right of way, implement a pilot program for new visitor permits, and formalize a process for investigating other parking management tools. These

A Review of the Residential Parking Management Program in Bellevue, WA

recommendations are made in attempt to align the program with the goals established in the first section of this chapter. These changes would help sustain a quality program and better align the program to goals established in the City Plans.

This report makes a wide range of recommendations with the intended purpose of giving Transportation Department staff a starting point to trigger discussion. These recommendations reflect the extensive range of inputs that were considered, but the implementation of these changes were beyond the scope this report. Therefore, the barriers to implementation were only superficially considered and not discussed here. That discussion is intended for staff that better understand the limitations with legal authority, interdepartmental coordination, and the political atmosphere of residential parking policy.

References

- Arlington County. (2013). *Residential Permit Parking*. Retrieved from Arlington VA Transportation: <https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/19/2014/01/Residential-Permit-Parking-Program-Administrative-Policy-and-Procedures.pdf>
- Atkinson, S.-E. (2016, April 19). Parking and TDM Lead Palo Alto, CA. (D. Roth, Interviewer)
- Bellingham, C. o. (2016, April 12). Transportation Staff, Bellingham WA. (D. Roth, Interviewer)
- Bremerton, C. o. (2016, April 28). ImPark Staff Bremerton, WA. (D. Roth, Interviewer)
- Burseth, S. (2015). *Shared Park and Ride Parking in Multifamily Developments: A Geospatial Analysis for King County Metro Transit*. University of Washington.
- City of Bellevue. (2015). *Bellevue Comprehensive Plan*. Retrieved from http://www.ci.bellevue.wa.us/pdf/PCD/01_Intro_and_Vision_FINAL_20150727.pdf
- City of Bellevue. (2015). *Comprehensive Planning*. Retrieved March 2016, from Comprehensive Plan: http://www.ci.bellevue.wa.us/comprehensive_plan.htm
- City of Bellevue. (2015). *Neighborhood Traffic Safety Services*. Retrieved from Residential Parking Management Program: http://www.ci.bellevue.wa.us/pdf/Transportation/Residential_Parking_Management_Program.pdf
- City of Bellevue. (2016, February). *Police Policy Manual*. Retrieved May 2016, from City of Bellevue Police: <http://www.bellevuewa.gov/police.htm>
- City of Bremerton. (2016). *Residential Parking Permits*. Retrieved from City of Bremerton Transportation: <http://www.ci.bremerton.wa.us/456/Residential-Parking-Permits>
- City of Fort Collins. (2016). *RP3 Permits*. Retrieved from Parking Services: <http://www.fcgov.com/parking/residential-parking-permit/permits.php>
- City of Houston. (2016). *Residential Parking Permits*. Retrieved from ParkHouston: <http://www.houstontx.gov/parking/resparkingpermits.html>
- City of Littleton. (2016). *Neighborhood Parking Permits*. Retrieved from Littleton Colorado Police Department: <https://www.littletongov.org/index.aspx?page=922>
- City of Lubbock. (2016). *Residential Parking Only Program*. Retrieved from City of Lubbock Texas Traffic Engineering: <https://www.ci.lubbock.tx.us/departamental-websites/departments/traffic-engineering/other-information/resident-parking-only-program>
- City of Mercer Island. (2016). *Parking Permits on Mercer Island*. Retrieved from City of Mercer Island Parking Permits: <http://www.mercergov.org/Page.asp?NavID=1917>
- City of Mill Valley. (2015, December). *Residential Parking Permit*. Retrieved from City of Mill Valley Police Department: <http://www.cityofmillvalley.org/Index.aspx?page=1700>

A Review of the Residential Parking Management Program in Bellevue, WA

- City of Olympia. (2016). *Residential Parking*. Retrieved from Parking Services: <http://olympiawa.gov/city-services/parking/residential-parking.aspx>
- City of Palo Alto. (2015, August 15). *Downtown RPP FAQs*. Retrieved from City of Palo Alto, Parking: http://www.cityofpaloalto.org/gov/depts/pln/transit/parking/downtown_rpp_faqs.asp#G8
- City of Sacramento. (2016). *Chapter 10.48 Residential Permit Parking Program*. Retrieved from Sacramento City Code: <http://www.qcode.us/codes/sacramento/>
- City of San Mateo. (2005, January). *City of San Mateo, Residential Parking Permit Program Policy and Procedures*. Retrieved from Residential Parking Permits: <http://www.cityofsanmateo.org/DocumentCenter/Home/View/1175>
- City of Shoreline. (2016). *Parking*. Retrieved from City of Shoreline Traffic Services: <http://www.shorelinewa.gov/government/departments/public-works-/traffic-services/parking>
- DiRenzo, J. F., Cima, B., & Barber, E. (1980). *Study of Parking Management Tactics, Volume 1: Overview*. Washington D.C.: Federal Highway Administration.
- Edmonds, B. (2016, April 26). Traffic Management Division Seattle, WA. (D. Roth, Interviewer)
- Genetec. (2015). *Automatic License Plate Recognition for Parking Enforcement and Management*. Retrieved from AutoVu: genetec.com
- Gonzalez, K. (2016, March 2). NTSS Manager Bellevue, WA. (D. Roth, Interviewer)
- Gou, Z. (2013). Does Residential Parking Supply Affect Household Car Ownership? The Case Study of New York City. *Journal of Transport Geography*, 18-28.
- Gou, Z. (2013). Home Parking Convenience, Household Car Usage, and Implications to Residential Parking Policies. *Transport Policy*, 97-106.
- Gou, Z. (2013). Residential Street Parking and Car Ownership. *Journal of the American Planning Association*, 79(1), 32-48. Retrieved from <http://dx.doi.org/10.1080/01944363.2013.790100>
- Hazell, M. B. (1992). Permit Programs Increase On-Street Parking Availability in Residential Areas. *ITE Journal*, 62(5), 29-32.
- Huseby, E. (2016, April 14). Parking Manager Tacoma, WA. (D. Roth, Interviewer)
- Martin, T. (2016, April 28). City of Salem Traffic Engineer. (D. Roth, Interviewer)
- MCDOT. (2016). *Residential Parking Permit*. Retrieved from Montgomery County Department of Transportation Division of Parking Management: <http://www.montgomerycountymd.gov/DOT-Parking/FAQ/residential-parking-faq.html>
- McShane, M., & Meyer, M. D. (1982). Parking Policy and Urban Goals: Linking Strategy to Needs. *Transportation*, 11(2), 131-152.
- Meyer, M. D., & McShane, M. (1981). Assessment of Neighborhood Parking Permit Programs as Traffic Restraint Measures. *Transportation Research Board*, 35-42.

