

Citywide Parking Study
Policy Advisory Team Meeting #3
November 7, 2017

Galveston Avenue Corridor Parking Study documents

2017 Bend – Galveston Avenue Corridor Study Area - Parking Study Data Summary Occupancy/Utilization

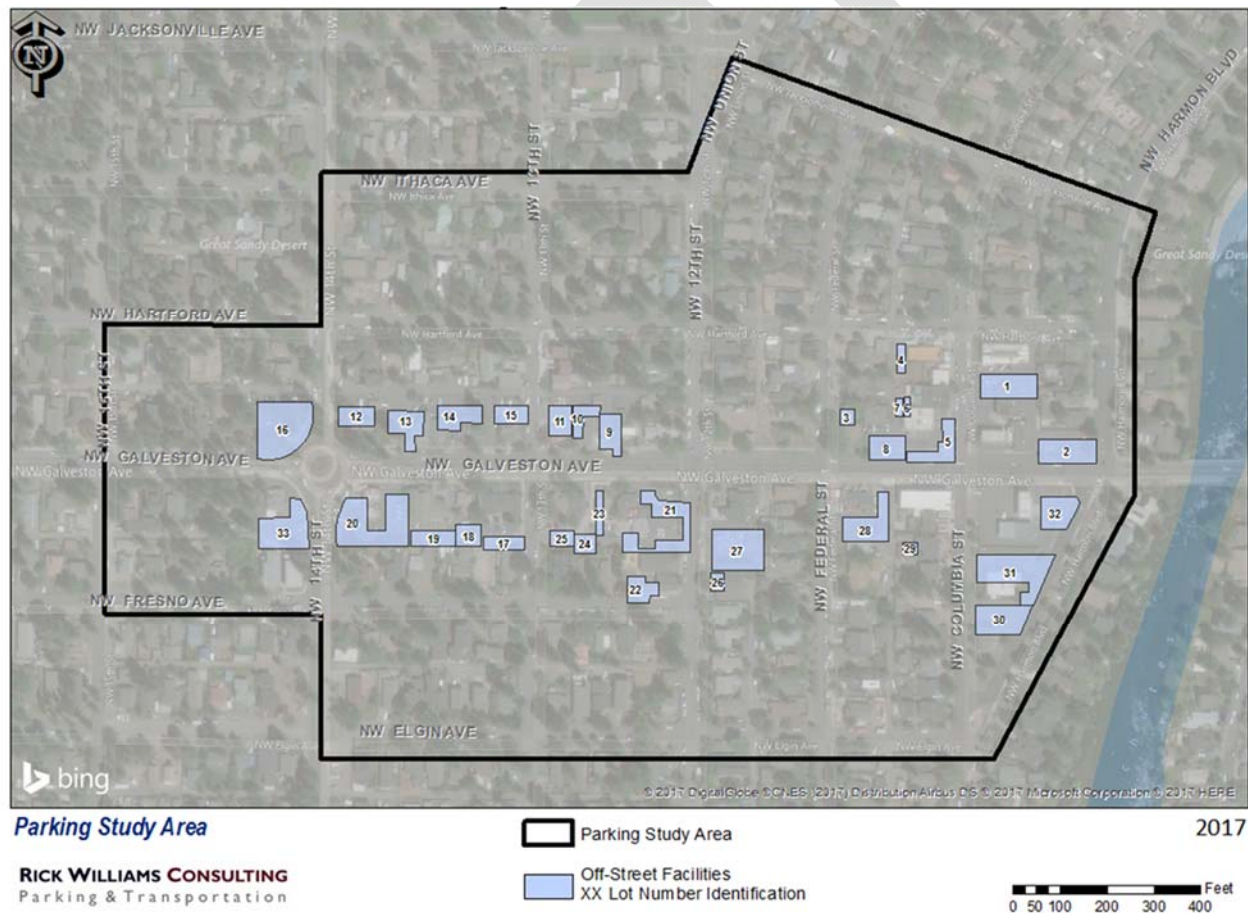
October 12, 2017 (v3)

STUDY AREA

Per input from the City of Bend and area stakeholders, the 2017 parking survey boundaries were drawn to generally include all parking within the below listed streets. **Figure A** provides an illustration of the study area (which also shows off-street sites):

- NW Ithaca / Jacksonville (north)
- NW Elgin Ave. (south)
- NW 15th Street between Hartford and Fresno (west)
- NW Harmon Blvd. (east)

Figure A: 2016 Parking Study Area (indicating off-street sites)



SURVEYED PARKING INVENTORY

Table 1 provides a summary breakout of all parking located within the study area by type of use (on-street or off-street). A full summary of all 33 off-street sites is provided below

Table 1: 2017 Bend/Galveston - Parking Inventory by Use Type

Type of Stall	Stalls	% of Total	Other Use Types	Spaces
ADA accessible	1	0.2%	Driveway Capacity ¹	477
No Limit	604	99.8%	Mailboxes ²	100
<i>On-Street Supply</i>	<i>605</i>	<i>100%</i>		
<i>Off-Street Supply</i>	<i>307</i>	<i>100%</i>		
Total Supply	912	100%		

As **Table 1** indicates:

- There are a total of 912 parking stalls in the study area; 605 on-street and 307 off-street.
- Nearly all on-street parking (99.8%) is unregulated parking allowing unlimited time stays – No Limit.
- There is one (1) ADA stall provided on street (marked as such).
- The consultant team also identified all curb cuts that provide access into residential driveways. These driveways are estimated to provide off-street capacity for up to 477 vehicles. Vehicles parked in these driveways were counted during the study process.
- The consultant team identified the location of 100 mailboxes serving residential units located next to right of way parking areas. This supply was treated as a separate category for data collection purposes because blocking of mailboxes by parked cars was identified as a community concern.

¹ Driveway capacity was estimated as part of the inventory process where curb cuts provided access to a driveway area for vehicle storage. During the inventory process 166 driveways or curb cuts were documented. For clarification, it is illegal for any user to park in front of a driveway (including home owners).

² Estimate determined by common parking stall length with the mailbox centered in that measurement.

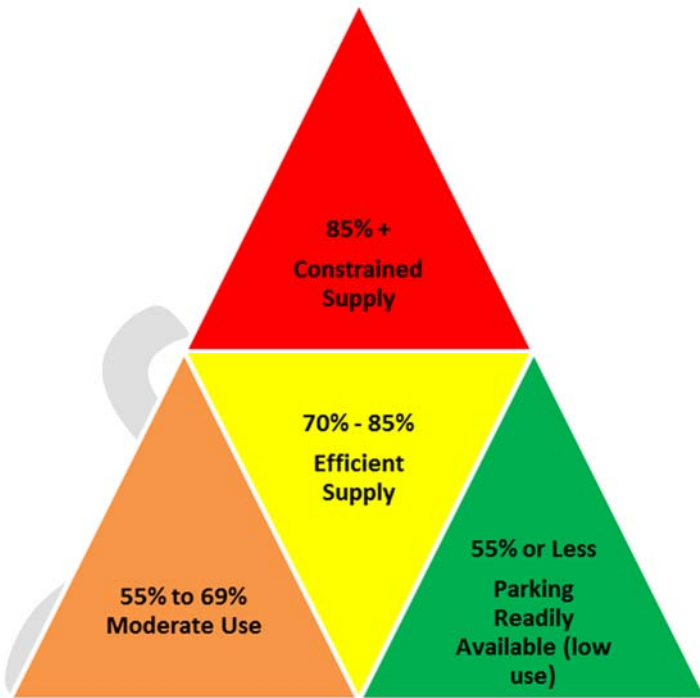
MEASURING PERFORMANCE

Industry standards consider parking to be constrained when 85% or more of the available supply is routinely occupied during the peak hour. In a constrained system, finding an available spot is difficult, especially for infrequent users such as customers and visitors. This can cause frustration and negatively affect perceptions about access into an area or district. Continued constraint can make it difficult to absorb and attract new growth, or to manage fluctuations in demand—for example, seasonal or event-based spikes.

Industry standards also indicate that occupancy rates of 55% or less show that parking is readily available. While availability may be high, this may also indicate a volume of traffic inadequate to support active and vital businesses. Occupancy rates between these two thresholds indicate either moderate (55% to 69%) or efficient (70% to 85%) use.

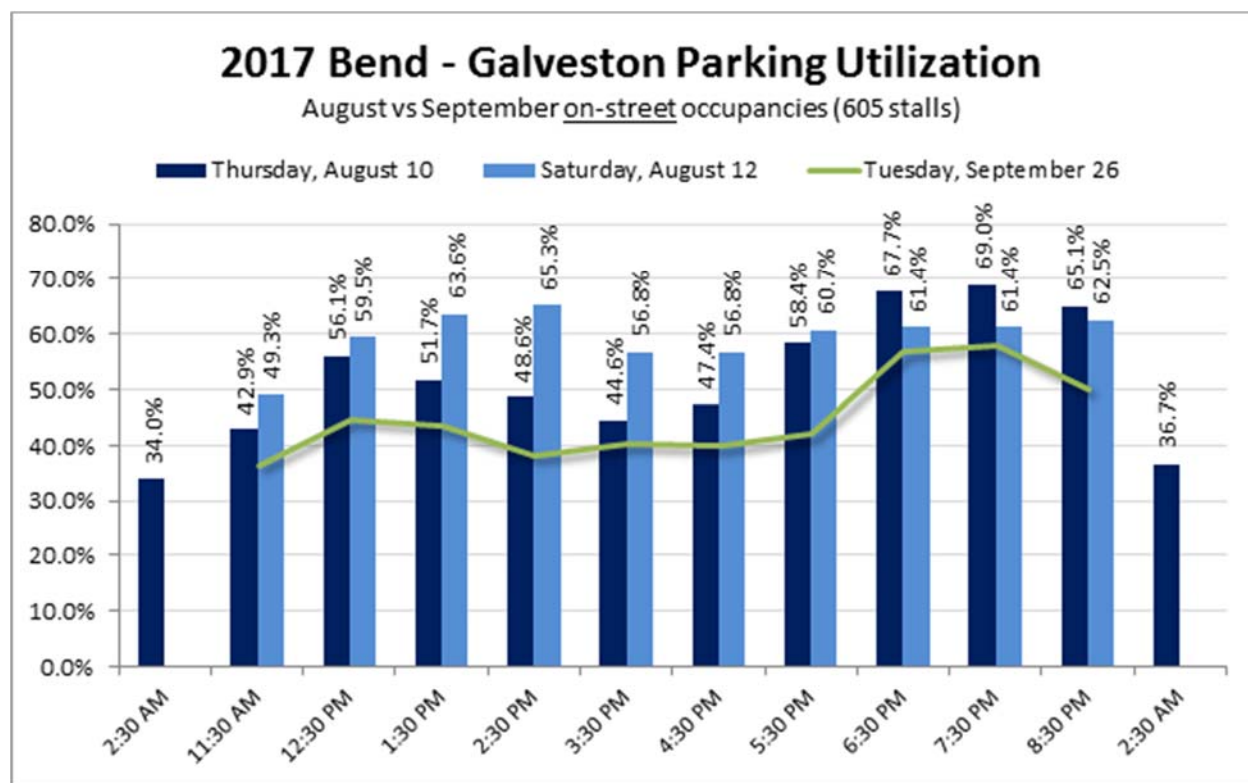
Parking utilization rates in the efficient range indicates that there is active use with little constraint. Efficient use supports vital ground-level businesses and business growth, is attractive to potential new users, balances with adjacent residential demand, and is able to respond to routine fluctuations.

RWC's analysis of parking in the Bend/Galveston study zone uses these categories to evaluate the performance of the system.



ON-STREET DATA FINDINGS (OCCUPANCY)

Figure B: 2017 Bend/Galveston On-street Occupancies (all stalls - by day/by hour)



As Figure B indicates:

- Peak occupancies are **moderate** by industry standards for all survey days (<70%)
- All day average hourly occupancies range from <50% (September) to <60% (August)
- Highest peak hour was Thursday (Aug. 10) @ 69% between 7:00 and 8:00 PM.
- All days show midday and evening peaks, with dip in occupancy between 3PM and 5PM.
- 2:30 AM counts show average occupancy of 33% (this would be primarily residents on-street)

ON-STREET DATA FINDINGS (UTILIZATION)

Table 2 provides a summary of several utilization metrics for the performance of Galveston's on-street parking system.

Table 2: 2017 Bend/Galveston - On-Street Parking Utilization – Three Survey Days

Type of Stall	# of Stalls	Survey Day	Peak Occupancy Peak Hour	Stalls Available	Average Length of Stay	Turnover Rate
On-Street Supply	605	Thursday, August 10, 2017 ³	69.0% 7:00 – 8:00 PM	187	2 hr./ 46 min	3.61
		Saturday, August 12, 2017 ⁴	65.3% 2:00 – 3:00 PM	209	2 hr./ 44 min	3.65
		Tuesday, September 16, 2017 ⁵	58.2% 7:00 – 8:00 PM	253	2 hr./ 53 min	3.47
Driveways	477	Thursday, August 10, 2017	40.9% 8:00 – 9:00 PM	282 ⁶	N/A	N/A
		Saturday, August 12, 2017	37.7% 8:00 – 9:00 PM	297	N/A	N/A
		Tuesday, September 16, 2017	36.2% 8:00 – 9:00 PM	304	N/A	N/A
Mailboxes	100	Thursday, August 10, 2017	19.0% 7:00 – 8:00 PM	81	2 hr./ 15 min	4.43
		Saturday, August 12, 2017	16.0% 7:00 – 9:00 PM	84	2 hr./ 39 min	3.78
		Tuesday, September 16, 2017	19.0% 7:00 – 9:00 PM	81	2 hr./ 50 min	3.52

As **Table 2** indicates:

- Within the entire study zone, there are a significant number of empty on-street stalls during the peak hours; 187 on Thursday, 209 on Saturday and 253 on the Tuesday (September 26) study day. This is not to suggest that such stalls are convenient to visitors (see **Figures C and D** below for a look at heat maps that indicate likely areas of empty parking).
- The average duration of stay for all on-street users is less than 3 hours and is relatively consistent across study days; 2 hours 46 minutes (Thursday), 2 hours 44 minutes (Saturday) and 2 hours 53 minutes (Tuesday). It is important to note that the duration of stay includes all users. If employees and residents are parking on-street all day (or for long-periods), this would affect the duration of stay average, indicating that the average length of stay for a visitor would be less than these averages. On average, 208 vehicles a day park for 5 or more hours (see **Table 3** below).
- Stalls turnover at a rate of less than 4 turns per 10 hour period; ranging from 3.47 (Tuesday) to 3.65 (Saturday). While this is not a high rate of turnover within a business district; it is not unusual in a district with such a high density of residential land use. Industry standards (for commercial areas) would target rates at 5.0 or more.

³ Thursday, August 10, 2017

⁴ Saturday, August 12, 2017

⁵ Tuesday, September 26, 2017

⁶ Availability for residents only and based on estimated total.

