City of Belmont

Belmont Village Parking Utilization Study

FINAL REPORT

June 2013

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Acknowledgments

We would like to thank all our community partners, especially Thalia Lang from the Grand Boulevard Initiative (GBI) and Carlos de Melo and Jason Eggers from the City of Belmont for sharing their expertise, support, and knowledge with us. We had a wonderful experience working with you; your positivity, enthusiasm and support throughout our project were greatly appreciated. We would also like to thank the Grand Boulevard Initiative - Working Committee for giving us valuable feedback following our presentation. We would also like to extend our appreciation to all the Belmont Village businesses who graciously took the time to share their opinions and concerns in response to our survey. Finally, we would like to thank our instructor, Deland Chan, and our Teaching Assistant, Dylan Clayton, for all their help and guidance during the project.

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I. Executive Summary

Project Purpose

The purpose of this project was to determine both parking inventory and parking utilization of the Belmont Downtown. A balance of parking and activities is important to maintain a healthy and attractive downtown area. Currently, the Belmont Community Partners believe their downtown to have too much parking, which has led to difficulties creating an identity for the downtown. The following project will inform both the Grand Boulevard Initiative Working Committee and the City of Belmont Zoning Proposal (which will be voted on in June 2013).

Methodology

The project team conducted a phone survey of businesses to identify peak days and time in order to determine when there would be the highest demand for parking. These times were Fridays and Saturdays from 12:00-2:00pm and 6:00-8:00pm. We then surveyed during the identified times and conducted two surveys per visit. To conduct our survey, we drove through the study area and had two of our team members counting and writing down results. Afterwards, the team compiled the data into maps and performed parking demand ratio analysis.

Data and Analysis

The project team's surveys indicated that certain areas of the downtown were consistently highly underutilized, such as the Namaste Plaza block. Other areas, such as the Village Center and Village Center West, had high utilization. The Firehouse Square block was only highly utilized when the Irongate Restaurant was open. The Parking Demand Ratios indicated that the downtown is slightly overparked and that the current supply of 2.5 spaces per 1000 square feet (sq. ft.) is enough to meet the average, day-to-day needs of the area. The highest observed demand was 1.81 spaces per 1000 sq. ft. Overall, parking demand for the downtown never reached the ideal 85% capacity.

Recommendations

Based on our results, we have five general recommendations for the City of Belmont that are potentially applicable to any downtown area:

1. Improve pedestrian safety and perceptions thereof Ralston Ave and El Camino Real.
2. Increase acceptable walking distance from parking spaces to businesses.
3. Improve driving conditions.
4. Increase driver knowledge and visibility of parking lots.
5. Create responsible parking requirements for future development.

Two additional recommendations specific to the City of Belmont are to: 1) require businesses to provide 2 – 2.5 parking spaces per 1000 sq. ft. of floor area and 2) construct a public parking lot or garage at a central location.

II. Project Purpose

The project team was approached was approached by Carlos de Melo and Thalia Leng, representatives of the City of Belmont and the Grand Boulevard Initiative respectively, to conduct a parking survey of downtown Belmont. Carlos de Melo described this area as "having a sea of parking" and believed that available parking in downtown Belmont exceeded the demand. Consequently, our team was tasked with finding the peak parking ratios for the site and determining whether or not Belmont is conclusively "overparked". Within the context of this study, *"overparked" refers to a surplus of available parking while "underparked" would denote a shortage of parking spaces relative to the demand*. The data from our parking survey will be used to help inform the city's upcoming zoning proposal and plans for future development.

In addition to the survey, Carlos de Melo and Thalia Leng also asked us to provide urban design recommendations to help alleviate parking problems and give the downtown a livelier "village-like" feel that is friendlier and more accessible to pedestrians. Particular aspects that they asked us to consider were hiding parking and putting storefronts closer to El Camino, locating a suitable path for a pedestrian only corridor, and developing the Firehouse Square block in a manner to incorporate it better into the downtown area. We were also free to address any problems we encountered or identified based on our parking survey.

Community Partners

Thalia Leng – Thalia Leng is a transportation planner who works for SamTrans and the Grand Boulevard Initiative (GBI). The GBI is a regional collaboration that seeks to revitalize the El Camino Real Corridor that runs throughout many Bay Area cities in San Mateo and Santa Clara counties. In relation to Belmont, El Camino Real runs right along the northeast face of the downtown area and is also parallel to the Caltrain line. Thalia Leng and the GBI are interested stakeholders in this project because they observe that Belmont is currently a place where people "pass through" when traveling on El Camino Real. They hope that our parking survey can give better insight into the current parking situation in Belmont and inform urban design recommendations that will make Belmont more of a lively destination along El Camino Real.

Carlos De Melo – Carlos de Melo is the Community Development Director for the City of Belmont. Belmont is currently in the process of submitting a new zoning proposal for review and approval. Carlos hopes that our parking survey can help inform the current zoning proposal and offer hard data to describe the current parking situation in Belmont. Carlos de Melo believes that Belmont is overparked and the present surplus of parking is making Belmont a less attractive place for people to visit. He hopes that we can give urban design recommendations that will make downtown Belmont more exciting and cause people traveling along El Camino Real to want to stop and visit.

Jason Eggers – Jason Eggers is the Geographic Information Systems (GIS) specialist for the City of Belmont. While GIS was ultimately not used for this project, Jason helped our team devise ideas in how to map our parking inventory to reveal more spatial data. He suggested we map buffers around major parking lots to show the area and number of businesses that each parking lot serves.

Other Stakeholders – The business owners of Belmont offered a variety of opinions regarding parking in the downtown area. Some business owners, especially those in shopping centers, typically remarked that there was adequate parking in the downtown area. Others, however, felt that there was not enough parking and were resistant to the idea of any parking being taken away.

Project Location

At the macroscopic level, Belmont is located within California's Greater San Francisco Bay Area. To the southwest lies Highway 280 and along the northeast is Interstate Highway 101. Belmont is one of the stops along the public Caltrain line and is situated between San Carlos and Redwood City to the southeast and Hillsdale and Hayward Park to the northwest. The City of Belmont is roughly 25 miles south of San Francisco and roughly 27.5 miles from San Jose.

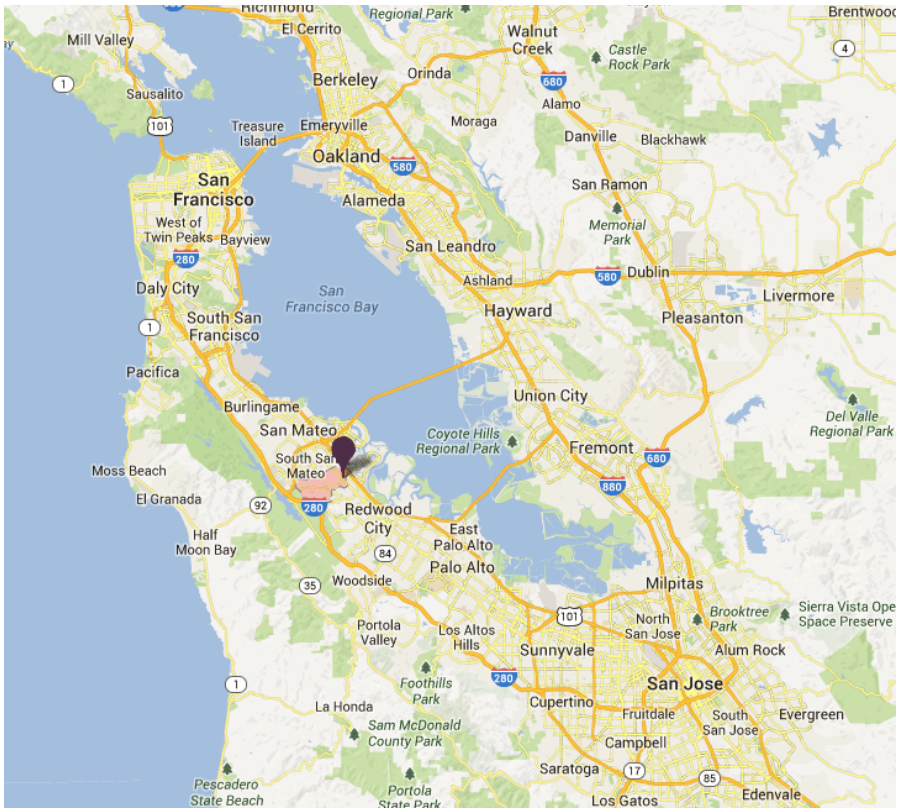

Figure 2-1: Belmont in the San Francisco Bay Area

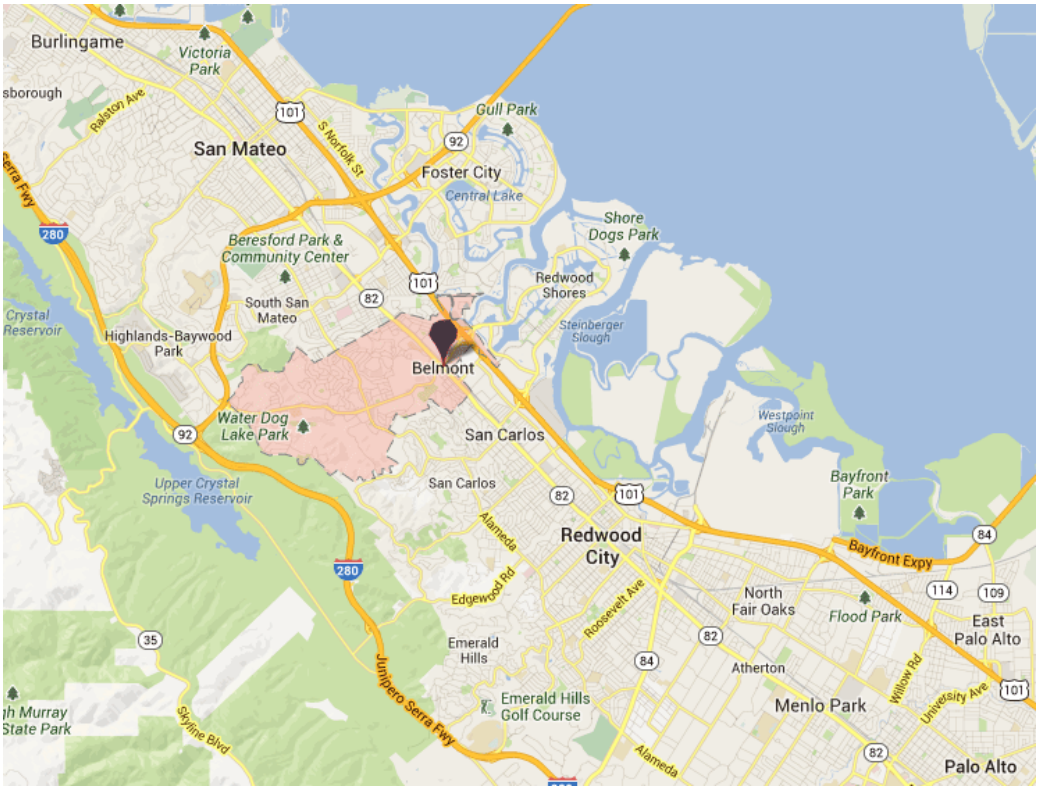

Figure 2-2: Belmont's Surroundings

For this study, our group is focusing on the Belmont downtown area. Belmont's downtown is southwest of the Belmont Caltrain station and lies right across from El Camino Real. The area primarily contains commercial spaces, but there are significant residential spaces along the boundaries of the Village Center Southeast and Namaste Plaza blocks. Colloquially, we refer to the blocks within our study area as the Namaste Plaza, Village Center West, Village Center, Village Center Southeast, Village Center Northeast, Firehouse Square, and Wells Fargo (see Figure 2-3).

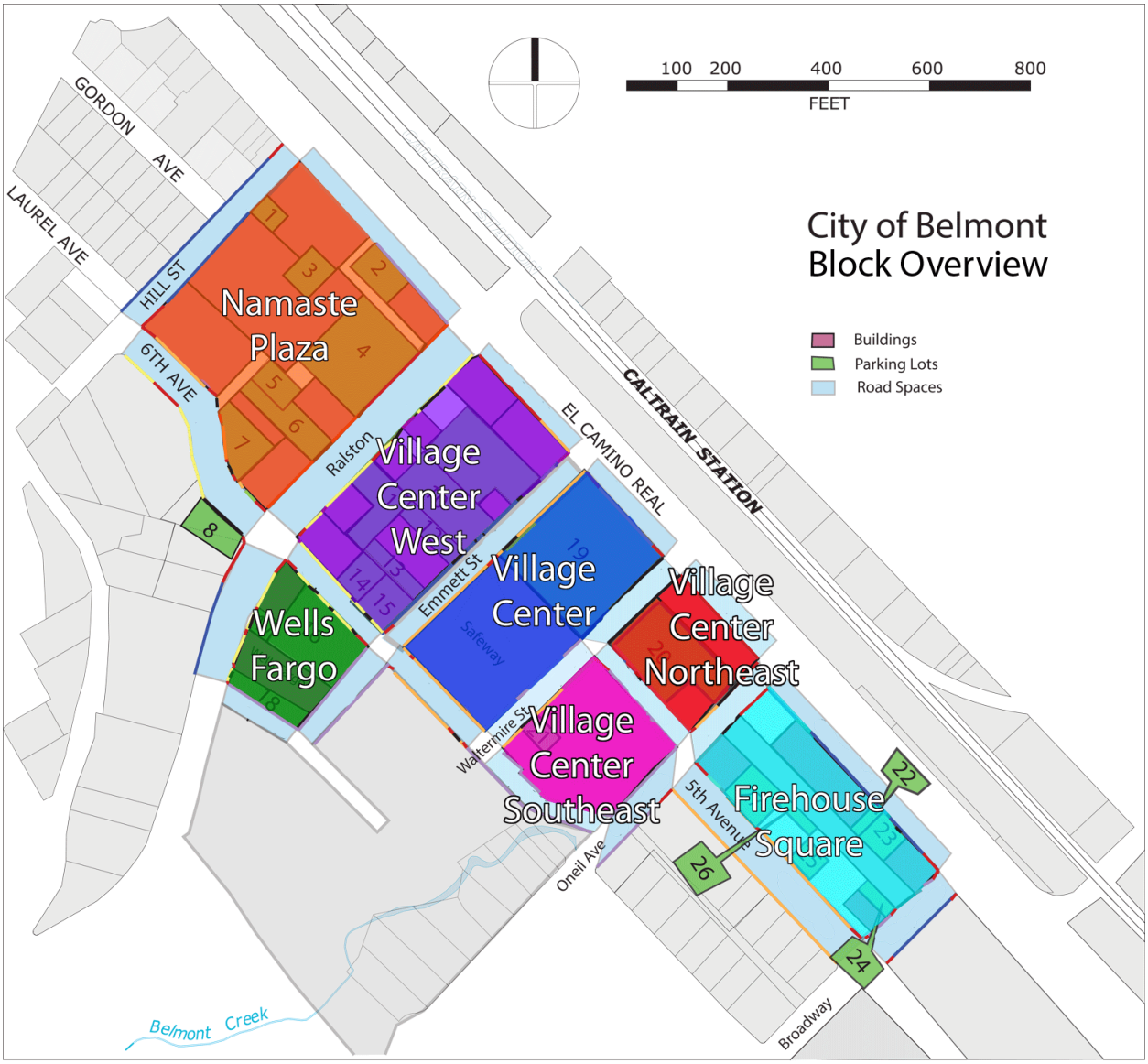

Figure 2-3: Block Overview of Project Area

Implications and Importance

The City of Belmont is working to approve a new zoning proposal that will be under review soon. The data from the Belmont Village Parking Utilization Study will be used in ascertaining whether the new zoning recommendations will properly address the parking situation in the downtown area and whether new development plans will have enough available parking to accommodate growth. In addition, there is also currently a Ralston Corridor Study that is analyzing how to accommodate pedestrians while simultaneously allowing for high-speed

traffic. As our study also identifies Ralston Avenue as a barrier for parking and pedestrian crossings, our project may be relevant to that study.