A Review of the Residential Parking Management Program in Bellevue, WA

- Miller, M. D. (1978). Neighborhood Parking Programs: Are They Unconstitutionally Discriminatory? *Boston College Environmental Affairs Law Review*, 6(3), 391-421. Retrieved from <http://lawdigitalcommons.bc.edu/ealr/vol6/iss3/6>
- Molenda, I., & Sieg, G. (2013). Residential Parking in Vibrant City Districts. *Economics of Transportation*, 131-139.
- Moyer, J. (2016, March 29). Parking Services Fort Collins, CO. (D. Roth, Interviewer)
- Moylan, E., Schabas, M., & Deakin, E. (2014). Residential Permit Parking: Better Off Without It? *Transportation Research Record*, 23-31.
- Olsson, M. L., & Miller, G. K. (1979). *The Impact on Commuters of a Residential Parking Permit Program*. Washington D.C.: The Urban Institute.
- Ommeren, J. v., Groote, J. d., & Mingardo, G. (2014). Residential Parking Permits and Parking Supply. *Regional Science and Urban Economics*, 33-44.
- Parker Jr., M. R., & Demetsky, M. J. (1980). *Evaluation of Parking Management Strategies for Urban Areas*. Charlottesville.
- Rye, T., Cowan, T., & Ison, S. (2006). Expansion of a Controlled Parking Zone (CPZ) and its Influence on Modal Split: The Case of Edinburgh. *Transportation Planning and Technology*, 29(1), 75-89.
- San Francisco Transportation Board. (2009, September). On-Street Parking Management and Pricing Study. San Francisco, CA.
- SDOT. (2009, April). *Restricted Parking Zone Policy Review Project Final Recommendations*. Retrieved April 2016, from Seattle Department of Transportation : <http://www.seattle.gov/transportation/parking/docs/RPZFinal/RPZBrochureApril2009.pdf>
- SDOT. (2014). *Restricted Parking Zones in the City of Seattle*. Retrieved from Restricted Parking Zones (RPZ) Program: <http://www.seattle.gov/transportation/parking/docs/RPZFactSheet122014.pdf>
- Shoup, D. (1995). An Opportunity to Reduce Minimum Parking Requirements. *Journal of the American Planning Association*, 14-28.
- Shoup, D. (2006). Cruising for Parking. *Transport Policy*, 13, 479-486.
- Simkowitz, H., Heder, L., & Barber, E. (1978). *The Restraint of the Automobile in American Residential Neighborhoods*. Cambridge: U.S. Department of Transportation.
- Temmermand, C. (2016, March 14). Principle Planner Arlington County, VA. (D. Roth, Interviewer)
- United States Census Bureau. (2010). *QuickFacts*. Retrieved from <http://www.census.gov/quickfacts/table/PST045215/00>
- VanWieringen, O. (2016, March 9). Parking Enforcement Officer Bellevue, WA. (D. Roth, Interviewer)

Appendices

<u>Appendix A. Existing Condition/Description for each Zone and Permit Summary Table</u>	<u>104</u>
<u>Appendix B. Existing RPM Program Brochure.....</u>	<u>115</u>
<u>Appendix C. Parking Review Request Form.....</u>	<u>117</u>
<u>Appendix D. Complete Residential Survey</u>	<u>119</u>
<u>Appendix E. Estimating the On-Street Parking Supply.....</u>	<u>126</u>
<u>Appendix F. Parking Study Results.....</u>	<u>129</u>
<u>Appendix G. Costs of the RPZ Program for the City.....</u>	<u>130</u>

Appendix A. Existing Condition/Description for each Zone and Permit Summary Table

Zone 1

Location:	south of Main St, north of SE 6th St, between 112th Ave SE and 108th Ave SE
Time Restrictions:	No parking 8am to 6pm except Saturday, Sunday and Holidays
Permits Expire*:	3/31/2019
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	A sliver of parcels directly north of the zone are zoned PO (professional office). Slightly farther north is the downtown Multiple-Use zone. A sliver of parcels to the east and the northwest corner of the zone are multi-family. To the south, single family residential.
Permit Color:	Green
Impetus for creating the zone:	Proximity to business: downtown
Number of decal permits issued:	75 (from TIMS on 03/29/16)
Number of visitor permits issued:	140 (from TIMS on 03/29/16)
Number of permit holders*:	41 (from TIMS on 03/29/16); subtracted 1 because of duplicate addresses***
Number of households in zone**:	124 (according to Mapshot mailing list created on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	33%
Visitor permits per permit holder:	3.41
Decals per permit holder:	1.83
General condition of street shoulder:	curb with no sidewalk

*Note: There is a higher level of uncertainty regarding the number of permit holders if a zone has not been renewed recently. This is because residents will move away without staff knowing and the transportation information management system (TIMS) will still record them as "active." However, if a zone has been renewed recently, it is a more accurate picture of the number of current permit holders. In other words, the farther away the expiration date is, the more accurate the number of permit holders will be.

**Note: This figure comes from a Mapshot mailing list that is made up of addresses. The mailing list only consisted of addresses of homes with occupants. However, after mailing a postcard to every address in an RPZ, there were 76 returned. This suggests that this number may be larger than the actual number of households with occupants. This figure is not generated by the number of parcels in a zone.

***Note: Sometimes TIMS will have multiple permit holders for the same address. This number indicates the number of households in a zone and not the number of permit holders. Multiple permit holders in the same address could indicate that someone has moved away. We are interested in the number of currently participating households per zone, not necessarily the number of permit holders per zone.

A Review of the Residential Parking Management Program in Bellevue, WA

Zone 2

Location:	north, east, and south patches around Interlake High School
Time Restrictions:	No parking 7am to 4pm except Saturday, Sunday and Holidays
Permits Expire:	6/30/2019
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Single family residential everywhere but to the west of the southern portion RPZ where there is an Office zoning designation.
Permit Color:	Red
Impetus for creating the zone:	Proximity to school: Interlake High School
Number of decal permits issued:	68 (# from TIMS on 03/29/16)
Number of visitor permits issued:	139 (# from TIMS on 03/29/16)
Number of permit holders:	38 (# from TIMS on 03/29/16)
Number of households in zone:	86 (according to Mapshot mailing list on 02/03/16 [includes the 2016 expansion on 25th])
Percent of households using program (hhlds with permits/hhlds in zone)	44%
Visitor permits per permit holder:	3.66
Decals per permit holder:	1.79
General condition of street shoulder:	mixed: curb with sidewalk, curb with no sidewalk, and no curb or sidewalk

Zone 3

Location:	Surrounds Bellevue High School on all sides except the west
Time Restrictions:	No parking 7am to 4pm except Saturday, Sunday and Holidays
Permits Expire:	12/31/2016
Description of land uses in the zone:	Vast majority of the land is single family residential. A small portion in the north is multi-family residential
Description of land uses surrounding the zone:	Single family residential and RPZ 1 to the east. A sliver of multi-family residential to the west. Downtown Multiple-Use and multi-family residential to the north.
Permit Color:	Dark Green
Impetus for creating the zone:	Proximity to school and business: Bellevue High School and downtown