- Use of driveway capacity is very low, with peak occupancies for this dedicated residential supply ranging from 36.2% (Tuesday) to a high of 40.9% (Thursday). As a result, there are 294 empty parking spaces available within this supply of parking. This is a benefit only to those residential units with curb cuts accessing driveways.
- Use of parking “space” in front of mail boxes indicates that there is uncertainty by users as to whether this space is available for use by the public. Peak occupancies of use range from just 16% (Saturday) to 19% (Tuesday/Thursday). Interestingly, the peak hour for all three study days is between 7:00 PM and 9:00 PM; meaning use is even lower earlier in the day.

ON-STREET DATA FINDINGS (OTHER CHARACTERISTICS OF USE)

Table 3 provides additional metrics of use for the on-street system. Key indicators include:

- The number of unique vehicle trips (UVT)⁷ parked on-street over the 10 hour data collection period totaled 1,202 (Thursday), 1,313 (Saturday) and 945 (Tuesday).
- Vehicle volume during the summer days (Thursday/Saturday) is fairly consistent; though Saturday does have the highest vehicle load at 1,313 UVT.
- Vehicle volume dropped on the fall survey day (Tuesday) to 945, a difference of about 313 cars (or 25%) from the two day summer average.
- Quite a few vehicles park on street for long periods of the day (5 or more hours), ranging from 178 (Tuesday) to 236 (Saturday). On average, this represents about 18% of all vehicles parked over the course of a day. These vehicles would generally be associated with employee and resident stays.
- Vehicles do move throughout the day from one stall in the district to another. The number of vehicles moving from one parking spot to another within the study area is low, averaging 3.0% for the two summer days (Thursday/Saturday) and dropping to just 1.0% for the fall survey day (Tuesday).

Table 3: 2017 Bend/Galveston - Summary of On-Street Parking Use Characteristics

Use Characteristics	Thursday August 10	Saturday August 12	Tuesday September 26
Unique vehicle trips (UVT)	1,202	1,313	945
UVT parked ≥5 hours (% of UVT)	211 (17.6%)	236 (18.0%)	178 (18.8%)
Number of UVT observed in multiple stalls over the course of study day (#/% of all vehicles)	37 (3.0%)	40 (3.0%)	24 (1.0%)

⁷ Unique vehicle trips (UVT) include documentation of each unique license plate number recorded each hour of the survey day.

ON-STREET DATA FINDINGS (RESIDENT VERSUS NON-RESIDENT VEHICLES)

During the summer data collection effort, the consultant team recorded unique license plates parking on-street in the very early morning hours (i.e., 2:00 AM – 3:00 AM). Two counts were conducted, one on the morning of August 10 and again on the morning of August 11. This provided two days of license plates that, for purposes of this analysis, most likely represent residents. These unique plates were put into a data base that was then compared with all license plates recorded between 11:00 AM and 9:00PM on the summer Thursday/Saturday survey days. This allowed the consultant to separate out, with a high level of confidence, residential plates from non-residential plates. **Table 4** summarizes that analysis.

Table 4: 2017 Bend/Galveston – Use of the Supply (Resident vs. Non-Resident)

Stall Type	# of Stalls	Average Unique Vehicle Trips (UVT)	Estimated Resident Vehicle	Estimated Non-Resident Vehicles
On-Street Supply	605	1,258	381 (30% of UVT)	877 (70% of UVT)

As **Table 4** indicates, about 30% (381 vehicles) parked during a typical day (11:00 AM – 9:00 PM) are residents; with 70% (877 vehicles) associated with non-residential vehicles (employees, customers/visitors, vendors).

ON-STREET DATA FINDINGS (PEAK HOUR HEAT MAPS)

The Galveston study area is located within a 23 block area. Within this area, there are 66 block faces that allow for parking. **Figures C, D and E** (following 3 pages) provide a block-face level “heat map” view of the peak hours for the each of the survey day data sets. Heat maps display occupancy by color with red indicating occupancies of 85% or more (constrained). Intensity of use then decreases from orange, to yellow, to green.

Each heat map displays peak hour occupancies for each of the study days as well as an area of high occupancy, which is provided in a “box” highlighted in white. The highlighted boxes are important in that demand for parking in this area of the study area is much higher than the study area averages for occupancy illustrated in **Figure B** above.

The high occupancy “boxes” are generally comprised of the area bounded by NW Hartford/NW Fresno between NW 13th/NW Harmon. This smaller area represents about 12 city blocks and 38 block faces that allow parking.

Key findings from the heat maps include:

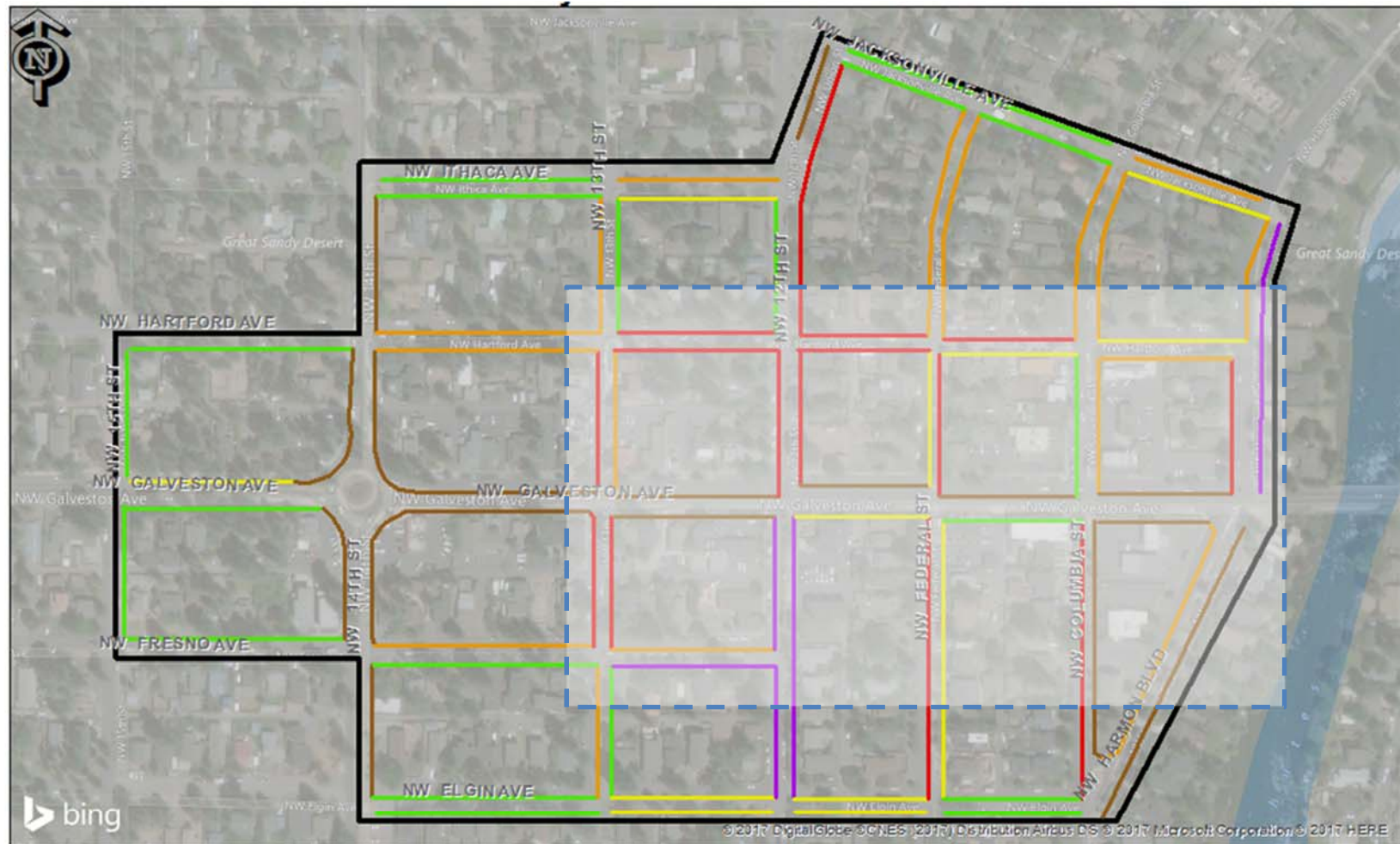
- Parking constraints are more pronounced in smaller concentrated areas of the study area.
- The heat maps reveal that the level of constraint in the study area is understated when occupancies of all stalls are considered (see **Figure B** above).

- In summer, up to half of block faces in the “box” exceed 85%+ (and 100%) – see **Table 5** below.
- Public sense of congestion and parking constraint is very real in this box.
- As the heat maps indicate, the majority of empty stalls are located on the western and northern sectors of the study area; these areas may not be perceived as convenient to users.

Table 5: 2017 Bend/Galveston – Summary of Constrained Block Faces (entire study area vs. “box.”)

Survey Date	Block Faces w/ Parking Allowed (entire zone)	Peak Hour	Block Faces Over 85%	Block Faces over 100%	% of Block Faces Constrained	% of Block Faces in “Box” (38 Block Faces)
Thursday, August 10, 2017	66	7PM – 8PM	15	5	30.3%	47.4% (18)
Saturday, August 12, 2017	66	2PM – 3PM	19	5	36.3%	55.3% (21)
Tuesday, September 26, 2017	66	7PM – 8PM	12	3	22.7%	34.2% (13)

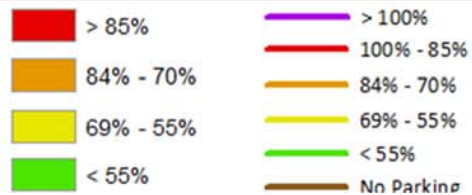
Figure C: 2017 Bend/Galveston On-street Peak Hour Heat Map (Saturday, August 10, 2017)



On-Street Parking Utilization - Weekday

Parking Study Area

RICK WILLIAMS CONSULTING
Parking & Transportation



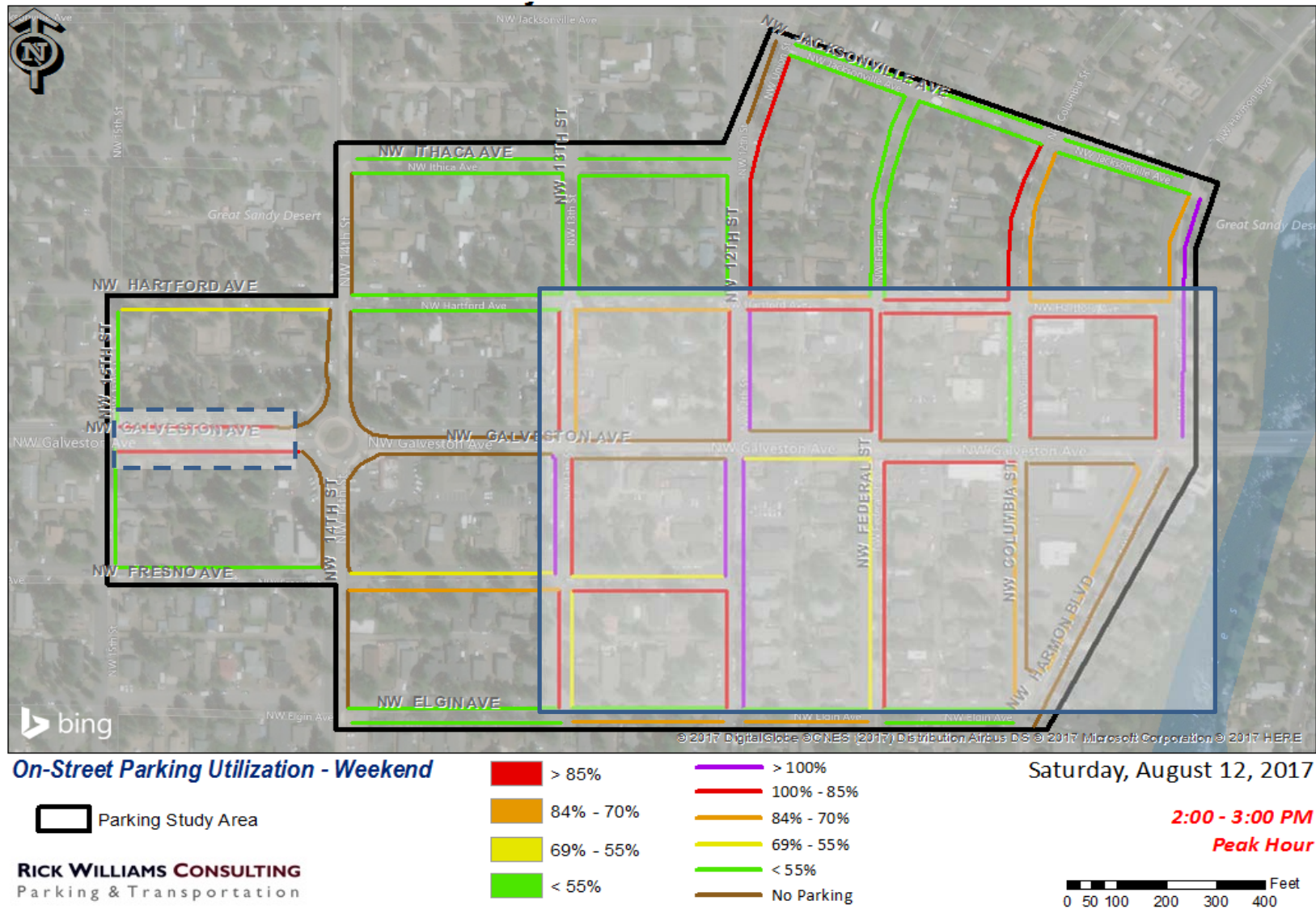
Thursday, August 10, 2017

7:00 - 8:00 PM
Peak Hour

Feet
0 50 100 150 200 250 300

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Parking & Transportation

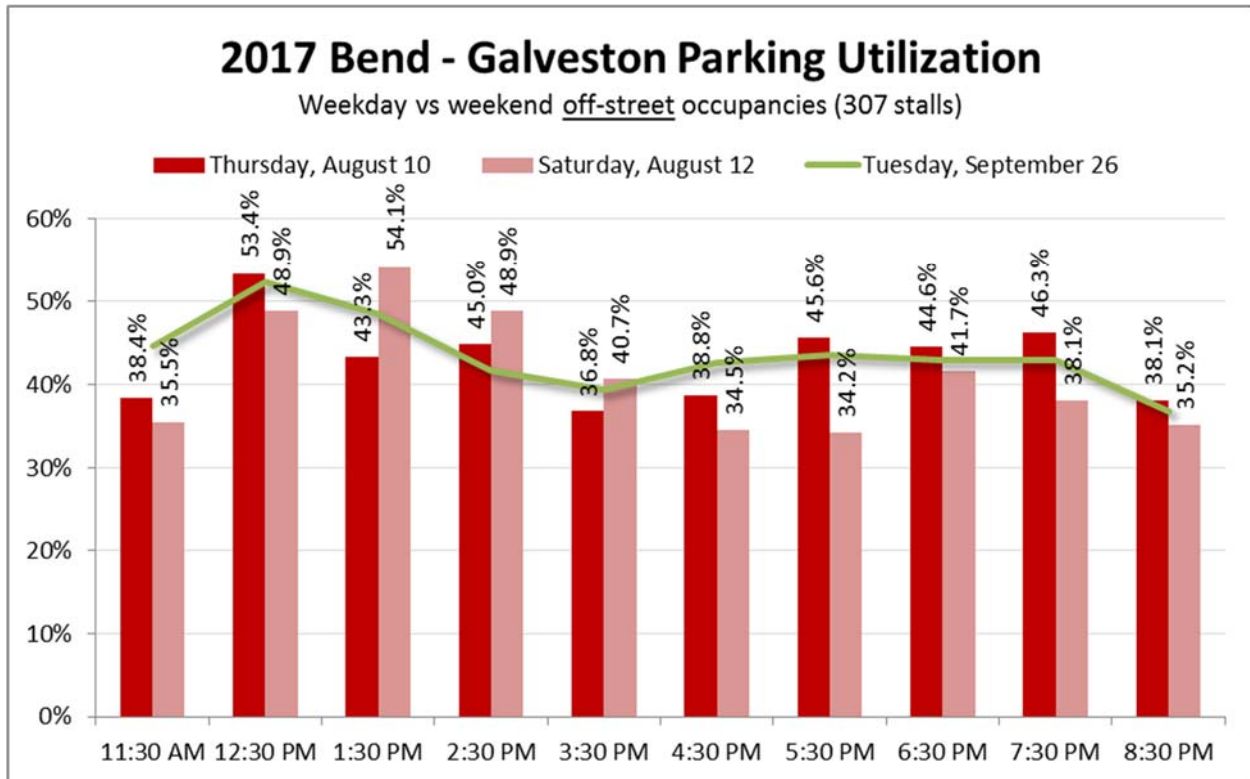
Figure D: 2017 Bend/Galveston On-street Peak Hour Heat Map (Saturday, August 12, 2017)



OFF-STREET DATA FINDINGS (OCCUPANCY)

A total of 307 off-street parking stalls were sampled for 10 hours on each of the survey days. These stalls were located on 33 separate sites. **Figure F** provides a summary of occupancy by hour for each of the three survey days.