Our project hopes to inform the City of Belmont on appropriate parking utilization and help make sure there is an appropriate level of parking for the demand. Parking is an important, but often neglected aspect of sustainability in cities.

An undersupply of parking at peak times has a number of negative impacts. Traffic congestion from vehicles searching for open parking spaces is a possible outcome during peak demand times. Increased traffic (caused by extra vehicles moving in an area) can represent a significant safety hazard to drivers and pedestrians[1]. Difficulties in finding available parking spaces can also negatively impact a visitor's experience in an area. Furthermore, lack of available parking spaces harm businesses economically by restricting the number of visitors that an area can accommodate[2]. Lastly, the failure to provide adequate parking for visitors to a commercial area can result in residential spillover, antagonizing local residents[3].

A surplus of parking reduces development density and wastes land that is potentially usable for other purposes. An oversupply of parking is also expensive to construct and maintain. Furthermore, large concrete lots are unappealing to pedestrians and visitors; these areas detract from the feel of a community and can make the area seem more isolated and lonely[4]. With these detrimental effects, commercial downtowns should desire to avoid an excess of parking. A healthy downtown attracts visitors not only through commercial business, but also through the vibrancy, attractiveness, and the community present.

Parking can have a significant environmental impact. As available parking increases (without disincentives), more visitors will elect to take personal vehicles, rather than taking alternative forms of transportation (e.g. carpool, public transit)[5]. The use of additional vehicles creates local health problems (e.g. asthma) by decreasing air quality[5]. Additionally, parking lots are impervious surfaces that aggravate water run-off and water quality problems[6].

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1 Lee, C., and M. Abdelaty. "Comprehensive Analysis of Vehicle–pedestrian Crashes at Intersections in Florida." *Accident Analysis & Prevention* 37.4 (2005): 775-86.
2 Marsden, G. "The Evidence Base for Parking Policies—a Review." *Transport Policy* 13.6 (2006): 447-57.
3 Mildner, Gerard CS, James G. Strathman, and Martha J. Bianco. "Travel and Parking Behavior in the United States." Portland, Oregon: Center for Urban (1998).
4 Barnett, Simon. "Creating walkable urban environments." *Proceedings of the ICE-Engineering Sustainability* 159.3 (2006): 91-97.
5 Shoup, Donald C. *The high cost of free parking*. Vol. 7. Chicago: Planners Press, American Planning Association, 2005.
6 Arnold Jr, Chester L., and C. James Gibbons. "Impervious surface coverage: the emergence of a key environmental indicator." *Journal of the American Planning Association* 62.2 (1996): 243-258.

Land wasted in oversupplying parking could be better used to support downtowns by creating pedestrian walkways that reduce traffic and pollution, creating sustainable development projects or adding more green spaces. Any of these potential uses would conserve resources, create a sense of community, and promote healthier living for future generations.

III. Literature Review

A literature review was conducted to inform the project team about parking study methodology and to properly situate the study within contemporary parking practice. Listed below are the selections of relevant literature that the project team closely reviewed:

- Nelson\Nygaard Consulting Associates. "City of Newport Beach - Balboa Village Parking Management Plan". (2012).
- San Jose State University and Santa Clara Valley Transportation Authority, "A Parking Utilization Survey of Transit-Oriented Development Residential Properties in Santa Clara County". Vol. 1, (2010).
- Van Meter Williams Pollack LLP, "Mountain View ECHO II Case Study". (2013)
- Litman, Todd, "Role of Parking Management in Livable Communities", *Victoria Transport Policy Institute – Railvolution*. (2006)
- Willson, Richard. "Parking policy for transit-oriented development: lessons for cities, transit agencies, and developers". (2005).
- WilburSmith Associates, "Downtown Mountain View Parking Study". (2011)

The reviewed literature of parking utilization studies and transit-oriented development provided the foundational knowledge on the philosophies of transit-oriented development and sustainable parking practices that have guided this project. Likewise, the priorities of the Belmont Parking Utilization Study mirror those found in contemporary parking studies. Existing literature of parking utilization studies and transit-oriented development provided this project with useful survey and analysis methodology. This project recreates the processes of surveying and analyzing parking demand data from WilburSmith Associates and Nelson\Nygaard Consulting at a smaller scale. Existing examples of parking utilization studies provided the analysis metrics for current and future demand used in this project.

In particular, evaluation of current demand normalized for commercial floor area is executed through parking demand ratios, a metric derived from the Nelson\Nygaard study of Balboa Village. Another standard found in parking-relevant literature is *the ideal parking occupancy of 85%*. When 85% of on-street or lot parking spaces are occupied, drivers perceive the area as full and are forced to "cruise" for parking. When occupancy exceeds this 85% ideal, additional traffic is created and the experience of drivers begins to be negatively impacted. This 85% ideal is often referred to as "practical capacity". Furthermore, these works informed and inspired the data visualizations and mappings found throughout this project.

A number of this project's recommendations have been inspired by the recommendations put forth by existing literature on parking management, but adapts these recommendations to a suburban environment typical of the San Francisco Peninsula. This project also focuses on parking-relevant recommendations that do not involve parking pricing. Given the business

composition of the Belmont Village area and existing business stall vacancies, we do not believe parking pricing is politically viable. Imposing a price on parking may deter visitors and businesses from the area, but should be considered an option once commercial growth resumes.

Given the time and budget limitations of this project, we were unable to perform the additional analyses found within the works of Nelson\Nygaard, San Jose University and Santa Clara Valley Transportation Authority, and WilburSmith Associates. The Belmont Village Parking Utilization Study can be extended by projections of future demand, conducting survey site visits over longer periods of time with a higher frequency, conducting survey site visits during different months, considering employee-only parking, evaluating vehicle turnover, creating an economic analysis of future development and parking pricing, among other methods found within the reviewed literature.

IV. Methodology

There was no pre-existing information on parking utilization of the downtown area of Belmont. There existed the perception of excess parking supply, but our community partner desired confirmation of this hypothesis in our study. We based our methodology on strategies we saw in the parking surveys we examined in our literature review. These included: in-person surveys of parking demand, detailed mapping of the site area, and several different strategies for analysis of the data. Each of these studies focused on identifying the peak parking time and insuring that the study area had enough parking capacity to support that. We followed a similar format. Our study had five basic steps:

1. Conduct the initial site visit.
2. Identify peak parking times.
3. Survey at least once during each of those peak times.
4. Visualize the data in maps and tables.
5. Make conclusions and propose recommendations (see **VI - Recommendations** section).

Our first step was to visit the site, and conduct the initial survey to create a site map of our study area and determine the parking supply. We walked around the study area and counted the number of parking spaces, mapped locations of lots and noted number and location of businesses. Street parking spaces were often divided into predefined stalls, but where non-existent, we estimated a street parking space to extend approximately 20 feet. Our next step was to determine when peak parking occurred. In order to determine probable peak parking times, we conducted a phone survey of business in the area. We identified these businesses primarily through web searches and in our initial site visit. When possible, we spoke to managers directly and if they were not available we spoke to an employee. The survey asked businesses to identify their busiest days of the week, their busiest hours on those days, and also if they had enough parking to accommodate their customers during those times. After compiling the results from our eighteen respondents, we identified Friday and Saturday at 12pm-2pm and 6pm-8pm as the peak times (see Figure 4-1). We were unable to get responses from several businesses. A more thorough survey that reached all the managers might be more accurate in determining the peak parking times.

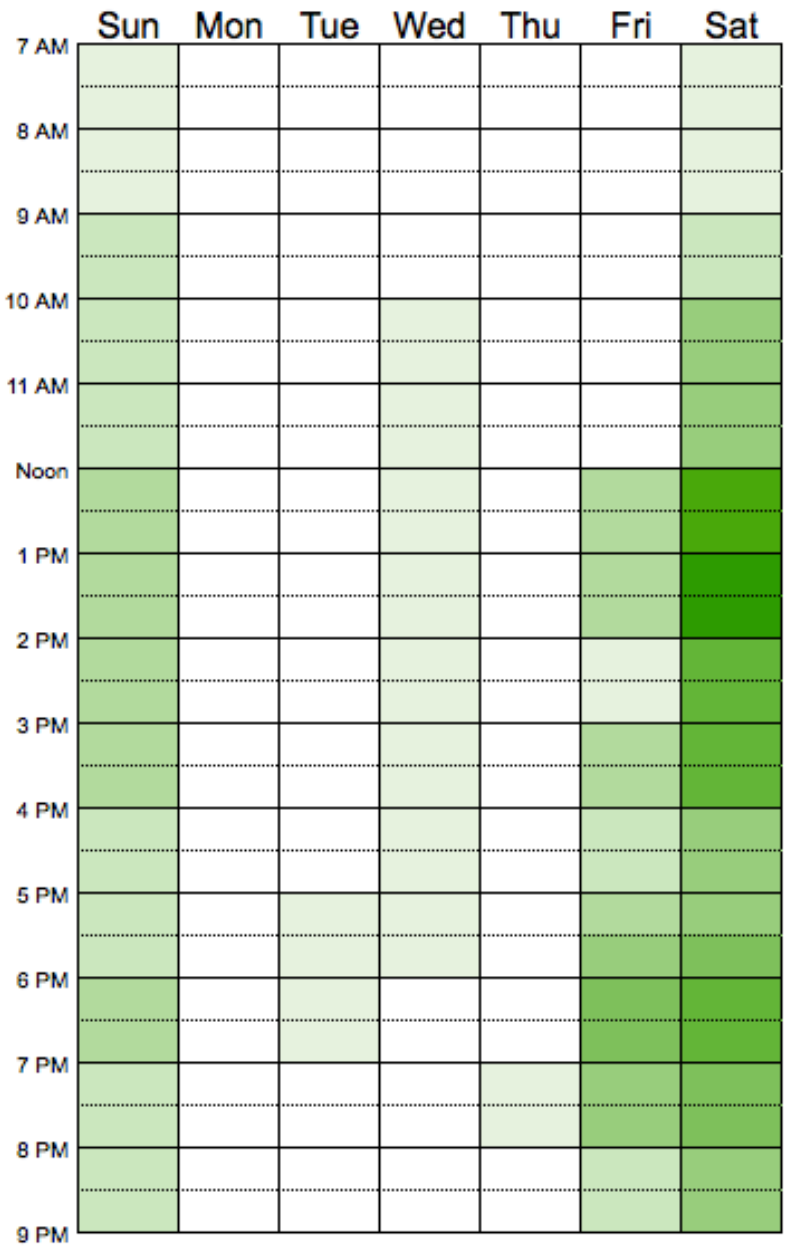

Figure 4-1: Visualization of Business Survey Responses. "What are your peak business hours?"

We surveyed the sites on the following dates:

- Friday, May 10th (12:00-2:00pm and 6:00-8:00pm),
- Saturday, May 11th (6:00-8:00pm),
- Saturday, May 18th (12:00-2:00pm)
- Saturday, May 25th (6:00-8:00pm)

During visits, we surveyed using the following method: we conducted visual inspections from a car to guarantee that entire coverage of the site area twice per peak time. For each survey, we printed out hard-copy site maps, had one team member drive the car, while the other two team members counted parked cars and recorded these results on the map. Afterwards one of our members compiled this information into maps showing parking capacities (as a % of total available space). As we discovered in the literature, 85% capacity is considered “full”. Except for our first survey visit, where we were only able to have two members attend, we were able to survey the entire site once per hour during the peak times. Due to our small group size, we were unable to compile more detailed data.

V. Data and Analysis

The following section gives an overview of the larger parking inventory and then details the data and analysis of parking ratios gathered from each site visit. Although we surveyed parking twice during each site visit, we decided to use only the surveys that yielded greater results from each visit. The study's objectives naturally supported a focus on the greater "peak ratios" of each time frame. Further, narrowing the amount of data supports a briefer and more focused discussion. It should be noted that generally both surveys from the same time frame yielded fairly similar results and data from all surveys can be viewed in the **Appendix**.

All maps were created using an existing City of Belmont zoning map as a base and then using Adobe Illustrator to map out parking spaces and relevant data. We were careful to make sure all maps were drawn to scale. Both Google Maps and direct observation were used to map out the locations of parking lots.

Existing Conditions

Our site area covers a total of 7 city blocks within the City of Belmont that are situated near the Caltrain station alongside El Camino Real.

Figure 5-1 is a complete map of our entire study area with each parking lot, colored in green, assigned a reference number. Table 5-1 then describes the total number of spaces contained within each lot and also gives the number of handicap spaces within each lot. It should be noted that when calculating peak parking ratios, handicap spaces were treated as regular parking spaces to consider total demand.

Figure 5-1 also shows the signage along each curb that describes the parking restrictions and limitations of street parking during working hours (i.e., 4 hour parking during 8am – 6pm). We did not separate parking by each side of the street in our analysis and instead we grouped both sides of the street together alongside each block. The parking signage helps provide a useful visual for where and how long people can park along streets during the day. The number of street spaces for each road is listed on the map instead of on the table.

Within the site, the total number of parking spaces within parking lots is 638 spaces, the total number of street parking is 308 spaces, and the total parking supply within the site is 946 spaces. There are a total of 27 parking lots included in the site (we excluded employee-only parking lots). Lot #7 – because it was so easily accessible to the street, was officially outside our site boundary, and did not belong with any of our blocks – was included as 6th Avenue street parking when calculating totals instead of as a parking lot.

Further, we have identified the four largest lots, which are all located at the northeast ends of the blocks closest to El Camino Real. We informally call these lots the Namaste Plaza lot, the Starbucks Lot, the Safeway Lot, and the Peet's Coffee Lot. In our data analysis, these lots are number lot 4, 9, 19, and 20 respectively. The following map (Figure 5-1) details a complete parking inventory of all of the lots and street parking within our project area.

Figure 5-1: Parking Inventory of Project Area (Detailed Street Totals)

Table 5-1: Parking Inventory of Project Area (Detailed Lot Totals)

Lot Number	Number of Available Spaces	Number of Handicap Spaces
1	7	0
2	18	0
3	20	0
4	68	2
5	11	0
6	13	0
7	20	1
8	11	0
9	44	2
10	41	2
11	16	2
12	16	1
13	8	0
14	10	0
15	17	1
16	32	1
17	3	0
18	6	1
19	139	5
20	62	1
21	6	1
22	4	0
23	25	2
24	14	0
25	4	0
26	10	0
27	20	0

Current Parking Utilization

The following pages are sectioned by site visit. Each section contains a textual description of the key insights and points of interest from the site visit, a site map with results organized by block, and a table summarizing parking demand at the time of the site visit.

The sections, in order, are as follows:

1. Friday Afternoon (5/10, 12:30 – 2pm)
2. Friday Evening (5/10, 5:50 – 6:20pm)
3. Saturday Afternoon (5/18, 12:10 – 12:40pm)
4. Saturday Evening #1 (5/11, 5:50 – 6:20pm)
5. Saturday Evening #2 (5/11, 7:00 – 7:30pm)
6. Saturday Evening Averages

Within the following maps, parking lots are drawn as bright colored boxes while roads are colored in a slightly lighter shade. Lots and roads are colored according to their peak parking ratio with red denoting an "overparked range" (less than 75% full), orange denoting an intermediate or "slightly overparked" range (75% - 84%), and blue denoting the "ideal" peak parking range in which drivers perceive a lot to be full and will look for parking spaces elsewhere (85% and higher). Each box on the following site maps displays the parking demand seen by the block. Figure 2-3 (see **II – Project Purpose: Project Location**) illustrates the geographical position and reference names of the blocks included in this parking study. Detailed data (i.e. at a lot-by-lot resolution) can be found in the **Appendix**.