A Review of the Residential Parking Management Program in Bellevue, WA

Number of decal permits issued:	212 (# from TIMS on 03/29/16)
Number of visitor permits issued:	332 (# from TIMS on 03/29/16)
Number of permit holders:	105 (# from TIMS on 03/29/16) subtracted 9 because of duplicate addresses
Number of households in zone:	196 (according to Mapshot mailing list on 02/17/16)
Percent of households using program (hhlds with permits/hhlds in zone)	54%
Visitor permits per permit holder:	3.16
Decals per permit holder:	2.02
General condition of street shoulder:	No curb no sidewalk

Zone 4

Location:	north of NE 12th St, south of NE 17th, between 108th Ave NE and Bellevue Way NE
Time Restrictions:	No parking 8am to 5pm except Saturday, Sunday and Holidays
Permits Expire:	4/30/2017
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Multi-family residential to the west. Single family residential to the east and north. Downtown Multiple-Use to the south
Permit Color:	Blue
Impetus for creating the zone:	Proximity to business: downtown construction workers/commuters
Number of decal permits issued:	105 (# from TIMS on 03/29/16)
Number of visitor permits issued:	161 (# from TIMS on 03/29/16)
Number of permit holders:	46 (# from TIMS on 03/29/16) subtracted 6 because of duplicate addresses
Number of households in zone:	66 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	70%
Visitor permits per permit holder:	3.50
Decals per permit holder:	2.28
General condition of street shoulder:	no curb no sidewalk

A Review of the Residential Parking Management Program in Bellevue, WA

Zone 5

Location:	north of NE 12th St and south of NE 16th Pl, between 100th Ave NE and 102nd Ave NE
Time Restrictions:	No parking 8am to 5pm except Saturday, Sunday and Holidays
Permits Expire:	8/31/2017
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Multi-family residential to the south and east, farther south is downtown Residential. Single family residential to the north and west.
Permit Color:	Blue
Impetus for creating the zone:	Proximity to business: Post office employees
Number of decal permits issued:	94 (# from TIMS on 4/5/16)
Number of visitor permits issued:	105 (# from TIMS on 4/5/16)
Number of permit holders:	38 (# from TIMS on 4/5/16) subtracted 8 because of duplicate addresses
Number of households in zone:	46 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	83%
Visitor permits per permit holder:	2.76
Decals per permit holder:	2.47
General condition of street shoulder:	Mostly no sidewalk mostly curb

Zone 6

Location:	SE 3rd Pl cul-de-sac west of 140 Ave SE
Time Restrictions:	1 hour parking 7am to 8pm except Saturday, Sunday and Holidays
Permits Expire:	11/1/2016
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Single family residential except multi-family residential kitty corner to the southeast
Permit Color:	Light Yellow
Impetus for creating the zone:	Proximity to school: Sammamish High School
Number of decal permits issued:	18 (# from TIMS on 03/29/16)

A Review of the Residential Parking Management Program in Bellevue, WA

Number of visitor permits issued:	14 (# from TIMS on 03/29/16)
Number of permit holders:	6 (# from TIMS on 03/29/16) subtracted 1 because of duplicate addresses
Number of households in zone:	18 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	33%
Visitor permits per permit holder:	2.33
Decals per permit holder:	3.00
General condition of street shoulder:	no curb no sidewalk

Zone 7

Location:	111th Ave NE and NE 12th St
Time Restrictions:	No parking 7am to 8pm except Saturday, Sunday and Holidays
Permits Expire:	2/28/2021
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Single family residential except south of NE 12th St where there is downtown Residential
Permit Color:	Tan
Impetus for creating the zone:	Proximity to business: downtown construction workers/commuters
Number of decal permits issued:	12 (# from TIMS on 03/29/16)
Number of visitor permits issued:	29 (# from TIMS on 03/29/16)
Number of permit holders:	8 (# from TIMS on 03/29/16)
Number of households in zone:	11 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	73%
Visitor permits per permit holder:	3.63
Decals per permit holder:	1.50
General condition of street shoulder:	no curb no sidewalk

Zone 8

Location:	110th Pl SE and Main St
Time Restrictions:	No Parking 7am to 8pm except Saturday, Sunday and Holidays
Permits Expire:	11/30/2016
Description of land uses in the zone:	Single family residential and one parcel of PO (professional office)
Description of land uses surrounding the zone:	Downtown Multiple-Use to the north and Single family residential surrounding the rest. Parcels to the east and west are PO (professional office).
Permit Color:	Orange
Impetus for creating the zone:	Proximity to business: downtown commuter parking
Number of decal permits issued:	18 (# from TIMS on 4/5/16)
Number of visitor permits issued:	13 (# from TIMS on 4/5/16)
Number of permit holders:	5 (# from TIMS on 4/5/16) subtracted 4 because of duplicate addresses
Number of households in zone:	8 (counted parcels from Mapshot on 02/19/16)
Percent of households using program (hhlds with permits/hhlds in zone)	63%
Visitor permits per permit holder:	2.60
Decals per permit holder:	3.60
General condition of street shoulder:	No sidewalk no curb

Zone 9

Location:	Between NE 8th St and Main St from 100th Ave NE as an eastern boundary and no farther west than 96th Ave NE
Time Restrictions:	No parking 8am to 9pm daily
Permits Expire:	6/30/2020
Description of land uses in the zone:	Even split between multi-family residential and single family residential
Description of land uses surrounding the zone:	Single family residential to the north and west. Downtown Multiple-Use to the east and multifamily and a parcel of Office to the south.
Permit Color:	Black
Impetus for creating the zone:	Proximity to business: Bell Square

A Review of the Residential Parking Management Program in Bellevue, WA

Number of decal permits issued:	294 (# from TIMS on 02/19/16)
Number of visitor permits issued:	794 (# from TIMS on 02/19/16)
Number of permit holders:	227 (# from TIMS on 4/5/16) subtracted 2 because of duplicate addresses
Number of households in zone:	414 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	55%
Visitor permits per permit holder:	3.50
Decals per permit holder:	1.30
General condition of street shoulder:	sidewalk and curb in the multifamily areas, no sidewalk no curb otherwise

Zone 10

Location:	123rd Ave SE north of Coal Creek Pkwy SE to SE 42nd St; between 124th Ave SE and 122nd Ave SE
Time Restrictions:	No parking 7am to 9pm daily
Permits Expire:	3/31/2020
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Single family residential surrounds the zone except multi-family residential to the north
Permit Color:	Red
Impetus for creating the zone:	Proximity to school: Newport High School
Number of decal permits issued:	28 (# from TIMS on 03/29/16)
Number of visitor permits issued:	47 (# from TIMS on 03/29/16)
Number of permit holders:	13 (# from TIMS on 03/29/16)
Number of households in zone:	40 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	33%
Visitor permits per permit holder:	3.62
Decals per permit holder:	2.15
General condition of street shoulder:	curb no sidewalk

