**Appendix A:** 

Off-Street Parking Occupancies – Weekday



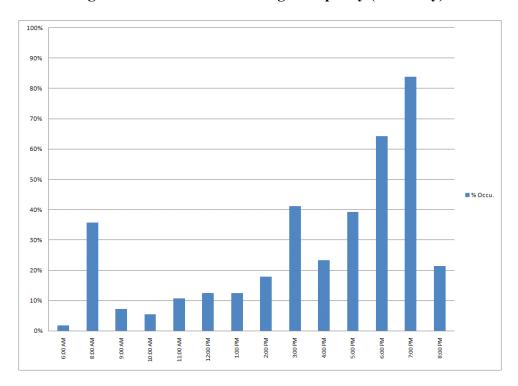
# Off-Street Parking Occupancies - Weekday

# Zone 1

Table 1-A: Summary of Off-Street Parking Occupancies (Weekday)

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 AM	56	1	2%
8:00 AM	56	20	36%
9:00 AM	56	4	7%
10:00 AM	56	3	5%
11:00 AM	56	6	11%
12:00 PM	56	7	13%
1:00 PM	56	7	13%
2:00 PM	56	10	18%
3:00 PM	56	23	41%
4:00 PM	56	13	23%
5:00 PM	56	22	39%
6:00 PM	56	36	64%
7:00 PM	56	47	84%
8:00 PM	56	12	21%

Figure 1-A: Off-Street Parking Occupancy (Weekday)



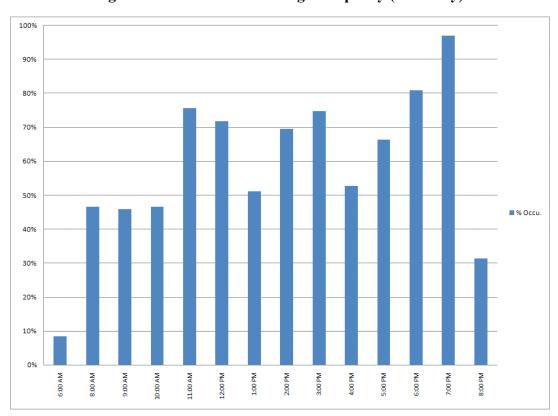


# **Zone II**

Table 1-B: Summary of Off-Street Parking Occupancies (Weekday)

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 AM	131	11	8%
8:00 AM	131	61	47%
9:00 AM	131	60	46%
10:00 AM	131	61	47%
11:00 AM	131	99	76%
12:00 PM	131	94	72%
1:00 PM	131	67	51%
2:00 PM	131	91	69%
3:00 PM	131	98	75%
4:00 PM	131	69	53%
5:00 PM	131	87	66%
6:00 PM	131	106	81%
7:00 PM	131	127	97%
8:00 PM	131	41	31%

Figure 1-B: Off-Street Parking Occupancy (Weekday)



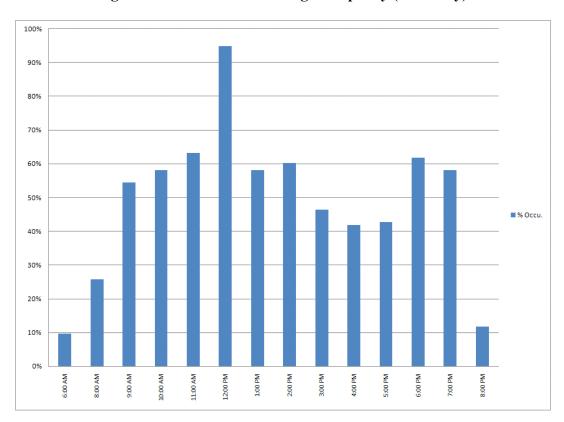


# **Zone III**

Table 1-C: Summary of Off-Street Parking Occupancies (Weekday)

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 AM	136	13	10%
8:00 AM	136	35	26%
9:00 AM	136	74	54%
10:00 AM	136	79	58%
11:00 AM	136	86	63%
12:00 PM	136	129	95%
1:00 PM	136	79	58%
2:00 PM	136	82	60%
3:00 PM	136	63	46%
4:00 PM	136	57	42%
5:00 PM	136	58	43%
6:00 PM	136	84	62%
7:00 PM	136	79	58%
8:00 PM	136	16	12%

Figure 1-C: Off-Street Parking Occupancy (Weekday)



Appendix B:

Off-Street Parking Occupancies – Weekend



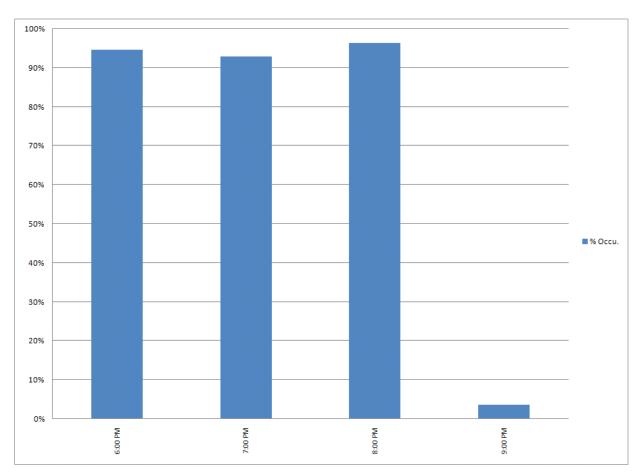
# Off-Street Parking Occupancies - Weekend

# Zone1

Table 2-A: Summary of Off-Street Parking Occupancies (Weekend)

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 PM	56	53	95%
7:00 PM	56	52	93%
8:00 PM	56	54	96%
9:00 PM	56	2	4%

Figure 2-A: Off-Street Parking Occupancy (Weekend)



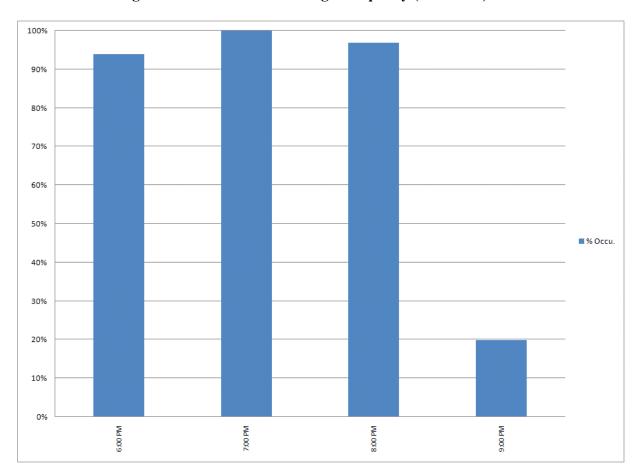


# **Zone II**

Table 2-B: Summary of Off-Street Parking Occupancies (Weekend)

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 PM	131	123	94%
7:00 PM	131	131	100%
8:00 PM	131	127	97%
9:00 PM	131	26	20%

Figure 2-B: Off-Street Parking Occupancy (Weekend)



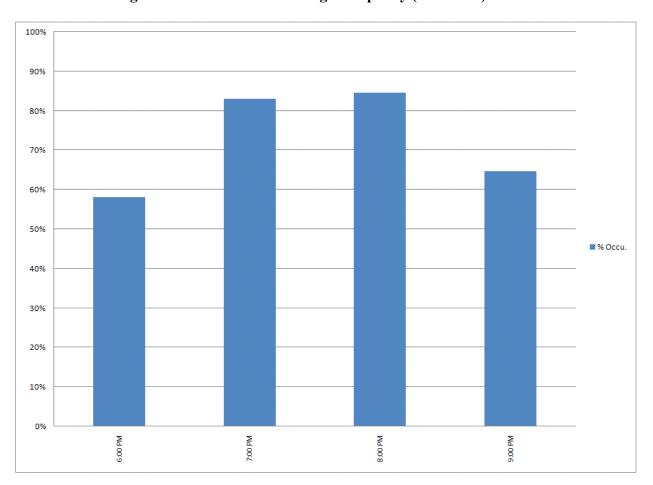


# **Zone III**

Table 2-C: Summary of Off-Street Parking Occupancies (Weekend)

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 PM	136	79	58%
7:00 PM	136	113	83%
8:00 PM	136	115	85%
9:00 PM	136	88	65%

Figure 2-C: Off-Street Parking Occupancy (Weekend)



**Appendix C:** 

Calibration of Parking Model – Weekday

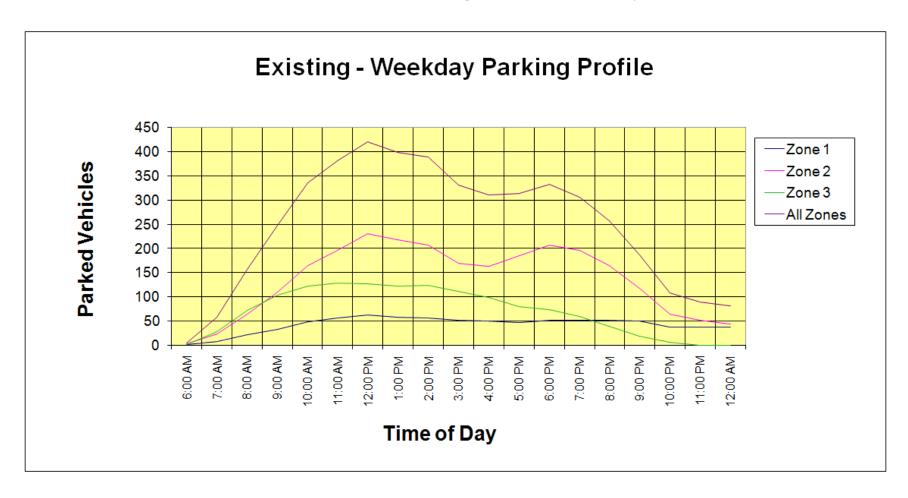


# Calibration of Parking Model – Weekday

Time of Day	Zone 1	Zone 2	Zone 3	Zone 4	All Zones	All Zones
6:00 AM	1	3	2	0	5	5
7:00 AM	8	23	28	0	59	59
8:00 AM	21	64	73	0	157	157
9:00 AM	33	110	104	0	247	247
10:00 AM	48	164	122	0	335	335
11:00 AM	56	195	129	0	381	381
12:00 PM	63	230	127	0	420	420
1:00 PM	59	218	122	0	398	398
2:00 PM	56	206	125	0	388	388
3:00 PM	52	169	111	0	330	330
4:00 PM	50	162	99	0	311	311
5:00 PM	47	185	81	0	314	314
6:00 PM	52	207	74	0	333	333
7:00 PM	52	195	59	0	306	306
8:00 PM	52	164	39	0	257	257
9:00 PM	50	118	19	0	187	187
10:00 PM	38	64	6	0	108	108
11:00 PM	38	52	0	0	90	90
12:00 AM	38	44	0	0	82	82
					Peak Demand	420
						12:00 PM



# Calibration of Parking Model – Weekday



**Appendix D:** 

Calibration of Parking Model – Weekend

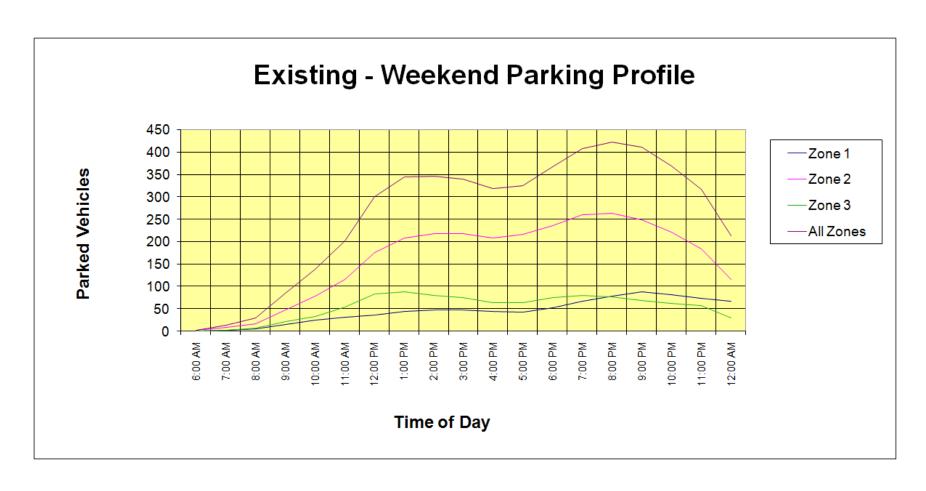


# **Calibration of Parking Model – Weekend**

ime of Day	Zone 1	Zone 2	Zone 3	Zone 4	All Zones	All Zones
6:00 AM	0	2	0	0	2	2
7:00 AM	2	8	2	0	13	13
8:00 AM	5	16	7	0	30	30
9:00 AM	15	48	21	0	85	85
10:00 AM	24	79	33	0	138	138
11:00 AM	31	115	54	0	202	202
12:00 PM	37	175	84	0	300	300
1:00 PM	45	208	89	0	344	344
2:00 PM	48	217	80	0	346	346
3:00 PM	48	217	75	0	340	340
4:00 PM	45	208	64	0	318	318
5:00 PM	43	216	65	0	324	324
6:00 PM	52	235	76	0	367	367
7:00 PM	67	259	81	0	407	407
8:00 PM	79	263	77	0	422	422
9:00 PM	89	249	70	0	410	410
10:00 PM	82	221	63	0	368	368
11:00 PM	74	183	57	0	316	316
12:00 AM	67	115	30	0	213	213
					Peak Demand	422
						8:00 PM



# **Calibration of Parking Model – Weekend**



**Appendix E:** 

District-Wide Future Parking Supply Assessment

Suite 120 1430 Blue Oaks Blvd. Roseville,

CA 95747



#### **MEMORANDUM**

**Date:** August 20, 2008

To: Mr. Mark Rackovan, P.E.