Visit – Friday Afternoon (5/10, 12:30 – 2pm), Grand Total = 63%

The total peak parking ratio (63%) reveals that during this visit our study area was thoroughly overparked. However, it should be noted that the out of the four largest lots in the study area, the Namaste Plaza Lot, the Starbucks, Lot, the Safeway Lot, and the Peet's Lot, only the Namaste Lot fell within the red "overparked" range. In fact, the Starbuck's and the Peet's Lots surpassed the 85% threshold. This reveals that although there are many primarily overparked lots, the larger lots see more traffic and customers during this time frame.

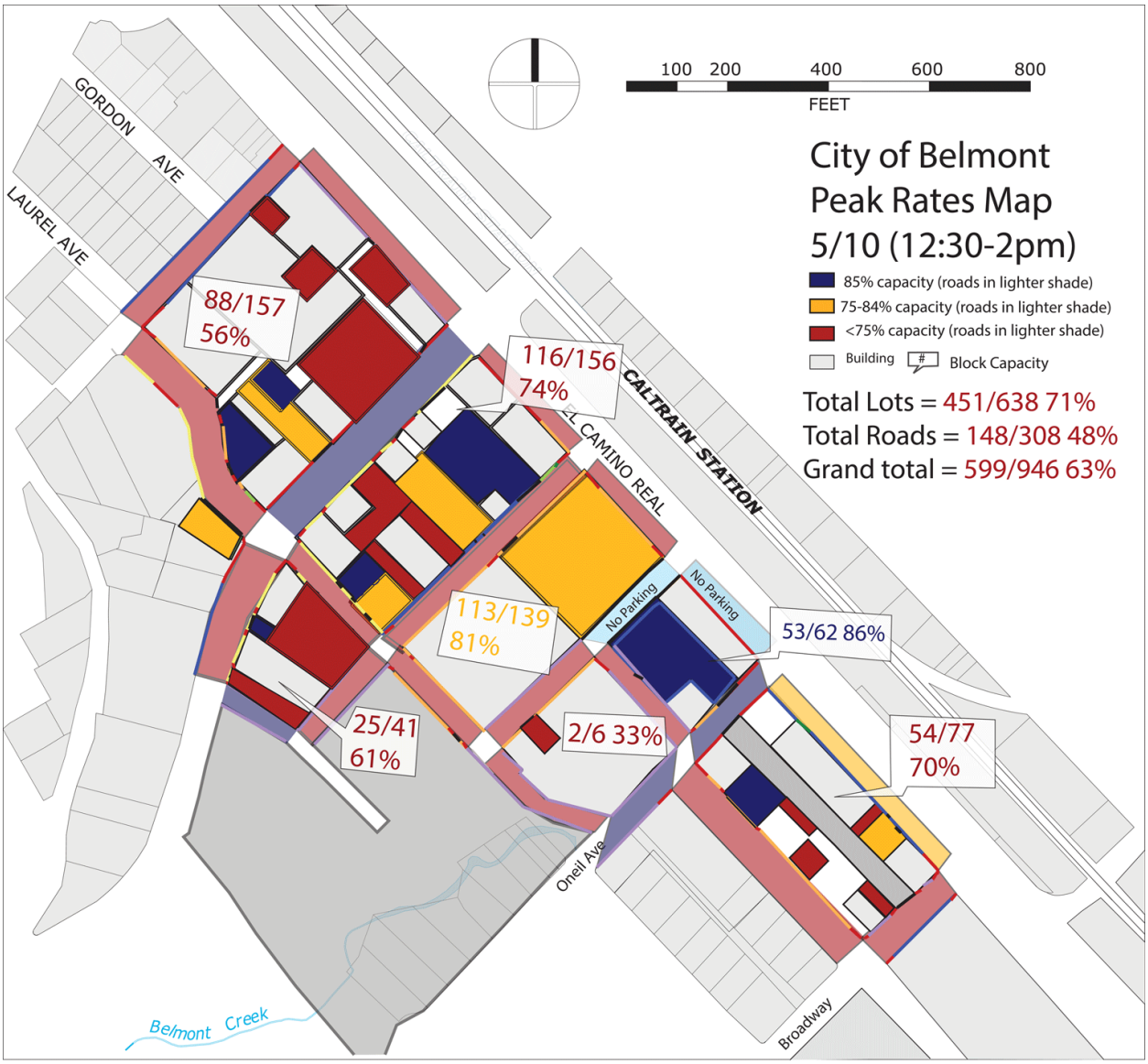

Figure 5-2: Friday Afternoon Visit (Block Map)

Table 5-2: Friday Afternoon Visit (Demand Summary)

Block Name	Parking Ratio	Percentage
Namaste Plaza	88/157	56%
Village Center West	116/156	74%
Village Center	113/139	81%
Village Center Southeast	2/6	33%
Village Center Northeast	53/62	86%
Firehouse Square	54/77	70%
Wells Fargo	25/41	61%
Total Lots	451/638	71%
Total Roads	148/308	48%
Grand Total	599/946	63%

Visit – Friday Evening (5/10, 5:50 – 6:20pm), Grand Total = 56%

Once again, the study area is thoroughly overparked. As in the prior visit, all of the large parking lots except for the Namaste Plaza lot experience higher utilization than the project area average. Hill Street (i.e. the northwestern-most street) is an interesting exception to its surroundings; during this site visit, its occupancy reaches the 85% range. We hypothesized that this trend was due to local residents parking on the street during the night, as this street is within a primarily residential area.

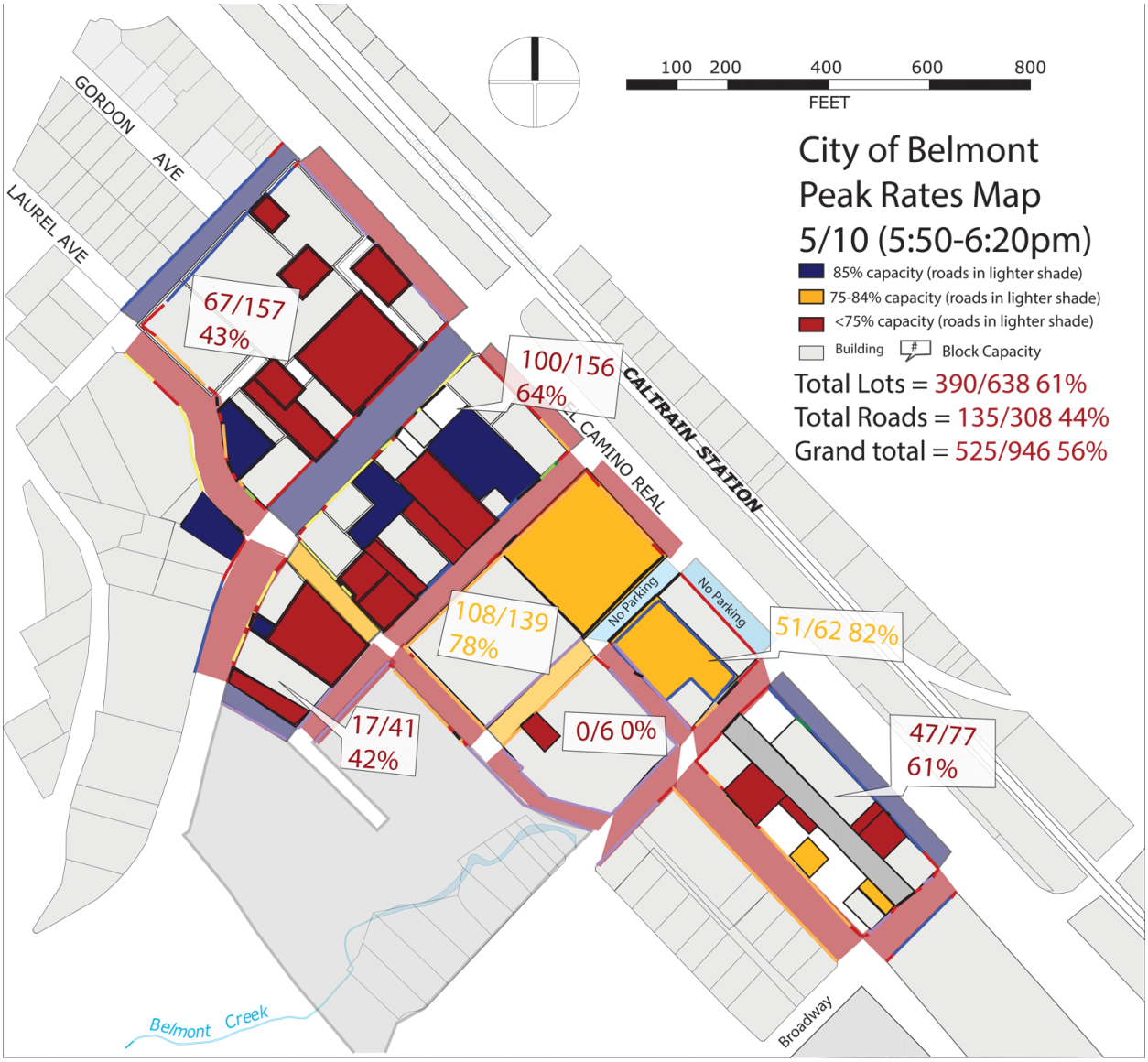

Figure 5-3: Friday Evening Visit (Block Map)

Table 5-3: Friday Evening Visit (Demand Summary)

Block Name	Parking Ratio	Percentage
Namaste Plaza	67/157	43%
Village Center West	100/156	64%
Village Center	108/139	78%
Village Center Southeast	0/6	0%
Village Center Northeast	51/62	82%
Firehouse Square	47/77	61%
Wells Fargo	17/41	42%
Total Lots	390/638	61%
Total Roads	135/308	44%
Grand Total	525/946	56%

Visit – Saturday Afternoon (5/18, 12:10 – 12:40pm) Grand Total = 53%

Although this was the "peak customer" time identified by our business survey, this time frame produced one of the lower overall peak parking ratios in our study and was well within the overparked range. At this visit, we determined a trend of higher utilization and parking demand in almost all Village Center lots. During this visit, once again, these areas had significantly higher capacities than the rest of downtown Belmont.

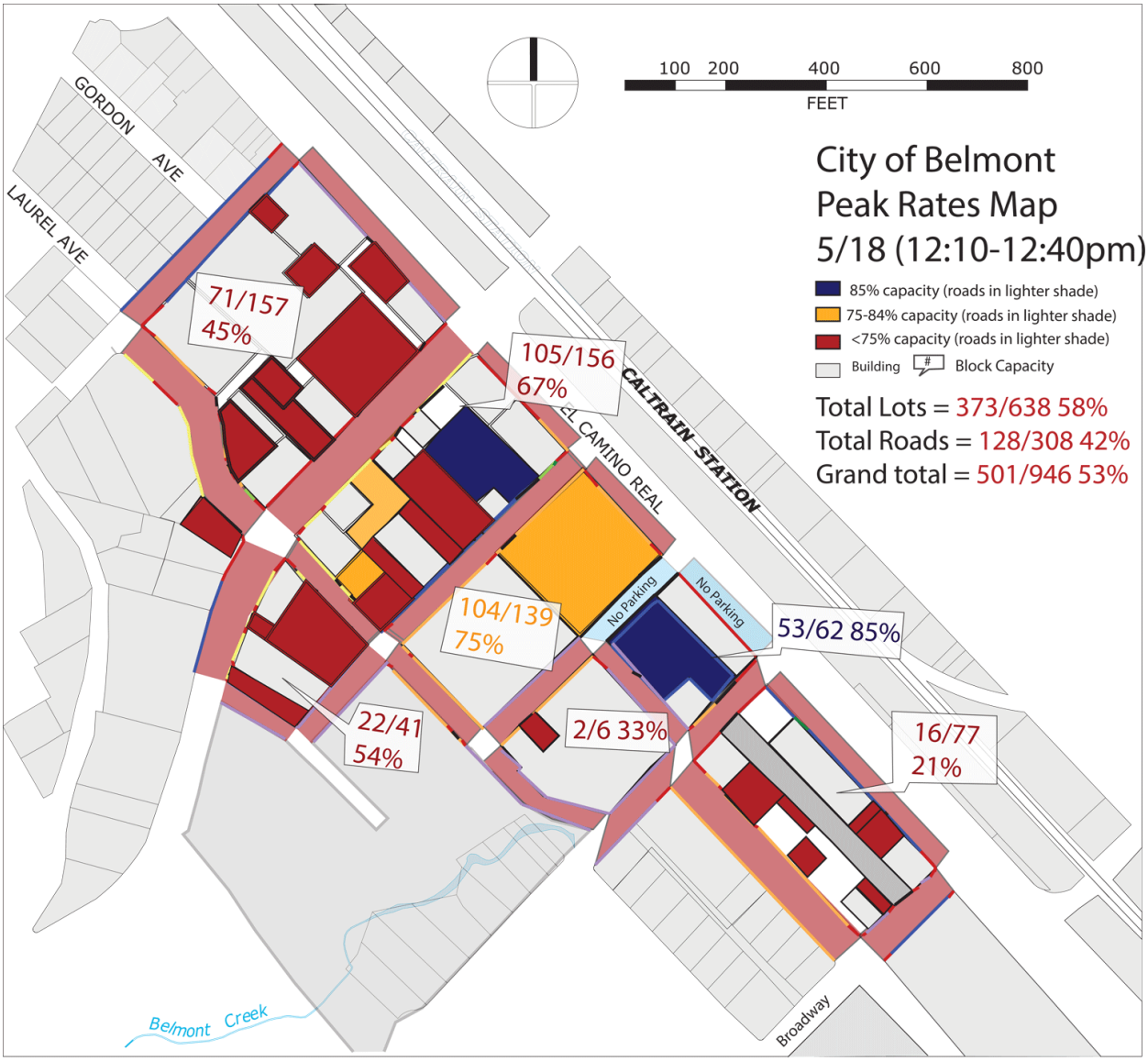

Figure 5-4: Saturday Afternoon Visit (Block Map)

Table 5-4: Saturday Afternoon Visit (Demand Summary)

Block Name	Parking Ratio	Percentage
Namaste Plaza	71/157	45%
Village Center West	105/156	67%
Village Center	104/139	75%
Village Center Southeast	2/6	33%
Village Center Northeast	53/62	85%
Firehouse Square	16/77	21%
Wells Fargo	22/41	54%
Total Lots	373/638	58%
Total Roads	128/308	42%
Grand Total	501/946	53%

Visit – Saturday Evening #1 (5/11, 5:50 – 6:20pm), Grand Total = 76%

This visit garnered the highest peak parking ratio in our entire study and reached 76%. During this time frame downtown Belmont was "slightly overparked" rather than simply "overparked." We noticed during this visit that at times some of the Firehouse Square Lots actually reached beyond capacity and people parked illegally to find spots (see Figure 5-14 in **VII – Appendix**). Our visit intersected the peak business hours for the Irongate Restaurant, and it appears the restaurant's patrons would rather park illegally within the designated parking lots for the restaurant than park somewhere else and walk to Irongate.

Figure 5-5 also shows very clearly that Ralston Ave is a significant barrier within the study area and people are far less likely to park in any of the lots to the west of Ralston. We believe this is because Ralston is one of the largest and busiest streets in the site and pedestrians find it difficult to cross this street and would rather park somewhere else to travel to their destination. This observation has actually been pretty consistent across visits, but actually reaches the most extreme point during this time frame as all of the Namaste Plaza lots were "overparked" while the majority of lots elsewhere were either "slightly overparked" or reached the 85% threshold. Measures to make crossing Ralston Avenue more accessible are detailed in **VI – Recommendations**.

We believe that some of the increased parking during this visit was due to a special event. During this visit, there was a Hungarian Festival occurring in Twin Pines Park to the east of the Wells Fargo that we believe was largely responsible for the increase in parking within and around the Wells Fargo Block area. During other visits, these streets were primarily overparked, but during this visit the streets around the Wells Fargo Block all reached 100% capacity. As this special event likely skewed our data, we conducted an additional site visit for the Saturday Evening time frame.