A Review of the Residential Parking Management Program in Bellevue, WA

Zone 11

Location:	West of 130th PI SE to Wilburton Hill Community Park; between SE 4th PI and SE 7th PI
Time Restrictions:	No parking 7am to 9pm daily
Permits Expire:	10/31/2019
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Single family residential
Permit Color:	Mustard Yellow
Impetus for creating the zone:	Proximity to school: International High School
Number of decal permits issued:	68 (# from TIMS on 03/29/16)
Number of visitor permits issued:	114 (# from TIMS on 03/29/16)
Number of permit holders:	33 (# from TIMS on 03/29/16) subtracted 1 because of duplicate addresses
Number of households in zone:	95 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	35%
Visitor permits per permit holder:	3.45
Decals per permit holder:	2.06
General condition of street shoulder:	curb and some sidewalk

Zone 14

Location:	North of Tyee River Rd, east of Kelsey Creek Rd SE west of 145th PI SE
Time Restrictions:	No parking 7am to 4pm except Saturday, Sunday and Holidays
Permits Expire:	4/30/2016
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Single family residential surrounding except to the east where there are a few parcels zoned multi-family residential, PO (professional office), and NB (neighborhood business)
Permit Color:	Pink
Impetus for creating the zone:	Proximity to school: Bellevue College
Number of decal permits issued:	37 (# from TIMS on 02/19/16*)

A Review of the Residential Parking Management Program in Bellevue, WA

Number of visitor permits issued:	33 (# from TIMS on 02/19/16*)
Number of permit holders:	17 (# from TIMS on 02/19/16*) subtracted 2 because of duplicate addresses
Number of households in zone:	33 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	52%
Visitor permits per permit holder:	1.94
Decals per permit holder:	2.18
General condition of street shoulder:	No sidewalk no curb

*The zone was being renewed at the time of the parking count on 4/5/16. These figures from 2/19/16 are more accurate.

Zone 15

Location:	NE 14th and 15th streets between 110th Ave NE and 112th Ave NE
Time Restrictions:	No parking 8am to 5pm except Saturday, Sunday and Holidays
Permits Expire:	12/31/2018
Description of land uses in the zone:	Single family residential
Description of land uses surrounding the zone:	Single family residential surrounding except to the east zoned Office
Permit Color:	Blue
Impetus for creating the zone:	Proximity to business: Dental office
Number of decal permits issued:	25 (# from TIMS on 03/29/16)
Number of visitor permits issued:	24 (# from TIMS on 03/29/16)
Number of permit holders:	10 (# from TIMS on 03/29/16) subtracted 2 because of duplicate addresses
Number of households in zone:	29 (according to Mapshot mailing list on 02/19/16)
Percent of households using program (hhlds with permits/hhlds in zone)	34%
Visitor permits per permit holder:	2.40
Decals per permit holder:	2.50
General condition of street shoulder:	no curb no sidewalk

Zone 16

Location:	South of NE 8th St, west of 124th Ave NE, east of 123rd Ave NE
Time Restrictions:	No parking 8am to 5pm Mon-Fri
Permits Expire:	11/30/2016
Description of land uses in the zone:	Multi-family residential and single family residential with one parcel of PO (professional business)
Description of land uses surrounding the zone:	Office and PO to the north. Multi-family residential to the west and east. Single family residential to the east and south
Permit Color:	Goldenrod
Impetus for creating the zone:	Proximity to business: Barrier Motors
Number of decal permits issued:	13 (# from TIMS on 4/5/16)
Number of visitor permits issued:	19 (# from TIMS on 4/5/16)
Number of permit holders:	7 (# from TIMS on 4/5/16) subtracted 1 because of duplicate addresses
Number of households in zone:	34 (according to Mapshot mailing list on 02/03/16)
Percent of households using program (hhlds with permits/hhlds in zone)	21%
Visitor permits per permit holder:	2.71
Decals per permit holder:	1.86
General condition of street shoulder:	no curb no sidewalk

A Review of the Residential Parking Management Program in Bellevue, WA

Permit Summary Table

	# of permit holders in zone	# of hhlds in zone	% hhlds using program	# of permits (decal + visitor) per hhld	# of decals per permit holder	# of decals issued in zone	# of visitor permits per permit holder	# of visitor permits issued
Zone 1	41	124	33%	5.2	1.8	75	3.4	140
Zone 2	38	86	44%	5.5	1.8	68	3.7	139
Zone 3	105	196	54%	5.2	2.0	212	3.2	332
Zone 4	46	66	70%	5.8	2.3	105	3.5	161
Zone 5	38	46	83%	5.2	2.5	94	2.8	105
Zone 6	6	18	33%	5.3	3.0	18	2.3	14
Zone 7	8	11	73%	5.1	1.5	12	3.6	29
Zone 8	5	8	63%	6.2	3.6	18	2.6	13
Zone 9	227	414	55%	4.8	1.3	294	3.5	794
Zone 10	13	40	33%	5.8	2.2	28	3.6	47
Zone 11	33	95	35%	5.5	2.1	68	3.5	114
Zone 14	17	33	52%	4.1	2.2	37	1.9	33
Zone 15	10	29	34%	4.9	2.5	25	2.4	24
Zone 16	7	34	21%	4.6	1.9	13	2.7	19
ALL	594	1200	50%	5.2	2.2	1067	3.0	1964

Appendix B. Existing RPM Program Brochure

Residential Parking Management Program

BACKGROUND

In 1985, the City of Bellevue developed a Residential Parking Management Program. It was created to address neighborhood concerns with regard to the increased use of on-street parking by non-resident vehicles from adjacent businesses and downtown office buildings, or other major generators of vehicular parking, such as high schools and shopping malls.

There are two types of parking restrictions implemented through the Residential Parking Management Program. They are:

- General Parking Restrictions
- Residential Permit Parking Zones (RPZ)

NEIGHBORHOOD ELIGIBILITY FOR THE RESIDENTIAL PARKING MANAGEMENT PROGRAM

A neighborhood is eligible for the program if spillover parking from adjacent businesses or other nearby parking generators is occurring with the following conditions:

1. at least 10% of the available parking supply is occupied
2. at least 50% of vehicles parked on the street are nonresident
3. the concern is along at least 1000 feet of blockface

More information: <http://www.bellevuewa.gov/parking-management.html>
<http://bellevuentss.wordpress.com>

Residential Parking Management Program
Transportation Department
450 110th Ave NE, Bellevue, WA 98004
bellevuentss@bellevuewa.gov
425-452-6457

THE BEST PARKING SOLUTION FOR A NEIGHBORHOOD

General Parking Restrictions

If residents within a neighborhood do not need on-street parking during the day, a general parking restriction (such as "No Parking Anytime") will be the best option. With the "No Parking Anytime," time-based (e.g. "No Parking 8 AM to 5 PM"), and other general restrictions, no decals or guest permits are issued. All vehicles, including those belonging to residents and their guests, are not allowed to park on the street during the time indicated on the signs. There are no exceptions.