City of Folsom Public Works Department

From: Matt Weir, P.E.

James Daisa, P.E. Ali Mustafa, EIT Luke Schwartz, EIT

Kimley-Horn and Associates, Inc.

**Re:** Historic District Parking Implementation Plan Update

**Final Task 2 Documentation** 

This memorandum documents the efforts completed in Tasks 2a through 2c of 'Historic District Parking Implementation Plan Update – Scope of Services', which projects existing and future parking supply and demand within the City's Historic District, and assess the City's current parking requirements as they relate to build out of the downtown.

### I. Introduction

# A. Objective

The primary objective of Task 2 is to project future parking demand and supply and to determine whether there will be a surplus or shortfall of parking. A second objective is assess the current City requirement for new development to provide 1 space per 350 square feet for all land use types within the Historic District. This assessment is to determine if the current requirement adequately meets future needs, or whether the requirement should be modified. Modification to the requirement considers changing the single parking ratio globally for all uses or deriving separate parking requirements for each land use type.

#### **B.** Definitions

<u>Study Area:</u> The City of Folsom's eight block Historic District spans from Folsom Boulevard to Scott Street, and from Lake Natoma to just south of Sutter Street. For the purposes of this evaluation, the Historic District is divided into three zones (Zone I, Zone II, and Zone III) which are illustrated in **Figure 1**. The study area does not include the Light Rail Transit station parking lots.

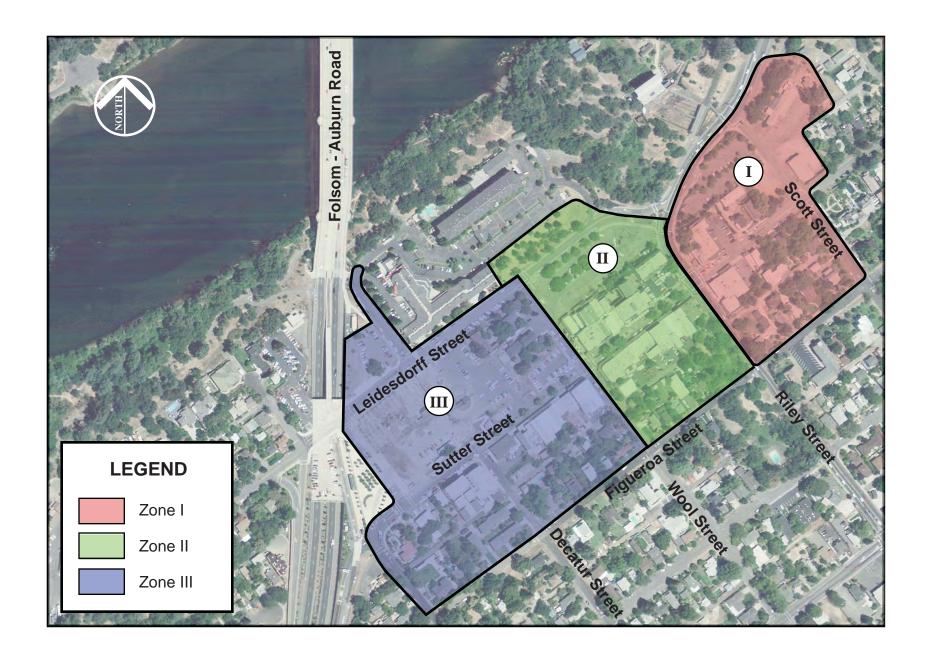




Figure 1
Folsom Historic District Parking
Parking Zones



<u>Zone I</u>: The area bounded by Riley Street to the North and West, Figueroa Street to the South, and Scott Street and private land uses to the East.

Zone II: The area bounded by Leidesdorff Street to the North, Wool Street to the West, Figueroa Street to the South, and Riley Street to the East. This zone also includes the dirt embankment located north of Leidesdorff Street generally between Wool Street and Riley Street.

<u>Zone III</u>: The area bounded by Leidesdorff Street to the North, Reading Street and Folsom Boulevard to the West, Figueroa Street to the South, and Wool Street to the East. Zone I also includes Gold Lake Drive, from Leidesdorff Street to the street bend on the north end. This zone also includes the off-street public parking lot (Baker Lot) located on the northwest corner of the intersection of Gold Lake Drive / Leidesdorff Street.

<u>Parking Demand</u>: The number of parked vehicles expected of a specific type and amount of land use during the peak period of a typical weekday or weekend. Parking demand is estimated using "rates" indicating the number of parked vehicles per independent variable of land use such as thousands of square feet (similar to trip generation). Parking demand is independent of parking supply.

<u>Parking Supply</u>: The number of parking spaces provided on a development block, onstreet, or in common facilities. Parking supply in new development is governed by the parking standards in the City's Municipal Code.

<u>Parking Occupancy</u>: The number of actual vehicles parked during the peak period of a typical weekday or weekend. Parking occupancy is summarized in terms of the percentage of parking spaces that are occupied at any given time of day. Generally, there is a single peak period on a typical weekday or weekend that contains the highest number of accumulated parked vehicles.

<u>Parking Turnover</u>: The average number of vehicles using a given parking space over a specified period of time. The rate equals the total number of parked vehicles divided by the number of parking spaces. Turnover is a measure of parking duration and indicates whether a parking spaces is predominantly used by long-term parking (more than 4 hours) or short-term parkers (less than 4 hours).

<u>Parking Ratios/Standards</u>: Parking ratios (or standards) are the regulations that determine parking supply for each individual building and type of land use. It is described as the number of required parking spaces per unit of development (e.g., per dwelling unit or per 1,000 square feet of commercial building space). The City's Municipal Code is the guiding document for these standards. The current parking standard in the Folsom Historic District is 1 space per 350 square feet of building regardless of the type of land use.



<u>Shared Parking</u>: The concept of using a parking space to serve two or more land uses without conflict. Conventional regulations require that each development, or land use type, provide enough parking to serve its own peak demand, leaving unused parking spaces during the off-peak periods. Shared parking allows multiple complementary land uses, whose peak parking demands do not coincide, to share the same pool of parking spaces, resulting in a more efficient use of those spaces.

<u>Practical Capacity</u>: The practical capacity for parking is defined at 85% to 90% utilization of parking spaces. Keeping about 10% to 15% of the spaces vacant provides a cushion in excess of necessary parking spaces to allow for the dynamics of parking (i.e., people circulating in search of a space, and moving in and out of parking space). When occupancy exceeds the practical capacity, drivers will experience delays and frustration while searching for a parking space, as well as contribute to area traffic congestion while circling the block looking for parking.

#### C. Data Collection

Parking data for most of the study area was provided by the City of Folsom for weekday and weekend periods. Kimley-Horn and Associates, Inc. augmented the City-collected data with surveys at selected locations in June 2008. Parking data included the following:

- An inventory of on-street and off-street parking spaces by street and by individual parking lot (collected by the City in January 2008);
- Weekday parking occupancy survey data conducted every hour from 6:00 AM to 8:00 PM (collected during October and November 2007);
- Weekend parking occupancy survey data conducted every hour from 6:00 PM to 9:00 PM (collected during October and November 2007); and
- Parking turnover surveys (collected in January 2008).

Note: Weekday parking occupancy data for 7:00 AM was missing most of the off-street and on-street parking locations. Because this time period was determined to not be a critical time period within the District, it was not included in this analysis.



# II. Parking Supply

## A. Existing On-Street Parking Supply

Most streets within the study area have on-street parking spaces. Along Leidesdorff Street, Wool Street, and Sutter Street, angled on-street parking is provided. Some of the on-street spaces are delineated with pavement markings, but most streets have no parking space delineation.

**Table 1** summarizes the number of parking spaces along each street and the total parking spaces for each zone. The study area contains a total of 232 on-street parking spaces.

## **B.** Existing Off-Street Parking Supply

Within the study area there are a total of six (6) off-street public parking lots. Off-street private parking lots which allow parking only for the patrons of private businesses and not for general public, were not included in the analysis. All of the public lots with the study area are paved and have marked spaces.

**Table 1** summarizes the number of off-street parking spaces in each zone. There are a total of 675 off-street public parking spaces in the study area. Note the off-street parking supply includes the recently completed 330-space parking structure located within the Rail Block.

#### C. Total Parking Supply

**Table 1** summarizes the total number of parking spaces (on-street and off-street) by zone and in total. There are a total of 907 on- and off-street parking spaces within the study area.

The number of off-street and on-street parking locations, as well as the number of spaces available are shown in **Figure 2** and **Figure 3**.



Table 1: Summary of Existing On-Street and Off-Street Parking Supply by District

Zone	Zone Off-Street Public Parking Supply		On-Street Parking Supply		Total Existing Supply	
			Riley St. – Sutter St. to Figueroa St.	7		
			Sutter St. – Riley St. – Scott St.	20		
I	Riley St. / Scott St. (Powerhouse) Lot	82	Scott St. – Leidesdorff St. to Sutter St.	3	124	
	(reweineuse) zer		Scott St. – Sutter St. to Figueroa St.	12		
			Subtotal	42		
			Riley St. – Sutter St. to Figueroa St.	7		
			Wool St. – Leidesdorff to Sutter St.	11		
II	I Trader Lane Lot	125	Wool St. – Sutter St. to Figueroa St.	9	163	
11	Trader Lane Lot	123	Leidesdorff St. – Wool St. to Riley St.	11	103	
			Sutter St. – Wool St. to Riley St.	0		
			Subtotal	38		
			Reading St. – North of Leidesdorff St.	10		
	Baker Lot	28	Reading St. – Leidesdorff St. to Sutter St.	0		
			Reading St. – Sutter St. to Figueroa St.	10		
			Gold Lake Circle	24	620	
	Parking Structure	330	Decatur St. – Sutter St. to Figueroa St.	18		
III	raiking Structure	330	Wool St. – Leidesdorff St. to Sutter St.	11		
			Wool St. – Sutter St. to Figueroa St.	8		
			Leidesdorff St. – Decatur St. to Wool St.	23		
	Rail Block	110	Sutter St. – Reading St. to Decatur St.	25		
			Sutter St. – Decatur St. to Wool St.	23		
	Subtotal	468	Subtotal	152		
Т	Total Off-Street Spaces	675	Total On-Street Spaces	232	907	
Total Off-Street Spaces (Prior to Completion of New Structure)		323	Total On-Street Spaces (Prior to Completion of New Structure	232	555	

#### **Notes:**

The 330 space structure in Zone III was not open to the public at the time occupancy data was collected. Existing off-street parking facilities equaled 323 spaces at the time of data collection.

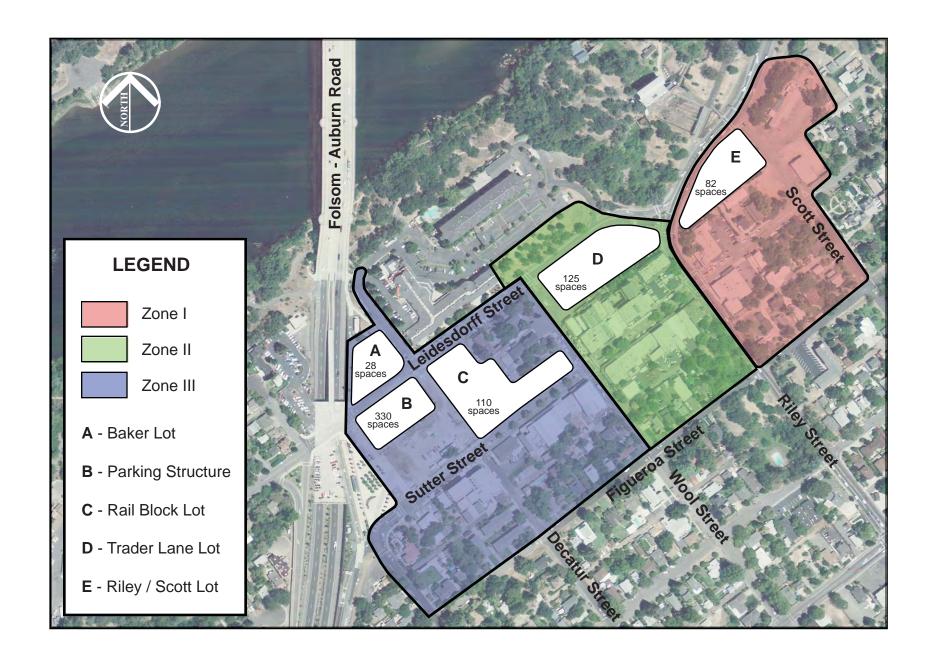




Figure 2
Folsom Historic District Parking
Off-Street Parking Lots





Figure 3
Folsom Historic District Parking
On-Street Parking Spaces



# III. Existing Parking Demand

Existing parking demand was estimated using the parking occupancy data collected by the City of Folsom in October and November, 2007, and supplemented by occupancy surveys conducted by KHA in June 2008. The demand analysis presented in the sections below represents data collection prior to the opening of the new 330-space parking structure in the Rail Block. Therefore conclusions related to existing parking supply and demand are drawn based on pre-structure conditions.

