
City of Encinitas Coastal Mobility & Livability Study Parking Study

Draft Report

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1.0 Introduction

The purpose of this study is to evaluate the existing and projected future parking needs along Coast Highway 101 in the communities of Cardiff-by-the-Sea (Cardiff), Downtown Encinitas, and Leucadia, as well as to make subsequent parking recommendations based on community goals and input.

1.1 Project Location

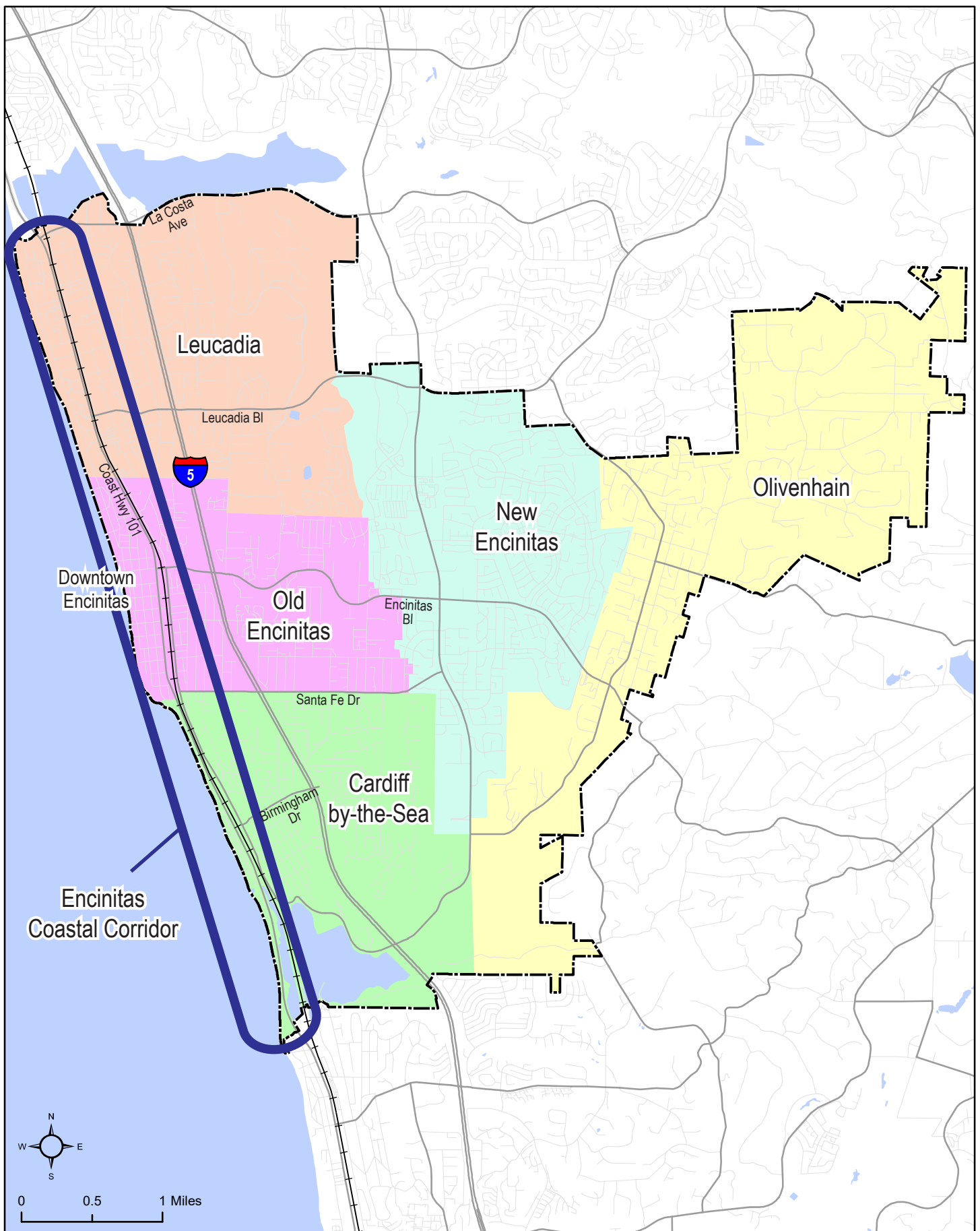
The communities of Leucadia, Downtown Encinitas, and Cardiff are oriented north-to-south, respectively, within the City limits of Encinitas in Northern San Diego County along Coast Highway 101. The City of Carlsbad is located to the north of the study area, while the City of Solana Beach is located to the south. Despite their common incorporation into the City of Encinitas, each of the three communities maintains a unique identity. **Figure 1-1** displays the regional location of Leucadia, Downtown Encinitas, and Cardiff.

1.2 Project Background

The coastal city of Encinitas is a prime entertainment and recreational destination within the San Diego region, and is widely recognized as a quintessential Southern California surf town. The City's status as a regional destination draws year-round tourists and local patrons to each of the three communities within the study area. While bicycling is locally popular, and the San Diego COASTER commuter rail offers regional connectivity, primary mobility in each of the three communities is accomplished via automobile trips, leading to a high demand for parking. This demand, generated by both business and beach traffic, often spills into residential neighborhoods.

To determine the current parking needs and form recommendations for improvements to both the City's parking supply and management, this study will evaluate the current parking conditions within the three communities to provide a full, quantitative and qualitative picture of deficiencies, needs, and issues. Following this introductory chapter, the report is organized as follows:

- **Chapter 2** examines existing parking conditions within the Coastal Corridor community, and documents the parking supply, demand and turnover within the study area.
- **Chapter 3** analyzes the future parking conditions based on expected land use and parking supply changes.
- **Chapter 4** discusses the public outreach efforts and summarizes key results found through a comprehensive series of household, business, and in-person intercept surveys administered to gain a qualitative understanding of the public's perception of issues and needs.
- **Chapter 5** synthesizes the results of each of the above activities to develop a series of recommendations and conclusions for the parking needs within the study area.



Encinitas Coastal Mobility & Livability Study

Figure 1-1
Project Location

2.0 Existing Conditions

This chapter documents the observed parking demand within the Coastal Corridor communities of Cardiff, Downtown Encinitas, and Leucadia. Existing peak and average hourly parking occupancy within coastal Encinitas – spanning between the City’s boundaries with Carlsbad and Solana Beach west of (and including) Vulcan Avenue and San Elijo Avenue, was measured by conducting hourly parking counts during winter and summer seasons. Counts of parked vehicles were collected along all of Coast Highway 101, Vulcan Avenue and San Elijo Avenue for the entire extent of the City. In addition to those corridors, neighborhood streets within the Leucadia and Downtown neighborhoods to the west of Coast Highway 101 and the City-maintained parking lots located at Swami’s Beach, Moonlight Beach and Beacon’s Beach were also counted.