If residents need on-street parking during the day, the RPZ program will provide the parking restrictions needed.

Residential Permit Parking Zones (RPZ)

A Residential Parking Zone (RPZ) is an area established by a City ordinance to restrict non-residential parking on neighborhood streets. Essentially, it provides on-street parking, generally during business hours, for the residents who live on the street.

Residents whose property fronts the parking restrictions are eligible to park on the street once they apply for and receive RPZ decals and guest permits. All vehicles parked on the street during the hours of enforcement must display a valid permit to avoid being cited.



The program's policy is that "on-street parking on residential streets should be limited to the use of the streets' residents or their guests."

Steps for Implementing Residential Parking Zones (RPZ) or General Parking Restrictions—

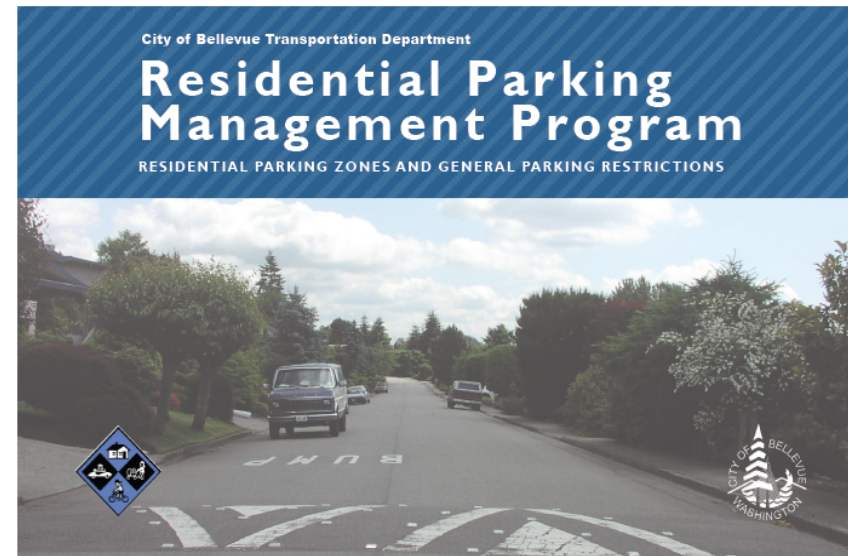
1. Residents and/or community associations submit a Parking Review Request form describing the problem, probable cause, and signature of neighbors who agree there is a problem.
2. Staff assign a case number and let residents know of next steps
3. Transportation staff review the location to determine if it qualifies for the Residential Parking Management Program based on the eligibility guidelines.
4. If the area qualifies, staff make an initial determination on what type of parking restriction or other treatment is appropriate for the neighborhood. These include residential parking zones (RPZs), "No Parking Any Time" signs, limited no parking restrictions (e.g. 2-hour parking), or other landscaping or channelization improvements.
5. Staff send residents the results of the field review, analysis, and recommendation to solicit feedback.
6. Once feedback is received, staff prepare a ballot to garner support from the wider neighborhood. RPZs and limited no parking restrictions require 65% of all households to approve the restrictions. If "No Parking Any Time" restrictions (or other restrictions that fully restrict parking for all users for any amount of time) are proposed, 100% of all households must approve.
7. When complete, petitions are submitted to staff for review. If the signatures on the petition appear valid and demonstrate enough support, staff prepare a confirmation letter to residents about the restriction.
8. If 65% support is not received, an area must wait 12 months before applying again.
9. If 65% support is received, staff will take the proposal to the City Council for their review and approval. If approved, an Ordinance is recorded, signs are installed and residents are issued permits. Signs are placed within the City's right-of-way, which occur along the frontage of homes. The number of signs installed is determined by staff to ensure the restrictions are enforceable. The ordinance takes approximately 30 days to become effective. Enforcement is provided by the Bellevue Police Department and is on a complaint basis or at an officer's discretion.
10. Residents with homes abutting RPZ restrictions are eligible to receive decals for their personal vehicles, as well as up to 4 guest permits per home. There is no fee for the decals and visitor permits at this time.
11. Once parking restrictions are implemented, it would take 65% of households to request its removal, via petition. A ballot provided by the City will confirm the amount of support for RPZ removal.

Updated: June 2015

BELLEVUE
NEIGHBORHOOD
TRAFFIC
SAFETY
SERVICES



City of Bellevue
Transportation Department
4501 110th Ave NE
P.O. Box 90612
Bellevue, WA 98009



Appendix C. Parking Review Request Form

CITY OF BELLEVUE TRANSPORTATION DEPARTMENT

Are you concerned with parking in your neighborhood? If so, please tell us in detail your concern by completing this form and returning it to us. Please include signatures from four households on your street who also share your concern (see back).

**Request
for Parking
Review**

Name _____

Address _____

Bellevue, WA 9800__

E-mail _____

Phone _____

Please detail the location of the parking concern (be specific):

The parking concern originates from (e.g. business, high school, etc.):

These parked vehicles concern me because (e.g. pedestrian safety concerns):

The parking concern is most pronounced during (specify days, times):

<input type="checkbox"/> Monday	<input type="checkbox"/> Morning	<input type="checkbox"/> Mid-day	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening
<input type="checkbox"/> Tuesday	<input type="checkbox"/> Morning	<input type="checkbox"/> Mid-day	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening
<input type="checkbox"/> Wednesday	<input type="checkbox"/> Morning	<input type="checkbox"/> Mid-day	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening
<input type="checkbox"/> Thursday	<input type="checkbox"/> Morning	<input type="checkbox"/> Mid-day	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening
<input type="checkbox"/> Friday	<input type="checkbox"/> Morning	<input type="checkbox"/> Mid-day	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening
<input type="checkbox"/> Saturday	<input type="checkbox"/> Morning	<input type="checkbox"/> Mid-day	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening
<input type="checkbox"/> Sunday	<input type="checkbox"/> Morning	<input type="checkbox"/> Mid-day	<input type="checkbox"/> Afternoon	<input type="checkbox"/> Evening

(Mailing instructions on other side)

A Review of the Residential Parking Management Program in Bellevue, WA

Find support from neighbors on the street

Parking restrictions require support from the neighborhood to be implemented. To start this process, staff need to verify the extent of the problem. Please sign your name below and obtain signatures from 4 additional households (one signature per household) on your street who also agree there is a parking concern that should be evaluated. Once a review is complete, staff will share recommendations for addressing the parking concern. Final implementation of parking restrictions will be based on level of support from areas households via a ballot.