Figure F: 2017 Bend/Galveston Off-street Occupancies (all stalls - by day/by hour)



As **Figure F** indicates:

- Overall occupancy of off-street supply is moderate at peak hours.
- Occupancy trend follows on-street system with dip in occupancy between 3PM and 5PM.
- Thursday (8/10) peak occupancy reaches 53% (@ 12:30 PM).
- Saturday (8/12) peak occupancy reaches 54% (@ 1:30 PM).
- Tuesday (9/26) peak occupancy reaches 53% (@ 12:30 PM).
- Average number of empty stalls at peak hour = 144

OFF-STREET DATA FINDINGS (UTILIZATION BY OBSERVED LOT – 33 SITES)

Table 6 summarizes findings from each of the 33 sampled lots observed on each of the survey days. All lots in the study area are privately owned; the City does not own or operate off-street parking in this area. Each lot has a unique identifying number that correlates the study area map provided in **Figure A**. Data for each lot is included that indicates its stall total, unique peak occupancy by survey day, and empty stalls at the peak hour. All lot activity is totaled at the end of the table that consolidates each survey day to the peak hour for the larger study area. A breakout of each lot and its relationship as a % of all off-street parking is provided in **ATTACHMENT A** at the end of this report.

Key outputs from **Table 6** include:

- When all occupancies are combined, there are a total of 143 (Thursday) and 141 (Saturday) and 146 (Tuesday) empty parking stalls located on off-street lots within the study area.
- Though there appears to be a significant amount of *empty* stalls, this is not to infer that such stalls are *available* for use by visitors or employees not associated with specific businesses as all of the off-street parking is in private ownership.
- Similar pattern most days, lunch hour peak (AVG: 141 empty stalls).

Table 6: 2017 Bend/Galveston - Off-Street Parking Utilization (Three Survey Days)

Lot ID	Facility	Stalls	Study Day	Peak Occupancy Peak Hour	Stalls Available
1	Flipped/Westside Coin-OP Laundry/Cibelli's Pizza	12	Thursday, August 10, 2017	75.0% 1:00 – 2:00 PM	3
			Saturday, August 12, 2017	91.7% 1:00 – 2:00 PM	1
			Tuesday, September 16, 2017	83.3% 1:00 – 2:00 PM	2
2	Westside Tavern	12	Thursday, August 10, 2017	75.0% 7:00 – 8:00 PM	3
			Saturday, August 12, 2017	91.7% 12:00 – 1:00 PM 2:00 – 3:00 PM	1
			Tuesday, September 16, 2017	83.3% 4:00 – 8:00 PM	2
3	Sol Verde	4	Thursday, August 10, 2017	50.0% 1:00 – 4:00 PM	2
			Saturday, August 12, 2017	75.0% 11:00 AM – 12:00 PM 1:00 – 3:00 PM	1
			Tuesday, September 16, 2017	50.0% 11:00 AM – 12:00 PM 1:00 – 2:00 PM 4:00 – 6:00 PM	2
4	Food Carts	4	Thursday, August 10, 2017	75.0% 1:00 – 2:00 PM 5:00 – 7:00 PM 8:00 – 9:00 PM	1

Lot ID	Facility	Stalls	Study Day	Peak Occupancy Peak Hour	Stalls Available
			Saturday, August 12, 2017	75.0% 12:00 – 2:00 PM 3:00 – 9:00 PM	1
			Tuesday, September 16, 2017	75.0% 11:00 AM – 12:00 PM 1:00 – 2:00 PM 7:00 – 9:00 PM	1
5	7-Eleven	10	Thursday, August 10, 2017	90.0% 3:00 – 4:00 PM	1
			Saturday, August 12, 2017	100% 4:00 – 5:00 PM	0
			Tuesday, September 16, 2017	50.0% 12:00 – 1:00 PM 5:00 – 6:00 PM	5
6	Hutch's	2	Thursday, August 10, 2017	100% 11:00 AM – 3:00 PM	1
			Saturday, August 12, 2017	100% 11:00 AM – 7:00 PM	0
			Tuesday, September 16, 2017	100% 12:00 – 1:00 PM 5:00 – 7:00 PM 8:00 – 9:00 PM	0
7	724 NW Federal St	4	Thursday, August 10, 2017	50.0% 12:00 – 2:00 PM 4:00 – 9:00 PM	0
			Saturday, August 12, 2017	50.0% 11:00 AM – 12:00 PM	2
			Tuesday, September 16, 2017	75.0% 12:00 – 1:00 PM	1
8	Big O Bagels	6	Thursday, August 10, 2017	50.0% 12:00 – 2:00 PM	2
			Saturday, August 12, 2017	83.3% 11:00 AM – 12:00 PM	1
			Tuesday, September 16, 2017	83.3% 12:00 – 1:00 PM	1
9	Paradise Produce	5	Thursday, August 10, 2017	80.0% 12:00 – 1:00 PM	3
			Saturday, August 12, 2017	60.0% 11:00 AM – 12:00 PM	2
			Tuesday, September 16, 2017	60.0% 4:00 – 5:00 PM	2
10	Primal Cuts/Growler Phil's	5	Thursday, August 10, 2017	80.0% 12:00 – 1:00 PM 5:00 – 6:00 PM	1
			Saturday, August 12, 2017	80.0% 6:00 – 7:00 PM	1
			Tuesday, September 16, 2017	80.0% 1:00 – 2:00 PM	1

Lot ID	Facility	Stalls	Study Day	Peak Occupancy Peak Hour	Stalls Available
11	Longboard Louie's	10	Thursday, August 10, 2017	90.0% 7:00 – 8:00 PM	1
			Saturday, August 12, 2017	80.0% 8:00 – 9:00 PM	2
			Tuesday, September 16, 2017	80.0% 3:00 – 4:00 PM	2
12	Sip	5	Thursday, August 10, 2017	120.0% 6:00 – 7:00 PM	-1
			Saturday, August 12, 2017	80.0% 6:00 – 7:00 PM	1
			Tuesday, September 16, 2017	100% 3:00 – 4:00 PM	0
13	Bend Furniture & Design/Sole	11	Thursday, August 10, 2017	63.6% 4:00 – 5:00 PM	4
			Saturday, August 12, 2017	45.5% 12:00 – 2:00 PM	6
			Tuesday, September 16, 2017	63.6% 3:00 – 4:00 PM	4
14	Fleet Feet/Knitting Place	10	Thursday, August 10, 2017	60.0% 11:00 AM – 12:00 PM	4
			Saturday, August 12, 2017	100% 1:00 – 2:00 PM	0
			Tuesday, September 16, 2017	60.0% 11:00 AM – 12:00 PM	4
15	Ida's Cupcakes/Ariana Restaurant	15	Thursday, August 10, 2017	73.3% 6:00 – 7:00 PM	4
			Saturday, August 12, 2017	73.3% 8:00 – 9:00 PM	4
			Tuesday, September 16, 2017	86.7% 6:00 – 7:00 PM	2
16	The Victorian Café	15	Thursday, August 10, 2017	80.0% 11:00 AM – 12:00 PM	3
			Saturday, August 12, 2017	86.7% 12:00 – 1:00 PM	2
			Tuesday, September 16, 2017	93.3% 11:00 AM – 12:00 PM	1
17	Hopscotch Kids/Trophy Properties	10	Thursday, August 10, 2017	90.0% 11:00 AM – 12:00 PM	1
			Saturday, August 12, 2017	60.0% 12:00 – 1:00 PM	4
			Tuesday, September 16, 2017	30.0% 11:00 AM – 1:00 PM 3:00 – 4:00 PM	7
18	Studio 541 Salon	3	Thursday, August 10, 2017	100% 11:00 AM – 3:00 PM	0
			Saturday, August 12, 2017	100% 11:00 AM – 12:00 PM 2:00 – 3:00 PM	0

Lot ID	Facility	Stalls	Study Day	Peak Occupancy Peak Hour	Stalls Available
			Tuesday, September 16, 2017	66.7% 11:00 AM – 1:00 PM	1
19	Cutting Club/East Lake Framing	9	Thursday, August 10, 2017	111.1% 1:00 – 2:00 PM	-1
			Saturday, August 12, 2017	33.3% 1:00 – 2:00 PM	6
			Tuesday, September 16, 2017	100% 11:00 AM – 12:00 PM	0
20	Taco Salsa	24	Thursday, August 10, 2017	62.5% 12:00 – 1:00 PM	9
			Saturday, August 12, 2017	75.0% 6:00 – 7:00 PM	6
			Tuesday, September 16, 2017	45.8% 12:00 – 1:00 PM	13
21	Brother Jon's Public House	19	Thursday, August 10, 2017	78.9% 7:00 – 8:00 PM	4
			Saturday, August 12, 2017	84.2% 1:00 – 2:00 PM 8:00 – 9:00 PM	3
			Tuesday, September 16, 2017	105.3% 7:00 – 8:00 PM	-1
22	Westside Shorty's	10	Thursday, August 10, 2017	50.0% 1:00 – 2:00 PM 3:00 – 5:00 PM	5
			Saturday, August 12, 2017	20.0% 2:00 – 3:00 PM	8
			Tuesday, September 16, 2017	10.0% 12:00 – 3:00 PM	9
23	Diamond Tree	4	Thursday, August 10, 2017	50.0% 4:00 – 5:00 PM	2
			Saturday, August 12, 2017	50.0% 11:00 AM – 12:00 PM 1:00 – 2:00 PM	2
			Tuesday, September 16, 2017	75.0% 11:00 AM – 12:00 PM 1:00 – 2:00 PM 7:00 – 8:00 PM	1
24	Westside Family Clinic	6	Thursday, August 10, 2017	33.3% 11:00 AM – 12:00 PM 2:00 – 4:00 PM	4
			Saturday, August 12, 2017	16.7% 1:00 – 2:00 PM 3:00 – 5:00 PM	5
			Tuesday, September 16, 2017	33.3% 11:00 AM – 12:00 PM 1:00 – 4:00 PM	4
25	Mothers Juice Cafe	4	Thursday, August 10, 2017	75.0% 11:00 AM – 1:00 PM	1

Lot ID	Facility	Stalls	Study Day	Peak Occupancy Peak Hour	Stalls Available
			Saturday, August 12, 2017	75.0% 11:00 AM – 3:00 PM	1
			Tuesday, September 16, 2017	75.0% 11:00 AM – 12:00 PM	1
26	1 Day Signs	2	Thursday, August 10, 2017	50.0% 11:00 AM – 12:00 PM 1:00 – 2:00 PM 6:00 – 7:00 PM	1
			Saturday, August 12, 2017	0% 11:00 AM – 9:00 PM	2
			Tuesday, September 16, 2017	50.0% 11:00 AM – 12:00 PM 1:00 – 2:00 PM 4:00 – 5:00 PM	1
27	10 Barrel/Namaspa	17	Thursday, August 10, 2017	94.1% 12:00 – 4:00 PM 5:00 – 9:00 PM	1
			Saturday, August 12, 2017	100% 8:00 – 9:00 PM	0
			Tuesday, September 16, 2017	100% 12:00 – 1:00 PM 4:00 – 5:00 PM	0
28	Aspect Boards and Brews	20	Thursday, August 10, 2017	100% 6:00 – 7:00 PM 8:00 – 9:00 PM	0
			Saturday, August 12, 2017	100% 5:00 – 6:00 PM	0
			Tuesday, September 16, 2017	90.0% 1:00 – 2:00 PM 7:00 – 8:00 PM	2
29	Sunriver Brewing Co	1	Thursday, August 10, 2017	0% 11:00 AM – 9:00 PM	1
			Saturday, August 12, 2017	0% 11:00 AM – 9:00 PM	1
			Tuesday, September 16, 2017	100% 4:00 – 5:00 PM	0
30	Sons of Norway Fjeldheim Lodge	15	Thursday, August 10, 2017	20.0% 2:00 – 3:00 PM	12
			Saturday, August 12, 2017	26.7% 6:00 – 7:00 PM	11
			Tuesday, September 16, 2017	80.0% 11:00 AM – 12:00 PM	3
31	Serenity Lane	13	Thursday, August 10, 2017	61.5% 6:00 – 7:00 PM	5
			Saturday, August 12, 2017	15.4% 2:00 – 3:00 PM	11
			Tuesday, September 16, 2017	38.5% 6:00 – 9:00 PM	8

Lot ID	Facility	Stalls	Study Day	Peak Occupancy Peak Hour	Stalls Available
32	Shell/Espresso	9	Thursday, August 10, 2017	77.8% 4:00 – 6:00 PM	2
			Saturday, August 12, 2017	44.4% 11:00 AM – 4:00 PM 8:00 – 9:00 PM	5
			Tuesday, September 16, 2017	155.6% 3:00 – 5:00 PM 8:00 – 9:00 PM	-5
33	Parrilla Grill	11	Thursday, August 10, 2017	100% 12:00 – 1:00 PM	0
			Saturday, August 12, 2017	90.9% 12:00 – 3:00 PM	1
			Tuesday, September 16, 2017	90.9% 12:00 – 1:00 PM	1
Off-Street Supply		307	Thursday, August 10, 2017	53.4% 12:00 – 1:00 PM	143
			Saturday, August 12, 2017	54.1% 1:00 – 2:00 PM	141
			Tuesday, September 16, 2017	52.4% 12:00 – 1:00 PM	146