2.1 Parking Occupancy Data Collection Process

Parking Capacity Determination

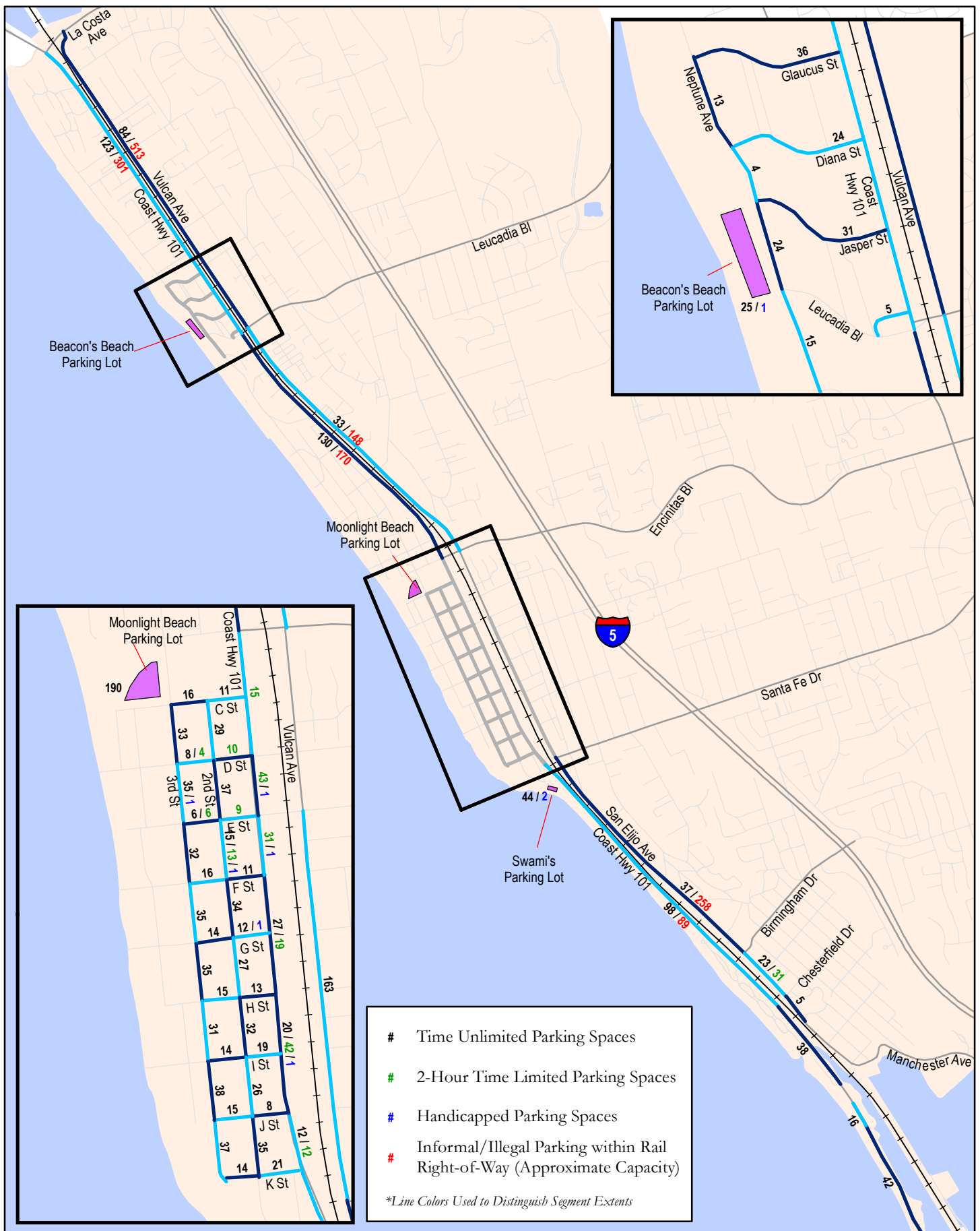
To determine parking occupancy, the parking capacity within the study area was calculated utilizing a combination of aerial imagery interpretation and field verification. **Figure 2-1** shows the extents of the project study area and available parking capacity along each segment. Parking capacity was estimated by counting marked on-street parking stalls, as well as dividing the linear feet of parking frontage along roadway segments at various intervals in locations where no marked parking stalls were found to be present. Interval assumptions were assumed to be 20 feet if a location utilizes parallel parking and 10 feet if a location utilizes head-in parking. Segment measurements with a remainder width were rounded down to the nearest whole parking space. Regularly-used, informal parking areas (not legally-recognized) along unpaved shoulders within the NCTD rail right-of-way were also included in these estimates, since people park there today. Where unmarked parking locations are concerned, the *capacity* total represents a number which assumes the maximum storage of vehicles possible if all vehicles were parked efficiently. Parking capacity and actual available parking *supply* should not necessarily be thought of as the same thing. Parking supply will always be slightly less than parking capacity because vehicles are never parked in the most efficient configuration.

Occupancy Count Methodology

For each season, data was collected on 10 weekdays and 4 weekend days, from 8am to 10pm. Winter data collection took place between February 8 and February 27, 2016, and summer data collection took place between July 24 and August 6, 2016. Every parking location in the study area was visited once per hour over the course of the fourteen-hour period. The occupancies represent a snapshot of that once-per-hour visit. Parked cars were counted by surveyors on foot within Downtown Encinitas west of Coast Highway 101 and by windshield survey in all remaining study locations. Parking occupancy rates were derived by dividing the number of parked cars by the number of parking spaces located on each block. Parking occupancy results are summarized for weekday and weekend by the average hourly totals in the following sections. The peak total represents the hour when the most cars parked throughout the entire study area was observed. The average hourly occupancy totals described in this report consist of the mean parking occupancy during the hours when data collection occurred.

To identify areas in which parking deficiencies currently occur, the observed parking occupancy rates were compared to the practical parking capacity threshold. An occupancy of 85% is generally accepted as an efficient utilization percentage. 85% signifies that the parking supply is well-utilized yet roughly approximates that one parking space will be available per block, meaning visitors will never have to circulate much farther than one block from their destination in search of a place to park. Parking

occupancy significantly over the 85% threshold or at full occupancy is not considered desirable due to the driver delays experienced and caused by searching for an available parking space.



2.2 Winter Season Parking Occupancy

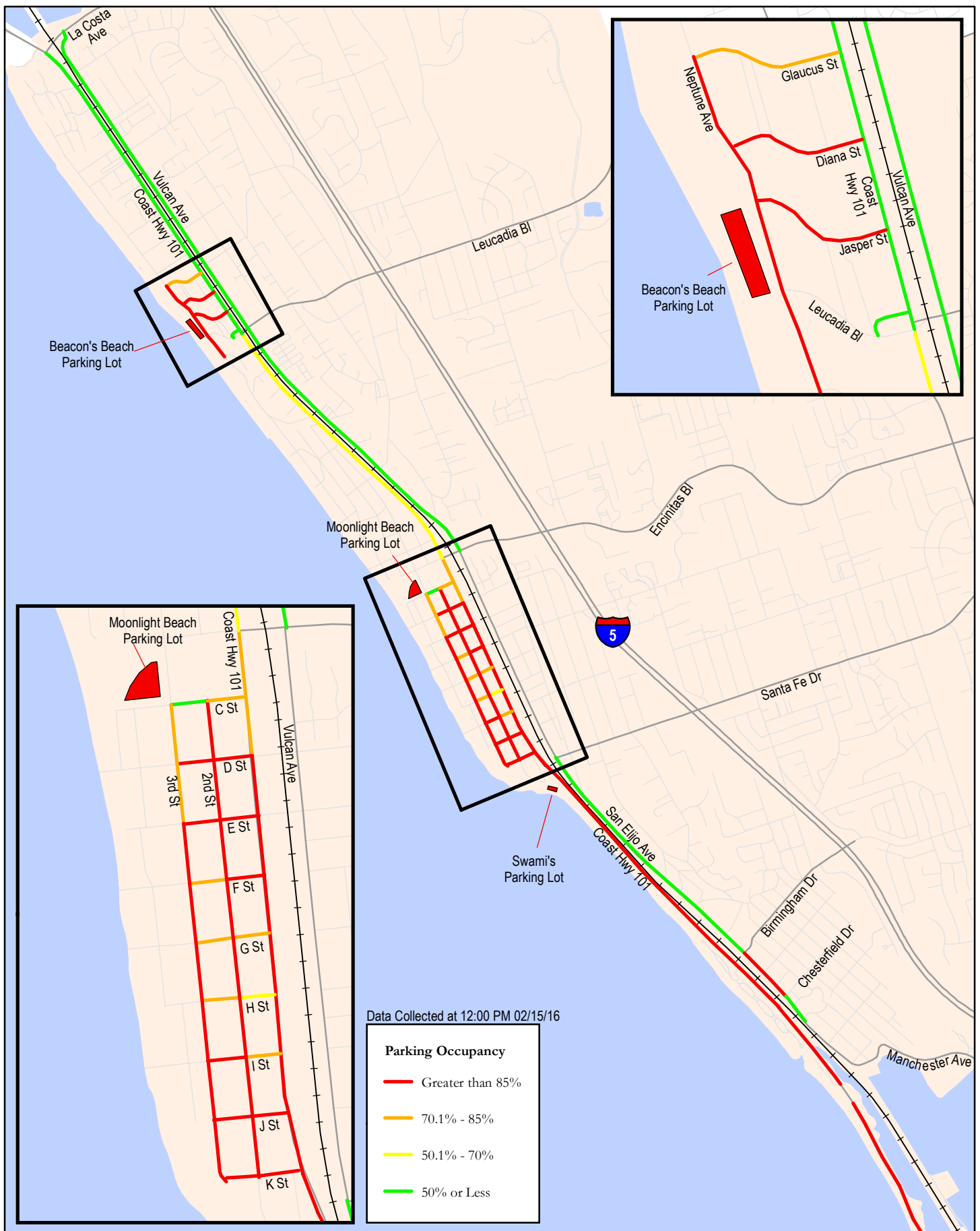
Parking occupancy counts for the winter season were conducted during February 2016.