1	_____	_____	_____
	Name	Signature	House #/Street
2	_____	_____	_____
	Name	Signature	House #/Street
3	_____	_____	_____
	Name	Signature	House #/Street
4	_____	_____	_____
	Name	Signature	House #/Street
5	_____	_____	_____
	Name	Signature	House #/Street

MAIL FORM BACK TO

Neighborhood Traffic Safety Services | Transportation Department | City of Bellevue
450 110th Ave NE, Bellevue, WA 98004

CITY OF BELLEVUE

Request for Parking Review



Interprète
翻譯員
مترجم
통역사
Thông Dịch Viên
425-452-6800
Available in Other Languages



通訳
ವ್ಯಾಖ್ಯಾರ್
इन्टरप्रेटर
Intérprete
Переводчик



Questions?
425-452-6457
bellevuewa.gov/parking-management.htm

A Review of the Residential Parking Management Program in Bellevue, WA

Appendix D. Complete Residential Survey

Neighborhood Traffic Safety Services Survey

Q1 Do you live in a Bellevue Residential Permit Parking Zone (RPZ)?

Answered: 235 Skipped: 0

Answer Choices	Responses	
Yes	83.40%	196
No	8.94%	21
I don't know	7.66%	18
Total		235

Q2 Which RPZ do you live in? (You may use maps on this website to help you identify your zone: <http://www.bellevuewa.gov/parking-management.htm>)

Answered: 189 Skipped: 46

Answer Choices	Responses	
Zone 1 - Surrey Downs	25.40%	48
Zone 2 - Interlake High School	10.58%	20
Zone 3 - Bellevue High School	14.29%	27
Zone 4 - Bellewood	6.35%	12
Zone 5 - Manor Hill	3.17%	6
Zone 6 - Sammamish High School	2.65%	5
Zone 7 - 111th Ave NE and NE 12th St	0.53%	1
Zone 8 - Main and 110th Ave SE	0.53%	1
Zone 9 - West Bellevue	20.11%	38
Zone 10 - Mockingbird Hill	5.29%	10
Zone 11 - Kelsey Creek	5.29%	10
Zone 14 - Bellevue College	1.59%	3
Zone 15 - NE 14th St and NE 15th St between 110th Ave and 112th Ave NE	2.12%	4
Zone 16 - 123rd Ave NE, south of NE 8th St	1.06%	2
I don't know	1.06%	2
Total		189

Q3 What type of building do you live in?

Answered: 189 Skipped: 46

A Review of the Residential Parking Management Program in Bellevue, WA

Neighborhood Traffic Safety Services Survey

Answer Choices	Responses	
Single-family home	82.54%	156
Apartment building (rental or condominium)	12.17%	23
Townhouse	3.70%	7
Other	1.59%	3
Total		189

Q4 How many visitor permits does your household have?

Answered: 189 Skipped: 46

Answer Choices	Responses	
0	26.98%	51
1	3.70%	7
2	20.63%	39
3	12.17%	23
4	28.57%	54
I'm not sure	7.94%	15
Total		189

Q5 Currently no household can receive more than 4 visitor permits. How many visitor permits should one household get?

Answered: 187 Skipped: 48

Answer Choices	Responses	
0	1.07%	2
1 or 2	22.99%	43
3 or 4	51.34%	96
5 or 6	12.30%	23
Unlimited	4.81%	9
I'm not sure	7.49%	14
Total		187

Q6 How many decals does your household have for your personal vehicles?

Answered: 189 Skipped: 46

Answer Choices	Responses	
0	37.04%	70

A Review of the Residential Parking Management Program in Bellevue, WA

Neighborhood Traffic Safety Services Survey

1	13.76%	26
2	30.69%	58
3	7.94%	15
4	6.88%	13
5 or more	0.00%	0
I'm not sure	3.70%	7
Total		189

Q7 Do you have a decal for every car owned by your household?

Answered: 186 Skipped: 49

Answer Choices	Responses	
Yes	47.85%	89
No	52.15%	97
Total		186

Q8 How do you handle parking for your guests? (Choose all that apply)

Answered: 183 Skipped: 52

Answer Choices	Responses	
My guests use my visitor permits	59.56%	109
My guests park further away, outside the RPZ	2.19%	4
I have my guests park on my property	69.40%	127
They park in the RPZ with no visitor permit	32.79%	60
Total Respondents: 183		

Q9 How did you apply for your most recent permits?

Answered: 183 Skipped: 52

Answer Choices	Responses	
In person at City Hall	25.14%	46
Through the mail	31.15%	57
Online	15.85%	29
I don't have any permits	27.87%	51
Total		183

Q10 You can apply for permits online. If you

3 / 7

A Review of the Residential Parking Management Program in Bellevue, WA

Neighborhood Traffic Safety Services Survey

applied for permits online, how was your experience?

Answered: 172 Skipped: 63

Answer Choices	Responses	
It was simple, and I did not have any problems.	17.44%	30
It was a little confusing, but not too bad.	2.91%	5
It was difficult, but I still was able to complete it.	0.58%	1
It was so confusing, I stopped trying to do it online.	3.49%	6
I haven't applied for permits online	75.58%	130
Total		172

Q11 Have you ever known of someone misusing RPZ permits? (e.g. give resident decals to non-residents, use expired permits, park without a permit, etc.)

Answered: 187 Skipped: 48

Answer Choices	Responses	
Yes, on a regular basis.	14.97%	28
Yes, but only occasionally.	12.83%	24
Yes, but rarely.	6.95%	13
No	65.24%	122
Total		187

Q12 Have you ever requested parking enforcement in your neighborhood (for concerns like: giving resident decals to non-residents, people using expired permits, parking without a permit, etc.)?

Answered: 187 Skipped: 48

Answer Choices	Responses	
Yes	21.39%	40
No	78.61%	147
Total		187

Q13 Currently, parking enforcement in RPZs is on a complaint basis or at an officer's discretion. What is your view on the amount of parking enforcement your

4 / 7

A Review of the Residential Parking Management Program in Bellevue, WA

Neighborhood Traffic Safety Services Survey

zone receives?

Answered: 177 Skipped: 58

Answer Choices	Responses
Too little	31.07% 55
Too much	3.39% 6
Just right	65.54% 116
Total	177

Q14 Currently residents do not pay for permits. Would you support implementing a fee for permits if those fees could support additional parking enforcement in your zone?

Answered: 187 Skipped: 48

Answer Choices	Responses
Yes	18.72% 35
No	81.28% 152
Total	187

Q15 Overall, how satisfied with the RPZ program are you?