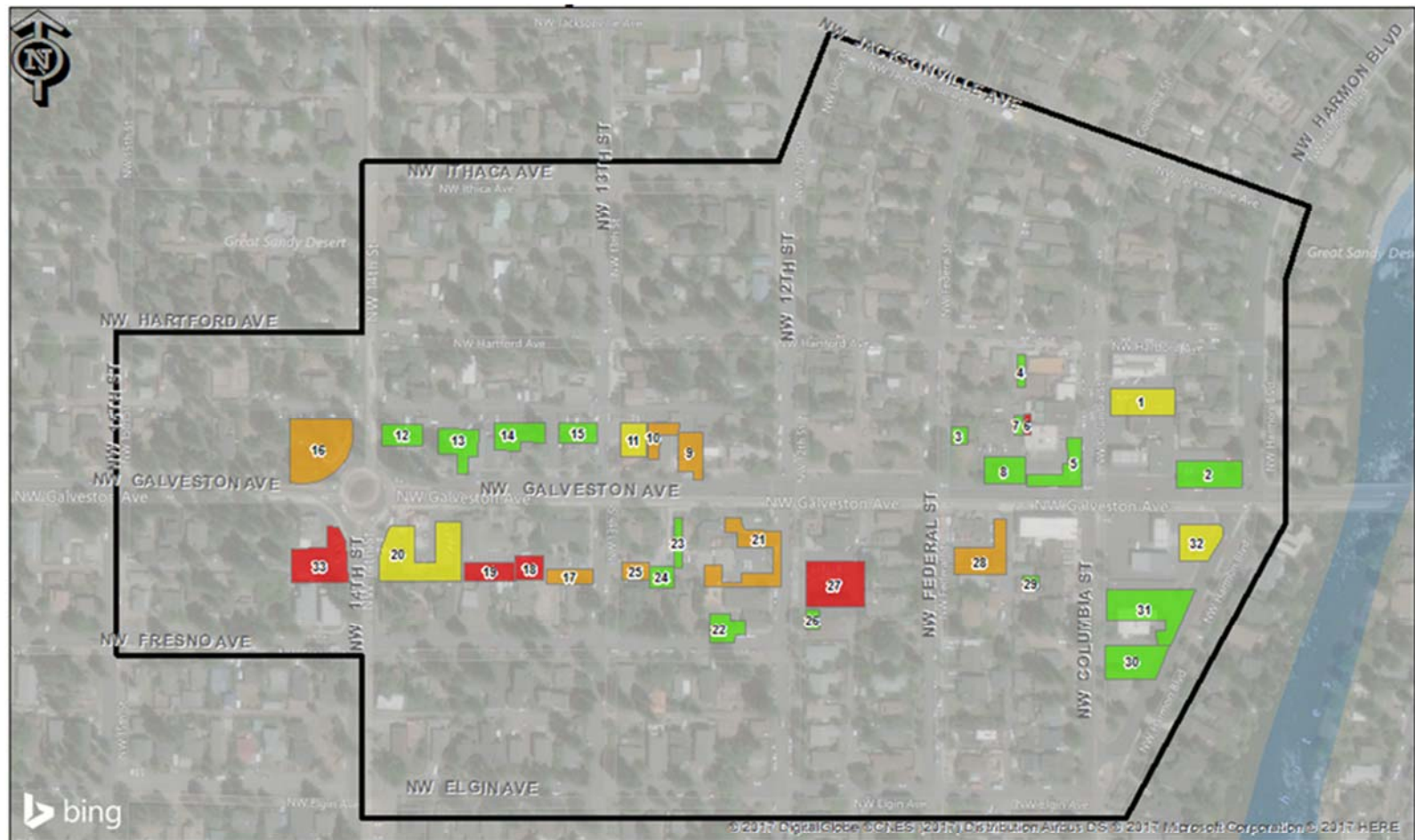
OFF-STREET DATA FINDINGS (PEAK HOUR HEAT MAPS)

Figures G, H and I provide a block-face level “heat map” view of the peak hours for off-street parking for the three separate data sets. Heat maps display occupancy by color with red indicating occupancies of 85% or more (constrained). Intensity of use then decreases from orange, to yellow, to green. Figures J, K and L provide heat maps that combine on and off-street parking.

Key findings from the heat maps include:

- Most lots have low to moderate use.
- 7 of 33 lots reach 85%+ on at least one survey day.
- Lots 27 and 33 were constrained all three survey days. Lot 20 was constrained on two of three days.
- The challenge of off-street is spatial distribution of lots and small lot sizes (largest lot is 24 stalls – Lot 20).

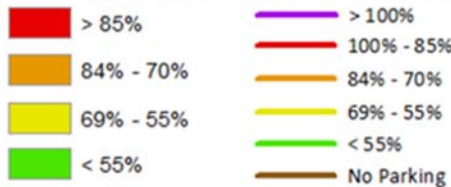
Figure G: 2017 Bend/Galveston Off-street Peak Hour Heat Map (Thursday, August 10, 2017)



Off-Street Parking Utilization - Weekday

Parking Study Area

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Parking & Transportation



Thursday, August 10, 2017

12:00 - 1:00 PM
Peak Hour

Feet
0 50 100 200 300 400

Figure H: 2017 Bend/Galveston Off-street Peak Hour Heat Map (Saturday, August 12, 2017)

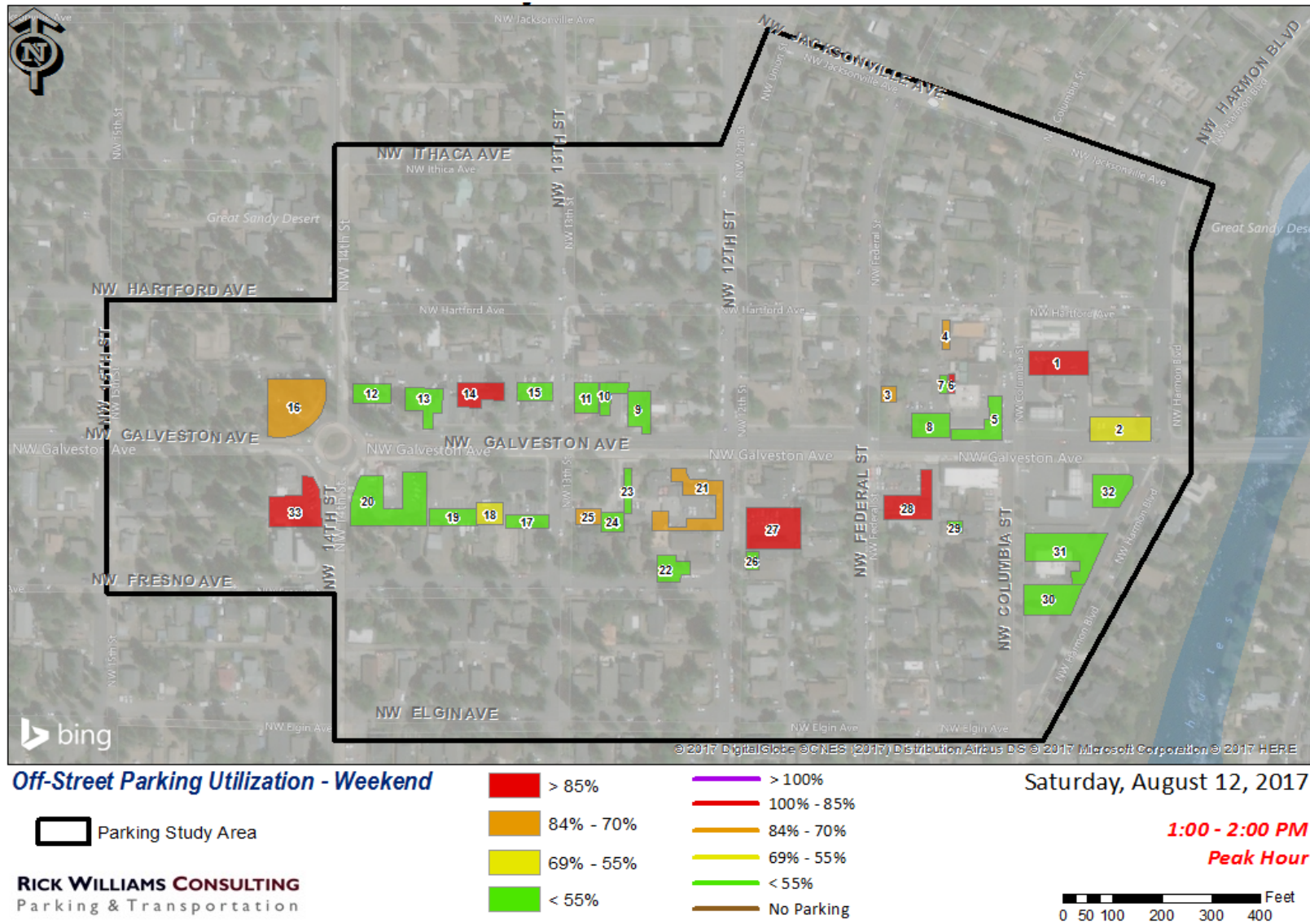
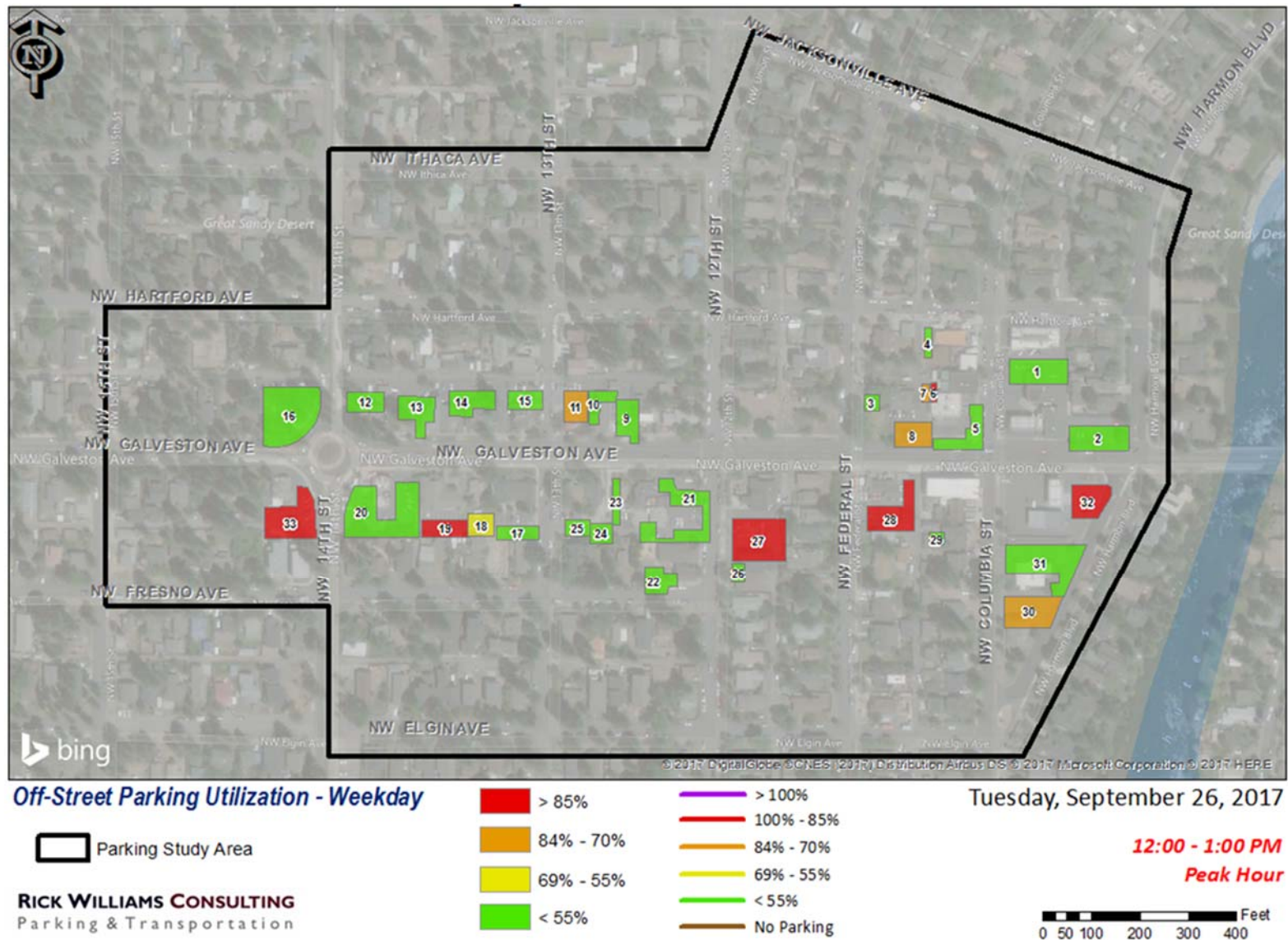












Figure I: 2017 Bend/Galveston Off-street Peak Hour Heat Map (Tuesday, September 26, 2017)



 Parking Study Area

 > 85%	 > 100%
 84% - 70%	 100% - 85%
 69% - 55%	 84% - 70%
 < 55%	 69% - 55%
	 < 55%
	 No Parking

7:00 - 8:00 PM
Peak Hour

Figure K: 2017 Bend/Galveston - Combined (on and off-street) Peak Hour Heat Map (Saturday, August 12, 2017)