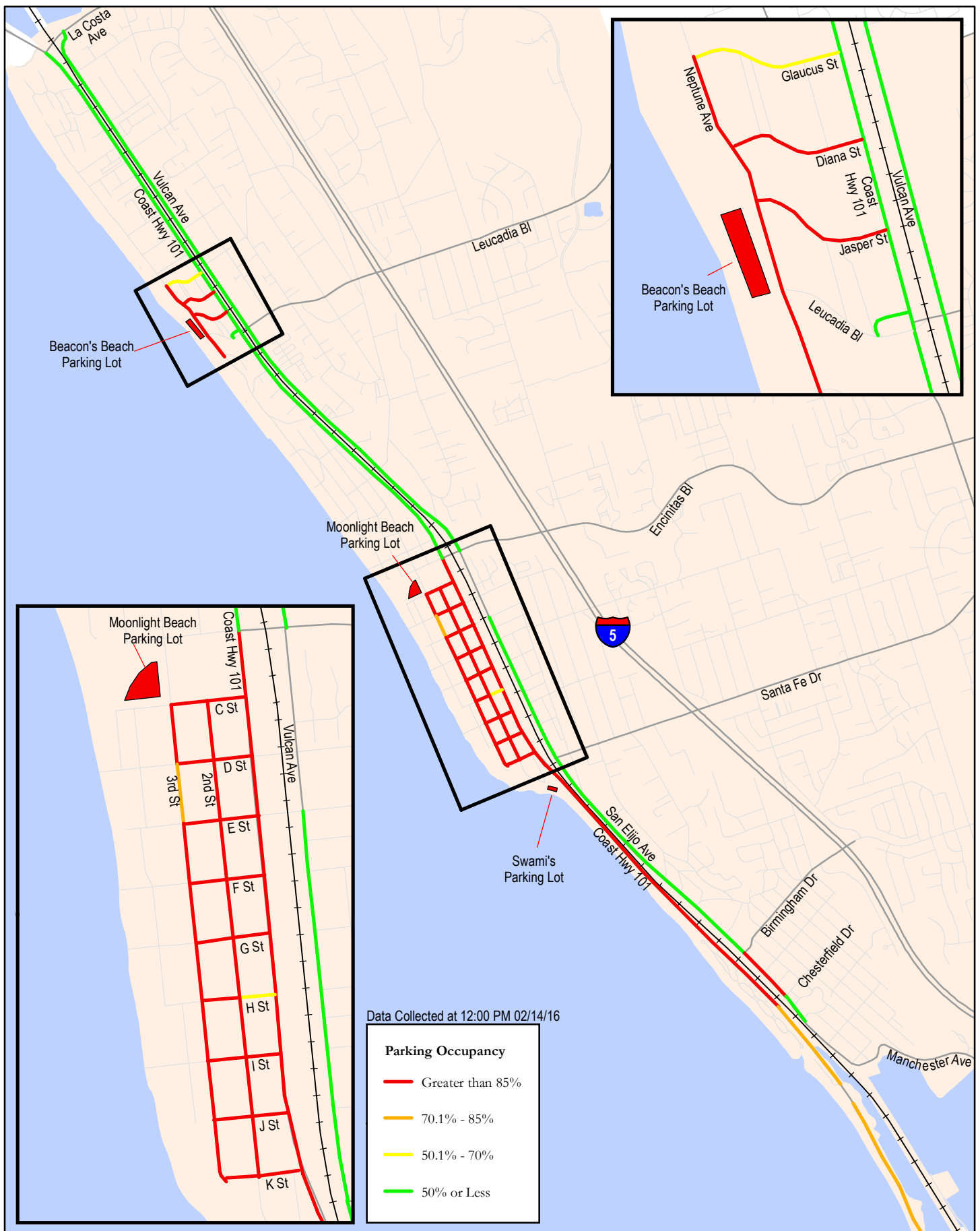
Figures 2-2 & 2-3 displays peak parking occupancy, by block, for the winter season for weekdays and weekends, respectively. These represent the single hour, throughout the entire winter observation period, in which the most cars were found to be parked within the study area. These peaks occurred during the noon hour for both weekday and weekend (Monday, February 15th, and Sunday, February 14th, respectively). Similar conditions were found on both days, as noted below:

- The majority of the on-street parking locations near the beach areas, throughout the City, were observed to be above the practical parking capacity threshold (85% or greater).
- All of Coast Highway 101's on-street parking between Downtown Encinitas and Solana Beach was observed to be above the practical parking capacity threshold. Note: The parking within this area serves several beaches, including Cardiff State beach.
- Almost all of Downtown Encinitas' parking supply west of the rail corridor was also observed to be greater than the practical parking capacity threshold, during the peak; however, some assorted blocks within the Downtown area did have some available parking capacity on the weekday peak.
- Each of the beach parking lots (Swami's, Moonlight and Beacon's) studied were observed to have occupancies above the practical parking capacity threshold during both weekday and weekend peaks.

Figure 2-4 displays average weekday parking occupancy, by block, for the winter season. As shown, most of the blocks throughout the study area are below the practical parking capacity threshold throughout most of the day. There are a handful of segments which were observed to be above the practical parking capacity threshold scattered throughout the study area. However, these areas are typically surrounded by adjacent blocks with lower parking occupancies. Therefore, while some small areas within the study area were observed to be impacted on a daily basis, there are typically adjacent areas that can provide additional supply for the overflow parking demand.

Based on the overall observations, it was found that the study area currently has enough parking to serve its demand throughout a typical weekday in the winter. However, as shown in Figure 2-2, the area does become impacted during peak times (typically in the early afternoon).