# Weekday (Monday through Thursday)

# A. On-Street Parking Occupancy

Parking occupancy is summarized in terms of the percentage of parking spaces that are occupied at any given time of day. Generally, there is a single peak period on a typical weekday that contains the highest number of accumulated parked vehicles. **Table 2** summarizes the on-street parking occupancy between 6:00 a.m. and 8:00 p.m. on a typical weekday for the entire study area<sup>1</sup> and **Figure 4** shows the on-street parking occupancy by time-of-day. As shown in **Figure 4**, between 75% and 83% of on-street parking spaces are occupied between 10:00 a.m. and 1:00 p.m., after which occupancy drops to approximately 60% between 2:00 p.m. and 4:00 p.m. Between 5:00 p.m. and 7:00 p.m. the occupancy is between 40% and 60% and drops dramatically to 27% at 8:00 p.m. The peak on-street parking demand (83%) occurs at about 11:00 a.m. and again at 1:00 p.m.

**Table 2: Summary of On-Street Parking Occupancies (Weekday)** 

Time	Total Number of On- Street Spaces Surveyed	Total Number of On- Street Spaces Occupied	% Occupancy
6:00 AM	162	9	6%
8:00 AM	162	94	58%
9:00 AM	162	96	59%
10:00 AM	162	121	75%
11:00 AM	162	134	83%
12:00 PM	162	124	77%
1:00 PM	162	134	83%
2:00 PM	162	101	62%
3:00 PM	162	98	60%
4:00 PM	162	99	61%
5:00 PM	162	67	41%
6:00 PM	162	79	49%
7:00 PM	162	95	59%
8:00 PM	162	43	27%

<sup>&</sup>lt;sup>1</sup> Note: Weekday parking occupancy data for 7:00 a.m. was missing much of the off-street and on-street parking locations within the study area. Because this time period was determined to not be a critical time period within the District, it was not included in this analysis.

9



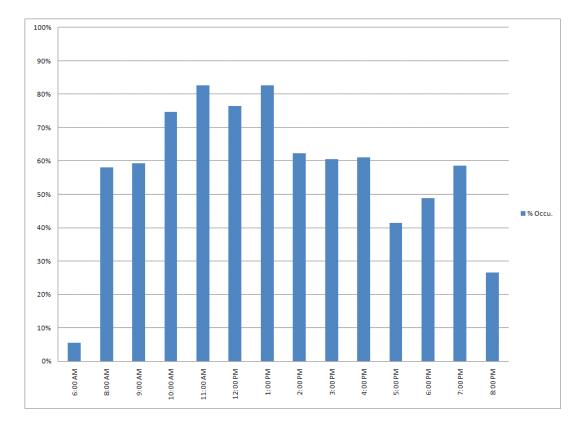


Figure 4: Study Area On-Street Parking Occupancy (Weekday)

### **B.** Off-Street Parking Occupancy

Off-street public parking lots within the study area have slightly lower occupancies than on-street parking when averaged over the entire study area. **Table 3** summarizes the off-street parking occupancies between 6:00 a.m. and 8:00 p.m. **Figure 5** shows that off-street parking lots sustain an occupancy averaging 58% between 11:00 a.m. and 3:00 p.m.(with 71% occupancy at 12:00 noon), then drops to 43% and 52% between 4:00 p.m. and 5:00 p.m. Between 6:00 p.m. and 7:00 p.m. the parking occupancy increases to 70% and 78% before dropping dramatically to 21% at 8:00 p.m. The increase in the early evening coincides with the peak dining period. The peak off-street parking demand occurs at 7:00 p.m. with 78% occupancy.

At the district level, parking lots in individual zones have a wide range of occupancies between 6:00 a.m. and 8:00 p.m. Average occupancy ranges from a low of about 27% (Zone 1) to a high of about 58% (Zone II). **Appendix 1** contains detailed graphs and tables for individual zones showing the average number of vehicles parked in each parking lot throughout the day<sup>2</sup>.

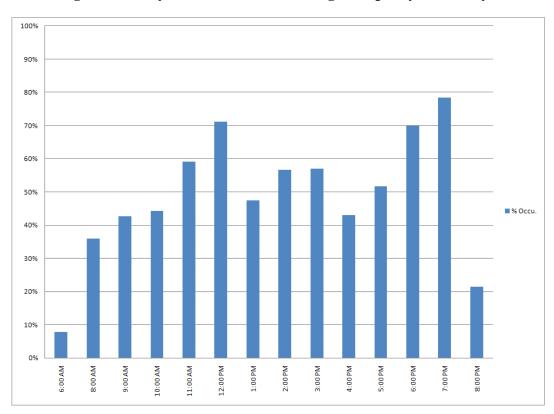
<sup>&</sup>lt;sup>2</sup> Note: Since the on-street parking occupancy survey data does not distinguish occupancies by specific street segments, on-street parking occupancy data was not documented by zone.



**Table 3: Summary of Off-Street Parking Occupancies (Weekday)** 

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 AM	323	25	8%
8:00 AM	323	116	36%
9:00 AM	323	138	43%
10:00 AM	323	143	44%
11:00 AM	323	191	59%
12:00 PM	323	230	71%
1:00 PM	323	153	47%
2:00 PM	323	183	57%
3:00 PM	323	184	57%
4:00 PM	323	139	43%
5:00 PM	323	167	52%
6:00 PM	323	226	70%
7:00 PM	323	253	78%
8:00 PM	323	69	21%

Figure 5: Study Area Off-Street Parking Occupancy (Weekday)





# C. Total Parking Occupancy and Accumulation

# 1. Daily Parking Accumulation (On + Off-Street) in Study Area

**Table 4** summarizes the on-street and off-street peak parking demand within the study area. **Figure 6** shows the daily accumulation of parked vehicles (both on and off-street) within the study area. Parking spaces in the morning hours are occupied around 53%, climbing to a peak of about 73% at noon, gradually decreasing to 56% between 1:00 and 6:00 p.m., then climbing to 72% at 7:00 p.m., before dropping to 23% at 8:00 p.m. This daily profile is indicative of both short-term retail and office uses which peak during the midday and restaurant land uses peak in the early evening.

### 2. Peak Occupancy in Study Area

On weekdays, the study area reaches its peak parking demand at noon as shown in **Table 4** and in **Figure 6**. The study area also peaks at 7:00 p.m., but the occupancy percentage drops significantly at 8:00 p.m. Overall, the parking supply<sup>3</sup> in Folsom Historic District is almost 73% utilized during the weekday peak period. Parking demand in many downtown's peak around noon to 1:00 p.m. because this is the time that retail/restaurant uses peak during weekday and the time when many short-term visitors come to the downtown for lunch. Folsom Historic District weekday peak is indicative of a predominantly retail/restaurant-based commercial mix.

Table 4: Summary of On-Street and Off-Street Parking Occupancies (Weekday)

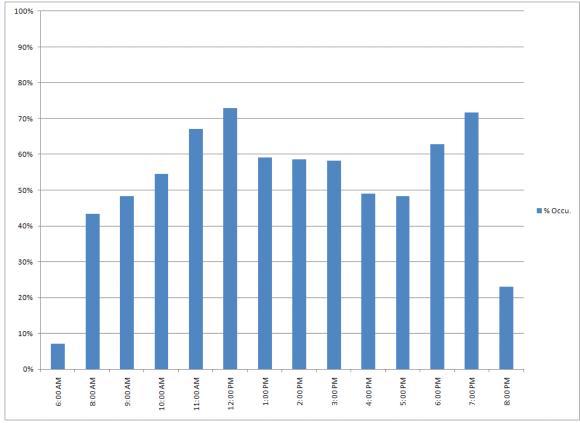
Time	Total Number of (On & Off- Street) Spaces Surveyed	Total Number of (On & Off- Street) Spaces Occupied	% Occupancy
6:00 AM	485	34	7%
8:00 AM	485	210	43%
9:00 AM	485	234	48%
10:00 AM	485	264	54%
11:00 AM	485	325	67%
12:00 PM	485	354	73%
1:00 PM	485	287	59%
2:00 PM	485	284	59%
3:00 PM	485	282	58%
4:00 PM	485	238	49%
5:00 PM	485	234	48%
6:00 PM	485	305	63%
7:00 PM	485	348	72%
8:00 PM	485	112	23%

<sup>&</sup>lt;sup>3</sup> Since the parking occupancy surveys were not conducted at all on-street and off-site parking locations, peak occupancy for weekday is compared to the actual number of parking spaces surveyed (485 spaces).

12



Figure 6: Total Parking (On-Street and Off-Street) Accumulation in Study Area (Weekday)



#### 3. Conclusions

Based on the data collection and analysis of existing supply and weekday peak demand, there is sufficient parking within the study area to accommodate current typical weekday demands. While some zones experience relatively high demands, overall, there is ample available parking within the entire study area.

Parking occupancy analysis indicates that there is sufficient parking supply available to meet the existing parking demand within the study area. However, recent field observations show spillover parking into adjacent residential neighborhoods, particularly in the vicinity of the intersection of Wool Street and Figueroa Street. This spillover parking could be because customers/visitors are not fully utilizing the public parking lots available within the District and would like to park close to their destinations. Existing spillover parking is not discussed in detail in this study as occupancy survey data was not available for residential streets.



# **Weekend (Friday Evening)**

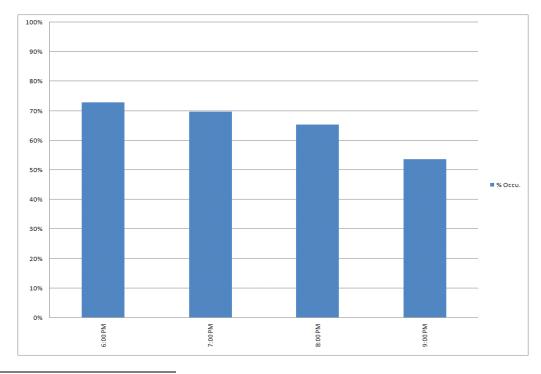
# A. On-Street Parking Occupancy

**Table 5** summarizes the average on-street parking occupancy between 6:00 p.m. and 9:00 p.m. on a typical weekend (Friday) for the entire study area, and **Figure 7** shows the onstreet parking occupancies.<sup>4</sup> As shown in **Figure 7**, between 65% and 73% of on-street parking spaces are occupied between 6:00 p.m. and 8:00 p.m. This percentage drops to 54% at 9:00 p.m. The peak on-street parking demand (73%) occurs at about 6:00 p.m., although the on-street parking demand is at 7:00 p.m. (70%) is close to the peak.

**Table 5: Summary of On-Street Parking Occupancies (Weekend)** 

Time	Total Number of On-Street Spaces Surveyed	Total Number of On-Street Spaces Occupied	% Occupancy
6:00 PM	162	118	73%
7:00 PM	162	113	70%
8:00 PM	162	106	65%
9:00 PM	162	87	54%

Figure 7: Study Area On-Street Parking Occupancy (Weekend)



<sup>&</sup>lt;sup>4</sup> Historical parking data indicate that Friday evenings represent the highest period of demand for weekends when compared to Saturday afternoons and evenings, and Sundays. This determination excludes special events such as Farmers Market.

14



# **B.** Off-Street Parking Occupancy

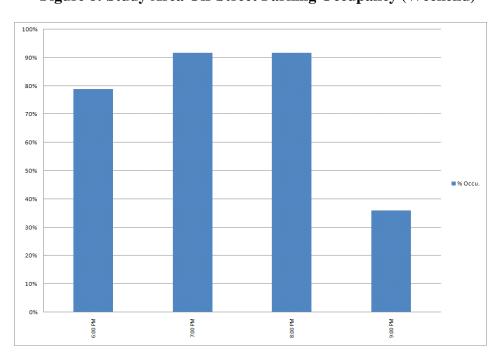
Off-street parking lots within the study area have slightly higher occupancies than onstreet parking when averaged over the entire study area for the weekend peak period. **Table 6** summarizes the off-street parking occupancies between 6:00 p.m. and 9:00 p.m. **Figure 8** shows that off-street parking lots sustain an occupancy averaging 92% between 7:00 p.m. and 8:00 p.m., then drop dramatically to about 36% around 9:00 p.m. The peak off-street parking demand occurred at 7:00 p.m. and at 8:00 p.m. with 92% occupancy. The observations might indicate that most of the off-street parking spaces are being used by restaurant users which peak around dinner time within the study area.