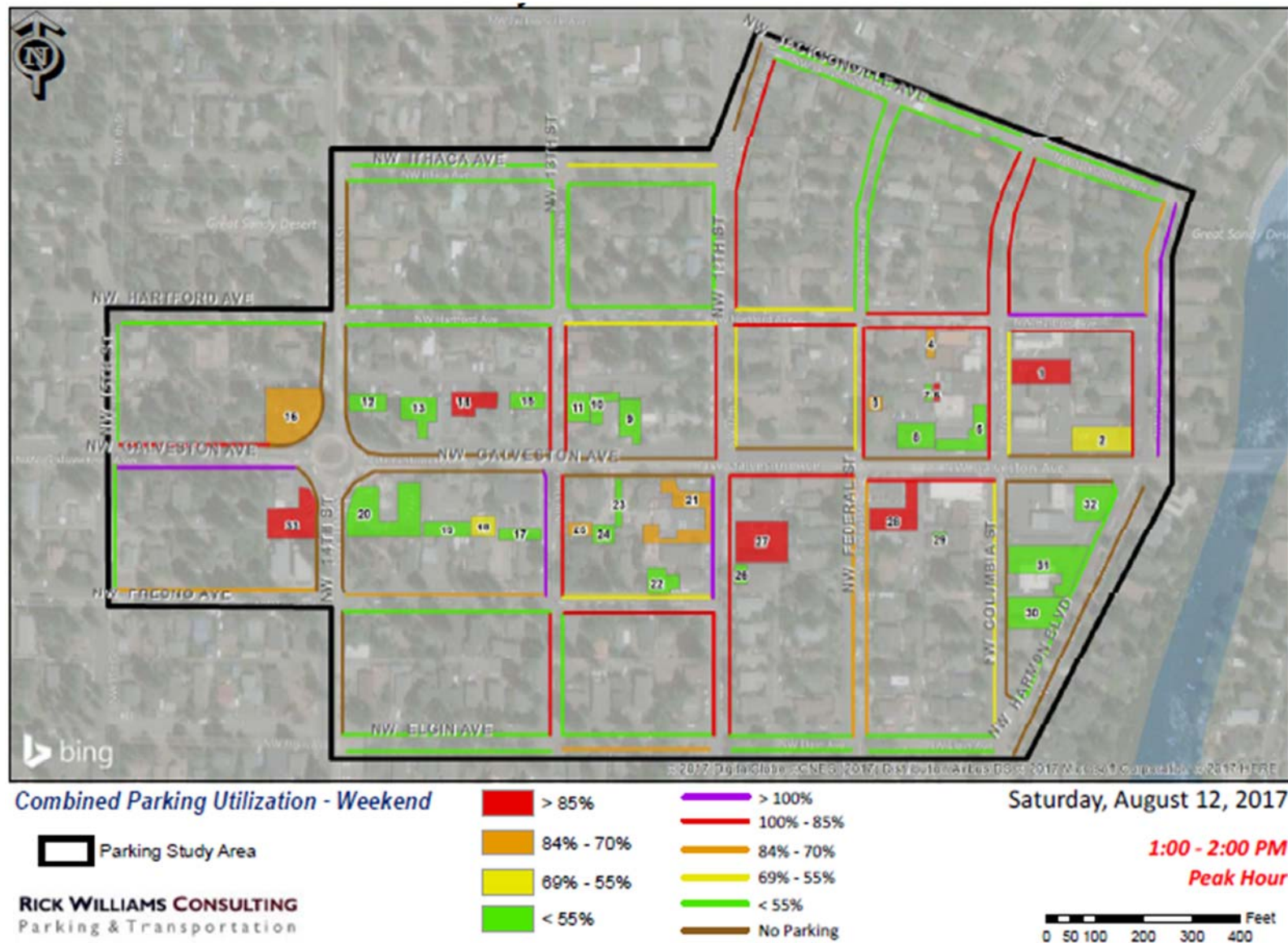
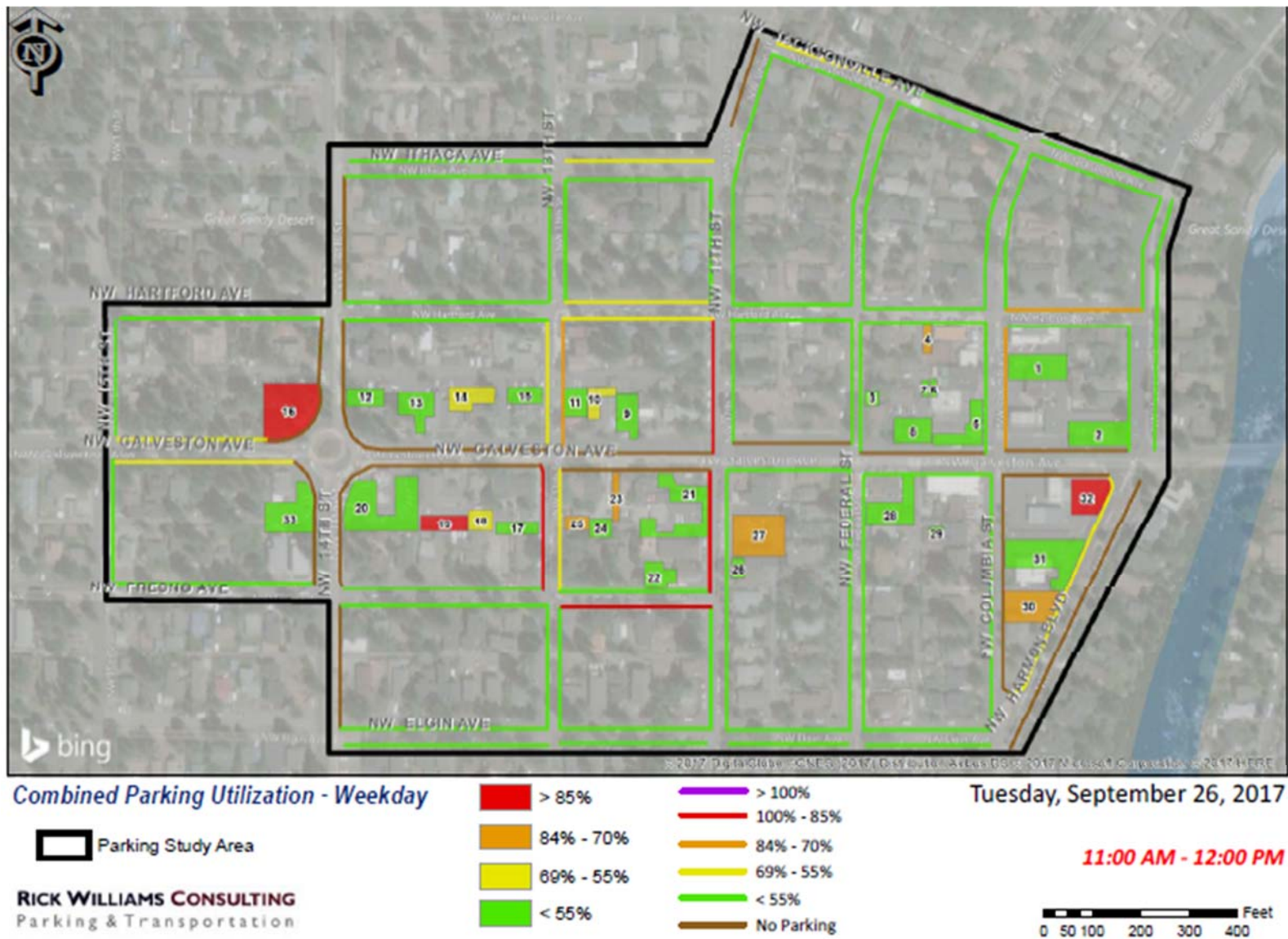


Figure L: 2017 Bend/Galveston - Combined (on and off-street) Peak Hour Heat Map (Tuesday, September 26, 2017)



ATTACHMENT A

SUMMARY OF OFF-STREET SITES (w/in Study Area)

Lot ID	Facility	Stalls	% of Total
1	Flipped/Westside Coin-OP Laundry/Cibelli's Pizza	12	3.9%
2	Westside Tavern	12	3.9%
3	Sol Verde	4	1.3%
4	Food Carts	4	1.3%
5	7-Eleven	10	3.3%
6	Hutch's	2	0.7%
7	724 NW Federal St	4	1.3%
8	Big O Bagels	6	2.0%
9	Paradise Produce	5	1.6%
10	Primal Cuts/Growler Phil's	5	1.6%
11	Longboard Louie's	10	3.3%
12	Sip	5	1.6%
13	Bend Furniture & Design/Sole	11	3.6%
14	Fleet Feet/Knitting Place	10	3.3%
15	Ida's Cupcakes/Ariana Restaurant	15	4.9%
16	The Victorian Café	15	4.9%
17	Hopscotch Kids/Trophy Properties	10	3.3%
18	Studio 541 Salon	3	1.0%
19	Cutting Club/East Lake Framing	9	2.9%
20	Taco Salsa	24	7.8%
21	Brother Jon's Public House	19	6.2%
22	Westside Shorty's	10	3.3%

Lot ID	Facility	Stalls	% of Total
23	Diamond Tree	4	1.3%
24	Westside Family Clinic	6	2.0%
25	Mothers Juice Cafe	4	1.3%
26	1 Day Signs	2	0.7%
27	10 Barrel/Namaspa	17	5.5%
28	Aspect Boards and Brews	20	6.5%
29	Sunriver Brewing Co	1	0.3%
30	Sons of Norway Fjeldheim Lodge	15	4.9%
31	Serenity Lane	13	4.2%
32	Shell/Espresso	9	2.9%
33	Parrilla Grill	11	3.6%
Off-Street Supply		307	100%

Agenda

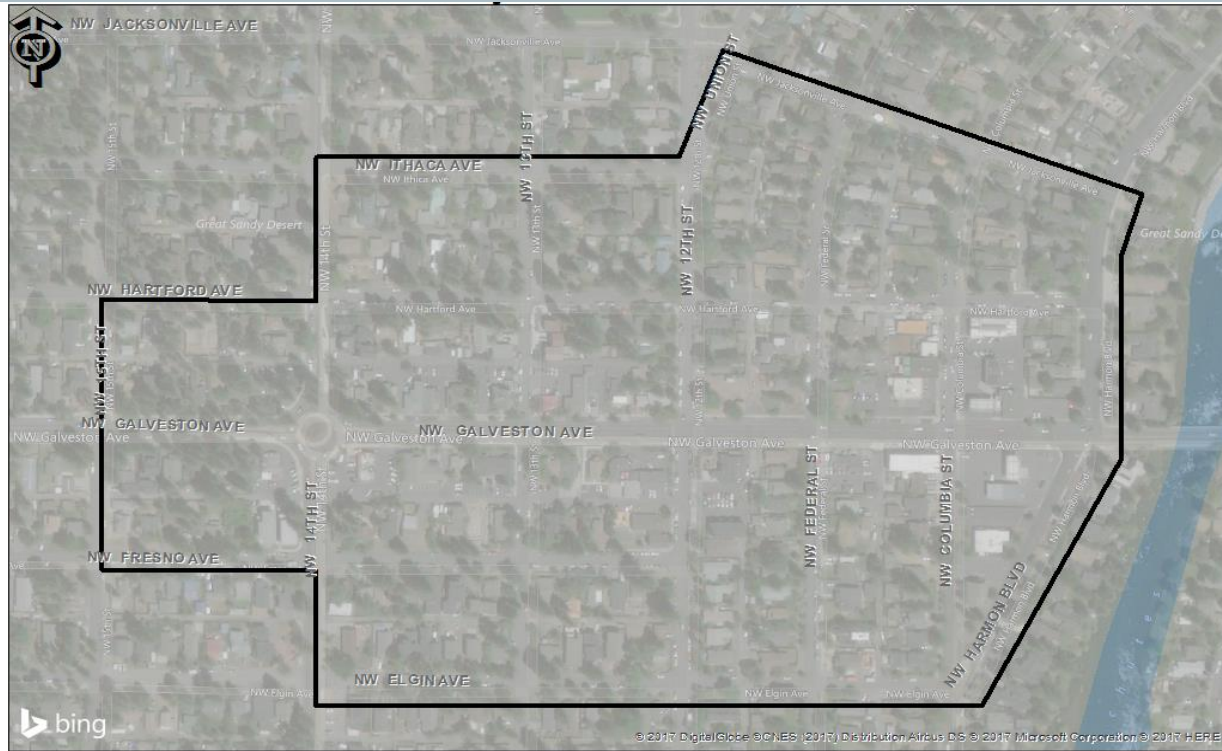


1. Introductions
2. Review Data Findings
3. Q & A
4. Next meeting



Study Area Boundary

Summer/Fall Data Collection (Aug, 10 & 12 ,2017 and Sept. 26, 2017)



Parking Study Area

2017

RICK WILLIAMS CONSULTING
Parking & Transportation

 Parking Study Area

0 50 100 200 300 400 Feet

- NW Ithaca / Jacksonville (north)
- NW Elgin Ave. (south)
- NW 15th Street between Hartford and Fresno (west)
- NW Harmon Blvd. (east)

BACKGROUND



Survey Days

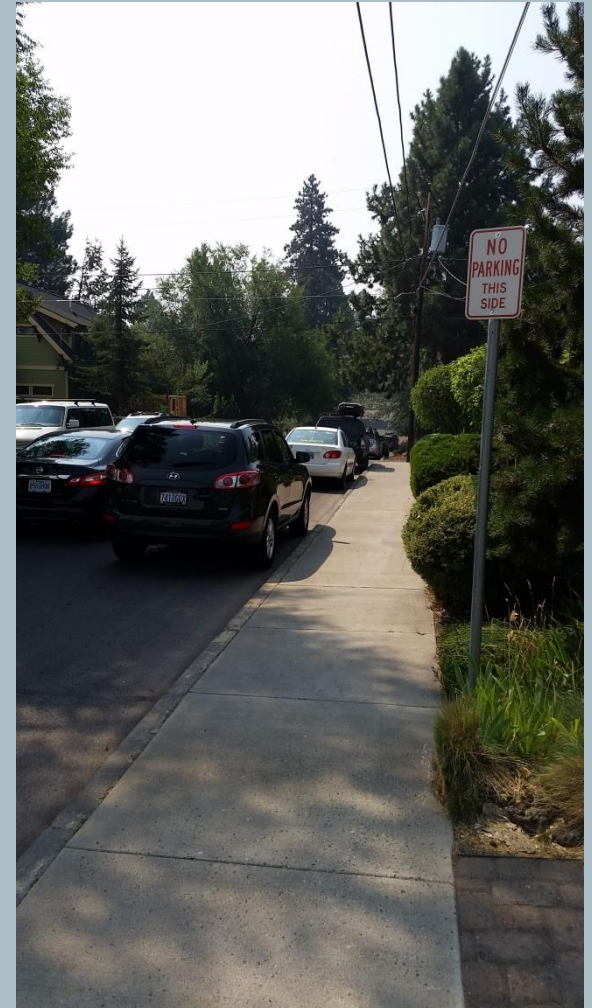
- Thursday, August 10
- Saturday, August 12
- Tuesday, September 26
- Hourly turnover and late night counts (on-street in August)
- Hourly occupancy (off-street)

Supply

- 912 TOTAL STALLS
- 605 on-street stalls (66%)
- 307 off-street stalls (34%)
- 33 off-street sites

Surveyed

- 100% on and off-street



GENERAL OBSERVATIONS



- The district **feels congested**.
- There is a lot of “**illegal**” **parking** occurring in the district.
- An anecdotal observation is that many **people park in the district and walk out of the district**.