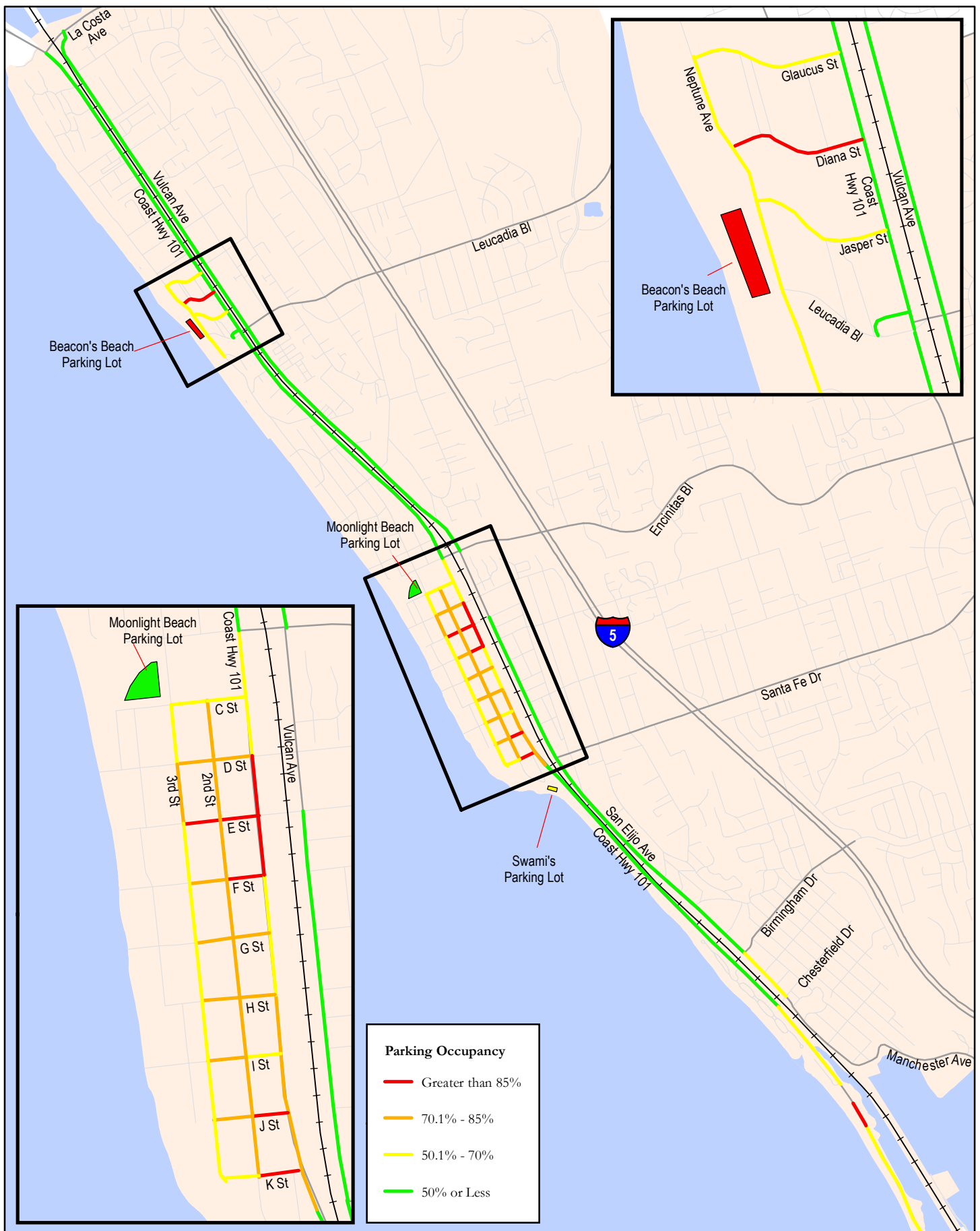


Chart 2-1 presents the average weekday occupancy¹ by hour of day for winter. As shown, the average occupancy steadily rises in the morning until the noon peak average of approximately 60%. After noon, the average occupancy drops below 50% and remains that way for the remainder of the day.

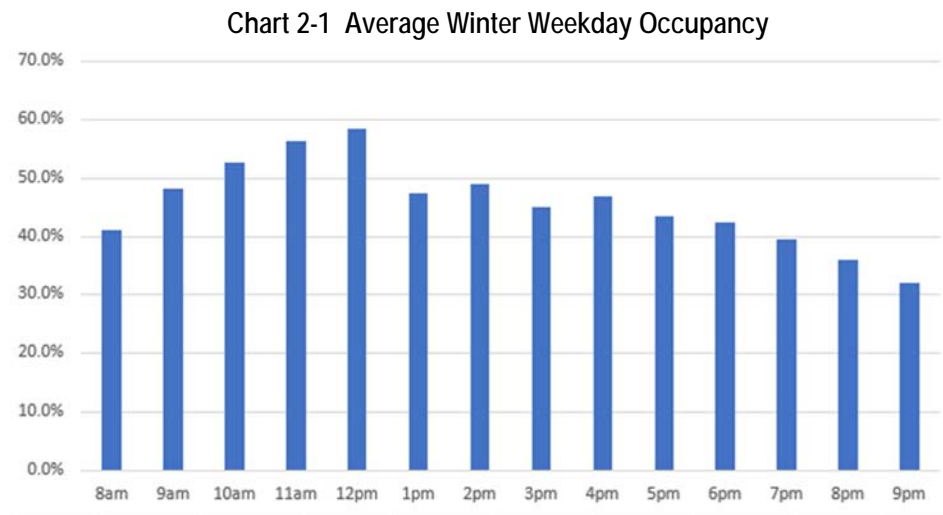


Figure 2-5 displays average weekend parking occupancy, by block, for the winter season. As shown, the beach-adjacent areas have higher average parking occupancies on the weekends. Despite the higher average parking occupancies on the weekends in the winter, the typical occupancy is not above practical parking occupancy outside of peak periods (typically in the early afternoon). Downtown Encinitas average occupancies appear consistent between weekdays and weekends.

Based on the overall observations, it was found that the study area currently has enough parking to serve its demand throughout a typical weekend day in the winter. However, as shown in Figure 2-3, parking throughout the study area does become impacted during the peak periods (typically in the early afternoon).

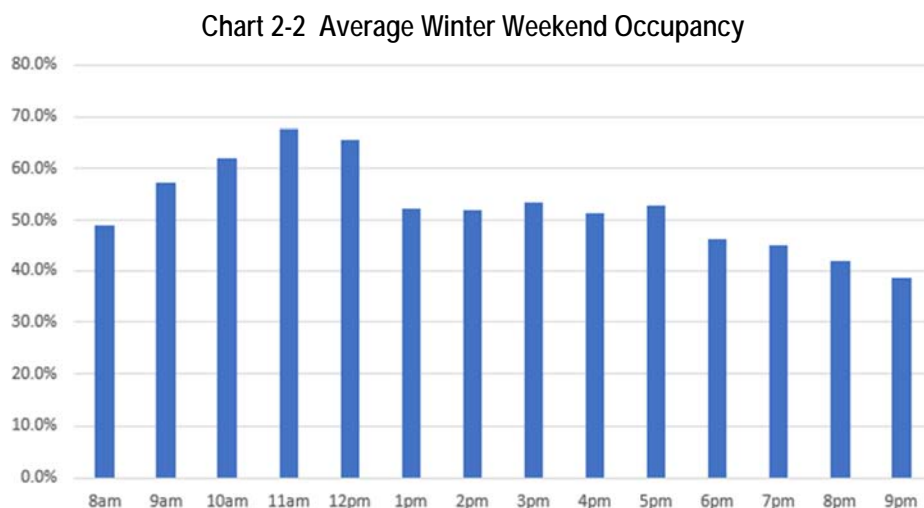
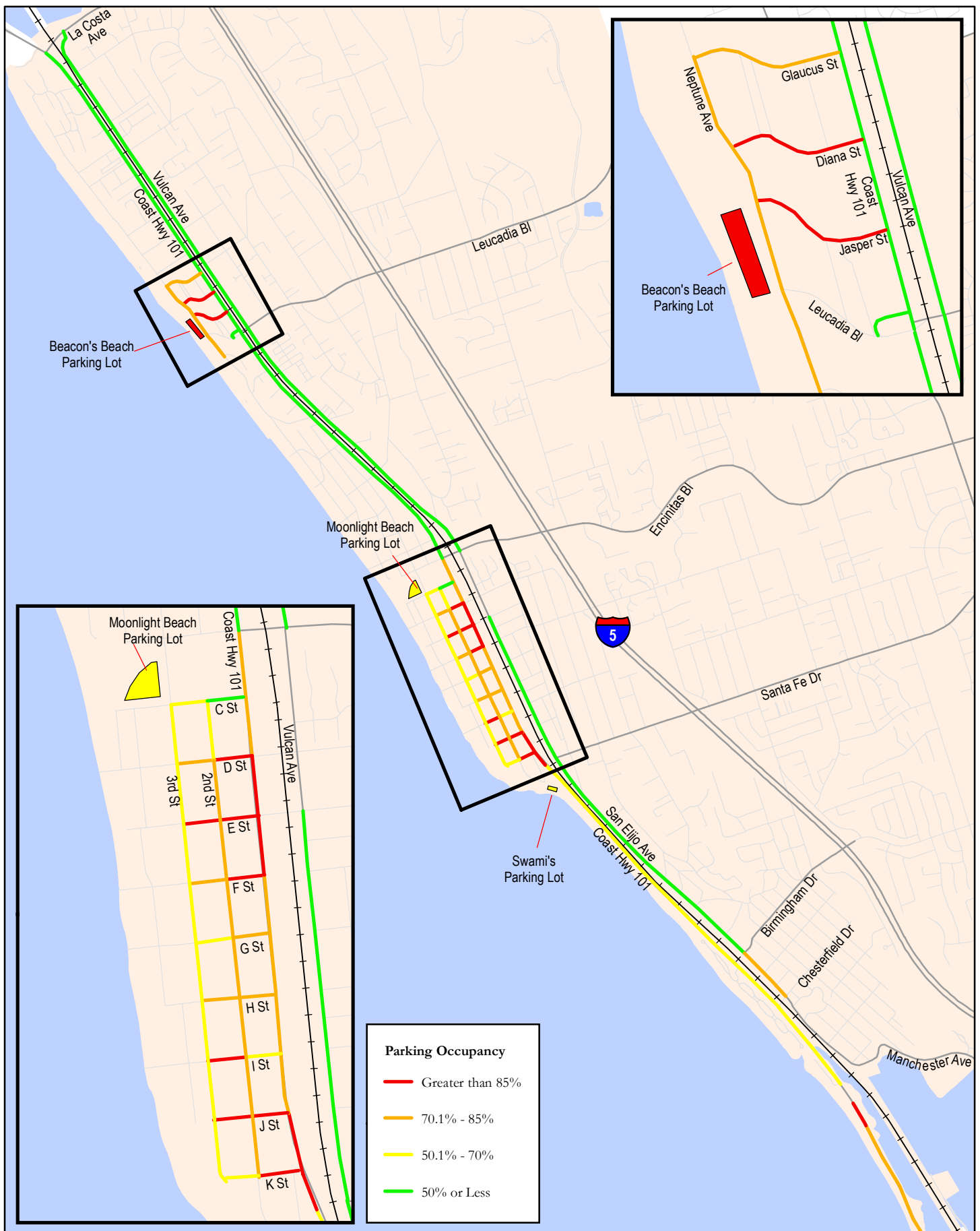