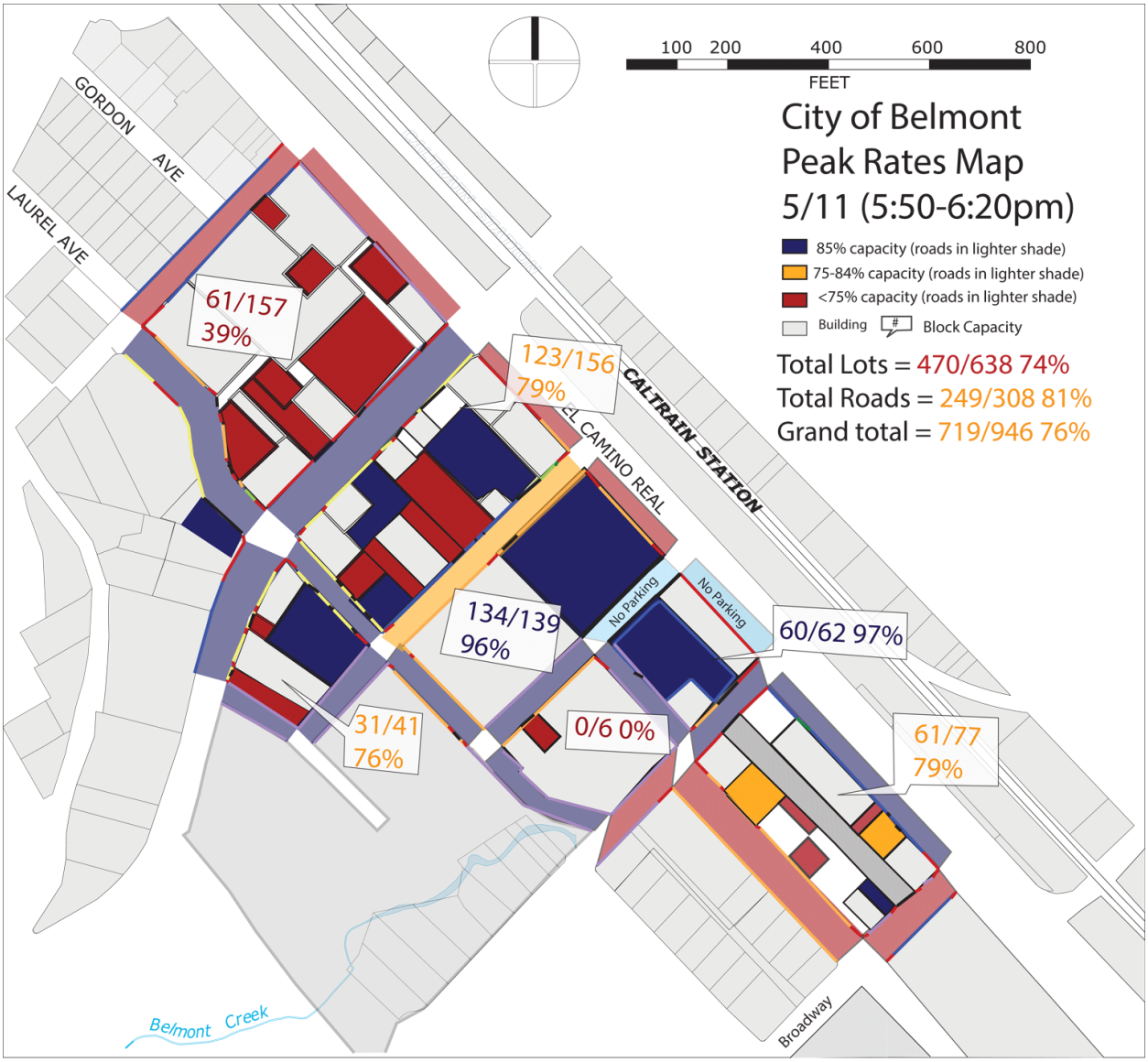

Figure 5-5: Saturday Evening Visit #1 (Block Map)

Table 5-5: Saturday Evening Visit #1 (Demand Summary)

Block Name	Parking Ratio	Percentage
Namaste Plaza	61/157	39%
Village Center West	123/156	79%
Village Center	134/139	96%
Village Center Southeast	0/6	0%
Village Center Northeast	60/62	97%
Firehouse Square	61/77	79%
Wells Fargo	31/41	76%
Total Lots	470/638	74%
Total Roads	249/308	81%
Grand Total	719/946	96%

Visit – Saturday Evening #2 (5/11, 7:00 – 7:30pm), Grand Total = 45%

Compared to our earlier Saturday Evening visit, this site visit yielded vastly different results. This site visit actually had the lowest peak parking ratio in our study and the vast majority of observed lots were overparked. One exception is the lots around the Irongate Restaurant where patrons once again parked illegally and exceeded the capacity of the existing lots. The overall site area, by contrast, was completely overparked.

Once again, we believe our data was skewed by the circumstances of our visit. This site visit occurred during the Memorial Day Weekend, which may have led many of Belmont's residents to leave the area on vacation. In addition, weather during the visit was extremely windy, cloudy, and cold, which may have led many potential patrons to stay indoors and schedule their visits to shopping areas for a different day.

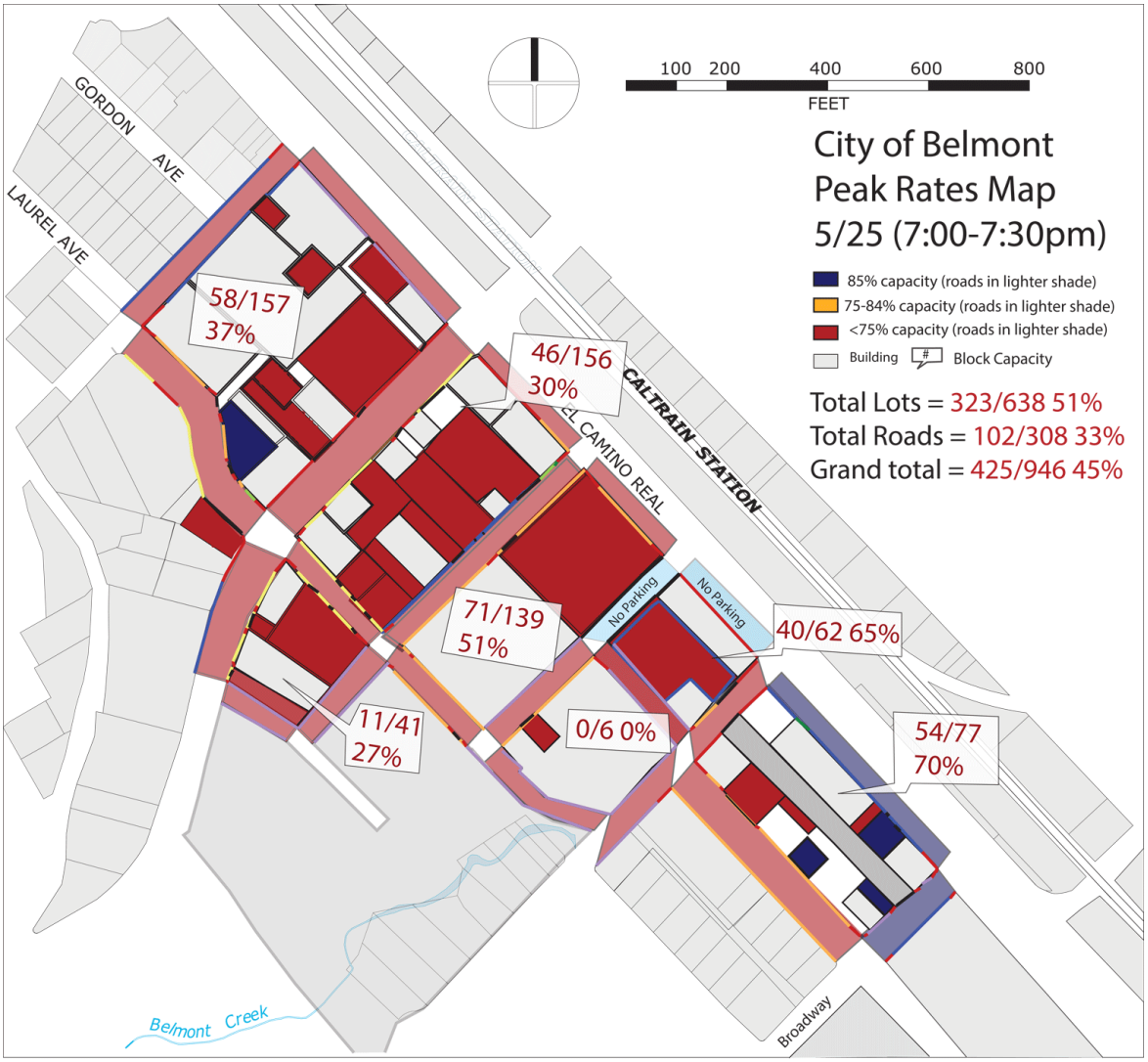

Figure 5-6: Saturday Evening Visit #2 (Block Map)

Table 5-6: Saturday Evening Visit #2 (Demand Summary)

Block Name	Parking Ratio	Percentage
Namaste Plaza	58/157	37%
Village Center West	46/156	30%
Village Center	71/139	51%
Village Center Southeast	0/6	0%
Village Center Northeast	40/62	65%
Firehouse Square	61/77	79%
Wells Fargo	54/41	70%
Total Lots	323/638	51%
Total Roads	102/308	33%
Grand Total	425/946	45%

Saturday Evening Averages, Grand Total = 60%

Figure 5-7 represents an imagined visit that averages the data from our previous two Saturday visits. We decided to average data from these two visits because we believe circumstances skewed the data on opposing ends of the spectrum. The result is an overall peak parking ratio of 60% for the entire site and is well within the overparked range.

However, it should be noted that it is difficult to determine to what extent the data from our two earlier Saturday Evening visits were skewed and whether they were skewed by equal amounts. If they were not skewed by equal amounts, than an averages map is not an entirely accurate representation of a "typical Saturday Evening" for downtown Belmont. The effect Hungarian festival on the first Saturday Evening was likely more localized and probably only increased parking in the certain areas, while the weather on the second visit probably decreased parking in the entire study area. Consequently, further study may be necessary to garner a confident measure of peak parking during this time frame.

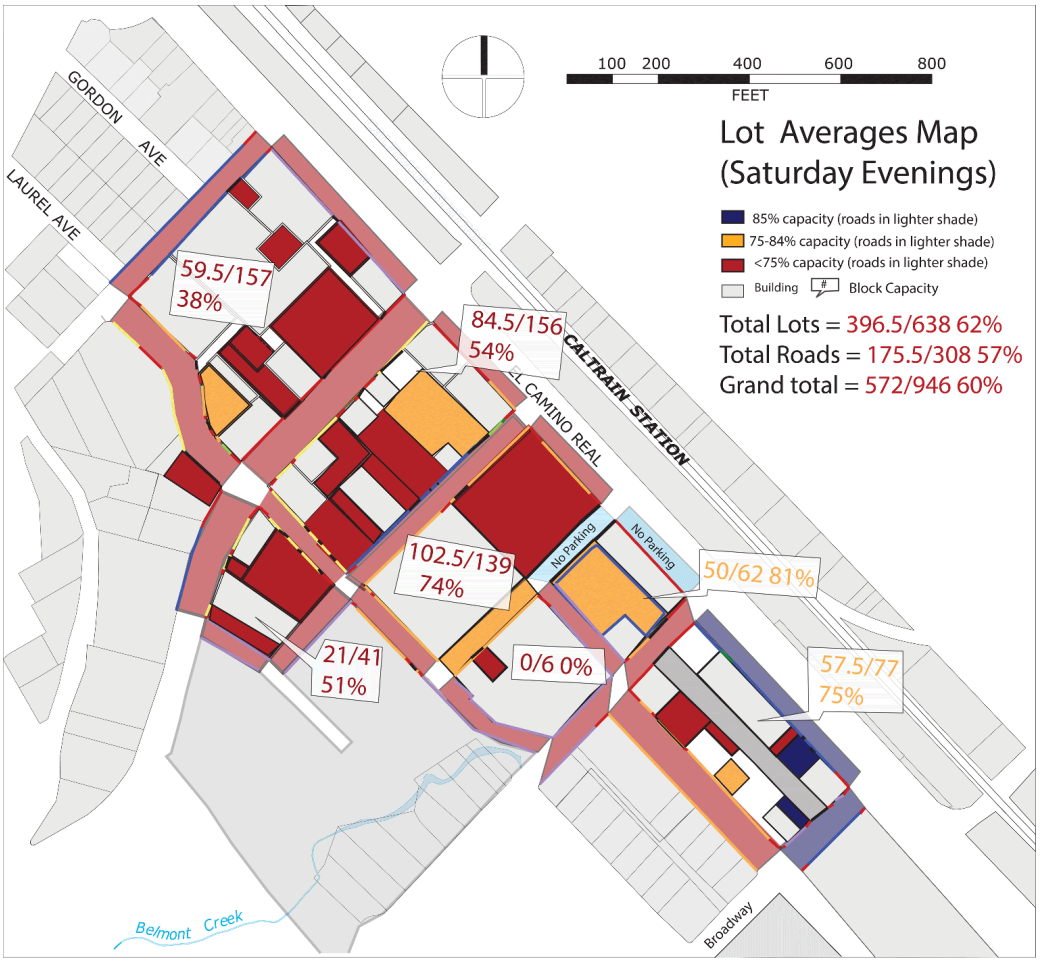

Figure 5-7: Saturday Evening Visits – Average (Block Map)

Table 5-7: Saturday Evening Visits – Average (Demand Summary)

Block Name	Parking Ratio	Percentage
Namaste Plaza	59.5/157	38%
Village Center West	84.5/156	54%
Village Center	102.5/139	74%
Village Center Southeast	0/6	0%
Village Center Northeast	50/62	81%
Firehouse Square	57.5/77	75%
Wells Fargo	21/41	51%
Total Lots	396.5/638	62%
Total Roads	175.5/308	57%
Grand Total	572/946	60%

Additional Key Points

The overall peak parking ratio for the Belmont study area never reached the ideal 85% capacity. This means that downtown Belmont area is "overparked." The peak time observed during our study was Saturday Evening (5/11, 6:00pm - 8:00pm). While the peak parking ratio for the entire area during this time was 76% and might be more accurately categorized as "slightly overparked," it should be taken into consideration that increased parking from a Hungarian Festival probably skewed parking to the higher side.

Another point to consider are the facts that Ralston Avenue appears to a barrier to pedestrians and people are less likely to park in lots to the west of Ralston. Lots in the study area also see large variations in parking, and, except for the Namaste Plaza lot to the west of Ralston, the large northern lots (the Starbuck's Lot, the Safeway Lot, and the Peet's Lot) regularly have a much higher peak parking ratio than the overall study area. The more numerous small lots tend to experience lower levels of parking.

Parking Demand Ratios

In June 2013, the City of Belmont will vote on new Zoning Laws. Belmont is changing its zoning laws because the City is looking to create a vibrant downtown with a Pedestrian Core, which will have little traffic, wide sidewalks, pedestrian paths through parking lots and appealing shops. This proposal currently has parking requirements in the form of Parking Demand Ratios. This proposed Pedestrian Core is in the center of our study area, which makes our findings extremely relevant to the Proposal. In order to present our data in a more usable format for the current zoning proposal, we converted our mapped survey data into Parking Demand Ratios. Zoning proposals and laws have parking requirements in this ratio format; our data is presented in this same format to retain consistency with other parking literature.