At the district level, occupancy in the parking lots in all individual zones stay relatively high with an average occupancy of approximately 72% for Zone 1, 78% for Zone 2, and 73% for Zone 3. **Appendix 2** contains detailed graphs and tables for individual zones showing the average number of vehicles parked in each parking lot between 6:00 p.m. and 9:00 p.m.

**Table 6: Summary of Off-Street Parking Occupancies (Weekend)** 

Time	Total Number of Off-Street Spaces Surveyed	Total Number of Off-Street Spaces Occupied	% Occupancy
6:00 PM	323	255	79%
7:00 PM	323	296	92%
8:00 PM	323	296	92%
9:00 PM	323	116	36%

Figure 8: Study Area Off-Street Parking Occupancy (Weekend)





# C. Total Parking Occupancy and Accumulation

## 1. Daily Parking Accumulation (On + Off-Street) in Study Area

**Table 7** summarizes the weekend on-street and off-street peak parking demand for the study area. **Figure 9** shows the daily accumulation of parked vehicles (both on and off-street) within the study area. Parking spaces at 6:00 p.m. are occupied at 77%, climbing to a peak of 84% at 7:00 p.m. and 83% at 8:00 p.m., and significantly decreasing to 47% at 9:00 p.m. This weekend evening profile is indicative of short-term restaurant parking demand where the profile shows high occupancy during the evening dining period.

#### 2. Peak Occupancy in Study Area

The study area reaches its peak parking demand at 7:00 p.m. (84%), although the parking demand at 8:00 p.m. (83%) is very close to the peak parking demand indicating a long peak. The peak on-street and off-street occupancy in study area is shown in **Table 7** and in **Figure 9**. Overall, the parking supply<sup>5</sup> in Folsom Historic District is more than half utilized during the weekend peak period. Many downtowns peak around 7:00 p.m. and 8:00 p.m. because this is the time that restaurant uses peak with many short-term visitors come to the downtown for dinner on weekends. Folsom Historic District weekend peak is indicative of a predominantly restaurant-based commercial mix.

Table 7: Summary of On-Street and Off-Street Parking Occupancies (Weekend)

Time	Total Number of (On & Off- Street) Spaces Surveyed	Total Number of (On & Off- Street) Spaces Occupied	% Occupancy
6:00 PM	485	373	77%
7:00 PM	485	409	84%
8:00 PM	485	402	83%
9:00 PM	485	230	47%

#### 3. Conclusions

Based on the data collection and analysis of existing supply and weekend peak demand, there is sufficient parking within the study area to accommodate current weekend demands. While some zones experience relatively high demands, overall, there is available parking within the entire study area. However, based on data collected prior to the completion of the new 330-space parking structure, the District's overall weekend occupancy is nearing "practical capacity" (see definition in Section I.B) of 85% occupancy. This finding, although moot with the completion of the new structure, indicates the need for providing additional public parking.

<sup>&</sup>lt;sup>5</sup> Since the parking occupancy surveys were not conducted at all on-street and off-site parking locations, peak occupancy for weekday is compared to the actual number of parking spaces surveyed (485 spaces).



Parking occupancy analysis indicates that there is sufficient parking supply available to meet the existing weekend peak parking demand within the study area. However, recent field observations show spillover parking into adjacent residential neighborhoods during weekend evening, particularly in the vicinity of the intersection of Wool Street and Figueroa Street. This spillover parking could be because customers/visitors are not fully utilizing the public parking lots available within the District and would like to park close to their destinations. Existing spillover parking is not discussed in detail in this study as occupancy survey data was not available for residential streets.

100%
90%
80%
70%
60%
40%
30%
20%
10%
6:00 PM
7:00 PM
8:00 PM
9:00 PM

Figure 9: Total Parking (On-Street and Off-Street) Accumulation in Study Area (Weekend)

# IV. Parking Model Development

The first step towards determining the future parking demand is to develop and validate a parking model that accurately predicts/mimics existing conditions. The steps involved in developing and validating the existing parking model include:



- 1. Identify existing land uses which rely on publicly available parking within the study area. The model excludes existing land uses which provide private parking exclusively for their patrons.
- 2. Use Institute of Transportation Engineers' (ITE) *Parking Generation, 3rd Edition, 2004* and Urban Land Institute (ULI) *Shared Parking, 2<sup>nd</sup> Edition*, parking generation rates to establish un-calibrated parking generation rates.
- 3. Adjust base parking generation rates to reflect specific conditions in Downtown Folsom (detailed text about adjustments is discussed later in this document).
- 4. Adjust time-of-day profiles to reflect local conditions.
- 5. Adjust rates to reflect amount of transit, bicycle, walk, and captive trips within the study area. Captive trips reflect people who park once within the study area and visit multiple land uses.
- 6. Use the model to predict existing peak parking demand using the adjusted rates and the existing land uses.
- 7. Compare the model-predicted peak parking demand and time-of-day hourly parking profile with the peak parking demand and time-of-day hourly profile observed in the occupancy surveys. Adjust (calibrate) parking generation rates, time-of-day profiles, and/or other factors as necessary, and repeat in an iterative manner.

The parking model is validated if the difference in model-predicted peak parking demand and the observed peak parking demand is within +10% to -10%. Also validation is achieved when the model-predicted time-of-day hourly profile closely matches observed profiles. Once validated for existing conditions, the parking model is used to project future parking demand.

#### A. Existing Land Uses

The existing land use information for the study area was provided by the City of Folsom. Land use types were grouped by general category because of similarities (e.g., retail). **Table 8** below shows the land use categories used to aggregate existing land uses along with the square footages by zone.



**Table 8: Existing Land Use Types and Square Footages** 

. III (T)	Existing Square Footage			
Land Use Type	Zone 1	Zone 2	Zone 3	All Zones
Retail	13,843	48,241	8,880	70,964
Restaurant	0	8,000	5,500	13,500
Office	6,922	7,525	24,117	38,564
Club/Bar/Tasting Rooms	4,690	3,750	0	8,440
Theater (Seats)	0	115	0	115
Museum / Exhibit Space	0	0	15,703	15,703
Total	25,455	67,516 115 Theater Seats	54,200	147,171 115 Theater Seats

As mentioned earlier, existing private land uses which provide parking exclusively for their patrons are excluded from the parking model.

### **B.** Parking Generation Demand Rates

Parking demand is estimated based on parking generation rates published by the Institute of Transportation Engineers' (ITE) *Parking Generation*, 3<sup>rd</sup> *Edition*, 2004 and the Urban Land Institute's (ULI) *Shared Parking*, 2<sup>nd</sup> *Edition*. Because the ITE and ULI rates are developed from isolated suburban land uses poorly served by transit, they do not represent the true parking demand generated by uses located in walkable, mixed-use districts such as downtown Folsom. Therefore the rates have been adjusted to reflect 1) the unique parking generation characteristics of Folsom, 2) linked trips whereas people park once in a public parking space and walk to multiple locations, 3) internal non-auto trips whereas people who reside in or near downtown walk to commercial establishments, 4) a reasonable level of transit use, and 5) the interaction of uses at sites with multiple land use types (mixed use internal capture).

The adjusted parking demand generation rates for a typical weekday and weekend are summarized in **Table 9**. The rates summarized in **Table 9** include additional adjustment factors including:

- Two (2) percent reduction for transit trips
- Two (2) percent reduction for bicycle trips
- Three (3) percent reduction for walk trips,
- Fifteen (15) percent reduction for captive trips



Table 9: Adjusted Parking Demand Generation Rates for Weekday and Weekend

Land Use	Weekday (12:00 to 1:00 p.m.)	Weekend (7:00 to 8:00 p.m.)	Units
Retail	4.00	3.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Restaurant			
Fine Dining	8.50	15.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Casual Dining	6.50	12.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Office	3.15	0.04	Spaces per 1,000 sq.ft. (Gross Floor Area)
Club/Bar/Tasting Rooms	0.43	15.00	Spaces per 1,000 sq.ft. (Gross Floor Area)
Theater	0.07	0.32	Spaces per seat

### C. Parking Model Validation - Weekday

Following the calibration process described above, the parking model was used to predict existing weekday conditions. The results were compared to the observed weekday parking occupancy for existing land uses (Observed parking occupancy is summarized in Section II). The results of the comparison are summarized in **Table 10** below:

Table 10: Comparison of Parking Model Calibration Results With Observed Parking Occupancy - Weekday

No.	Item	Model Prediction of Demand	Observed Demand	Percent Difference
1	Existing Peak Weekday Parking Demand	420 spaces	354 spaces	19%
2	Existing Peak Hour	12:00 Noon	12:00 Noon	N/A
3	Existing Peak Demand Periods	11:00 a.m. to 2:00 p.m. 6:00 p.m. and 7:00 p.m.	11:00 a.m. to 2:00 p.m. 6:00 p.m. and 7:00 p.m.	N/A

As per the parking model, the weekday peak parking demand is 420 spaces and the peak parking demand observed using occupancy survey is 354 spaces, a difference of 66 spaces, or a 19% difference. However, the occupancy surveys performed by the City did not cover the entire study area, certain on-street segments and certain portions of the off-street parking lots were not included. Therefore, these parking spaces need to be included in the comparison. As shown in **Table 1**, the total existing parking supply (excluding the



parking garage in Zone 3<sup>6</sup>) within the study area is 555 spaces. The parking occupancy surveys covered a total of 485 spaces, a difference of 70 spaces.

Using a conservative assumption that 50 percent of the spaces that were not surveyed during the parking occupancy surveys would be occupied during the weekday peak hour would add approximately 35 spaces (70 x 0.50) to the existing observed peak parking demand of 354 spaces, resulting in a combined total of 389 spaces. With the inclusion of the un-surveyed parking spaces, the difference in the weekday peak parking demand estimate from parking model is within 10% of the observed weekday peak parking demand (420 vs. 389). Hence the parking model is considered validated for existing weekday conditions. Detailed calculation sheets and graphs related to the calibration and validation of the parking model for weekday are shown in **Appendix 3**.

## D. Parking Model Validation - Weekend

Utilizing the calibration process described above, the parking model was used to predict existing weekend conditions. The results were compared to the observed weekend parking occupancy for existing land uses (Observed parking occupancy is summarized in Section II). The results of the comparison are summarized in **Table 11** below:

Table 11: Comparison of Parking Model Calibration Results With Observed Parking Occupancy - Weekend

No.	Item	Model Prediction of Demand	Observed Demand	Percent Difference
1	Existing Peak Weekend Parking Demand	422 spaces	409 spaces	3%
2	Existing Peak Hour	8:00 p.m.	7:00 p.m.	N/A
3	Existing Peak Demand Periods	1:00 p.m. to 3:00 p.m. 7:00 p.m. to 9:00 p.m.	7:00 p.m. and 8:00 p.m. (See Note 1)	N/A

Note 1: Parking occupancy surveys were conducted only between 6:00 p.m. and 9:00 p.m. on a weekend (Friday Night).

The model predicted weekend peak parking demand is 422 spaces and the observed peak parking demand is 409 spaces, a difference of 12 spaces, or 3%. Based on this finding, the parking model could be concluded as validated. However, as the occupancy surveys did not cover the entire study area, certain on-street segments and certain portions of the off-street parking lots were not included. Therefore, these parking spaces need to be included in the comparison. As shown in **Table 1**, the total existing parking supply

21

<sup>&</sup>lt;sup>6</sup> The parking garage was not open to public and was still under construction at the time of occupancy surveys.



(excluding the parking garage in Zone 3<sup>7</sup>) within the study area is 555 spaces. The parking occupancy surveys covered on a total of 485 spaces, a difference of 70 spaces.

Using a conservative assumption that 50 percent of the spaces that were not surveyed during the parking occupancy surveys would be occupied during the weekday peak hour would add approximately 35 spaces (70 x 0.50) to the existing observed peak parking demand of 409 spaces giving us a combined total of 444 spaces. Even with the inclusion of the un-surveyed parking spaces, the difference in the weekend peak parking demand estimate from parking model is within 10% of the observed weekday peak parking demand (422 vs. 444). Hence the parking model is considered validated for existing weekend conditions. Detailed calculation sheets and graphs related to the calibration of the parking model for weekend are shown in **Appendix 4**.

## V. Future Parking Demand Analysis

This section of the report discusses future land uses, approved projects, and provides a future parking supply and demand analysis within the study area. The purpose of the analysis is to estimate future parking demand, to verify whether the current and planned parking supply will meet the demand, and to identify potential needs for additional municipal parking. A worst-case scenario involving future development of existing surface parking lots was assumed for future parking demand analysis. The future parking supply and demand analysis is an iterative process as described below:

- 1. Parking demand is initially estimated assuming full development of retail uses on existing surface parking lots and associated reduction in parking supply. This step estimates a worse-case maximum parking deficit.
- 2. One or more sites are assessed for the feasibility of parking structures to accommodate the maximum estimated deficiency.
- 3. With selection of a site(s) for parking structures, parking demand is recalculated assuming ground floor retail in the parking structures rather than full development of the site as retail.
- 4. The recalculated parking demand is used to revise the number of spaces required in the selected parking structure(s).