Answered: 167 Skipped: 68

	Dissatisfied	2 of 5	Neutral	4 of 5	Satisfied	Total	Weighted Average
Response	6.59% 11	3.59% 6	33.53% 56	14.97% 25	41.32% 69	167	3.81

Q16 Generally, what is parking like in your neighborhood? (Choose all that apply)

Answered: 186 Skipped: 49

Answer Choices	Responses
I park in my garage, driveway, or carport	84.95% 158
It is easy to find the on-street parking I want	51.08% 95
It is sometimes difficult to find the on-street parking I want	17.74% 33
It is nearly impossible to park in my neighborhood	3.76% 7
Total Respondents: 186	

Q17 Considering the street is public space, are you OK with your neighbor and/or their

A Review of the Residential Parking Management Program in Bellevue, WA

Neighborhood Traffic Safety Services Survey

guests (with RPZ permits) using available on-street parking in front of your house?

Answered: 186 Skipped: 49

Answer Choices	Responses	
Yes	76.34%	142
No	23.66%	44
Total		186

Q18 RPZs restrict parking for non-permit holders. Who should be able to get RPZ permits? (Choose all that apply)

Answered: 182 Skipped: 53

Answer Choices	Responses	
Only residents of the RPZ, with an unrestricted number of permits per household	14.29%	26
Only residents of the RPZ, but limit the permits per household	81.87%	149
Visitors of residents	48.90%	89
Residents directly outside of an RPZ	2.20%	4
Home health aides / Nurses	41.76%	76
Anyone who works in an RPZ	15.38%	28
Short-term construction workers	28.02%	51
People who are shopping or running errands nearby	1.10%	2
Building owners and managers	11.54%	21
Bus riders who use a nearby bus stop	0.55%	1
Students or commuters	2.20%	4
Total Respondents: 182		

Q19 Consider your own preferences for how your street should be used. What amount of parked cars are you comfortable with parking on your street?

Answered: 211 Skipped: 24

Answer Choices	Responses	
70% or more of the street can have parked cars.	6.64%	14
40 - 70% of the street can have parked cars.	17.06%	36
20 - 40% of the street can have parked cars.	29.38%	62
5 - 20% of the street can have parked cars.	27.96%	59

A Review of the Residential Parking Management Program in Bellevue, WA

Neighborhood Traffic Safety Services Survey

0 - 5%, generally there should not be cars using on-street parking spaces.	18.96%	40
Total		211

Q20 Would you be willing to give up on-street parking along one side of your street in favor of a designated non-motorized path?

Answered: 208 Skipped: 27

Answer Choices	Responses	
Yes	31.25%	65
No	68.75%	143
Total		208

Q21 City law requires a vehicle parked on the street to be moved at least once every day (24-hours), even if it has an RPZ permit. Do you think this law should be changed, or stay the same?

Answered: 214 Skipped: 21

Answer Choices	Responses	
Changed. 24 hours is too short, people should be able to have their vehicles parked longer.	37.85%	81
Stay the same.	62.15%	133
Total		214

Q22 Use this space to provide any additional thoughts on the RPZ program or residential parking.

Answered: 79 Skipped: 156

Appendix E. Estimating the On-Street Parking Supply

This appendix explains the methodology for counting and estimating the on-street parking supply in more detail than what is in the body of this report. It also includes a description of how the estimated count method was verified using the manual count method. A discussion on the limitations of estimating parking supply concludes this appendix.

Manual Count Methodology

The manual method involved using Google Street View to drive through each zone and take note of which segments of the street could be legally parked. Segments of the street were only counted as parking spaces if there was enough street space to park a car. Meaning a segment of the street was only counted as a parking space if 22 feet of uninterrupted street was observed (no mailboxes, fire hydrants, stop signs, intersections, or driveways). Those segments were then measured and added using Mapshot. This process was more tedious and presumed to be more accurate than the estimation method of calculating on-street parking supply. This method was used to measure zones 4, 5, 7, 8, 10, 14, and 16.

Estimated Count Methodology

This method relied on GIS data to locate fire hydrants, stop signs, yield signs, no parking anytime signs, parcels, RPZ boundaries, and street center lines. All street center lines within RPZs were added and multiplied by two to represent that parking is possible on both sides of the street. This gross calculation represented the total length of curb if there were no driveways, intersections, or anything that would restrict parking.

Next, all of the features that restrict parking were counted and multiplied by the number of feet of their parking restriction. For example, for every fire hydrant within an RPZ, 15 feet was subtracted from the gross curb length. For every stop sign or yield sign 30 feet was subtracted, etc. The road features that restrict parking and were accounted for are: stop signs, yield signs, fire hydrants, mailboxes, driveways, crosswalks, and intersections. Additionally some sections of the road did not allow parking or did not have space to park a vehicle. These sections were erased from the street center line GIS layer before being added to the gross curb length calculation. Features like mailboxes and crosswalks (which are not in a GIS layer) were counted using Google Street View. The number of driveways was estimated using the number of parcels in each zone. Driveways were estimated to be 20 feet wide with five feet of no parking on either side. Meaning, for every parcel in an RPZ, 30 feet was subtracted from the gross curb length. Intersections were divided into two categories, T-intersections

A Review of the Residential Parking Management Program in Bellevue, WA

and 4-way intersections. For every T-intersection 160 feet was subtracted and for every 4-way intersection 320 feet was subtracted (see the figure below for details).

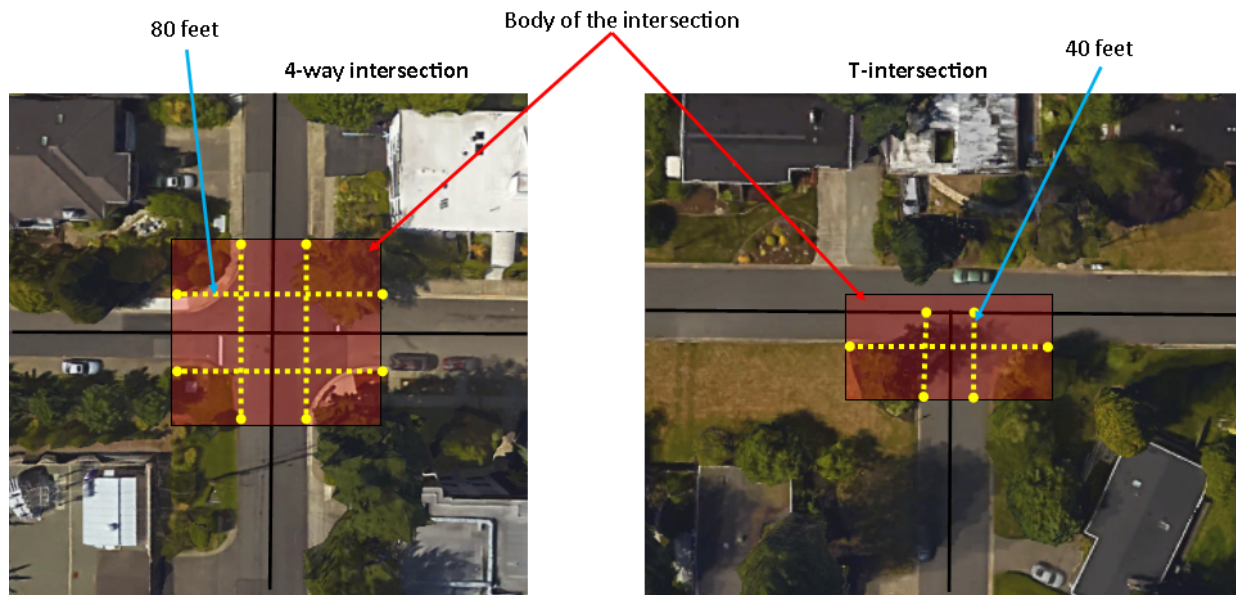
This figure describes the process for calculating the amount of linear feet to subtract from center line calculations for each type of intersection.