A parking demand ratio is the number of occupied spaces per 1000 square feet (of building floor area, not gross land area). We will walk through the calculation of the baseline supply of the downtown to clarify the process. In Belmont's downtown, there are 638 available spaces in business lots and 257,181 square feet of building area. First, we convert the square footage into thousands of square feet: 257,181 / 1000 = 257.181 sq. ft. Then, we divide available spaces by this number: 638 / 257.181 = 2.5 available spaces per 1000 sq. ft. The parking supply for the downtown is thus 2.5 spaces/1000 sq. ft. We then performed this same calculation with our survey data and found the following:

Table 5-8: Downtown Parking Demand

Time	Actual Demand / 1000 sq. ft.	Difference between supply and actual parking demand (for 1000 sq. ft.)
Friday, 12pm	1.79	0.71
Friday, 6pm	1.51	0.99
Friday, 7pm	1.20	1.3
Saturday, 12pm	1.45	1.05
Saturday, 1pm	1.36	1.14
Saturday, 6pm (1)	1.83	0.65
Saturday, 7pm (1)	1.72	0.78
Saturday, 6pm (2)	1.25	1.25
Saturday, 7pm (2)	1.25	1.25
Average Saturday Evening	1.54	0.96

Blue = Highest Observed Demand Red = Lowest Observed Demand

As indicated, our peak demand was on the first Saturday evening survey. Table 5-8 shows that though the downtown reaches close to peak parking, it never gets higher than 80% capacity,

which suggests that the downtown is a little overparked. Taking a closer look at the data showed that some of the lots seemed much busier than this 80% and the downtown demand ratios seem not to reflect that.

Therefore, we calculated the parking demand ratio by block for each time we visited. Table 5-9 only shows the peak time from each block due to space constraints, but the full tables showing detailed data are available in the **Appendix**.

Table 5-9: Block Parking Demand

Block	Peak Demand / 1000 sq. ft.	Difference between supply and peak parking demand (for 1000 sq. ft.)
Namaste Plaza	1.73	0.77
Wells Fargo	2.32	0.18
Village Center West	2.82	-0.32
Village Center	3.19	-0.69
Village Center East[7]	1.83	0.67
Firehouse Square	2.55	-0.05

As Table 5-9 demonstrates, demand varies widely throughout the downtown, and in some areas reaches well above the parking supply of 2.5 spaces. In Table 5-9, a negative value for the difference between supply and peak parking demand indicates that the block's peak parking demand exceeds the average parking supply in the downtown. The Village Center block was by far the busiest, with a peak demand of 3.19 spaces/1000 sq. ft. The Namaste Plaza lot had the lowest peak demand, at only 1.73 spaces/1000 sq. ft. This is still a relatively high demand, even though it does not reach the 85% capacity ideal. It is important to note that many of these maximum demands were observed during a special event (the Hungarian Festival just outside our study area). Given that some of the downtown was still under 85% capacity during the special event, we hypothesize that the area currently has enough parking supply to meet these needs and that the zoning proposal does not need to increase the current requirements for parking. Furthermore, this high demand is not typical and does not represent the average, day-to-day demand of the study area.

In order to determine a more realistic demand number, we calculated the average parking demand ratio of each block. Even the average demand shows that for some blocks, the demand for parking reaches close to the current supply of 2.5 spaces per 1000 sq. ft. Despite this, the average is never above the current supply. This is significant because the Belmont Zoning Proposal would require a minimum supply of 3 spaces per 1000 sq. ft., which is a .5 increase

[7] This is the combined demand for the Village Center Northeast and Village Center Southeast block.

from the current supply of 2.5 spaces. This increase is unnecessary because current average demand does not exceed current supply. Furthermore, it is only during special events that one block of the downtown exceeds a demand ratio of 3 spaces per 1000 sq. ft. The zoning proposal would thus increase the supply of parking available and make the area even more overparked on a daily basis than it currently is. The comparison between current demand, current supply, and zoning proposal supply is visible in Table 5-10.

Table 5-10: Demand vs. Current and Proposed Supply

Block	Average Demand / 1000 sq.	Difference from Current Supply	Difference from Zoning Proposal Supply
Namaste Plaza	1.29	-1.21	-1.71
Wells Fargo	1.51	-0.99	-1.49
Village Center West	2.11	-0.39	-0.89
Village Center	2.41	-0.09	-0.59
Village Center East	1.53	-0.97	-1.47
Firehouse Square	1.62	-0.88	-1.38

In order to compare the current supply to the proposed supply in a more explicit way, we calculated the number of parking spaces that would be available in each block according to the zoning proposal. As shown in Table 5-11, some blocks would have virtually no change in supply, whereas some of the busiest blocks, such as the Village Center and Village Center West, would experience a dramatic decrease in the amount of available parking. However, these two blocks are the proposed center of the “Pedestrian Core” and the goal of the zoning proposal is to make these areas more pedestrian friendly and to decrease traffic. In light of that goal, this decrease in parking supply makes sense. However, the loss of parking should be compensated for in some way, given the current high average demand for parking in those two blocks. We address this in our recommendations section by suggesting the creation of a shared public parking garage.

Table 5-11: Proposed Parking Supply

Block (Proposed Zone)	Proposed Minimum # Parking Spaces	Current # Spaces	Difference From Current Supply
Namaste (V3)	152.28	157	-5
Wells Fargo (V3)	40.14	41	-1
Village Center West (V2)	109.12	156	-47
Village Center (V2)	105.08	139	-34
Village Center East (V3)	98.39	68	30.5

Block (Proposed Zone)	Proposed Minimum # Parking Spaces	Current # Spaces	Difference From Current Supply
Firehouse Square (V3 + V4)	87.96	77	11

The Parking Demand Ratios indicate that the downtown is overparked and that the current supply is enough to meet the average, day-to-day needs of the area. The Safeway and Starbucks lot consistently have the highest demand of the entire downtown area, though the average never exceeds the current supply of 2.5 spaces/1000 sq. ft. The zoning proposal increase in the parking supply to 3.0 spaces/1000 sq. ft. is unnecessary at this time.

VI. Recommendations

The preceding parking study and analysis reveal a number of issues impacting parking conditions and behavior in the Belmont downtown area. The recommendations below address these issues to remedy the uneven distribution and utilization of parking. In addition, these recommendations will help foster the development of a pedestrian-friendly downtown area. Many of the following recommendations are not specific to the City of Belmont and can apply to other cities in the San Francisco Bay Area. Due to the oversupply of parking in the Belmont downtown area, this plan does not develop a parking management plan (i.e. a plan to better utilize existing supply) for the City of Belmont. Instead, this report concentrates on urban design measures and parking requirements for new development. Furthermore, this report is meant to complement the existing zoning proposal; as a result, we try to avoid duplicating its recommendations, which include widening sidewalks, creating green spaces, and locating parking behind storefronts. The recommendations below address current parking challenges while retaining flexibility for the City of Belmont to accommodate growth in demand.

Recommendation 1: Improve pedestrian safety and perceptions thereof for Ralston Ave. and El Camino Real

One key finding from the parking study is that Ralston Avenue and El Camino Real act as barriers to pedestrian traffic. Both streets are major thoroughfares where vehicles routinely travel in excess of 45 miles per hour; the width of the streets also deters pedestrians from crossing (see Figure 6-1). Ralston Avenue, which runs through the downtown area, detaches the Namaste Plaza area from the rest of the downtown. By encouraging pedestrian traffic across Ralston Avenue, three benefits will occur: 1) parking utilization will be more evenly distributed (particularly during peak occupancy) to the underutilized parking spaces on the northwest side of Ralston Avenue; 2) provide economic benefits to businesses on the northwest side of Ralston Avenue from the increased exposure of the Namaste Plaza area to the busier Belmont Village Center; and 3) create an environment that better accommodates visitors using public transportation. Similarly, improved pedestrian conditions for visitors traveling along and crossing El Camino Real can increase the number of visitors who choose to walk, bike, or use public transportation. In particular, encouraging pedestrian traffic across El Camino Real will connect the project area

Figure 6-1: Long crosswalks across El Camino Real

with the Belmont Caltrain station; these measures can improve the viability of the Belmont downtown to become a destination for visitors outside the immediate area.

Measures:

- Construct and/or improve pedestrian islands on El Camino Real and Ralston Avenue
- Increase pedestrian crossing time as determined by traffic signals
- Install highly visible red light cameras to enforce traffic signals and deter dangerous driving where none exist
- Install radar speed signs before the Belmont downtown area that display the speed limit and the speed at which traffic is currently moving
- Lower the speed limit on Ralston Avenue from 30 miles per hour to 25 miles per hour and on El Camino Real from 35 miles per hour to 30 miles per hour through the Belmont downtown area
- Visually distinguish crosswalks on El Camino Real and Ralston Avenue through the use of differently colored and/or differently textured pavement (e.g. raised crosswalk or textured pavement)

Recommendation 2: Increase acceptable walking distance from parking spaces to businesses

In evaluating acceptable walking distance from parking spaces to businesses, there exist a variety of distances that are accepted as standard. However, observations from the parking study suggest that the oft-quoted distances are not satisfactory for the project area. Instead, this project recognizes a number of factors that influence the walkability of a site, including: barriers to pedestrian traffic (e.g. Ralston Avenue), line-of-sight, visual appeal, and safety. The following recommendations will increase the acceptable walking distance from parking spaces to businesses in the Belmont downtown, but are also relevant to other suburban developments. Through increasing this acceptable walking distance, parking utilization will be more evenly distributed. In addition, these recommendations will remedy the perception of many business owners that existing parking cannot accommodate their customers when available parking exists a short distance away.

Figure 6-2: Physical barriers hinder pedestrian movement

Figure 6-3: Many minor streets do not have designated crosswalks

Measures:

- Create crosswalks on minor streets within and surrounding the Belmont downtown (e.g. on Emmett Avenue); visually distinguish these crosswalks with differently colored and/or differently textured pavement
- Create distinct pedestrian walkways through parking lots to minimize the time pedestrians must share the road with vehicles
- Implement greenery within and between parking lots and along streets
- Install site maps indicating parking lots and crosswalks throughout the Belmont downtown area
- Maximize clear lines-of-sight from parking spaces to businesses

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Recommendation 3: Improve driving conditions

Within the Belmont downtown area, drivers face a number of difficulties. While the poor driving environment can reduce the number of people driving to the project area, it also detracts from the downtown's appeal and creates safety issues. One key problem that complicates driving is parking lot driveways that do not form the traditional four-way intersection. Instead, the road segments are offset, which can confuse drivers and pedestrians. Minor streets within the downtown area (e.g. Emmett Ave) are narrow, but allow parallel parking on both sides of the street. The cramped conditions provide little maneuvering room and force drivers to make sharp turns into and out of parking lots. Pedestrians crossing at random points along minor streets make this issue worse. Another consequence of the narrow streets, which often do not restrict parallel parking near driveways, is low visibility for drivers exiting parking lots. Improving the environment encountered by drivers to the site will enhance the walking appeal of the downtown area and improve its safety.

Figures 6-4 and 6-5: Drivers experience low visibility in several areas of the project area

Figure 6-6: Traffic rules in the downtown area do not always support two-way flow; these conditions can be confusing for unfamiliar drivers

Measures:

- Add no-parking zones around parking lot driveways where none currently exist
- Convert parking lot driveways and other intersections into traditional four-way (rather than offset) intersections
- Create crosswalks on minor streets within and surrounding the Belmont downtown (e.g. on Emmett Avenue); visually distinguish these crosswalks with differently colored and/or differently textured pavement
- Widen vehicle paths within parking lots and on minor streets

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Recommendation 4: Increase driver knowledge and visibility of parking lots

The project area has a surplus of parking spaces, but an uneven distribution of parking occupancy. The uneven distribution of parking occupancy is exacerbated by factors reducing driver knowledge of parking lots and restrictions. Several parking lots are found in close proximity to each other, but are not connected. Often, drivers must exit to a street to enter a

different parking lot. Furthermore, signage (designating time restrictions and business ownership) is either of low visibility or non-existent. In addition, time restrictions in parking lots and in on-street parking are inconsistent. With the current zoning proposal moving storefronts to occupy street frontage, the visibility of parking lots must be maintained through appropriate signage.

Figure 6-7: Some parking lots are separated by an elevation difference

Figure 6-8: Three parking lots are visible in this picture, but can only be accessed from a street, rather than by vehicle connections between the parking lots

Measures:

- Consolidate parking lots by investigating shared parking schemes among businesses whose peak times differ
- Alternatively, provide vehicle and pedestrian connections between adjacent parking lots
- Create a standard and/or regulation for highly visible signage (indicating time restrictions and business ownership) in parking lots
- Install signage along streets that guides drivers towards parking lots, particularly public lots
- Install site maps indicating parking lots and crosswalks throughout the Belmont downtown area
- Standardize time restrictions in parking lots and in on-street parking

In addition, we recommend that the City of Belmont install a public parking lot or garage at a central location in the Belmont Village area. The provision of public parking in the downtown area will create the potential to alleviate several observed problems. For instance, a centralized public parking lot or garage will allow the City of Belmont to consolidate parking lots, incorporate pedestrian infrastructure (e.g. crosswalks) around public parking, and create signage to guide visitors to parking that is not restricted to customers of a particular business. The provision of public parking will also accommodate future parking demand from commercial growth in the downtown area.

We conducted a geographic analysis to determine the optimal lot location for a public parking structure. Our analysis was restricted to existing parking lots, on the premise that acquiring and redeveloping land where businesses exist would be unrealistic. After determining parking lots to analyze, we determined the amount, type, and location of businesses in the Belmont Village area. This data was then superimposed onto the project site map. On the project site map, we created circles of a 300-foot radius around parking lots. These 300-foot radius circles represent a conservative estimate of the distance pedestrians would be willing to walk from parking spaces to businesses. Recommendation 2 provides example measures to increase this distance.

Figure 6-9 illustrates the ideal location for a public parking lot. Redeveloping this area into public parking can consolidate three separate parking lots. In addition, this parking lot contains 21 businesses, including Safeway, within its 300-foot radius zone. In other words, the parking lot can provide convenient parking for the patrons of 21 nearby businesses. Additionally, a meeting with Carlos de Melo and Thalia Leng suggested that the property owners of this lot are open to the idea of redevelopment, in cooperation with the City of Belmont. The full analysis can be found in the **Appendix** (see Figure 6-11).