Chart 2-2 presents the average weekend occupancy by hour of day for winter. As shown, the average occupancy steadily rises in the morning until the noon peak of approximately 70%. After noon, the average occupancy hovers around 50% until 6pm.

¹ Occupancy percentage is the number of parked vehicles counted along a segment divided by the parking capacity of the segment



2.3 Summer Season Parking Occupancy

Parking occupancy counts for the summer season were conducted during July and August 2016.

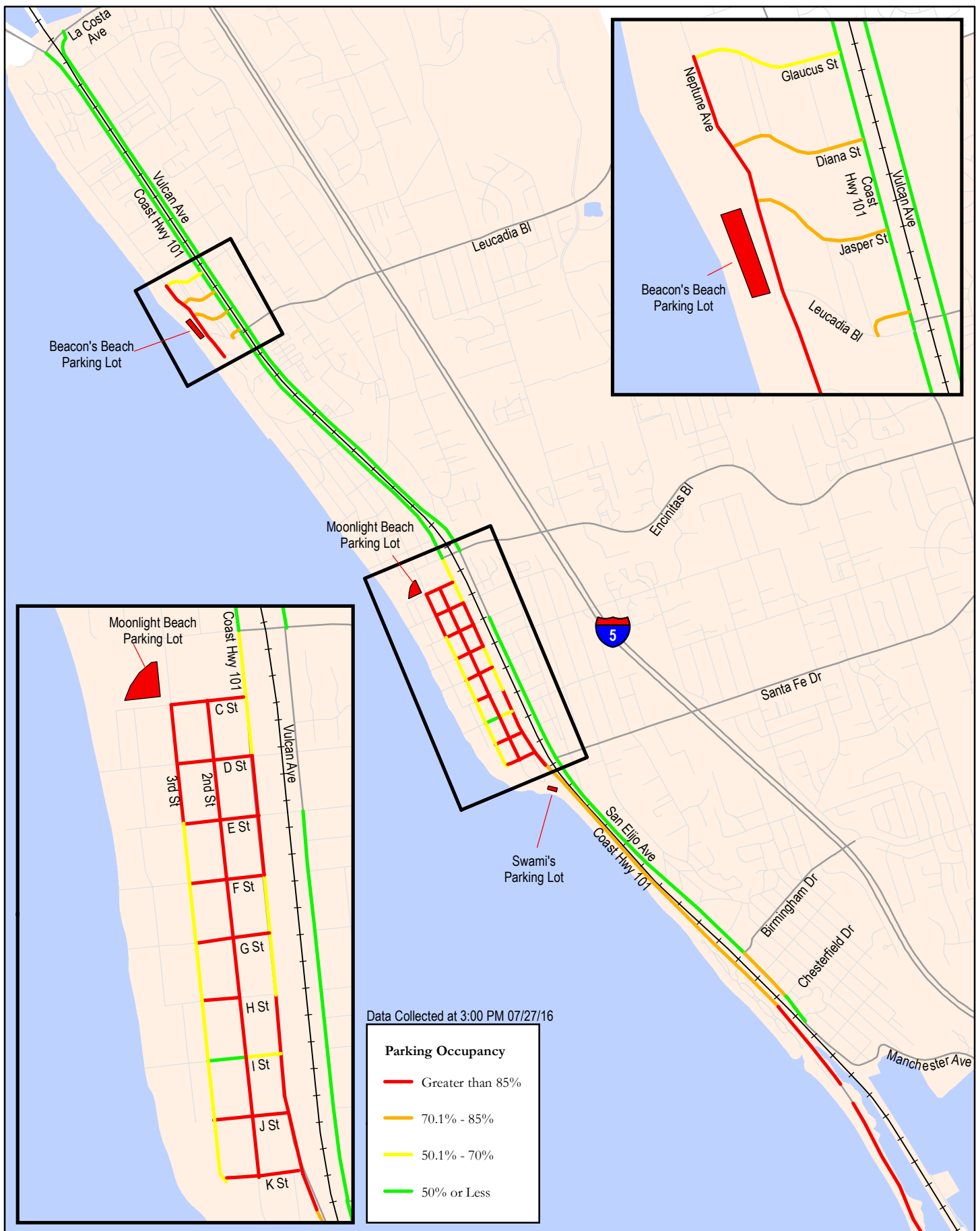
Figure 2-6 displays peak weekday parking occupancy, by block, for the summer season. The weekday peak occurred on Wednesday, July 27th at 3pm. The following observations were made during this period:

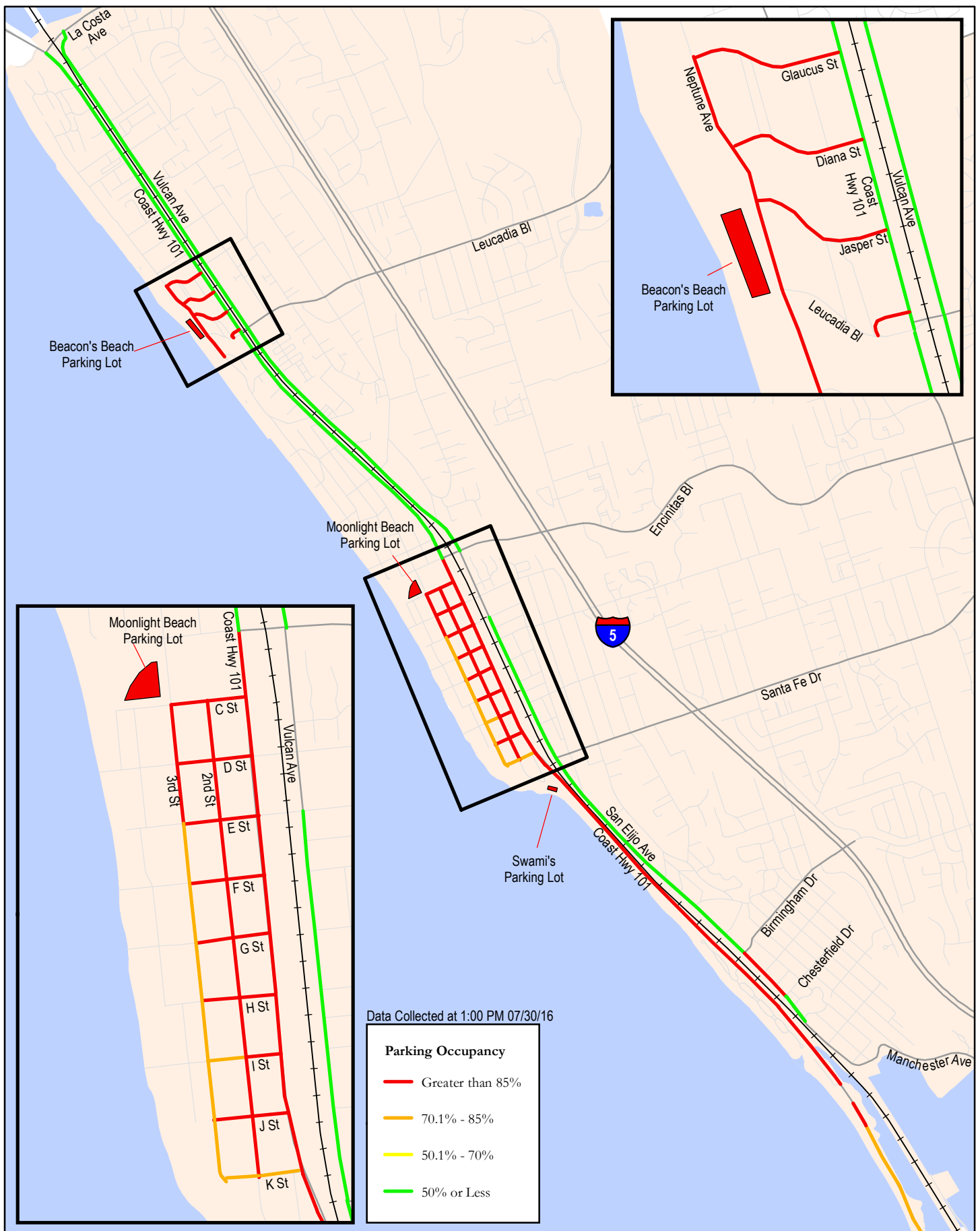
- Much of the on-street parking locations near the beaches were observed to be above the practical parking capacity threshold.
- Downtown Encinitas' parking occupancy was generally observed to be greater than the practical parking capacity threshold during the peak; however, some assorted blocks within the Downtown area were observed to have some available parking capacity.
- Each of the beach parking lots studied were also observed to have occupancies above practical parking capacity threshold during the observed peak hour.

Figure 2-7 displays peak weekend parking occupancy, by block, for the summer season. The weekend peak occurred on Saturday, July 30th at 1pm. The following observations were made during this time period:

- The segments adjacent to the beaches are utilized noticeably more when the weekend peak occurs as compared to weekday.
- Nearly all of Downtown Encinitas' parking supply west of the rail corridor was observed to be greater than the practical parking capacity threshold during the peak; only 3rd Street was observed to have a small amount of available parking.
- Each of the beach parking lots studied were observed to have occupancies above practical parking capacity threshold.

Figure 2-8 displays average weekday hourly parking occupancy, by block, for the summer season. As shown, most of the blocks throughout the study area are below the practical parking capacity throughout the day. However, there are multiple segments scattered throughout the study area in which the average is above the practical parking capacity threshold, although they are surrounded by adjacent blocks with lower parking occupancies. Therefore, while some small areas within the study area were observed to be impacted on a daily basis, there are typically adjacent areas that can provide additional supply for the overflow parking demand.





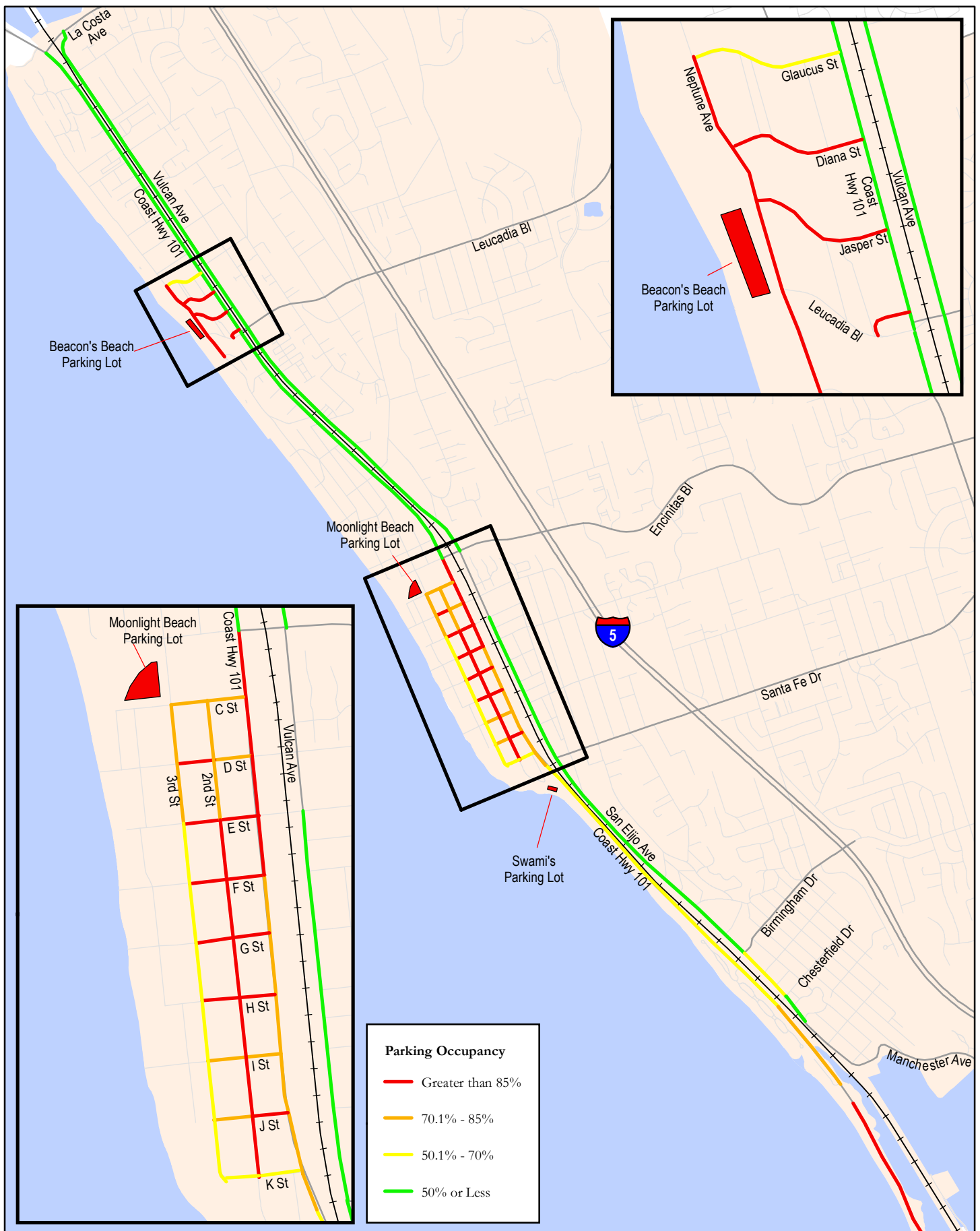
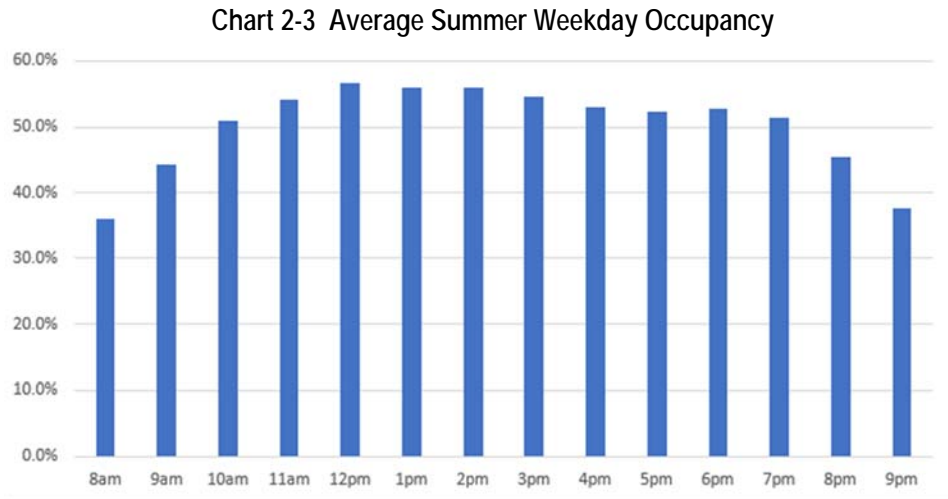