Black line = Center line of the street. The length of the center line is added up for all streets regulated by RPZ restrictions. That total is then doubled to represent that parking is possible on both sides.

Red Box = the “body of the intersection” where there is no parking any time. The black lines within the body of the intersection must not count towards the length of the total parkable street space.

Based on measurements from Google Earth, the body of the intersection was estimated to be 80 ft x 80 ft.

Yellow lines = the amount of linear feet that is subtracted for each intersection.



Note: When a road with one name curves and becomes a road with a different name, it is not considered an intersection if no other road intersected with it.

After all the features were counted and multiplied by their length of restriction, the total length of restricted parking was subtracted from the gross curb length and a net street length of parkable curb space was found for each zone. The net parkable curb length was divided by 22 feet (the equivalent of one parking space) to estimate the number of on-street parking spaces for each zone. Use the equation below for further reference:

$$\begin{aligned} \# \text{ of parking spaces} = & \{(\text{Feet of center lines in RPZs} \times 2) - ([\text{stop/yield signs} \times 30\text{ft}] + [\text{fire hydrants} \times 15\text{ft}] + \\ & [\text{mailboxes} \times 20\text{ft}] + [\text{driveways} \times 30\text{ft}] + [\text{crosswalks} \times 20\text{ft}] + [\text{T-intersection} \times 160\text{ft}] + [\text{4-way} \\ & \text{intersections} \times 320\text{ft}]\} / \text{length of one parking space, 22 ft} \end{aligned}$$

Using this equation, an average section of street 1,000 feet long in Bellevue RPZs has 25 parking spaces.

A Review of the Residential Parking Management Program in Bellevue, WA

Verification of the Estimated Count

The estimation was verified using the manual counting method in zone 4, 5, 10, and 14. Zones 7, 8, and 16 were also manually counted, but because those zones are so small, their size makes them irregular and therefore inappropriate to use for verification. The difference between the two methods and the final number of parking spaces counted for each zone varied between -13% and +4%.

- Zone 4: Manual Count = 143 spaces; Estimated Count = 135 spaces; difference of -6%
- Zone 5: Manual Count = 112 spaces; Estimated Count = 117 spaces; difference of +4%
- Zone 10: Manual Count = 86 spaces; Estimated Count = 75 spaces; difference of -13%
- Zone 14: Manual Count = 102 spaces; Estimated Count = 104 spaces; difference of +2%

Limitations

While the estimation method was verified, there are some limitations that should be noted. One such limitation is that sometimes parking restrictors (hydrants or mailboxes) will be a certain distance apart so that the width of restriction leaves five or 10 feet of "parkable" curb space. This five or 10 feet of distance is counted in the net parkable curb length calculation even though no car could actually fit into that amount of space. However, this limitation is also offset when two parking restrictors (hydrants or mailboxes) are close enough to each other that their restriction widths overlap. This means that every mailbox counts as 20 feet of restriction and every hydrants counts as 15 feet of restriction that is subtracted from the gross curb length, regardless of their proximity to each other. Another limitation to note is that zones 3, 9, and 11 have centerline calculations that are estimated more than other zones. These three zones have a great deal of curb space that is unparkable due to no parking anytime signs or not enough space to park outside of the travel lanes. These unparkable curb lengths were subtracted from the centerline calculation, but exact measurements were not possible. Furthermore, when curbs were deemed unparkable, driveways and mailboxes on those portions of the street were not counted and therefore did not subtract from the gross centerline calculation.

Appendix F. Parking Study Results

	# of parked cars (A.M.)	# of parked cars (P.M.)	# of estimated parking spaces	On-street parking rate (A.M.) [# of A.M. cars / # of spaces]	On-street parking rate (P.M.) [# of P.M. cars / # of spaces]	# of visitor permits (P.M.)	# of vehicle permits (P.M.)	Total # of permits (P.M.)	Rate of permit compliance [# of P.M. cars / total permits]
Zone 1	40	29	366	11%	8%	7	6	13	45%
Zone 2	15	9	182	8%	5%	0	1	1	11%
Zone 3	38	39	221	17%	18%	10	11	21	54%
Zone 4	19	16	145	13%	11%	1	4	5	31%
Zone 5	17	13	112	15%	12%	0	4	4	31%
Zone 6	1	0	44	2%	0%	0	0	0	NA
Zone 7	4	6	20	20%	30%	0	3	3	50%
Zone 8	2	0	8	25%	0%	0	0	0	NA
Zone 9	64	55	305	21%	18%	8	20	28	51%
Zone 10	7	7	86	8%	8%	3	1	4	57%
Zone 11	24	26	88	27%	30%	2	4	6	23%
Zone 14	9	6	102	9%	6%	1	1	2	33%
Zone 15	4	2	55	7%	4%	0	0	0	0%
Zone 16	3	1	21	14%	5%	1	0	1	100%
ALL	247	209	1755	14%	11%	33	55	88	41%

Appendix G. Costs of the RPZ Program for the City

	Annual Totals	Notes
Estimated Annual Cost for Permits	\$ 2,811	Ordering 15% extra at \$0.85 per decal and \$1.50 per visitor permit
Estimated Annual Cost of NTSS Staff Time	\$ 16,065	7 hours a week at \$45 an hour for 51 weeks a year
Estimated Annual Cost of Enforcement Staff Time	\$ 20,400	10 hours a week at \$40 an hour for 51 weeks a year
Total Without Enforcement	\$ 18,876	Enforcement is on a separate budget, this total represents the average cost to NTSS without expansions.
Total With Enforcement	\$ 39,276	Including enforcement, this is the estimated cost of the RPZ program per year without expansions.
Estimated Cost per Sign Installation	\$ 70	If the program expands, this is the minimum cost per sign installation based on a private contract in 2009 for zone 1.