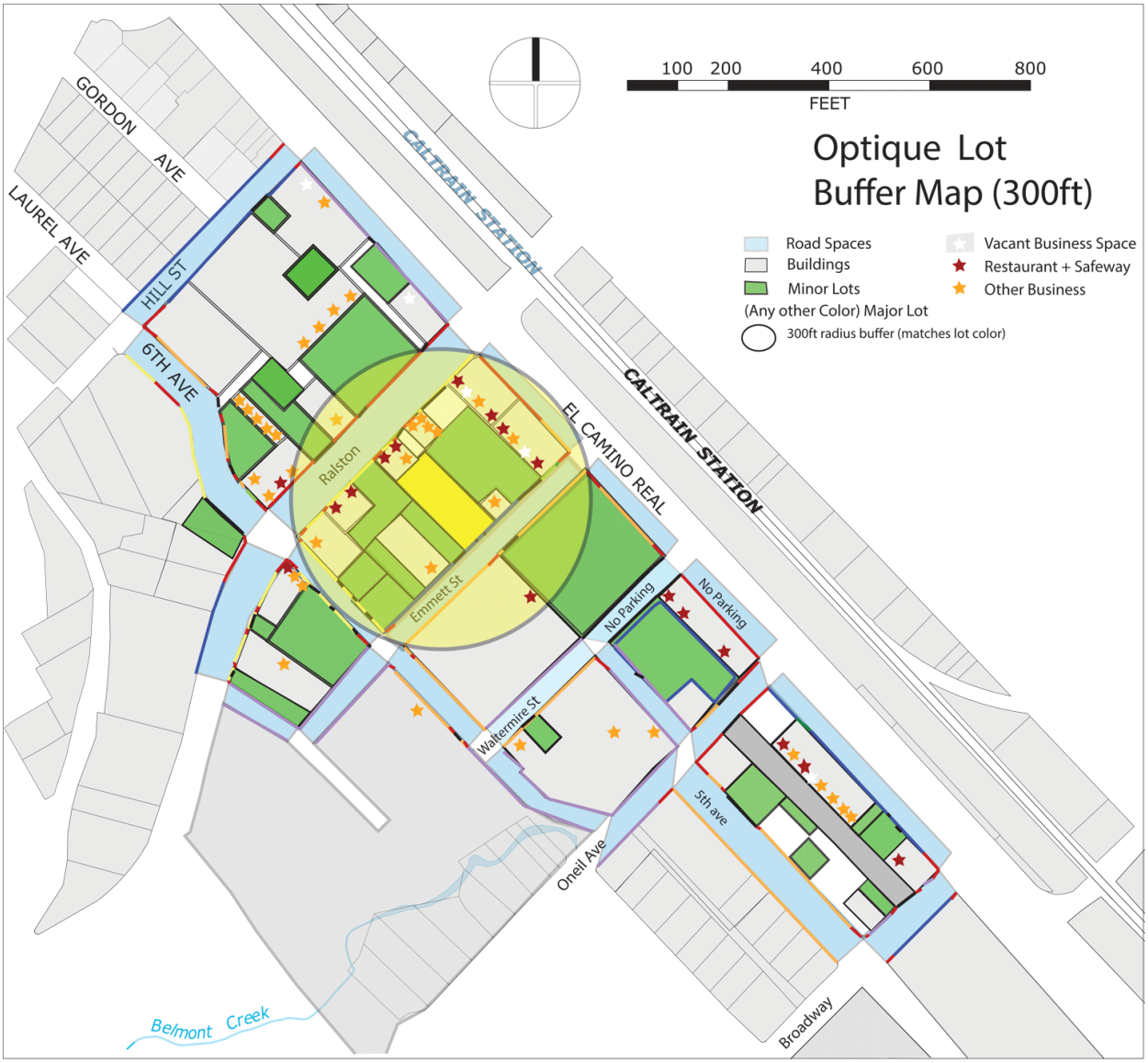

Figure 6-9: Specified Ideal Location for Public Parking

Recommendation 5: Create responsible parking requirements for future development

Current zoning standards dictate that businesses have a minimum number of parking spaces per thousand square feet; this is typical urban planning practice. Often, minimum parking requirements aim to satisfy the highest levels of parking demand (at the absolute busiest during the course of a year) with free parking.

Figure 6-10: Mixed-use zoning has the potential to remedy the oversupply of parking observed at most times.

However, in the context of sustainable cities, the current practice of minimum parking requirements is wasteful, expensive, and environmentally unfriendly. Furthermore, an abundance of unoccupied and free parking discourages the use of public transportation in suburban areas. A deeper discussion on the importance of balancing parking is discussed previously in this report (see **II – Project Purpose**). This project recommends new parking requirements based on analysis of current parking demand; at the same time, these recommendations recognize the expectation for free parking and associated economic implications.

Measures:

- Revise minimum parking requirements to more closely reflect the normal peak demand
- Impose a maximum parking requirement to limit excess supply of parking
- Implement provisions for shared parking for mixed-use development; ideally, the different uses would have peak times that do not coincide
- Create different parking requirements based on business type

From our analysis of current parking demand normalized to commercial floor area using parking demand ratios (see **V – Data and Analysis: Parking Demand Ratios**), we determined that an optimal parking requirement would require businesses to provide a minimum of 2 parking spaces and a maximum of 2.5 parking spaces per 1000 square feet of gross floor area. As currently observed, a supply of 2.5 spaces/1000 sq. ft. is adequate (on the downtown aggregate

level) to satisfy peak parking demand without exceeding the 85% ideal “practical capacity”. Although local demand (at the block and lot level) can exceed 2.5 spaces/1000 sq. ft., parking occupancy can be more evenly distributed when other recommendations described in this report are implemented. These requirements can be further decreased if coupled with the provision of public parking. According to our data and analysis, this range of 2 – 2.5 parking spaces per 1000 square feet of gross floor area is adequate to satisfy the normal weekly peak demand at the 85% ideal occupancy, without providing an unnecessary oversupply of parking during off-peak times. Additional reasons to restrict parking requirements to this range can be found in our **Project Purpose** (see **II – Project Purpose: Implications and Importance**).

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VIII – Appendix

Figures

Tables

Figure 5-8: Friday Afternoon, Survey 1/1 (Detailed Map)

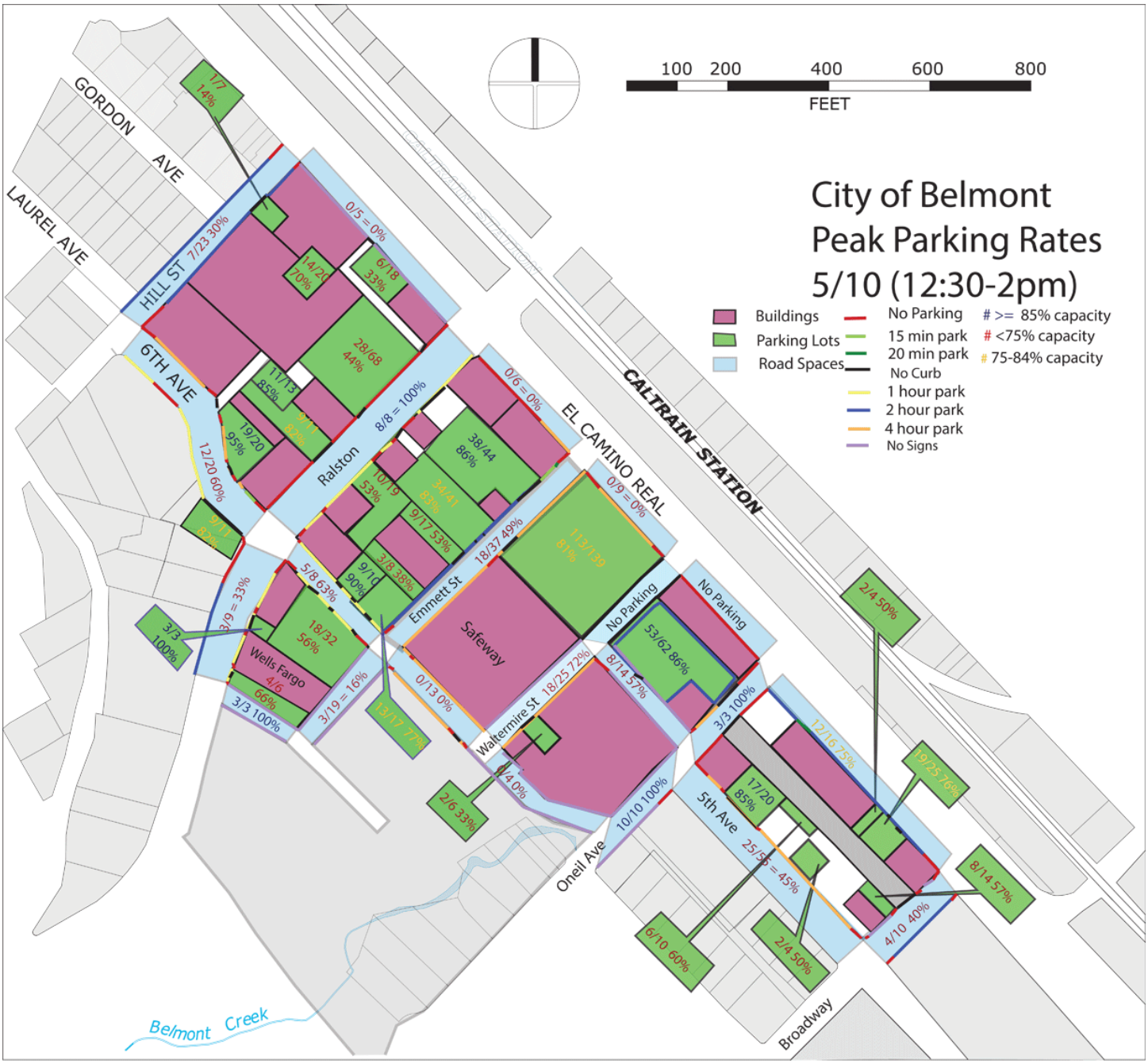

Figure 5-9: Friday Evening, Survey 1/2 (Detailed Map)

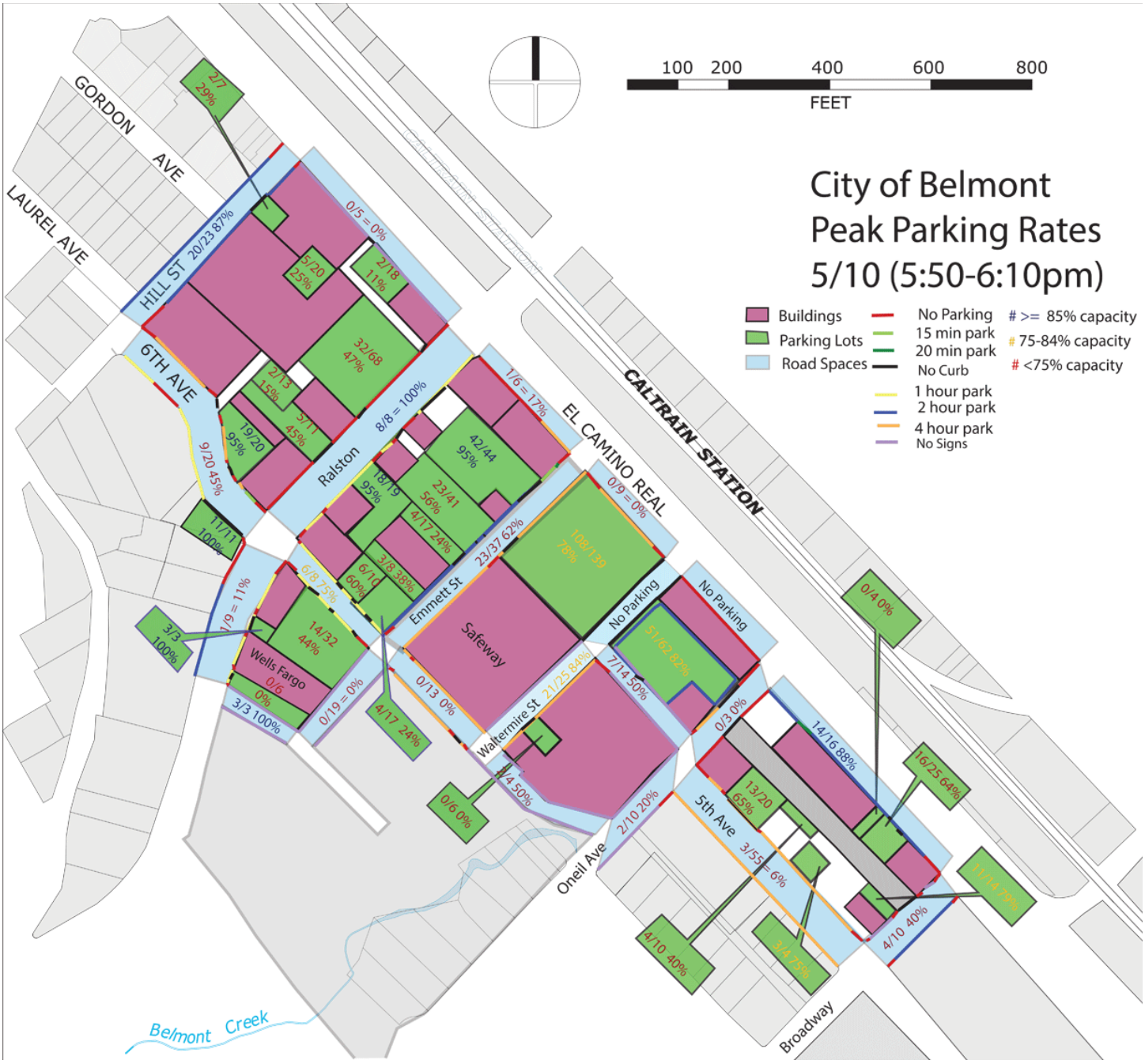

Figure 5-10: Friday Evening, Survey 2/2 (Detailed Map)

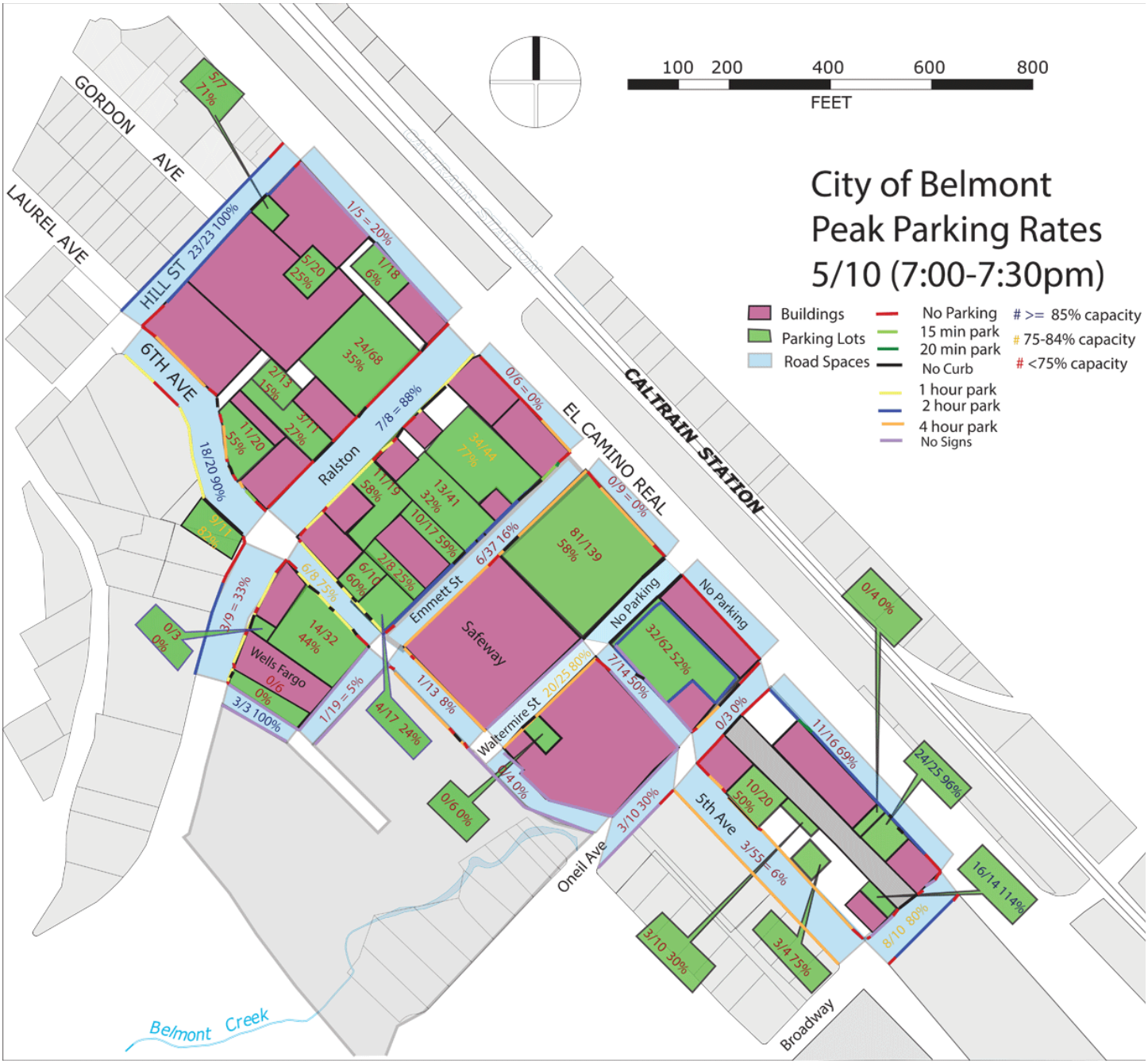

Figure 5-11: Saturday Afternoon, Survey 1/2 (Detailed Map)