Chart 2-3 presents the average weekday occupancy by hour of day for summer. As shown, the average occupancy steadily rises in the morning until noon, where it peaks at approximately 55%. After noon, the average occupancy remains near the peak until the evening.

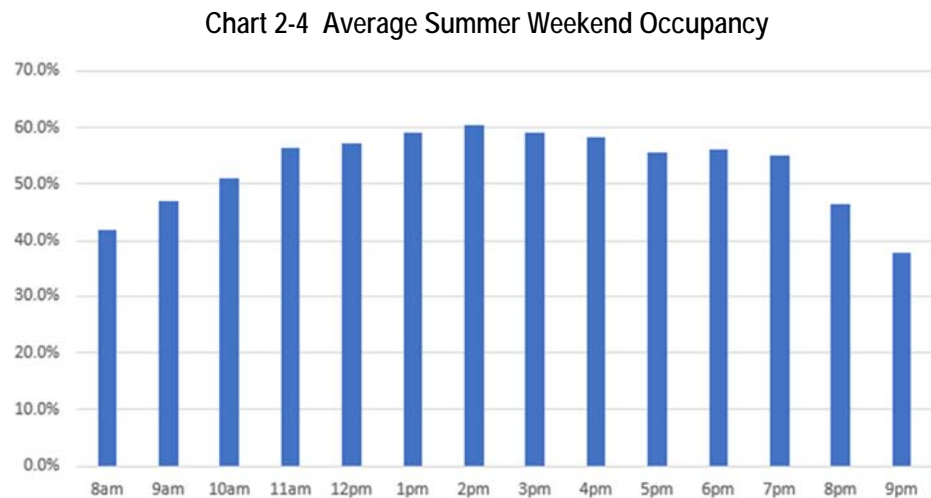


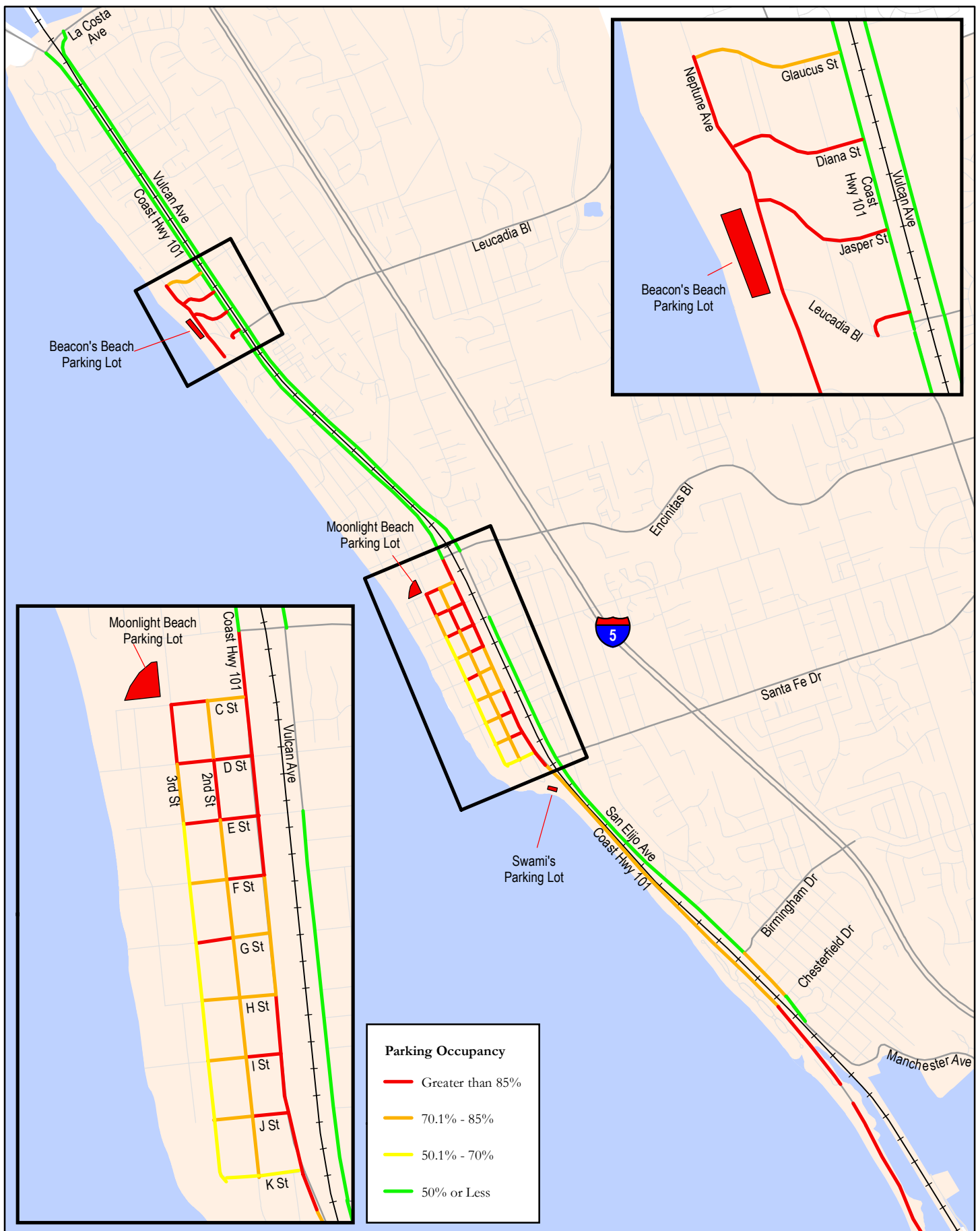
Based on the overall observations, it was found that the study area currently has enough parking to serve its demand throughout a typical weekday in the summer. However, as shown in Figure 2-6, the area does become impacted during peak times (typically in the afternoon).

Figure 2-9 displays average weekend parking occupancy, by block, for the summer season. As shown, there are contiguous segments in the beach-adjacent areas which have average parking occupancies above the practical parking capacity thresholds on the weekends.

Based on the overall observations, it was found that the average occupancy during the summer season was above practical capacity threshold on weekends for numerous segments in the beach-adjacent areas.

Chart 2-4 presents the average weekend occupancy by hour of day for summer. As shown, the highest average occupancy is approximately 60% and that occupancy remains constant for most of the afternoon.