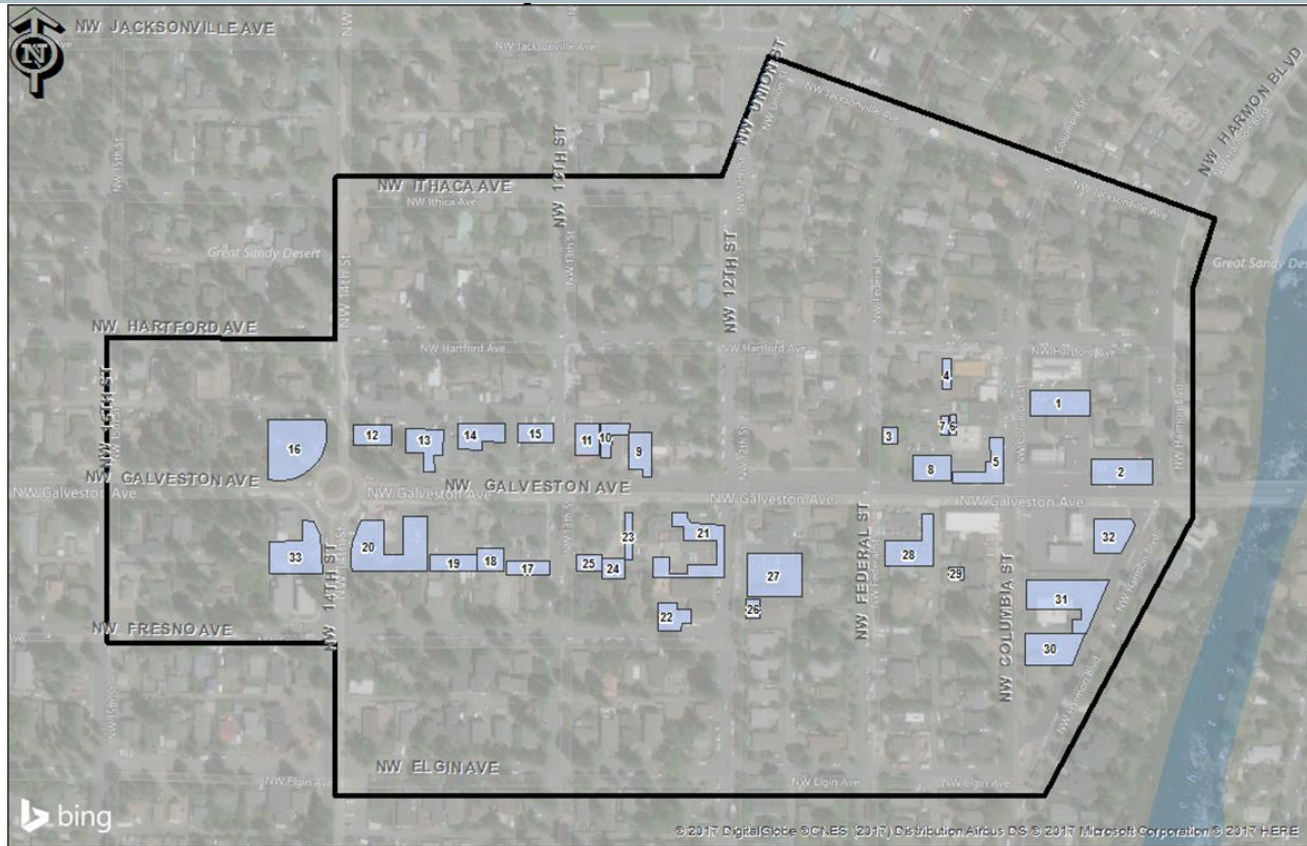
Inventory (On-street Supply)



Type of Stall	Stalls	% of Total	Other Use Types	Spaces
ADA accessible	1	0.2%	Driveway Capacity 166 “curb cut”	477
No Limit	604	99.8%	Mailboxes	100
<i>On-Street Supply</i>	<i>605</i>	<i>100%</i>		

- Approx. 23 block area comprised of 66 block faces that allow parking.
- Nearly all on-street parking (99.8%) is unregulated parking; allowing unlimited time stays for any user – No Limit.
- Other use types recorded and surveyed:
 - Driveways (166 curb cuts into estimated 477 parking spots for residents)
 - Mailboxes (100 estimated at a car length centered on each mailbox)

Inventory (Off-street Supply)



- 307 stalls
- 33 unique sites.
- Lots are associated with and often signed for use by a single business

Parking Study Area

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Parking Study Area

Off-Street Facilities
XX Lot Number Identification

2017

0 50 100 200 300 400 Feet

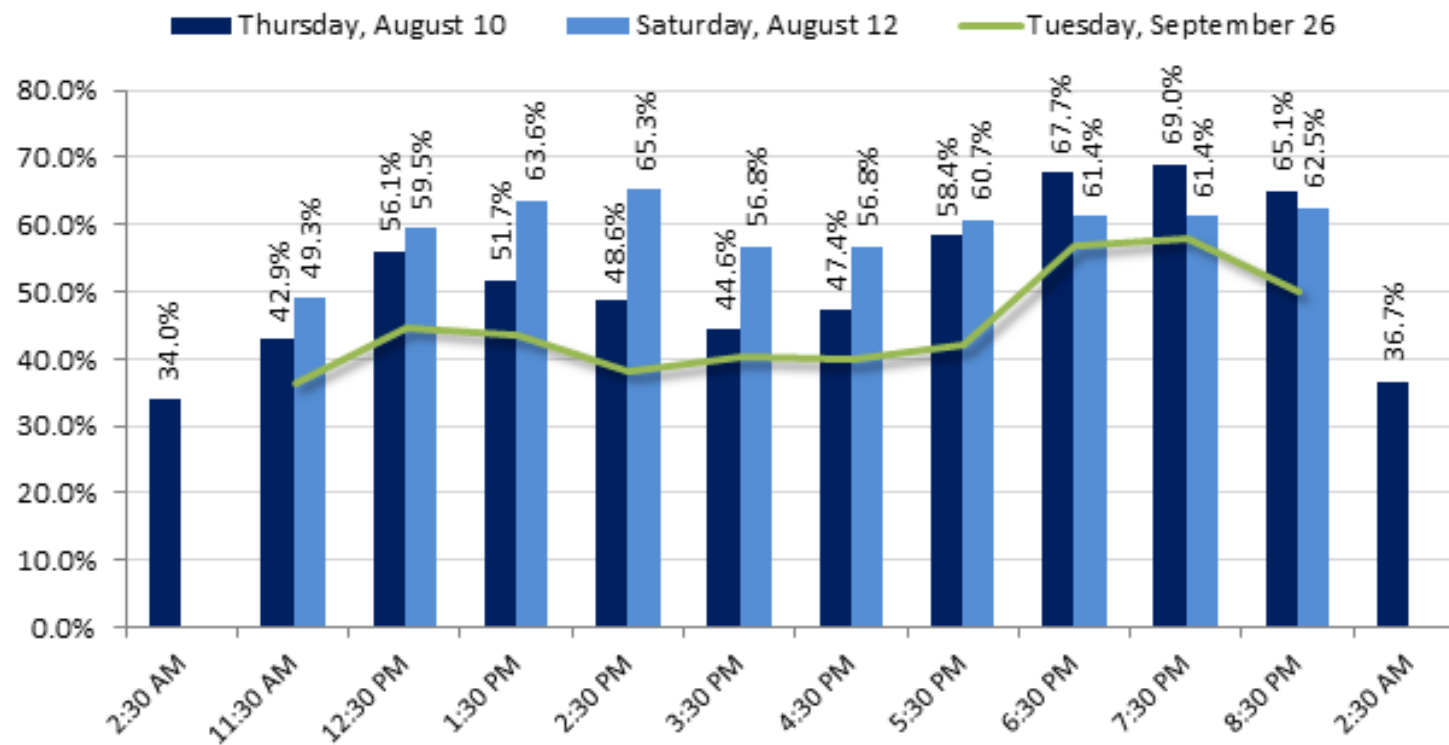
Hourly Occupancies (on-street)

Comparison (Thursday/Saturday/Tuesday)



2017 Bend - Galveston Parking Utilization

August vs September on-street occupancies (605 stalls)



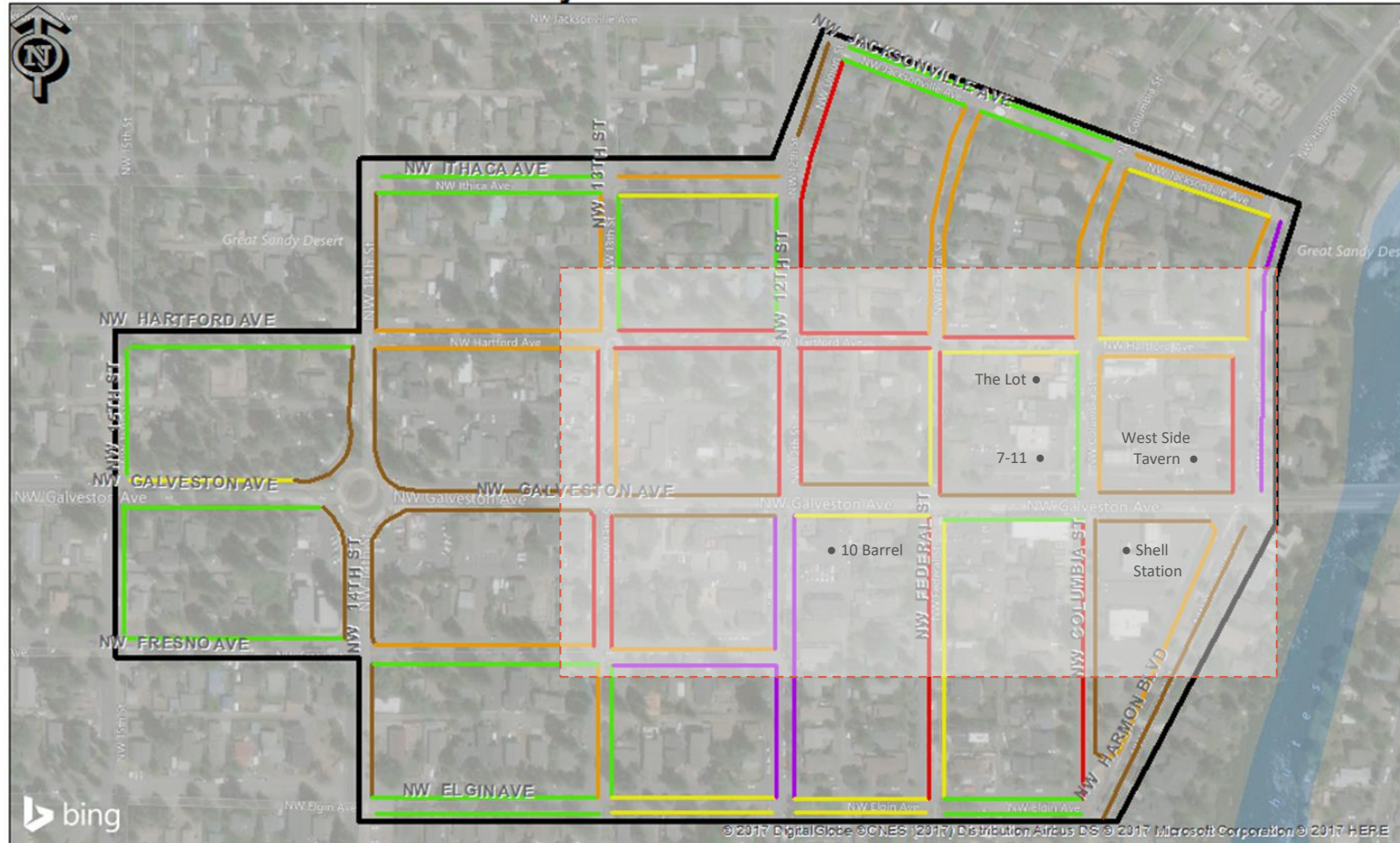
Hourly Occupancies (on-street)

605 stall supply



- Peak occupancies are moderate by industry standards for all survey days (<70%) .
- All day average hourly occupancies range from 50% (September) to 60% (August)
- Highest peak hour was Thursday (Aug. 10) @ 69% between 7:00 and 8:00 PM.
- All days show midday and evening peaks, with dip in occupancy between 3PM and 5PM.
- 2:30 AM counts show average occupancy of 35% (this would be primarily residents on-street)

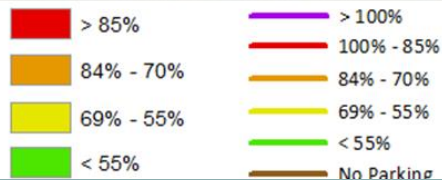
Study Area Heat Map (on-street / Thursday, August 10, 2017)



On-Street Parking Utilization - Weekday

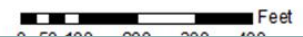
 Parking Study Area

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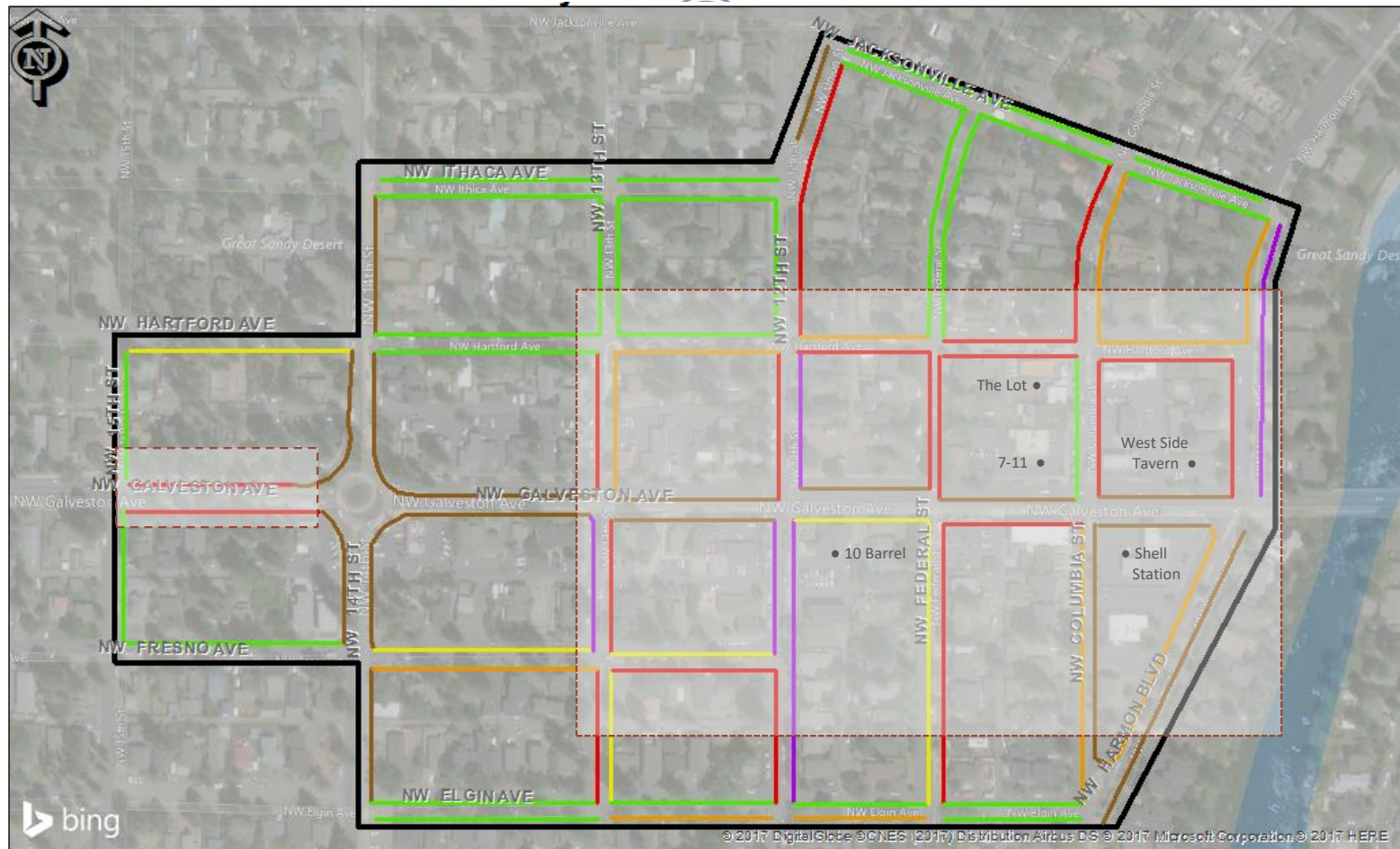