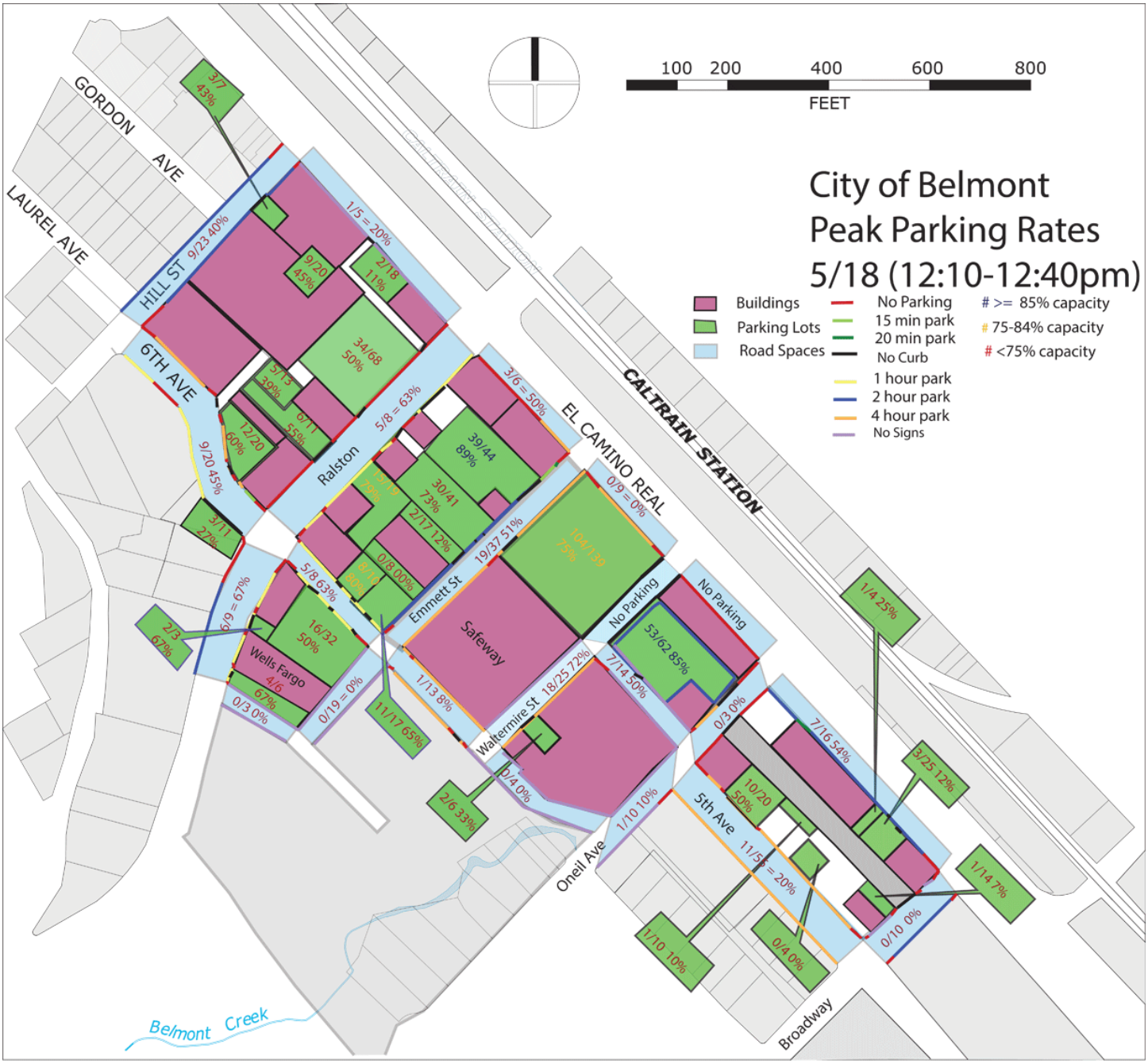

Figure 5-12: Saturday Afternoon, Survey 2/2 (Detailed Map)

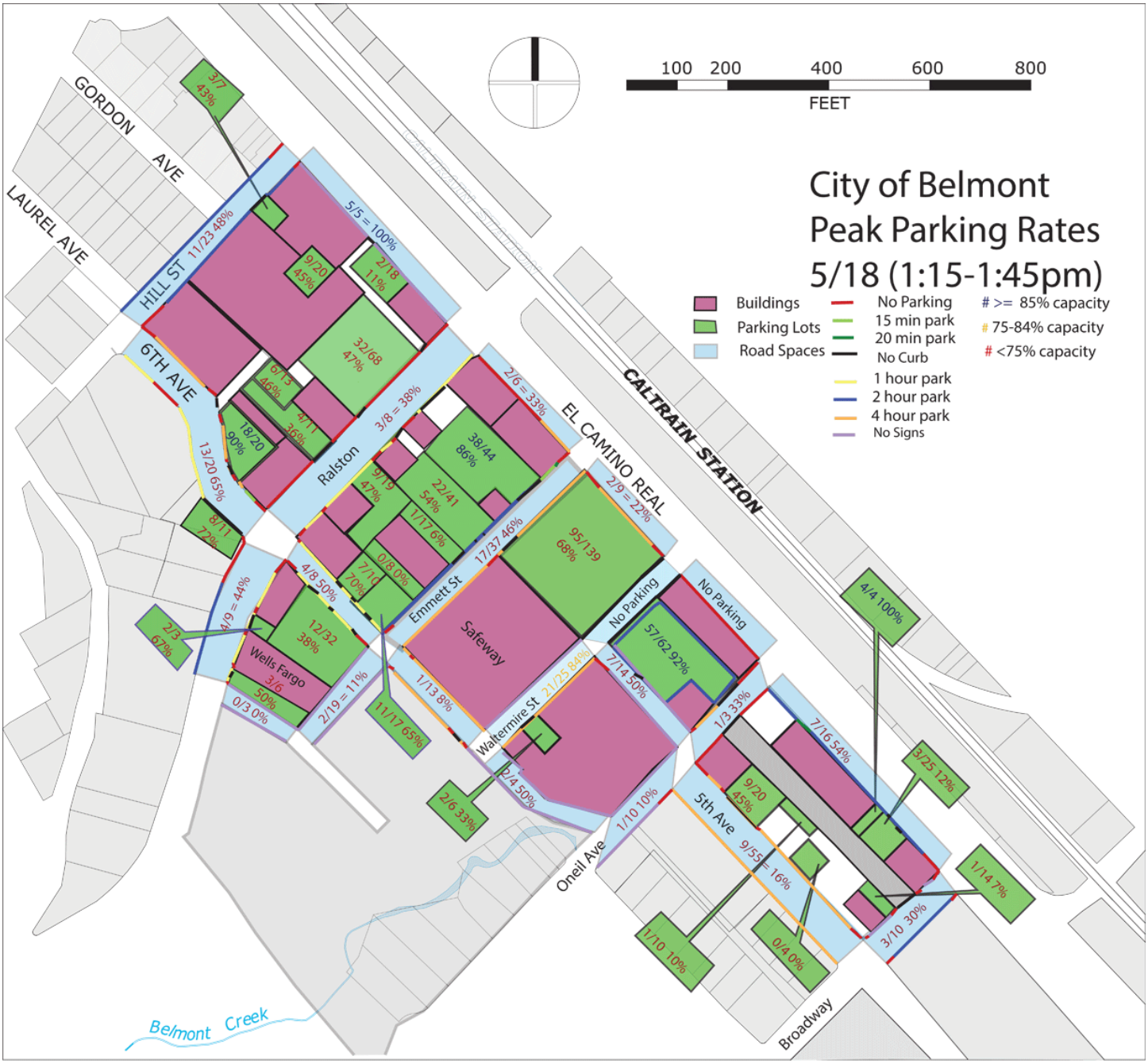

Figure 5-13: Saturday Evening #1, Survey 1/2 (Detailed Map)

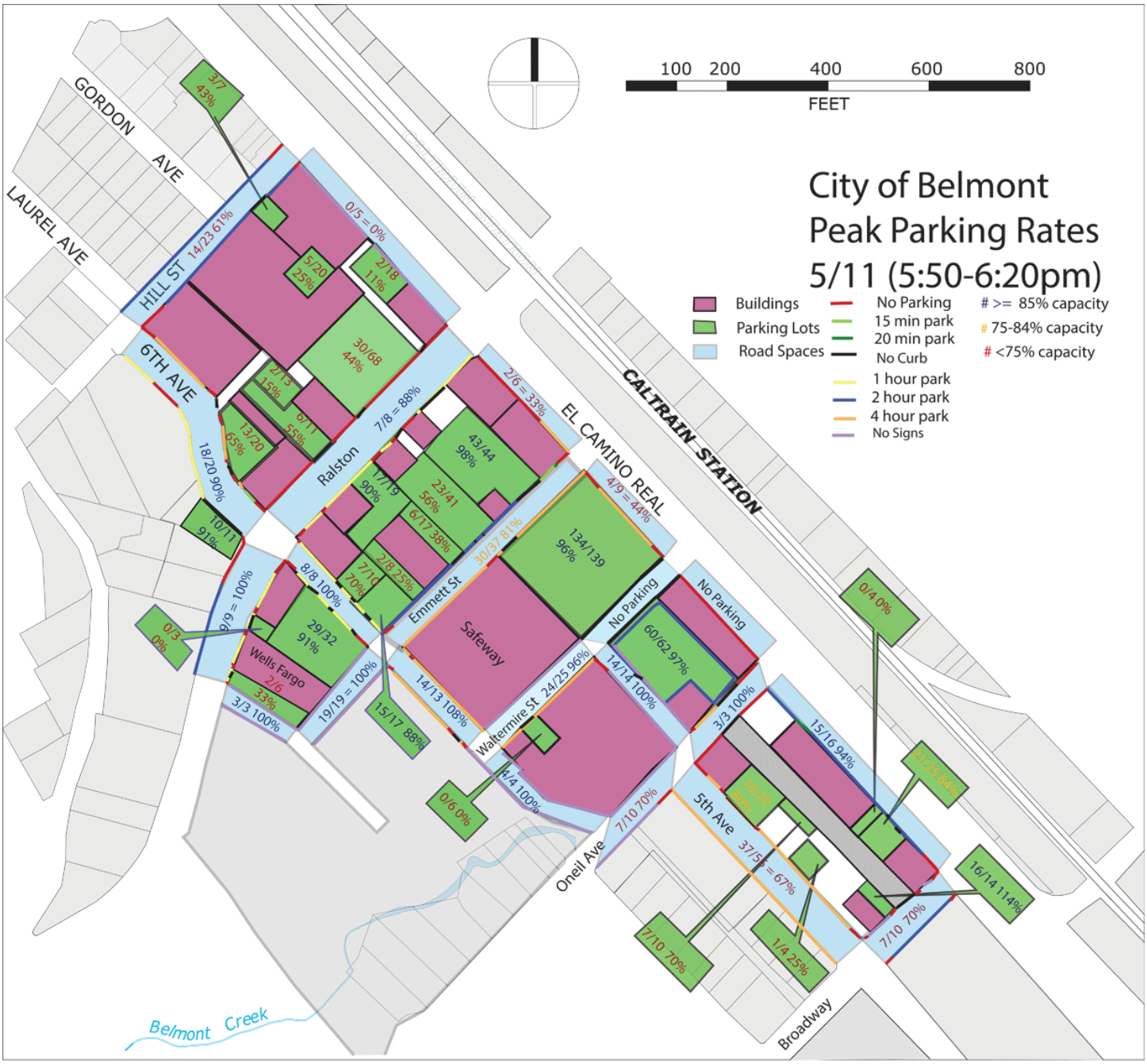

Figure 5-14: Saturday Evening #1, Survey 2/2 (Detailed Map)

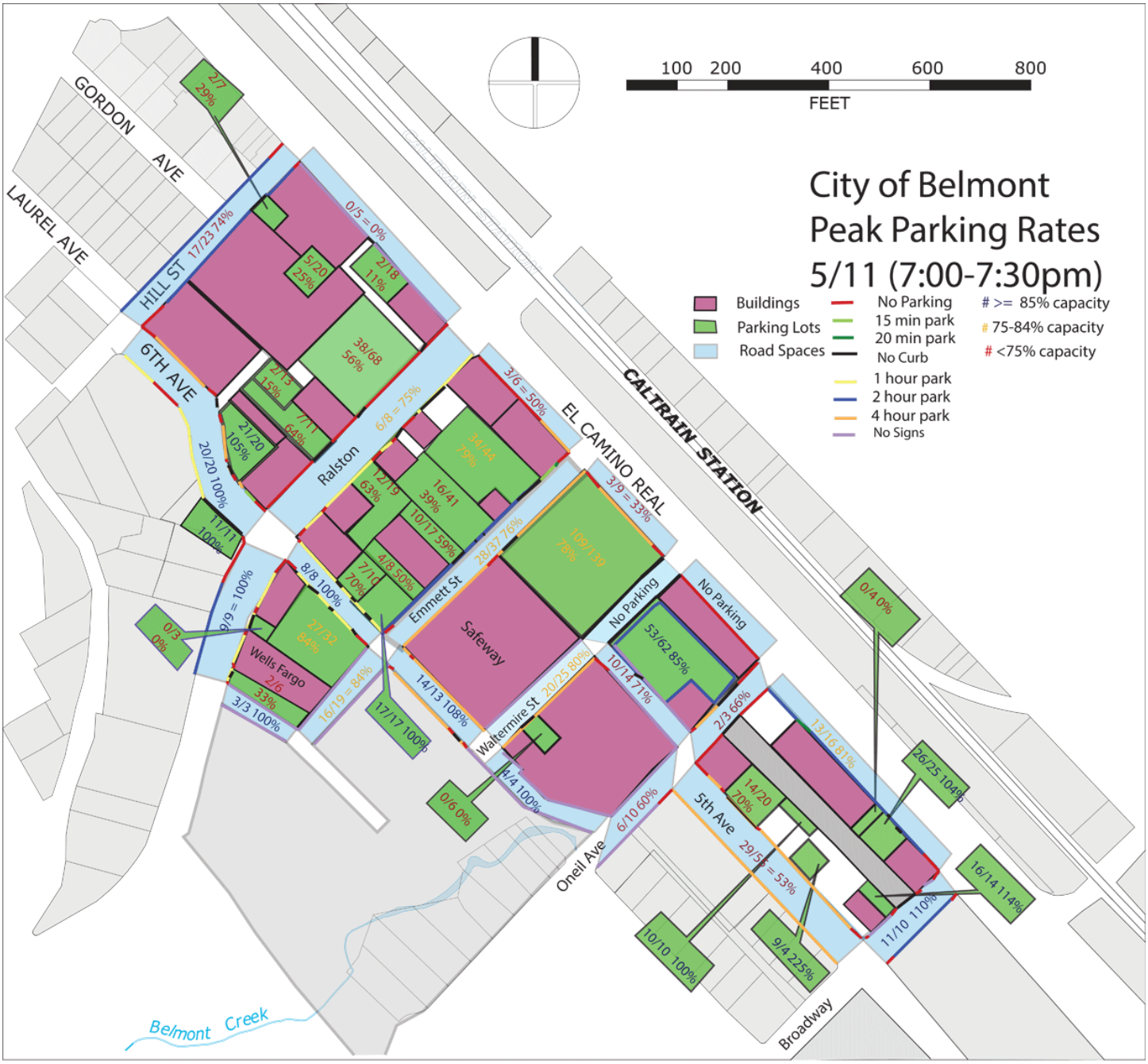

Figure 5-15: Saturday Evening #2, Survey 1/2 (Detailed Map)