<sup>&</sup>lt;sup>7</sup> The parking garage was not open to public and was still under construction at the time of occupancy surveys.



### **Future Parking Supply**

### A. Future On-Street Parking Supply

The future on-street parking supply remains similar to existing parking supply, except seven (7) additional on-street parking spaces are added on Leidesdorff Street between Gold Lake Drive and Reading Street. **Table 12** summarizes the future number of parking spaces along each street and total parking spaces for each zone. The study area contains a total of 239 on-street parking spaces.

### **B.** Future Off-Street Parking Supply

The future off-street parking supply is comprised of existing off-street parking facilities, the new 330-space parking structure in the Rail Block, planned public spaces as part of known new development, and the loss of existing public spaces due to the assumption of new development on surface parking lots. Loss of parking spaces from new development includes 110 spaces with development of the Rail Block, 82 spaces with the development of the Riley St./Scott St. (Powerhouse) Lot, 125 spaces with the development of the Trader Lane Lot and 28 spaces with the development of the Baker Lot. An additional 51 public spaces are added in Zone 1 with the development of the Scalzi site.

**Table 12** summarizes the future number of off-street parking spaces in each zone. There are a total of 381 off-street public parking spaces in the study area.

### C. Total Parking Supply

**Table 12** summarizes the total future number of parking spaces by zone and in total. There are 620 on-street and off-street parking spaces within the study area.

The number of future off-street parking locations and the number of spaces provided are shown in **Figure 10**. The future on-street parking supply (**Figure 3**) remains the same, except for the addition of seven (7) on-street parking spaces on Leidesdorff Street between Gold Lake Drive and Reading Street. The future on- and off-street parking supply of 620 spaces is 65 spaces more than the existing parking supply prior to the completion of the new parking structure, and 287 spaces less than the existing parking supply after completion of the structure.



Table 12: Summary of Future On-Street and Off-Street Parking Supply by District

Zone	Zone Off-Street Public Parking Supply		On-Street Parking Supply		Total Future Supply
			Riley St. – Sutter St. to Figueroa St.	7	
			Sutter St. – Riley St. – Scott St.	20	
I	Scalzi	51	Scott St. – Leidesdorff St. to Sutter St.	3	93
			Scott St. – Sutter St. to Figueroa St.	12	
			Subtotal	42	
			Riley St. – Sutter St. to Figueroa St.	7	
			Wool St Leidesdorff St. to Sutter St.	11	
II			Wool St. – Sutter St. to Figueroa St.	9	38
11			Leidesdorff St. – Wool St. to Riley St.	11	36
			Sutter St. – Wool St. to Riley St.	0	
			Subtotal	38	
			Reading St. – North of Leidesdorff St.	10	
			Reading St. – Leidesdorff St. to Sutter St.	0	
			Reading St. – Sutter St. to Figueroa St.	10	
			Gold Lake Circle	24	
			Decatur St. – Sutter St. to Figueroa St.	18	
			Wool St. – Leidesdorff St. to Sutter St.	11	
III	Parking Structure	330	Wool St. – Sutter St. to Figueroa St.	8	489
			Leidesdorff St. – Decatur St. to Wool St.	23	
			Sutter St. – Reading St. to Decatur St.	25	
			Sutter St. – Decatur St. to Wool St.	23	
			Leidesdorff St. – Gold Lake Circle to Reading St.	7	
			Subtotal	159	
Т	<b>Cotal Off-Street Spaces</b>	381	<b>Total On-Street Spaces</b>	239	620

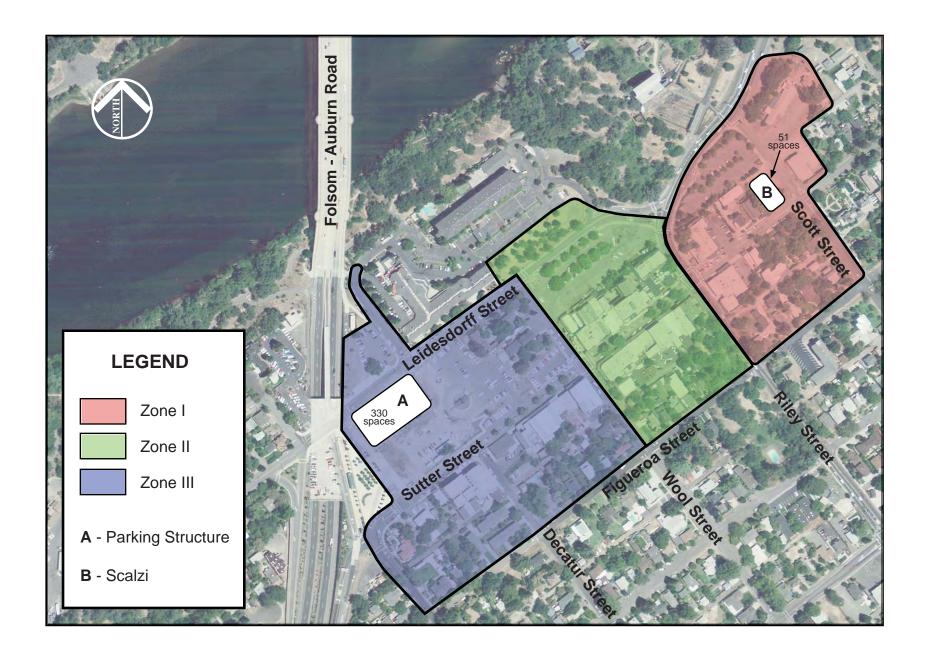




Figure 10 Folsom Historic District Parking Future Off-Street Parking Lots



### **Existing + Future Parking Demand**

In this study, future parking demand is defined as a demand for parking that cannot be accommodated on-site. Therefore, this demand needs to be accommodated by the municipal parking supply, either on-street or off-street. Because the data collection and analysis of existing supply and demand indicated enough supply to meet the existing demand, we can assume that the study area does not experience spillover parking into surrounding neighborhoods during typical weekdays and weekends, hence the future parking demand analysis focuses on the study area. The purpose of this analysis is to:

- 1) Estimate existing + future demand and determine whether the existing and planned parking supply is sufficient;
- 2) If existing + future demand exceeds supply, determine if there is the potential for spillover parking into adjacent residential neighborhoods; and
- 3) Identify the need for a potential parking structure(s) within the study area.

For this study, the demand generated by future downtown residents is assumed to be accommodated on-site. Residential visitors, and employees and patrons of the commercial uses are assumed to park off-site. Based on these assumptions, the future parking demand is estimated.

#### A. Future Land Uses

Future land use data for the study area was determined in coordination with the City of Folsom. Land use types were grouped based on similarities such as retail, office, and restaurant uses.

**Table 13** below shows the land use categories used to aggregate future land uses along with the square footages by zone.



**Table 13: Future Land Use Types and Square Footages** 

Land Use Type	Future Square Footage or Dwelling Units				
Land Ose Type	Zone 1	Zone 2	Zone 3	All Zones	
Retail	54,868	90,780	52,288	197,936	
Restaurant	11,700	0	3,500	15,200	
Office	18,250	0	16,921	35,171	
Club/Bar/Tasting Rooms	0	0	0	0	
Theater (Seats)	0	0	0	0	
Museum / Exhibit Space	0	0	0	0	
Residential (Dwelling Units – D.U)	0	0	60 D.U	60 D.U	
Total	84,818	90,780	72,709 60 D.U	248,307 60 D.U	

Note that the land uses in **Table 13** include estimates of full commercial development of the Riley St./Scott St. Lot, Trader Lane Lot and Baker Lot. This provides a worse-case scenario for estimating the future parking demand.

### **B.** Existing + Future Land Uses

For calculating existing + future parking demand, the existing and future land uses were combined. Existing private land uses (30,875 sq. ft.) excluded from the existing conditions analysis because they provided exclusive parking for their patrons, are included in existing + future land uses if their parking supply is eliminated. If private parking is eliminated, then its demand will rely on public parking. **Table 14** below shows the existing + future land use square footages by Zone.



**Table 14: Existing + Future Land Use Square Footages** 

Land Use Type	Existing + Future Square Footage or Dwelling Units				
Land Ose Type	Zone 1	Zone 2	Zone 3	All Zones	
Retail	73,711	147,221	61,168	282,100	
Restaurant	17,780	19,595	9,000	46,375	
Office	25,172	7,525	41,038	73,735	
Club/Bar/Tasting Rooms	4,690	3,750	0	8,440	
Theater (Seats)	0	115	0	115	
Museum / Exhibit Space	0	0	15,703	15,703	
Residential (Units)	0	0	60 D.U	60 D.U	
Total	121,353	178,091 115 Theater Seats	126,909 60 D.U	426,353 115 Theater Seats 60 D.U	

### C. Existing + Future Parking Supply and Demand – Weekday

Using the adjusted parking generation demand rates and the trip reduction percentages for transit, bike, walk, and captive trips, the parking model predicts existing + future weekday parking demand.

The overall projected existing + future weekday parking demand is 1,385 spaces during the peak hour of 12:00 noon. Similarly, the peak parking demand for each zone occurs at 12:00 noon. Detailed calculation sheets and graphs for existing + future weekday peak parking demand is shown in **Appendix 5**.

The existing + future weekday peak parking demand for each zone is summarized in **Table 15** below. The table also compares the existing + future weekday peak parking demand for each zone to the existing + future parking supply at each zone.

Table 15: Comparison of Weekday Peak Parking Demand and Supply

Zone	Peak Hour	Projected Peak Parking Demand	Parking Supply (existing and proposed)	Surplus or (Deficit)
I	12:00 Noon	407	93	(314)
II	12:00 Noon	617	38	(579)
III	12:00 Noon	361	489	+128
	Total	1,385	620	(765)



As shown in **Table 15** the total parking supply (existing + proposed) of 620 spaces is less than the weekday peak parking demand of 1,385 creating a deficit of 765 spaces. The overall deficit is due to the peak parking demand deficits in Zones I and II (314 and 579 spaces respectively). The parking supply in Zone III exceeds the parking demand for that zone by a total of 128 spaces.

### D. Existing + Future Parking Supply and Demand – Weekend

Using the adjusted parking generation demand rates and the trip reduction percentages for transit, bike, walk, and captive trips, the parking model predicts existing + future weekend parking demand.

The overall projected existing + future weekend parking demand is 1,280 spaces during the peak hours of 7:00 p.m. and 8:00 p.m. The peak parking demand for Zone I and Zone II occurs at 7:00 p.m., while the peak parking demand for Zone III occurs at 2:00 p.m. Detailed calculation sheets and graphs for existing + future weekend peak parking demand is shown in **Appendix 6**.

The existing + future weekend peak parking demand for each zone is summarized in **Table 16** below for the overall peak period of 7:00 p.m. The table also compares the weekend peak parking demand to supply for each zone.

Table 16: Comparison of Weekend Peak Parking Demand and Parking Supply

Zone	Peak Hour	Peak Parking Demand	Parking Supply (existing and proposed)	Surplus or (Deficit)
I	7:00 p.m.	404	93	(311)
П	7:00 p.m.	622	38	(584)
III	7:00 p.m.	254	489	+235
	Total	1,280	620	(660)

As shown in **Table 16**, the total parking supply (existing + proposed) of 620 spaces is less than the weekend peak parking demand (at 7:00 p.m.) creating a deficit of 660 spaces. The overall deficit is due to the peak parking demand deficits in Zones I and II (311 and 584 spaces respectively). The parking supply for Zone III exceeds its parking demand by 235 spaces.



### E. Practical Capacity

It is not realistic to plan for every space to be fully utilized within the study area. The concept of "practical capacity" should be considered to estimate true parking needs in the future. Practical capacity takes into account the widely accepted principle that only 85-90 percent of supply is effectively utilized at any given time. About 10 to 15% of spaces need to be empty to allow for parking turnover and to avoid people unnecessarily circulating in search of an empty parking space. For this study, the practical capacity of the study area was assumed to be 10% higher (conservative approach) than the peak parking demand.

The practical capacity will increase the weekday peak parking demand from 1,385 spaces to 1,524 spaces, which will be approximately **904 spaces** more than the total parking supply of 620 spaces within the study area.

Similarly, the practical capacity will increase the weekend peak parking demand from 1,280 spaces to 1,408 spaces which will be approximately **788 spaces** more than the total parking supply of 620 spaces within the study area.

### F. Conclusions and Recommendations

The future supply and demand analysis results in the following conclusions and recommendations:

- Considering practical capacity, the weekday and weekend peak parking demand exceeds the existing and proposed parking supply by 904 and 788 spaces, respectively.
- The Historic District will require additional off-street facilities with a total of 904 parking spaces plus additional replacement spaces if a new parking structure(s) is constructed on an existing parking lot.
- Since the parking deficit is predominantly in Zones I and II, the existing Trader Lane lot and/or the existing privately owned Moose/Eagles lot would be the most logical and convenient locations for providing additional parking supply. The Trader Lane lot is located in the heart of the district with good pedestrian and vehicular accessibility to all zones. With the proposed development in Zone I, the Moose/Eagles Lot will provide needed parking and increased interaction with the rest of the downtown district<sup>8</sup>.
- The number of spaces required justifies a multi-level parking structure, or multiple structures, as there do not appear to be suitable sites, or combination of sites, in the District large enough to accommodate the required number of spaces in a surface parking lot.