Thursday, August 10, 2017

7:00 - 8:00 PM
Peak Hour

 Feet
0 50 100 200 300 400

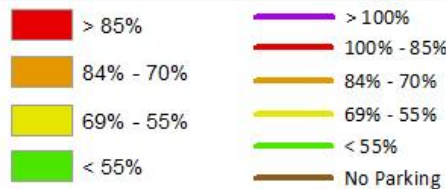
Study Area Heat Map (on-street / Saturday, August 12, 2017)



On-Street Parking Utilization - Weekend

Parking Study Area

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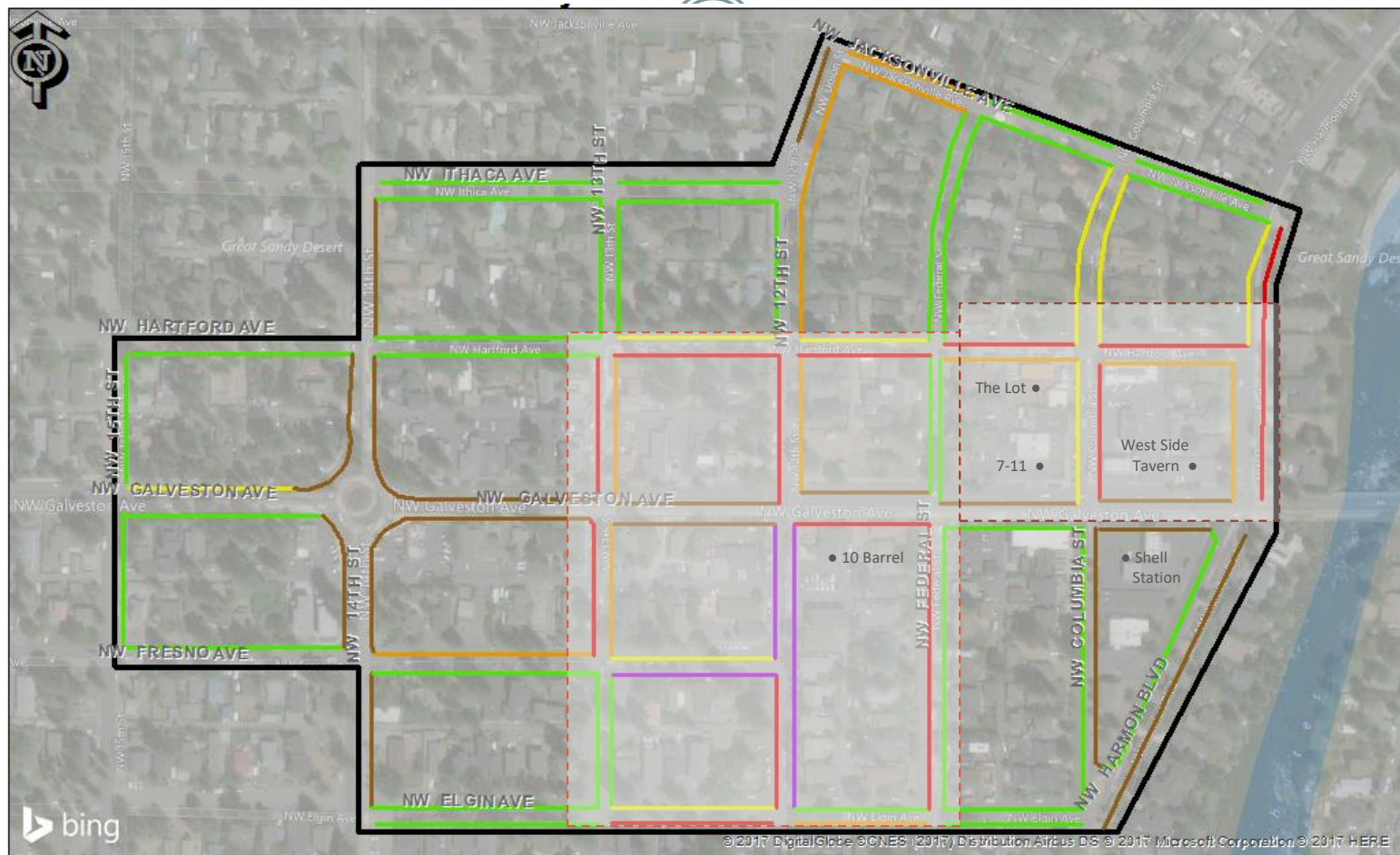


Saturday, August 12, 2017

2:00 - 3:00 PM
Peak Hour

Feet
0 50 100 200 300 400

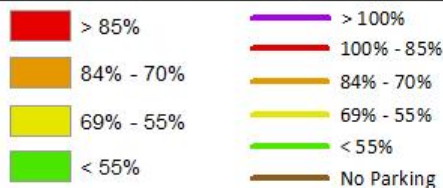
Study Area Heat Map (on-street / Tuesday, September 26, 2017)



On-Street Parking Utilization - Weekday

Parking Study Area

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Tuesday, September 26, 2017

7:00 - 8:00 PM
Peak Hour

Feet
0 50 100 200 300 400

Heat Map Findings (on-street)



Survey Date	Block Faces w/ Parking Allowed (entire zone)	Peak Hour	Block Faces Over 85%	Block Faces over 100%	% of Block Faces Constrained	% of Block Faces in “Box” (38 Block Faces)
Thursday, August 10, 2017	66	7PM – 8PM	15	5	30.3%	47.4% (18)
Saturday, August 12, 2017	66	2PM – 3PM	19	5	36.3%	55.3% (21)
Tuesday, September 26, 2017	66	7PM – 8PM	12	3	22.7%	34.2% (13)

- Parking constraints are more pronounced in smaller concentrated area (39 of 66 block faces).
- This more constrained “box” is bounded by NW Hartford/NW Fresno between NW 13th/NW Harmon.
- In summer, over half of block faces exceed 85%+ (and 100%)
- Public sense of congestion and parking constraint is very real in this box.

Key Utilization Metrics (on-street)



Type of Stall	# of Stalls	Survey Day	Peak Occupancy Peak Hour	Empty Stalls	Average Length of Stay	Turnover Rate
On-Street Supply	605	Thursday, August 10	69.0% 7:00 – 8:00 PM	187	2 hr/ 46 min	3.61
		Saturday, August 12	65.3% 2:00 – 3:00 PM	209	2 hr/ 44 min	3.65
		Tuesday, September 26	58.2% 7:00 – 8:00 PM	253	2 hr/ 53 min	3.47

- Highest peak (69%); lowest (58.2%) between 7 – 8PM
- Empty stalls range from 187 – 253 stalls
- Average duration of stay is less than 3 hours
- Turnover ranges from 3.47 (Fall) to 3.56 (Summer)

Other Key Metrics (on-street)



Stall Type	Stalls	Unique Vehicle Trips (UVT)	Vehicles Parked >5 hours (11AM – 9PM)	Estimated Resident Vehicles	Estimated Non-Resident Vehicles (Average)
On-Street Supply	605	1,258	208 (16.5% of UVT)	381 (30% of UVT)	877 (70% of UVT)

Table based on average number of unique vehicle trips between Thursday, August 10 and Saturday, August 12. Vehicles parked 5 or more hours based on average of all three survey days.

- 1,258 unique vehicles (avg.) observed on-street (11 AM – 9 PM).
- 208 unique plates (avg.) parked 5 or more hours (16.5% of UVT).
- 381 unique residential plates (30% of parked vehicles)
- 877 unique non-residential plates (70% of parked vehicles).

Key Utilization Metrics (on-street)

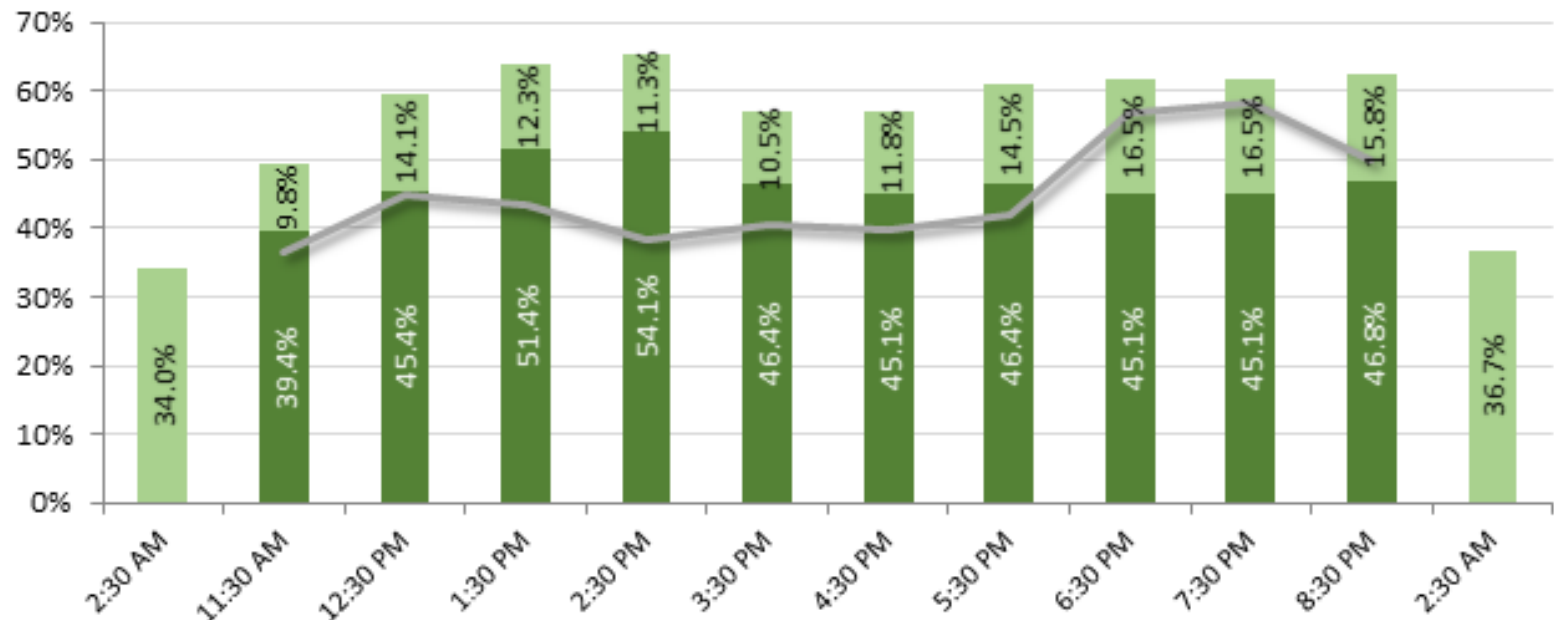
(Residential/non-Residential Plates)



2017 Bend - Galveston Parking Utilization

August vs September on-street occupancies (605 stalls)

■ Saturday 8/12 - Non-Residential ■ Saturday 8/12 - Residential — Tuesday, September 26

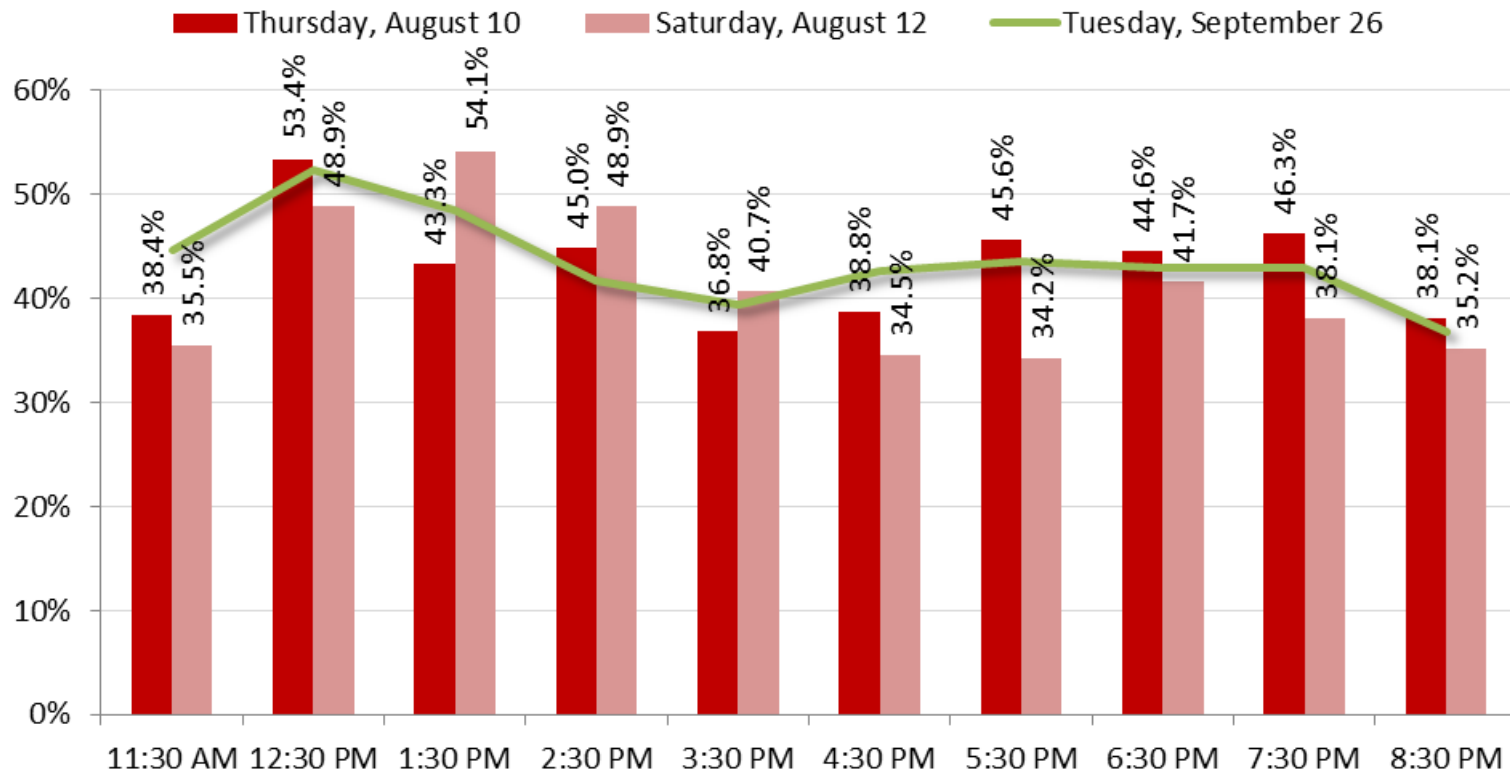


Hourly Occupancies (off-street)



2017 Bend - Galveston Parking Utilization

Weekday vs weekend off-street occupancies (307 stalls)