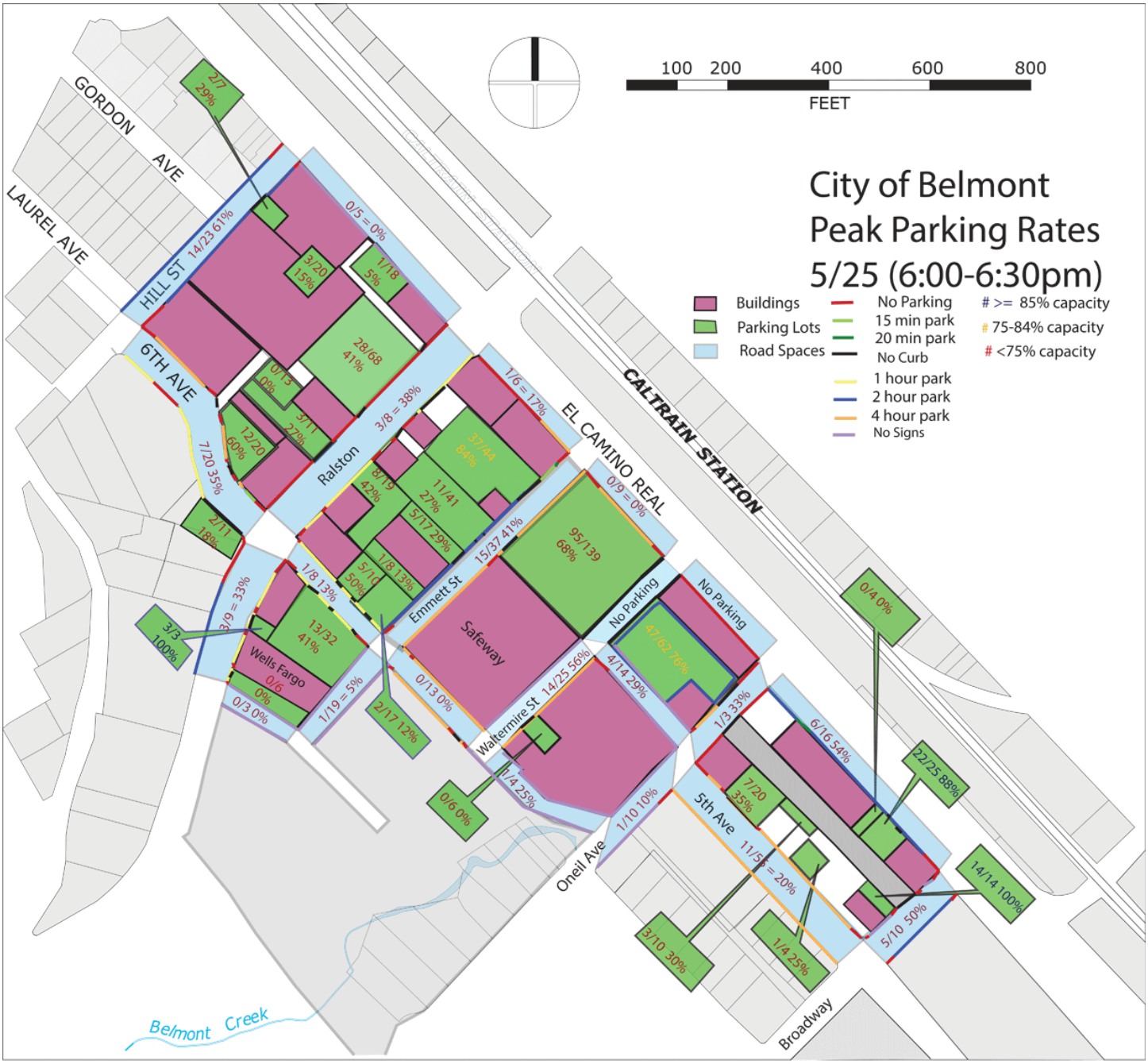

Figure 5-16: Saturday Evening #2, Survey 2/2 (Detailed Map)

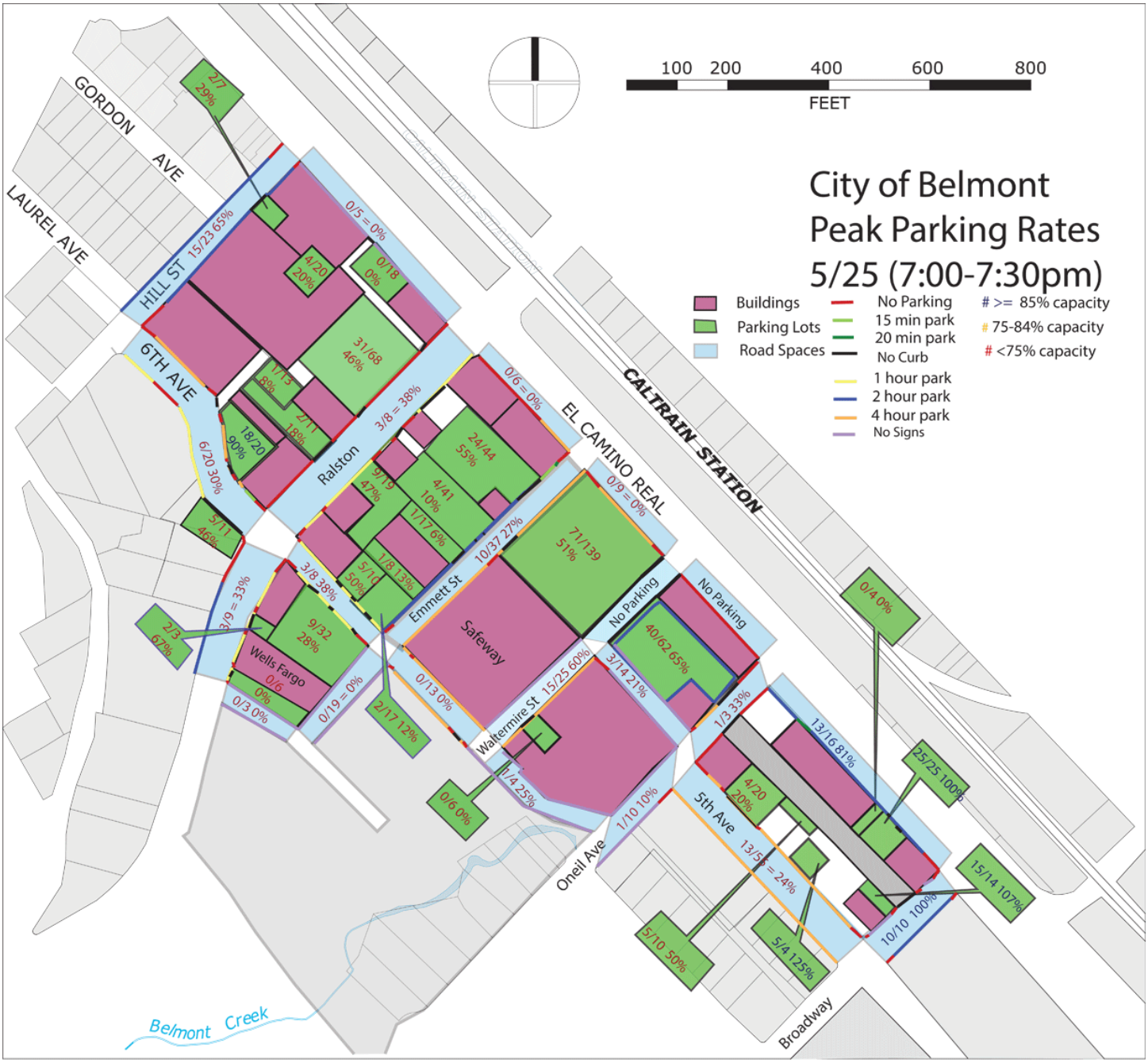

Table 5-12: Summary of Occupied Spaces per Lot by Time Slot

Lot Number (# of Available Spaces)	Friday, 12pm	Friday, 6pm	Friday, 7pm	Saturday, 6pm (1)	Saturday, 7pm (1)	Saturday, 12pm	Saturday, 1pm	Saturday, 6pm (2)	Saturday 7pm, (2)
1 (7)	1	2	5	3	2	3	3	2	2
2 (18)	6	2	1	2	2	2	2	1	0
3 (20)	14	5	5	5	5	9	9	3	4
4 (68)	28	32	24	30	38	34	32	28	31
5 (11)	11	5	3	6	7	6	4	3	2
6 (13)	9	2	2	2	2	5	6	0	1
7 (20)	19	19	11	13	21	12	18	12	18
8 (11)	9	11	9	10	11	3	8	2	5
9 (44)	38	42	34	43	34	39	38	37	24
10 (41)	34	23	13	23	16	30	22	11	4
11 (17)	9	4	10	6	10	2	1	5	1
12 (19)	10	18	11	17	12	15	9	8	9
13 (8)	3	3	2	2	4	0	0	1	1
14 (10)	9	6	6	7	7	8	7	5	5
15 (17)	13	4	4	15	17	11	11	2	2
16 (32)	18	14	14	29	27	16	12	13	9
17 (3)	3	3	0	0	0	2	2	3	2
18 (6)	4	0	0	2	2	4	3	0	0
19 (139)	113	108	81	134	109	104	95	95	71
20 (62)	53	51	32	60	53	53	57	47	40
21 (6)	2	0	0	0	0	2	2	0	0
22 (4)	2	0	0	0	0	1	4	0	0
23 (25)	19	16	24	21	26	3	3	22	25
24 (14)	8	11	16	16	16	1	1	14	15
25 (4)	2	3	3	1	9	0	0	1	5
26 (10)	6	4	3	7	10	1	1	3	5
27 (20)	17	13	10	16	14	10	9	7	4

Table 5-13: Summary of Occupied Spaces per Streetfront by Time Slot

Street (# of available spaces)	Friday, 12pm	Friday, 6pm	Friday, 7pm	Saturday, 6pm (1)	Saturday, 7pm (1)	Saturday, 12pm	Saturday, 1pm	Saturday, 6pm (2)	Saturday, 7pm (2)
Hill St. (23)	7	20	23	14	17	9	11	14	15
6th Ave (Namaste Plaza) (20)	12	9	18	18	20	9	13	7	6
El Camino (Namaste Plaza) (5)	0	0	1	0	0	1	5	0	0
Ralston Ave (Namaste Plaza) (8)	8	8	7	7	6	5	3	3	3
Ralston Ave (Wells Fargo) (9)	3	1	3	9	9	6	4	3	3
6th Ave (Village Center West) (8)	5	6	6	8	8	5	4	1	3
Twin Pines Lane (3)	3	3	3	3	3	0	0	0	0
Emmett Ave (Wells Fargo) (19)	3	0	1	19	16	0	2	1	0
Emmett Ave (Village Center West) (37)	18	23	6	30	28	19	17	15	10
El Camino (Village Center West) (6)	0	1	0	2	3	3	2	1	0
El Camino (Village Center) (9)	0	0	0	4	3	0	2	0	0
6th Ave (Village Center) (13)	0	0	1	14	14	1	1	0	0
Waltermire St (25)	18	21	20	24	20	18	21	14	15
6th Ave (Village Center Southeast) (4)	0	2	0	4	4	0	2	1	1
Oneill Ave (Village Center Southeast) (10)	10	2	3	7	6	1	1	1	1
Oneill Ave (Village Center Northeast) (3)	3	0	0	3	2	0	1	1	1
5th Ave (Village Center Northeast) (13)	8	7	7	14	10	7	7	4	3
El Camino (Firehouse Square) (16)	12	14	11	15	13	7	7	6	13
Broadway (10)	4	4	8	7	11	0	3	5	10
5th Ave (Firehouse Square) (55)	25	3	3	37	29	11	9	11	13

Tables 5-14 and 5-15: Detailed Parking Demand Ratios By Lot

Namaste (Namaste Plaza)

Time	Actual Demand / 1000 sq. ft.	Difference between parking supply and actual parking demand (for 1000 sq. ft.)
Friday, 12pm	1.73	0.77
Friday, 6pm	1.32	1.18
Friday, 7pm	0.91	1.59
Saturday, 12pm	1.40	1.1
Saturday, 1pm	1.46	1.04
Saturday, 6pm (1)	1.20	1.3
Saturday, 7pm (1)	1.52	0.98
Saturday, 6pm (2)	0.97	1.53
Saturday, 7pm (2)	1.14	1.36
Average Saturday Evening	1.17	1.33

Blue = Highest Observed Demand Red = Lowest Observed Demand

Wells Fargo (Village Center)

Time	Actual Demand / 1000 sq. ft.	Difference between parking supply and actual parking demand (for 1000 sq. ft.)
Friday, 12pm	1.87	0.63
Friday, 6pm	1.27	1.23
Friday, 7pm	1.05	1.45
Saturday, 12pm	1.64	0.86
Saturday, 1pm	1.27	1.23
Saturday, 6pm (1)	2.32	0.18
Saturday, 7pm (1)	2.17	0.33
Saturday, 6pm (2)	1.20	1.3
Saturday, 7pm (2)	0.82	1.68
Average Saturday Evening	1.57	0.93

Blue = Highest Observed Demand Red = Lowest Observed Demand

Tables 5-16 and 5-17: Detailed Parking Demand Ratios By Lot (cont.)

Starbucks (Village Center)

Time	Actual Demand / 1000 sq. ft.	Difference between parking supply and actual parking demand (for 1000 sq. ft.)
Friday, 12pm	2.66	-0.16
Friday, 6pm	2.29	0.21
Friday, 7pm	1.83	0.67
Saturday, 12pm	2.41	0.09
Saturday, 1pm	2.02	0.48
Saturday, 6pm (1)	2.82	-0.32
Saturday, 7pm (1)	2.29	0.21
Saturday, 6pm (2)	1.58	0.92
Saturday, 7pm (2)	1.05	1.45
Average Saturday Evening	1.94	0.56

Blue = Highest Observed Demand Red = Lowest Observed Demand

Safeway (Village Center)

Time	Actual Demand / 1000 sq. ft.	Difference between parking supply and actual parking demand (for 1000 sq. ft.)
Friday, 12pm	2.69	-0.19
Friday, 6pm	2.57	-0.07
Friday, 7pm	1.93	0.57
Saturday, 12pm	2.47	0.03
Saturday, 1pm	2.26	0.24
Saturday, 6pm (1)	3.19	-0.69
Saturday, 7pm (1)	2.59	-0.09
Saturday, 6pm (2)	2.26	0.24
Saturday, 7pm (2)	1.69	0.81
Average Saturday Evening	2.44	0.06

Blue = Highest Observed Demand Red = Lowest Observed Demand

Tables 5-18 and 5-19: Detailed Parking Demand Ratios By Lot (cont.)

Peet's + Michelle's (Village Center)

Time	Actual Demand / 1000 sq. ft.	Difference between parking supply and actual parking demand (for 1000 sq. ft.)
Friday, 12pm	1.68	0.82
Friday, 6pm	1.56	0.94
Friday, 7pm	0.98	1.52
Saturday, 12pm	1.68	0.82
Saturday, 1pm	1.80	0.7
Saturday, 6pm (1)	1.83	0.67
Saturday, 7pm (1)	1.62	0.88
Saturday, 6pm (2)	1.43	1.07
Saturday, 7pm (2)	1.22	1.28
Average Saturday Evening	1.52	0.98

Blue = Highest Observed Demand Red = Lowest Observed Demand

Firehouse Square (Firehouse Square)

Time	Actual Demand / 1000 sq. ft.	Difference between parking supply and actual parking demand (for 1000 sq. ft.)
Friday, 12pm	1.84	0.66
Friday, 6pm	1.60	0.90
Friday, 7pm	1.91	0.59
Saturday, 12pm	0.54	1.96
Saturday, 1pm	0.61	1.89
Saturday, 6pm (1)	2.08	0.42
Saturday, 7pm (1)	2.55	-0.05
Saturday, 6pm (2)	1.60	0.90
Saturday, 7pm (2)	1.84	0.66
Average Saturday Evening	1.94	0.56

Blue = Highest Observed Demand Red = Lowest Observed Demand

Figure 6-11: Supporting Analysis for Location of Public Parking