<sup>&</sup>lt;sup>8</sup> The Trader Lane and Moose/Eagles lot sites were identified as strong candidates for parking structures in a preliminarily feasibility assessment. This assessment will be included in the final report.



Below are three options that may be considered for addressing the future parking deficit:

- **Option 1**: If the Trader Lane lot is selected as a new parking structure location, then a parking structure on this site would need to accommodate a total of approximately 904 parking spaces.
- Option 2: If the Moose/Eagles lot is selected as a new parking structure location, then a parking structure on this site should accommodate a total of 904 parking spaces.
- Option 3: If a single 904 space garage is too large for practical, and/or aesthetic consideration, then two smaller garages may be considered. This option would allow the City to phase the required amount of parking over time as new development and increased parking pressures warrant additional parking. Two alternatives for determining the size of each garage are included below.
  - o **3A**: If the size of the each structure is based on the future parking deficit by zone, then the Trader Lane garage (Zone II) would need to accommodate approximately 65% of the deficit and the Moose/Eagles garage (Zone I) would provide the remaining 35%. This would result in a Trader Lane garage with 590 spaces (65% x 904  $\approx$  590) and a Moose/Eagles garage with 314 spaces (35% x 904  $\approx$  314).
  - o **3B**: If the future parking deficit is to be distributed based on the amount of future development in each zone, then the Trader Lane garage (Zone II) would need to accommodate 52% of the deficit and the Moose/Eagles garage would need to provide 48% of the necessary spaces. In this case, the Trader Lane garage would be 470 spaces (52% x 904  $\approx$  470) and the Moose/Eagles garage would be 434 spaces (48% x 904  $\approx$  434).

Option 3A, which suggests the size of each parking structure be based on the future parking deficit by zone is recommended because by providing sufficient parking supply in deficient zones, future parking is provided where it is needed the most.

Also by providing future parking supply based on parking deficit by zone, the potential for spillover parking into adjacent neighborhoods is minimized.

Site assessment for the parking structure(s) will also be studied in subsequent tasks, including an estimate of the amount of ground level retail that could feasibly be incorporated into a structure at each of the two proposed sites. For this initial estimate of parking deficit both the Trader Lane and Moose/Eagles sites were assumed to be fully developed with retail uses. If the sites are selected for parking structure, future parking demand (and required parking supply) will be re-estimated to include assumptions for ground floor retail in the Traders Lane and Moose/Eagles site garages.



## VI. Adequacy of City's Current Parking Ratio

Currently, the City of Folsom requires a flat parking ratio of 1 space per 350 square feet for all land use types within the Historic District. Assuming that all new development will provide parking in one form or another (i.e., either build parking on-site or contribute to the cost of public parking equivalent to their on-site requirement), **Table 17** estimates the total future parking supply needed by new development using the City's existing parking ratio. As shown in **Table 17**, new development would result in 709 spaces.

**Table 17: Estimate of Future Parking Supply Based on Current Parking Ratio** 

District	Future Land Use (Square Footage)	City's Existing Parking Ratio	Total Estimated Future Supply (spaces) Needed
I	84,818		242
II	90,780	1 250 6	259
III	72,709	1 space per 350 sq. ft.	208
Total	248,307		709

Note:

The estimates above do not include requirements for residential visitor parking that might be located off-site.

This analysis indicates that using the City's current parking ratio (1 space per 350 square feet) would result in a number of spaces that would be less than the maximum deficit of 904 spaces. The City's current ratio would under-provide parking by 195 spaces.

### A. Revised Average Flat Parking Rate to Accommodate Parking Deficit

As stated previously, the peak weekday parking demand with a factor to reflect practical capacity is 1,524 spaces. The amount of future parking supply is 620 spaces, which is 904 spaces less than required.

For these 904 spaces to be provided through development requirements, the City could revise the existing parking ratio of 1 space per 350 square feet to 1 space per 275 square feet (see calculations below).

- Peak weekday parking demand for existing + future conditions = 1,524 spaces
- Future parking supply (existing + proposed) = 620 spaces
- The peak weekday parking demand for existing + future conditions exceeds the future parking supply by a total of 904 spaces (1,524 620 = 904)
- City's revised parking ratio = 248,307 sq. ft. of new development at 1 space per 275 square feet will be equal to approximately 903 spaces.



### B. Individual Parking Ratio by Land Use Types

If the City chose to apply individual parking ratios by land use types, then individual parking ratios for each future land use types is estimated using the future land use square footages, adjusted peak weekday parking demand, and the number of parking spaces required. The future land uses were divided into retail, restaurant (fine dining and casual dining), and office uses. **Table 18** shows the calculations of individual parking rate by land use types, assuming 904 spaces (two smaller structures) are required to meet the deficit.

Table 18 – Individual Parking Ratio by Land Use Types (Based on Need for 904 Spaces)

Land Use	Future Land Use Square Footages	Adjusted Weekday Peak Demand Rates <sup>1</sup>	Estimated Demand <sup>2</sup>	% Percent	No. of Pkg. Spaces Needed	Spaces Required by Land Use Type	Approximate Individual Parking Ratio
	(A)	<b>(B)</b>	(C)=(A)x(B) x80%	<b>(D)</b>	<b>(E)</b>	$(\mathbf{F}) = (\mathbf{D})\mathbf{x}(\mathbf{E})$	$(\mathbf{G}) = (\mathbf{A}) / (\mathbf{F})$
Retail	197,936	4.00	633	78%	904	705	1 Space per 280 sq. ft.
Restaurant							
Fine Dining	7,600	8.50	52	6%	904	54	1 Space per 140 sq. ft.
Casual Dining	7,600	6.50	40	5%	904	45	1 Space per 170 sq. ft.
Office	35,171	3.15	89	11%	904	100	1 Space per 350 sq. ft.
Total	248,307	-	814	100%	904	904	1 Space per 275 sq. ft.

- 1. Adjusted weekday peak demand rates from Error! Reference source not found.
- 2. Estimated demand includes adjustment for transit, walk, bike, and captive trips (a total of 20%).

#### C. Conclusion

The overall conclusions of this analysis result in the following:

- The current ratio of 1 space per 350 square feet would result in about 709 spaces and would fail to accommodate the projected maximum deficit of 904.
- A revised ratio of 1 space per 275 square feet would result in about 903 spaces and would adequately accommodate the maximum deficit of 904 spaces.
- Individual ratios by land use type ranging from 1 space per 140 square feet to 1 space per 350 square feet would result in about 904 spaces, which would accommodate the maximum deficit.



## **Appendices:**

Appendix 1: Off-Street Parking Occupancies – Weekday Appendix 2: Off-Street Parking Occupancies – Weekend Appendix 3: Calibration of Parking Model – Weekday Appendix 4: Calibration of Parking Model – Weekend

**Appendix 5: Existing + Future Parking Demand - Weekday Appendix 6: Existing + Future Parking Demand - Weekend** 



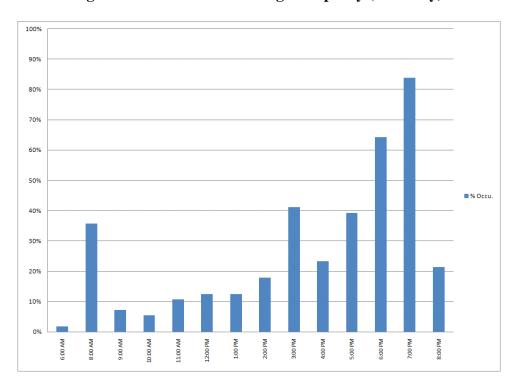
# Appendix 1 – Off-Street Parking Occupancies - Weekday

## Zone 1

**Table 1-A: Summary of Off-Street Parking Occupancies (Weekday)** 

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 AM	56	1	2%
8:00 AM	56	20	36%
9:00 AM	56	4	7%
10:00 AM	56	3	5%
11:00 AM	56	6	11%
12:00 PM	56	7	13%
1:00 PM	56	7	13%
2:00 PM	56	10	18%
3:00 PM	56	23	41%
4:00 PM	56	13	23%
5:00 PM	56	22	39%
6:00 PM	56	36	64%
7:00 PM	56	47	84%
8:00 PM	56	12	21%

Figure 1-A: Off-Street Parking Occupancy (Weekday)



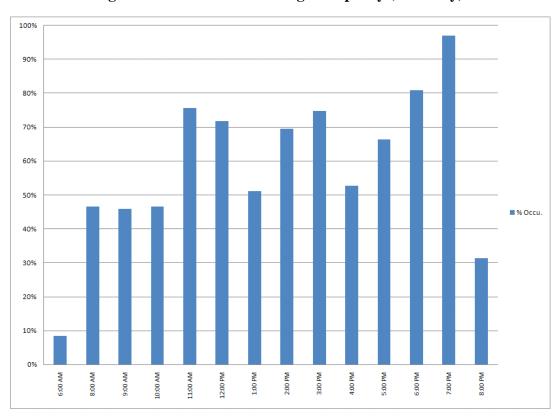


## **Zone II**

**Table 1-B: Summary of Off-Street Parking Occupancies (Weekday)** 

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 AM	131	11	8%
8:00 AM	131	61	47%
9:00 AM	131	60	46%
10:00 AM	131	61	47%
11:00 AM	131	99	76%
12:00 PM	131	94	72%
1:00 PM	131	67	51%
2:00 PM	131	91	69%
3:00 PM	131	98	75%
4:00 PM	131	69	53%
5:00 PM	131	87	66%
6:00 PM	131	106	81%
7:00 PM	131	127	97%
8:00 PM	131	41	31%

Figure 1-B: Off-Street Parking Occupancy (Weekday)



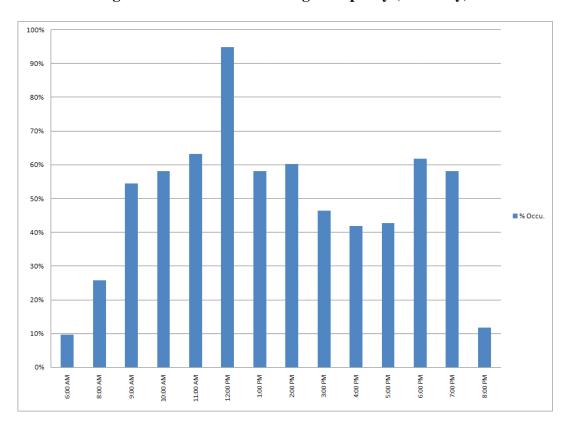


## **Zone III**

**Table 1-C: Summary of Off-Street Parking Occupancies (Weekday)** 

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 AM	136	13	10%
8:00 AM	136	35	26%
9:00 AM	136	74	54%
10:00 AM	136	79	58%
11:00 AM	136	86	63%
12:00 PM	136	129	95%
1:00 PM	136	79	58%
2:00 PM	136	82	60%
3:00 PM	136	63	46%
4:00 PM	136	57	42%
5:00 PM	136	58	43%
6:00 PM	136	84	62%
7:00 PM	136	79	58%
8:00 PM	136	16	12%

Figure 1-C: Off-Street Parking Occupancy (Weekday)





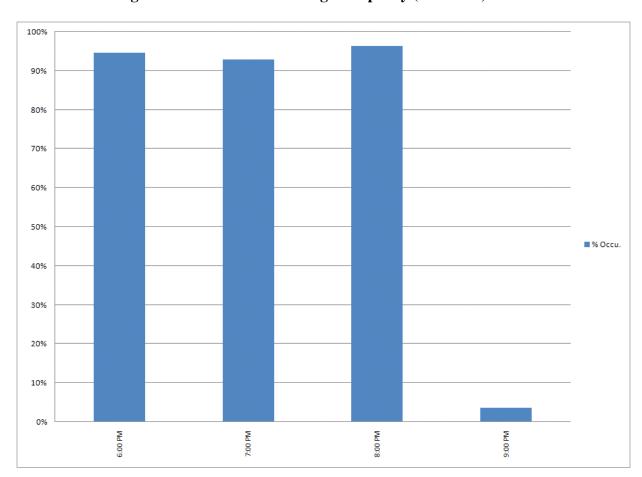
## **Appendix 2 – Off-Street Parking Occupancies - Weekend**

## Zone1

**Table 2-A: Summary of Off-Street Parking Occupancies (Weekend)** 

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 PM	56	53	95%
7:00 PM	56	52	93%
8:00 PM	56	54	96%
9:00 PM	56	2	4%

Figure 2-A: Off-Street Parking Occupancy (Weekend)