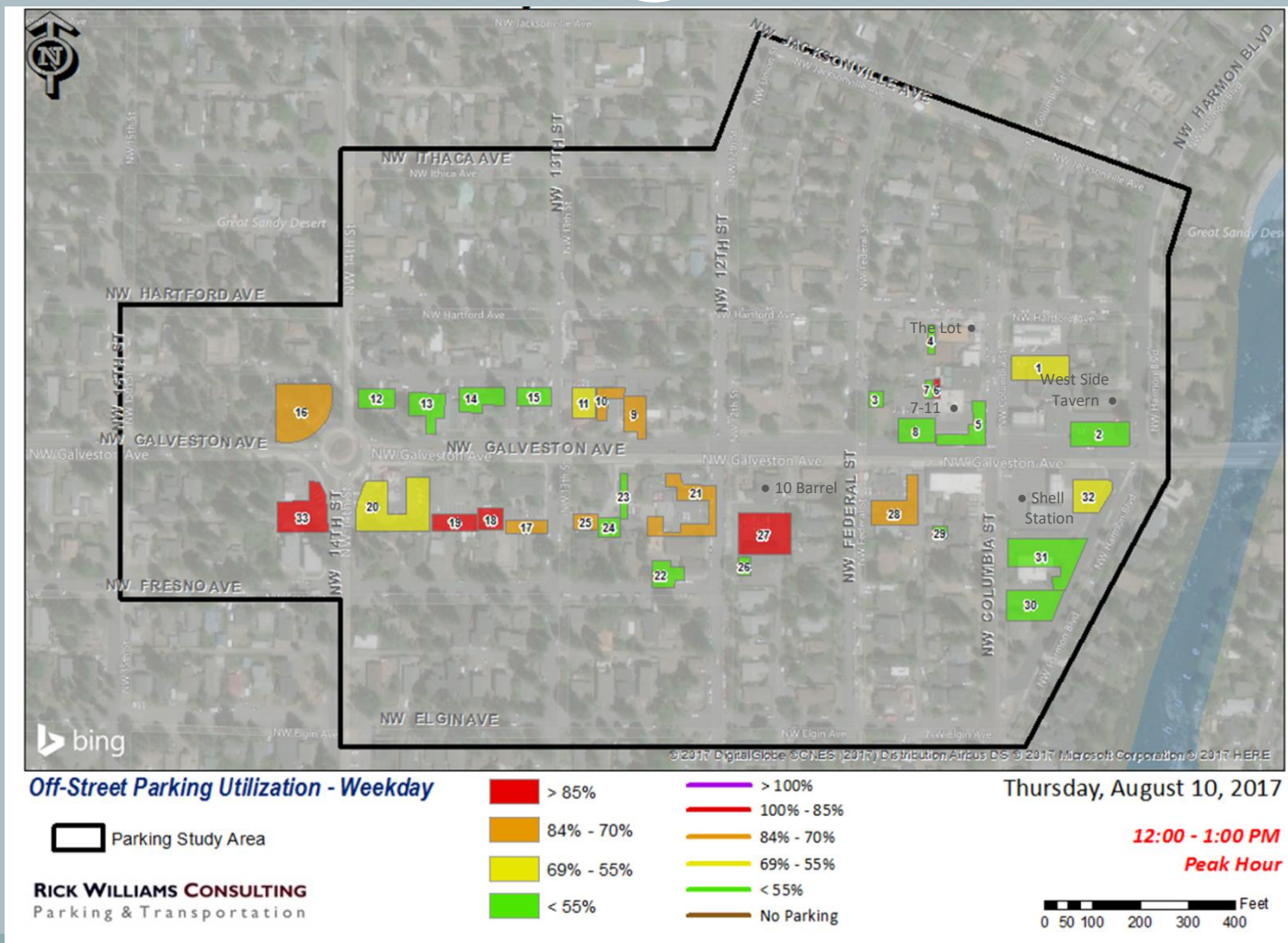
Key Use Metrics (off-street)



- Overall occupancy of off-street supply is moderate at peak hours.
- Occupancy trend follows on-street system with dip in occupancy between 3PM and 5PM.
- Thursday (8/10) peak occupancy reaches 53% (@ 12:30 PM).
- Saturday (8/12) peak occupancy reaches 54% (@ 1:30 PM).
- Tuesday (9/26) peak occupancy reaches 53% (@12:30 PM).
- Average number of empty stalls at peak hour = 144

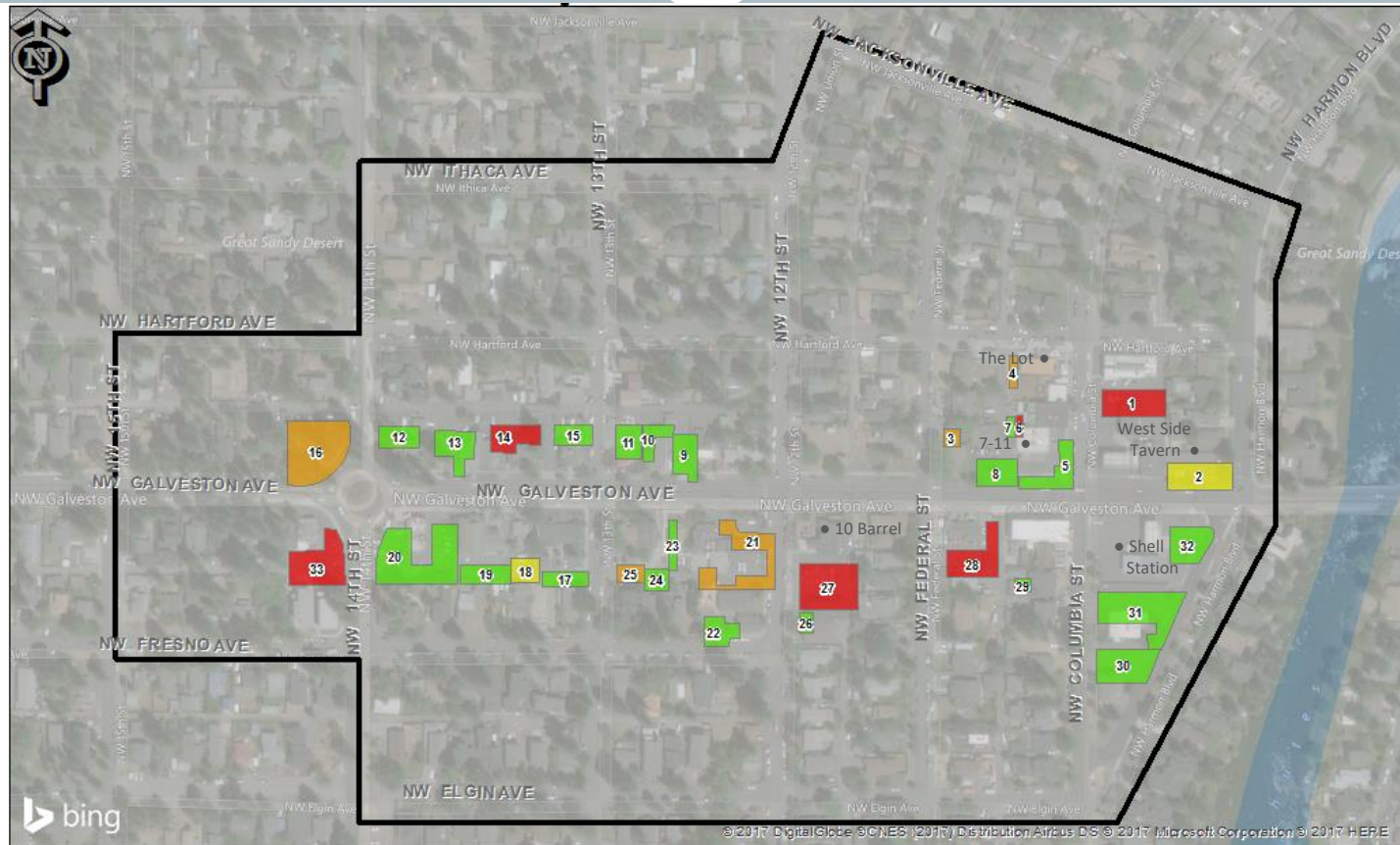
Study Area Heat Map

Off-Street Parking (Thursday, August 10, 2017)



Study Area Heat Map

Off-Street Parking (Saturday, August 12, 2017)



Off-Street Parking Utilization - Weekend

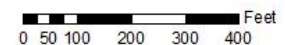
Parking Study Area

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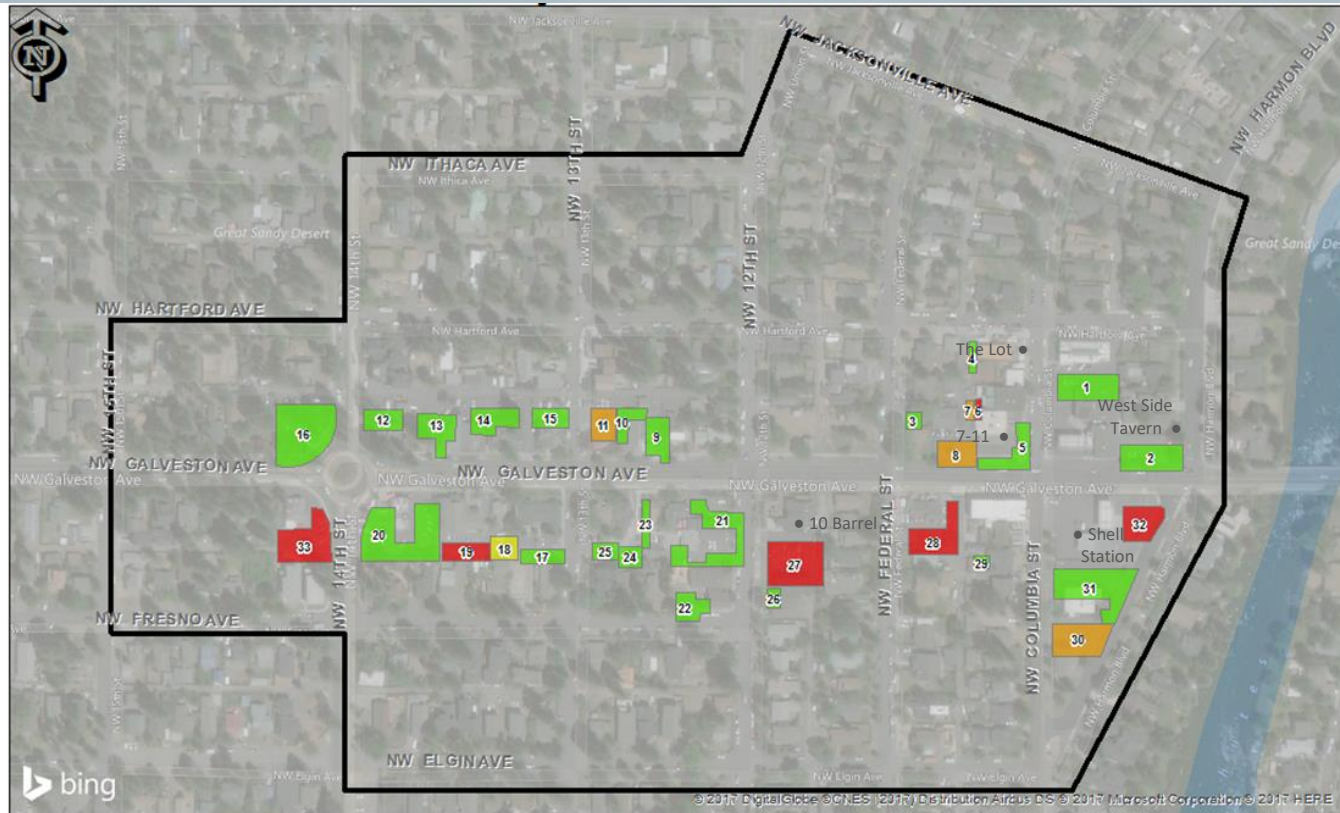
Saturday, August 12, 2017

1:00 - 2:00 PM
Peak Hour



Study Area Heat Map

Off-Street Parking (Tuesday, September 26, 2017)



Off-Street Parking Utilization - Weekday

Parking Study Area

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> 85%

84% - 70%

69% - 55%

< 55%

> 100%

100% - 85%

84% - 70%

69% - 55%

< 55%

No Parking

Tuesday, September 26, 2017

12:00 - 1:00 PM
Peak Hour

Feet
0 50 100 200 300 400

Heat Map Findings (off-street)



Lots Exceeding 85% in Peak Hour					
Lot	Descriptor	# of Stalls	Thurs (Aug 10)	Sat. (Aug 12)	Tues (Sept 26)
1	Flipped/Westside Coin-OP Laundry/Cibelli's Pizza	12		x	
14	Fleet Feet/Knitting Place	10		x	
18	Studio 541 Salon	3	x		
19	Cutting Club/East Lake Framing	9	x		x
27	10 Barrel/Namaspa	17	x	x	x
28	Aspect Boards and Brews	20		x	x
33	Parrilla Grill	11	x	x	x

- Similar pattern most days, lunch hour peak (AVG: 141 empty stalls).
- Most lots have low to moderate use.
- 7 of 33 lots reach 85%+ on at least one survey day.
- Lots 27 and 33 constrained all three survey days. Lot 28; two of three days.
- Challenge of off-street is spatial distribution of lots and small lot sizes (largest lot is 24 stalls).

Residential Driveways



Type of Stall	# of Stalls	Survey Day	Peak Occupancy Peak Hour	Stalls Available
<i>Driveways</i>	477	Thurs. (Aug. 10, 2017)	40.9% (195 vehicles) 8:00 – 9:00 PM	282
		Sat. (Aug. 12, 2017)	37.7% (180 vehicles) 8:00 – 9:00 PM	297
		Tues. (Sept. 26, 2017)	36.2% (173 vehicles) 8:00 – 9:00 PM	304

- 477 estimated capacity on driveways.
- Mostly underutilized (37% - 41% peak use).
- 282 – 304 empty “spaces” available during 11AM – 9PM survey hours.

SUMMARY DATA FINDINGS



- Parking problem is generally confined to a 12 block area.
 - NW Hartford/NW Fresno between NW 13th/NW Harmon.
 - Constraint is significant.
- Congestion issues are in play throughout the study zone.
 - Illegal parking
 - Lack of controls and enforcement
- Off-street lots are underutilized, though small and likely difficult to share (because of size).
- Residential driveways have low use, which means capacity for residents that have driveways.



Next Steps

- Final report (November)

OPTIONS FOR CONSIDERATION



1. Clearly mark (with signs and/or paint) clear-vision areas at intersections, prioritizing the over-parked block faces.
2. On over-parked blocks, consider marking on-street parking stalls.
3. Increase enforcement in the district after implementation of the above listed bullets.

OPTIONS FOR CONSIDERATION



4. Request that US Postal Service consolidate individual mailboxes into cluster mailboxes.
5. Implement the Galveston Avenue Design to add approximately 14 on-street spaces along Galveston.
6. If parking situation has not improved following implementation of Steps 1-6, consider formation of a Residential Parking Permit Zone and Commercial Parking District could be established (see Citywide Parking Study).



THANK YOU!