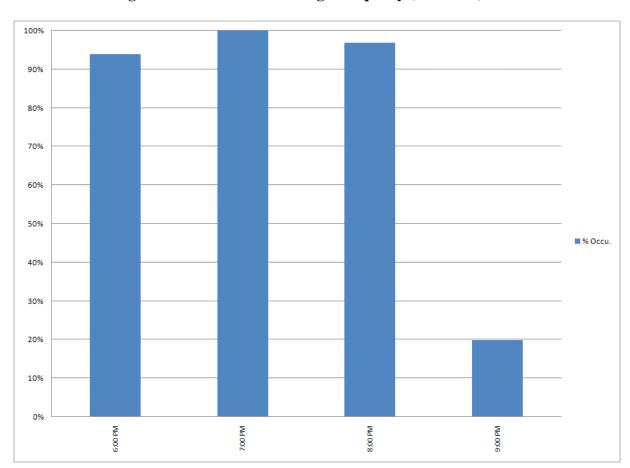


# **Zone II**

Table 2-B: Summary of Off-Street Parking Occupancies (Weekend)

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 PM	131	123	94%
7:00 PM	131	131	100%
8:00 PM	131	127	97%
9:00 PM	131	26	20%

Figure 2-B: Off-Street Parking Occupancy (Weekend)



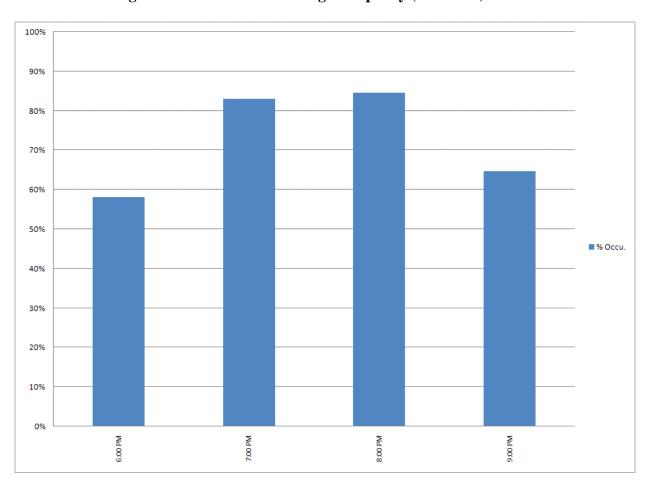


## **Zone III**

**Table 2-C: Summary of Off-Street Parking Occupancies (Weekend)** 

Time	Total Number of Off- Street Spaces Surveyed	Total Number of Off- Street Spaces Occupied	% Occupancy
6:00 PM	136	79	58%
7:00 PM	136	113	83%
8:00 PM	136	115	85%
9:00 PM	136	88	65%

Figure 2-C: Off-Street Parking Occupancy (Weekend)



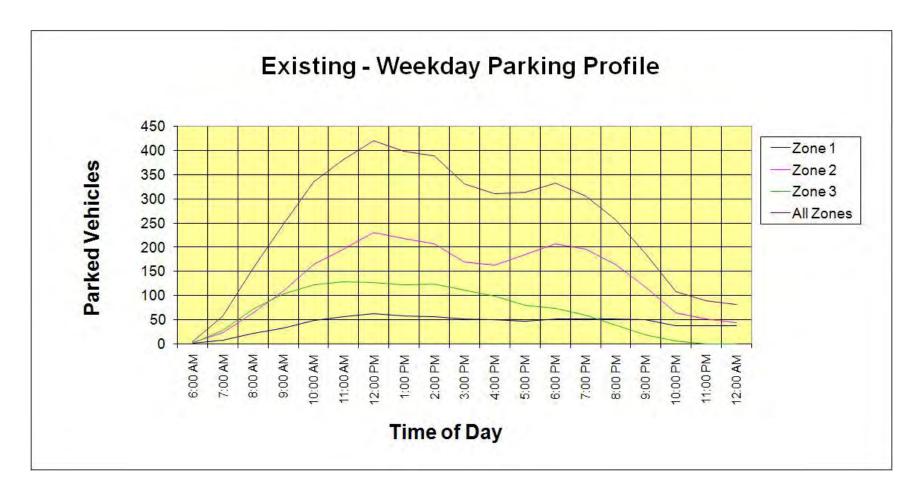


# Appendix 3 – Calibration of Parking Model – Weekday

	Zone 1	Zone 2	Zone 3	Zone 4	All Zones	All Zones
6:00 AM	1	3	2	0	5	5
7:00 AM	8	23	28	0	59	59
8:00 AM	21	64	73	0	157	157
9:00 AM	33	110	104	0	247	247
10:00 AM	48	164	122	0	335	335
11:00 AM	56	195	129	0	381	381
12:00 PM	63	230	127	0	420	420
1:00 PM	59	218	122	0	398	398
2:00 PM	56	206	125	0	388	388
3:00 PM	52	169	111	0	330	330
4:00 PM	50	162	99	0	311	311
5:00 PM	47	185	81	0	314	314
6:00 PM	52	207	74	0	333	333
7:00 PM	52	195	59	0	306	306
8:00 PM	52	164	39	0	257	257
9:00 PM	50	118	19	0	187	187
10:00 PM	38	64	6	0	108	108
11:00 PM	38	52	0	0	90	90
12:00 AM	38	44	0	0	82	82
					Peak Demand	420



Appendix 3 – Calibration of Parking Model – Weekday



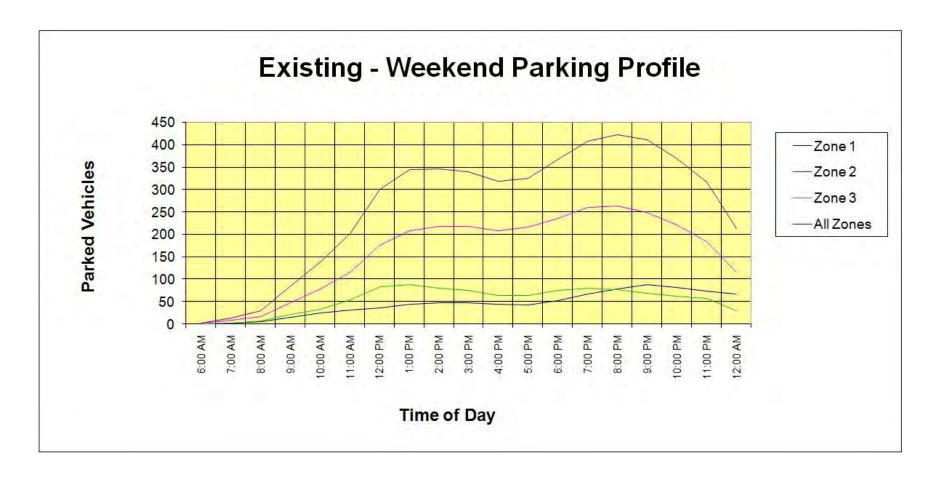


# Appendix 4 – Calibration of Parking Model – Weekend

Time of Day	Zone 1	Zone 2	Zone 3	Zone 4	All Zones	All Zones
6:00 AM	0	2	0	0	2	2
7:00 AM	2	8	2	0	13	13
8:00 AM	5	16	7	0	30	30
9:00 AM	15	48	21	0	85	85
10:00 AM	24	79	33	0	138	138
11:00 AM	31	115	54	0	202	202
12:00 PM	37	175	84	0	300	300
1:00 PM	45	208	89	0	344	344
2:00 PM	48	217	80	0	346	346
3:00 PM	48	217	75	0	340	340
4:00 PM	45	208	64	0	318	318
5:00 PM	43	216	65	0	324	324
6:00 PM	52	235	76	0	367	367
7:00 PM	67	259	81	0	407	407
8:00 PM	79	263	77	0	422	422
9:00 PM	89	249	70	0	410	410
10:00 PM	82	221	63	0	368	368
11:00 PM	74	183	57	0	316	316
12:00 AM	67	115	30	0	213	213
					Peak Demand	422
						8:00 PM



**Appendix 4 – Calibration of Parking Model – Weekend** 





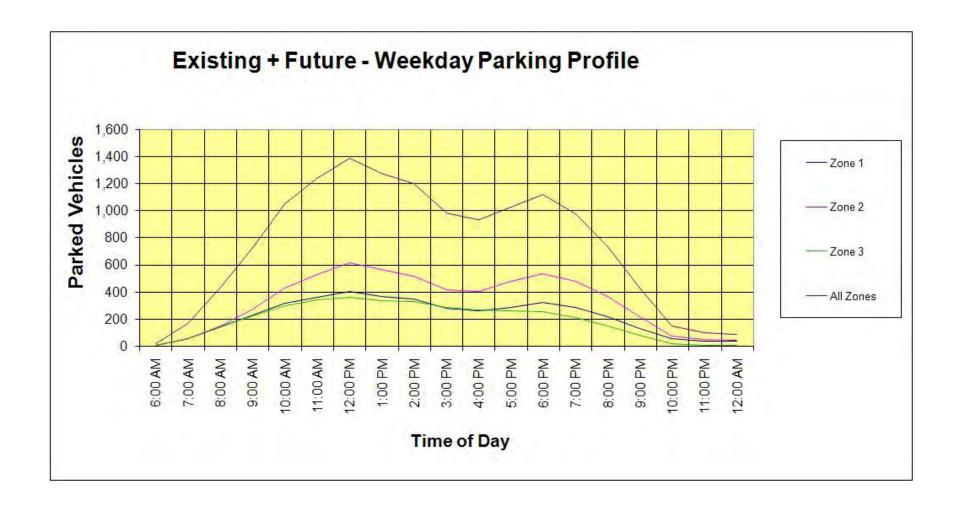
# Appendix 5 – Existing + Future Parking Demand – Weekday

Time of Day	Zone 1	Zone 2	Zone 3	Zone 4	All Zones	All Zones
6:00 AM	4	6	6	0	16	16
7:00 AM	54	53	58	0	165	165
8:00 AM	141	147	146	0	433	433
9:00 AM	230	273	224	0	728	728
10:00 AM	318	433	299	0	1,052	1,052
11:00 AM	366	527	340	0	1,234	1,234
12:00 PM	407	617	361	0	1,385	1,385
1:00 PM	372	566	337	0	1,275	1,275
2:00 PM	351	519	327	0	1,196	1,196
3:00 PM	279	419	284	0	982	982
4:00 PM	262	405	267	0	932	932
5:00 PM	290	481	258	0	1,026	1,026
6:00 PM	324	539	253	0	1,116	1,116
7:00 PM	286	480	209	0	976	976
8:00 PM	216	365	149	0	729	729
9:00 PM	131	218	77	0	426	426
10:00 PM	55	75	18	0	148	148
11:00 PM	38	52	7	0	97	97
12:00 AM	38	44	5	0	87	87

12:00 PM



## **Appendix 5 – Existing + Future Parking Demand – Weekday**





# **Appendix 6 – Existing + Future Parking Demand – Weekend**

Time of Day	Zone 1	Zone 2	Zone 3	Zone 4	All Zones	All Zone
6:00 AM	2	5	11	0	18	18
7:00 AM	14	24	21	0	58	58
8:00 AM	29	48	36	0	112	112
9:00 AM	77	143	85	0	305	305
10:00 AM	125	238	131	0	494	494
11:00 AM	190	340	182	0	713	713
12:00 PM	293	492	252	0	1,035	1,035
1:00 PM	327	563	275	0	1,165	1,165
2:00 PM	330	590	276	0	1,197	1,197
3:00 PM	328	590	270	0	1,189	1,189
4:00 PM	315	565	249	0	1,131	1,131
5:00 PM	331	576	247	0	1,156	1,156
6:00 PM	380	603	255	0	1,236	1,236
7:00 PM	404	622	254	0	1,280	1,280
8:00 PM	396	595	234	0	1,226	1,226
9:00 PM	368	527	199	0	1,095	1,095
10:00 PM	323	446	166	0	933	933
11:00 PM	275	345	126	0	745	745
12:00 AM	164	178	58	0	399	399

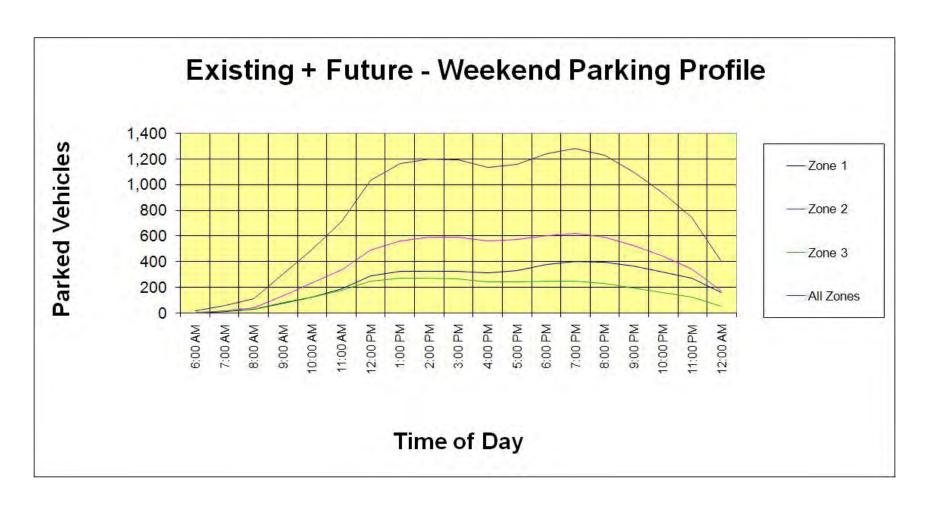
**Peak Demand** 

1,280

7:00 PM



## Appendix 6 – Existing + Future Parking Demand – Weekend



Appendix F:

District-Wide Parcel-by-Parcel Land Use Assumptions

Folsom Historic District Development Inventory (By Address)

			opment Inventory (By Address)										
Street	Street	Suite	Entry	Other Sq Ft			Gross Sq			Study			
No	Street Name	#	Sq Ft	1st floor	2nd floor	3rd floor	4th floor	Base ment	Ft	Business type	Business Name	Zone (I, II, or III)	Note
300/302	Reading St		1500						1500	Restaurant	Guido's Deli	3	
303	Riley St		500						500	Club/bar/tasting room	The Brewmeister	1	
306	Riley St		500						500	Novelties/Gifts	Not too Shabby	2	
307/309	Riley St		1200						1200	Novelties/Gifts	Melange	1	
203	Scott St		5000						5000	Club/bar/tasting room	Moose Lodge	1	Α
215	Scott St		5000						5000	Club/bar/tasting room	Eagles Lodge	1	Α
605	Sutter St		750						750	Office	American Pools	1	
606	Sutter St		2100					900	3000	Office	Coyne Maur Bane Design	1	
608	Sutter St		1298		1209				2507	Health/Beauty	Café of Life Chiropractic	1	
608	Sutter St							1091		Vacant		1	
	Sutter St		4800							Art Studio	Cloud's studio	1	
	Sutter St		1400		1400					Art Gallery	Cloud's gallery	1	
	Sutter St		1386							Novelties/Gifts	Sunshine On Sutter	1	
614	Sutter St		3040							Club/bar/tasting room		1	
	Sutter St		6080							Restaurant	Chicago Fire Pizza	1	Α
	Sutter St		5000								Planet Earth Rising	1	Α
	Sutter St		1150								Fike Gallery	1	
	Sutter St		1150							Club/bar/tasting room		1	
	Sutter St		1586		1586					Office	Cindy Baker building	1	
	ıre (Scalzi)									Restaurant	Scalzi	1	_
	ıre (Scalzi)									Office	Scalzi	1	В
	Sutter St		500								Katrina's	2	
	Sutter St			5000						Health/Beauty	Head West Salon	2	Α
	Sutter St			2000						Health/Beauty	Padgett Chiropractic	2	Α
	Sutter St			1200						Health/Beauty	Back & Body Solutions	2	Α
	Sutter St					6110				Restaurant	Hacienda Del Rio	2	A
	Sutter St				5485						Pizzeria Classico	2	Α
	Sutter St				1610					Vacant		2	
	Sutter St		1200							Club/bar/tasting room	Folsom Hotel	2	Α
	Sutter St				2400	1280		2400		Hotel	Folsom Hotel	2	A
	Sutter St		1200							Restaurant	Folsom Hotel	2	A
	Sutter St		2800							Art Gallery	Stage Nine	2	
	Sutter St				2800					Vacant	<b>J</b>	2	
	Sutter St		1320							Antiques	A-Art's Antique Emporium	2	
	Sutter St		1680							Furniture	Snyders House of Jade	2	
	Sutter St		1325							Clothing	The Firehouse	2	
	Sutter St		1600							Novelties/Gifts	Buffy's Barkery	2	
	Sutter St		2000							Novelties/Gifts	As Time Goes By	2	
	Sutter St		2000							Novelties/Gifts	Forget Me Not	2	
	Sutter St		2000		2000					Office	IMPS Inc.	2	Α

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Page F1 of F3

Folsom Historic District Development Inventory (By Address)

Street	Street Name	Suite	Entry		Ot	her Sq	Ft		Gross Sq	Business type	Business Name	Study Zone (I, II,	Note
No	Street Name	#	Sq Ft	1st floor	2nd floor	3rd floor	4th floor	Base ment	Ft	Busiliess type	Dusiliess Name	or III)	Note
	Sutter St				2000					Office	Computer Power Software	2	Α
717	Sutter St		3210		989				4199	Theatre	Stage Nine (115 seats)	2	
718	Sutter St		4500						4500	Art Gallery	American Vision Gallery	2	
	Sutter St							2025		Office	School Facilities Planning	2	
718	Sutter St		2500						2500	Office	RBA Real Estate	2	
718	Sutter St				2000				2000	Office	Stanfield Systems Inc	2	
718	Sutter St				1000				1000	Office	J Morgan Funding	2	
718	Sutter St				8000				8000	Restaurant	My Brother Vinny's	2	
719	Sutter St		1800						1800	Restaurant	The Dish	2	Α
720	Sutter St		1750						1750	Club/bar/tasting room	Sutter Club	2	
	Sutter St		1250							Jewelry	Rainbow Bridge Jewelers	2	
	Sutter St		2500							Clothing	Ms Teaz	2	
	Sutter St				1750					Health/Beauty	Psychic Gallery	2	
723	Sutter St		1600							Jewelry	Precious Gem Jewelers	2	
	Sutter St		6500							Antiques	Folsom Merchantile Exch	2	
	Sutter St				6500					Vacant		2	
	Sutter St		1800							Restaurant	Partea Time	2	Α
	Sutter St		1450							Antiques	Williams Carriage House	2	
	Sutter St		1100		1450					Vacant	Trimario Garriago Figues	2	
	Sutter St		2370		1.00					Novelties/Gifts	Grapes & Ivy	2	
	Sutter St		3100							Candy	Snooks	2	
	Sutter St		1300							Antiques	Emily's Corner	2	
	Sutter St		1400							Novelties/Gifts	Dorothea's	3	
	Sutter St		1400		1000					Novelties/Gifts	Curiosity Shoppe	3	
	Sutter St				1900					Restaurant	Balcony Bistro	3	
	Sutter St		1200		1900					Novelties/Gifts	Dorothea's	3	
	Sutter St		1200		800					Office	Harbor Community Office	3	
	Sutter St				300					Office	Mark Roberts	3	
			1600		300					Restaurant			
	Sutter St		1600								Hop Sing Palace	3	A
	Sutter St		1150 1150		1					Restaurant	Black Rooster	3	A
	Sutter St				-		1			Antiques	Gray's Place/Dal Bello	3	A
	Sutter St		2100							Restaurant	Sutter Street Grill	3	
	Sutter St		650							Art Studio	Stars on Sutter Street	3	
	Sutter St		650							Health/Beauty	Lahair Whisperer	3	
	Sutter St		660		ļ					Novelties/Gifts	The Magi Cottage	3	
	Sutter St		1300		1					Vacant		3	
	Sutter St		660							Art Gallery	Betty's House of Turquoise	3	
	Sutter St		660							Art Studio	Sutter St Pastels	3	
	Sutter St		650							Vacant		3	
815	Sutter St		650						650	Vacant		3	

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Folsom Historic District Development Inventory (By Address)

Street	Street Name	Suite	Entry			her Sq			Gross Sq	Puningga tuma	Business Name	Study	Note
No	Street Name	#	Sq Ft	1st floor	2nd floor	3rd floor	4th floor	Base ment	Ft	Business type	business Name	Zone (I, II, or III)	Note
	Sutter St		650						650	Vacant		3	
823	Sutter St		3357		2346				5703	Museum	Folsom History Museum	3	
825	Sutter St		3200						3200	Restaurant	825 West End	3	Α
800 Futu	re (HFS)								32908	General Retail	Historic Folsom Station	3	В
800 Futu	re (HFS)								13051	Office	Historic Folsom Station	3	В
800 Futu						Res	identia	l Units	60		Historic Folsom Station	3	В
905	Sutter St	100	5000						5000	Office	Folsom Lake Bank	3	
905	Sutter St	200			5661				5661	Office	REY Engineering	3	
913	Sutter St			2000					2000	Vacant		3	
915	Sutter St			2000					2000	Toys	Mind Over Matter Toys	3	
917	Sutter St		1000						1000	Vacant	Chan building	3	
921	Sutter St		2556						2556	Office	Kensington Homes	3	
929	Sutter St		3800						3800	Office	D&S Development	3	
719	Trader Lane		1250		1250				2500	Church	Church of Scientology	2	
722	Trader Lane		750						750	Health/Beauty	Karen Kay's Salon	2	
722	Trader Lane		750						750	Health/Beauty	Massage Therapy	2	
727	Trader Lane		2000						2000	Club/bar/tasting room	Yagers	2	
731	Trader Lane		1696						1696	Church	Christian Science Church	2	
196	Wool St		10000					_	10000	Museum	Interpretive Center	3	
200	Wool St		6000						6000	Office	Chamber of Commerce	3	
305	Wool St		2500						2500	Art Gallery	Pacific Western Traders	2	
TOTALS													
Existing		<u> </u>			<u> </u>					+ 115 Theater Seats			
Future									75,909	+ 60 D.U.			
Existing	+ Future								223,080	+ 115 Theater Seates	, 60 D.U.		

#### Notes:

A - These existing developments provide small, private off-street parking exclusively for their patrons, and do not rely on the public parking supply. Therefore, they were not surveyed and are excluded from the model validation process.

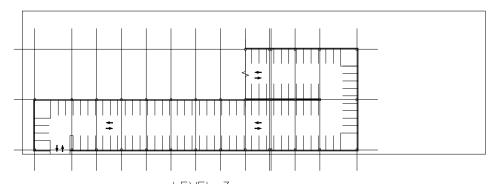
B - Approved/Pending Project

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Page F3 of F3

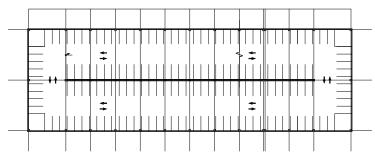
Appendix G:

Parking Structure Site Concepts

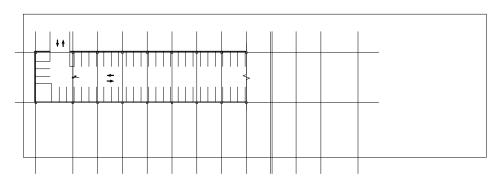
LEVEL	STANDARD	COMPACT	ADA	VAN ADA	TOTAL
1	50	-	2	-	52
2	160	-	2	-	162
3	103	-	3	1	107
TOTAL	313	-	7	1	321



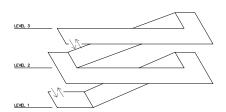
LEVEL 3



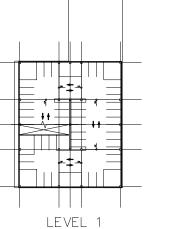
LEVEL 2

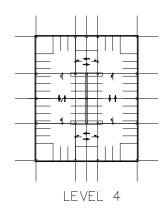


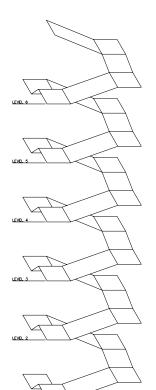
LEVEL 1

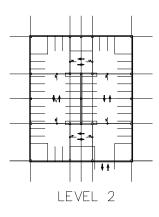


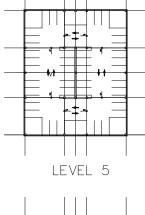


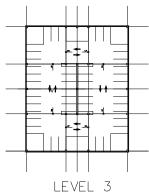


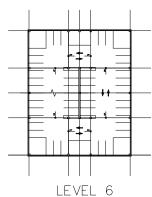




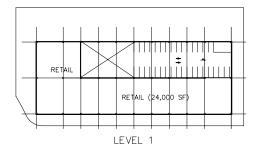


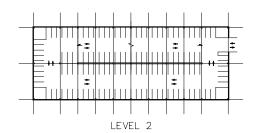


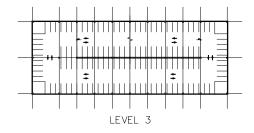


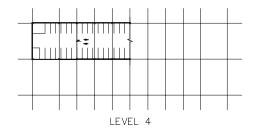


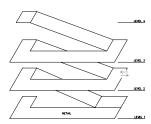
LEVEL	STANDARD	COMPACT	ADA	VAN ADA	TOTAL
- 1	32	-	- 1	-	33
2	127	-	2	2	131
3	132	-	2	-	134
4	32	-	- 1	-	33
TOTAL	222				224

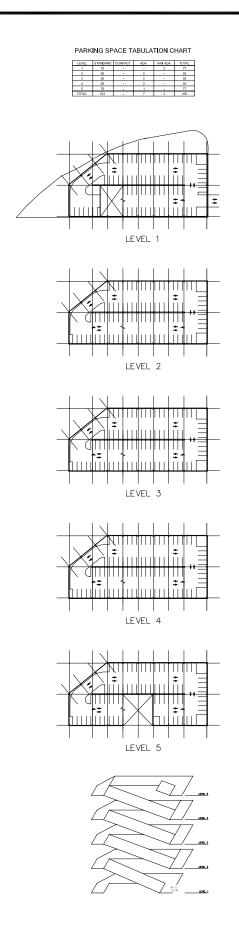












LEVEL	STANDARD	COMPACT	ADA	VAN ADA	TOTAL
- 1	42		- 1	2	45
2	132		2		134
3	132	-	2		134
4	127		2		129
TOTAL	433		7	2	442