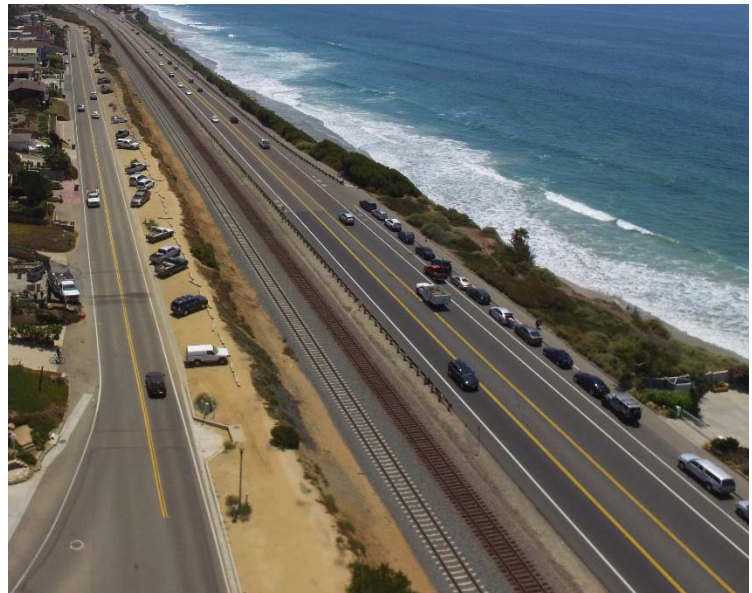


2.4 Parking Turnover

Data Collection Process

Parking turnover was studied in five locations for 10-hour periods, between 8am and 6pm on one weekday and one weekend day each during the winter (Saturday, February 25th and Tuesday, February 28th, 2017) and summer season (Wednesday, July 27th and Sunday, July 31st, 2016). A drone mounted with a camera (operated by a technician in the field) was used to photograph the locations being studied hourly on the day of data collection. The images were reviewed and parking turnover was interpreted based on identifying the parked vehicles in the photographs. Parking turnover data was collected at the following locations:

- North Coast Highway 101 (Leucadia) between Europa Street and Cadmus Street
- Vulcan Avenue (Leucadia) between 450' south of Leucadia Boulevard and 1,100' north of Union Street
- South Coast Highway 101 (Downtown Encinitas) between D Street and F Street
- South Coast Highway 101 (Cardiff) between the Swami's parking lot driveway and 750' south of the Swami's parking lot driveway
- San Elijo Avenue (Cardiff) 500' on either side of Cornish Drive



Example of a drone Picture taken for turn-over surveys – Cardiff area



Example of a drone Picture taken for turn-over surveys – Downtown Encinitas

The roadways studied within both Leucadia and Cardiff consist of two adjacent, parallel roads on opposite sides of the railroad tracks. Some portions of the Leucadia and Cardiff locations also consist of informal parking areas along unpaved shoulder near the rail right-of-way. Three high demand parking locations along Coast Highway 101 in Downtown Encinitas, Leucadia and Cardiff were all selected for turnover observation due to their presence next to major attractions – the beaches in Leucadia and Cardiff, and the retail district in Downtown Encinitas. Within Cardiff and Leucadia, turnover was also observed on the east side of the rail along Vulcan Avenue (Leucadia) and San Elijo Avenue (Cardiff) and the NCTD rail right-of-way to assess how parking behaviors are different from the segments of Coast Highway 101 on the opposite side of the rail. The east of rail locations along Vulcan Avenue and San Elijo Avenue contain adjacent residential land uses and serve as additional parking supply for beach visits.

Winter Season Parking Turnover

Table 2-1 shows parking turnover observations for weekday (February 28th) and weekend (February 25th) winter data collection period. Indicators shown include: ratio of total vehicles observed² to spaces, and mean and median length of stay. Parking occupancy averages for the segment are also shown.

Table 2-1 Winter Parking Turnover Observations

Block Face Segment and Side of Street	Number of Parking Spaces	Observation Period	Total Vehicles Observed	Total Vehicles Observed to Parking Space Ratio	Mean Length of Stay (Hours)	Median Length of Stay (Hours)	Average Occupancy	Occupancy at Peak
Coast Highway 101 – Leucadia Area	44	Weekday	69	1.6	2.8	2	26%	46%
		Weekend	79	1.8	2.0	1	27%	39%
Vulcan Ave – Leucadia Area	41	Weekday	24	0.6	4.9	3	22%	100%
		Weekend	17	0.4	6.3	6	24%	52%
Coast Highway 101 – Downtown Encinitas	76	Weekday	359	4.7	1.5	1	92%	100%
		Weekend	345	4.5	1.5	1	93%	100%
Coast Highway 101 – Cardiff Area	29	Weekday	124	4.3	1.9	1	42%	100%
		Weekend	147	5.1	1.8	1	72%	100%
San Elijo Ave – Cardiff Area	38	Weekday	88	2.3	2.0	1	21%	49%
		Weekend	154	4.1	1.8	1	33%	75%

Source: Chen Ryan Associates (2017)

The Coast Highway Downtown and Coast Highway Cardiff area locations experienced the highest number of unique visitors and shortest lengths of stay. Parking along Coast Highway 101 in Downtown Encinitas is limited to 2-hours. The parking time limits are in place to generate turnover to allow a greater number of visiting motorists to access the businesses than would be able to otherwise. The Coast Highway Cardiff segment is near Cardiff State Beach and Swami's Beach Access, which is a significant local and regional attraction. Beach visitors do not turn-over as frequently as retail, however their stays are likely to be shorter than a parked commuter or resident.

² Total vehicles observed refers to the number of unique vehicle visits counted over the entire 10-hour data collection period.

The lowest turnover activity was observed along Vulcan Avenue in Leucadia. This location is adjacent to residential and non-retail employment land uses, neither of which generate frequent turnover. No retail land uses are present near this location. The Vulcan Avenue location does not typically hit critical occupancies, therefore low turnover at this location does not create parking problems.

Summer Season Parking Turnover

Table 2-2 shows parking turnover observations for summer weekday (July 27th) and weekend (July 31st) data collection period.

Table 2-2 Summer Parking Turnover Observations

Block Face Segment and Side of Street	Number of Parking Spaces	Observation Period	Total Vehicles Observed	Total Vehicles Observed to Parking Space Ratio	Mean Length of Stay (Hours)	Median Length of Stay (Hours)	Average Occupancy	Occupancy at Peak
Coast Highway 101 – Leucadia Area	44	Weekday	114	2.6	1.8	1	36%	47%
		Weekend	77	1.8	2.2	1	27%	43%
Vulcan Ave – Leucadia Area	41	Weekday	70	1.7	2.1	2	28%	43%
		Weekend	16	0.4	7.1	10	27%	39%
Coast Highway 101 – Downtown Encinitas	76	Weekday	539	7.1	1.2	1	93%	100%
		Weekend	482	6.3	1.5	1	95%	100%
Coast Highway 101 – Cardiff Area	29	Weekday	117	4.0	2.1	2	69%	100%
		Weekend	128	4.4	1.8	1	77%	100%
San Elijo Ave – Cardiff Area	38	Weekday	118	3.1	2.1	2	21%	39%
		Weekend	114	3.0	1.7	1	26%	54%

Source: Chen Ryan Associates (2017)

The Coast Highway 101 in Downtown Encinitas experienced the highest number of unique visitors and shortest lengths of stay during the summer observation periods. The number of unique cars counted on summer weekday was nearly 200 higher than the winter weekday observation period. The Coast Highway Cardiff, San Elijo Avenue and Coast Highway Leucadia locations all featured a similar range of mean length of stays, between 1.7 and 2.2 hours. Each of these segments are close to beaches. The lowest turnover activity was Vulcan Avenue in Leucadia, where land uses are primarily residential and non-retail employment.

3.0 Future Parking Conditions

This chapter documents the estimated future parking demand for the same study area analyzed under existing conditions. To determine future parking demand, three factors were taken into consideration:

1) changes in the parking capacity within the study area as a result of potential projects that could affect changes to the current public parking supply, 2) parking occupancy data collected from existing conditions, and 3) new parking demand associated with the potential land use changes within the study area based upon the Encinitas General Plan and other relevant specific plan documents. Designs for the following projects were reviewed and new parking supply totals along effected segments within the project study area were counted:

- The North Coast Highway 101 Streetscape Project, which alters the supply of parking along North Coast Highway 101 between La Costa Avenue and Encinitas Boulevard
- The Coastal Rail Trail Encinitas/Cardiff segment, which alters the supply of parking along Vulcan Avenue and San Elijo Avenue between E Street and Chesterfield Drive.

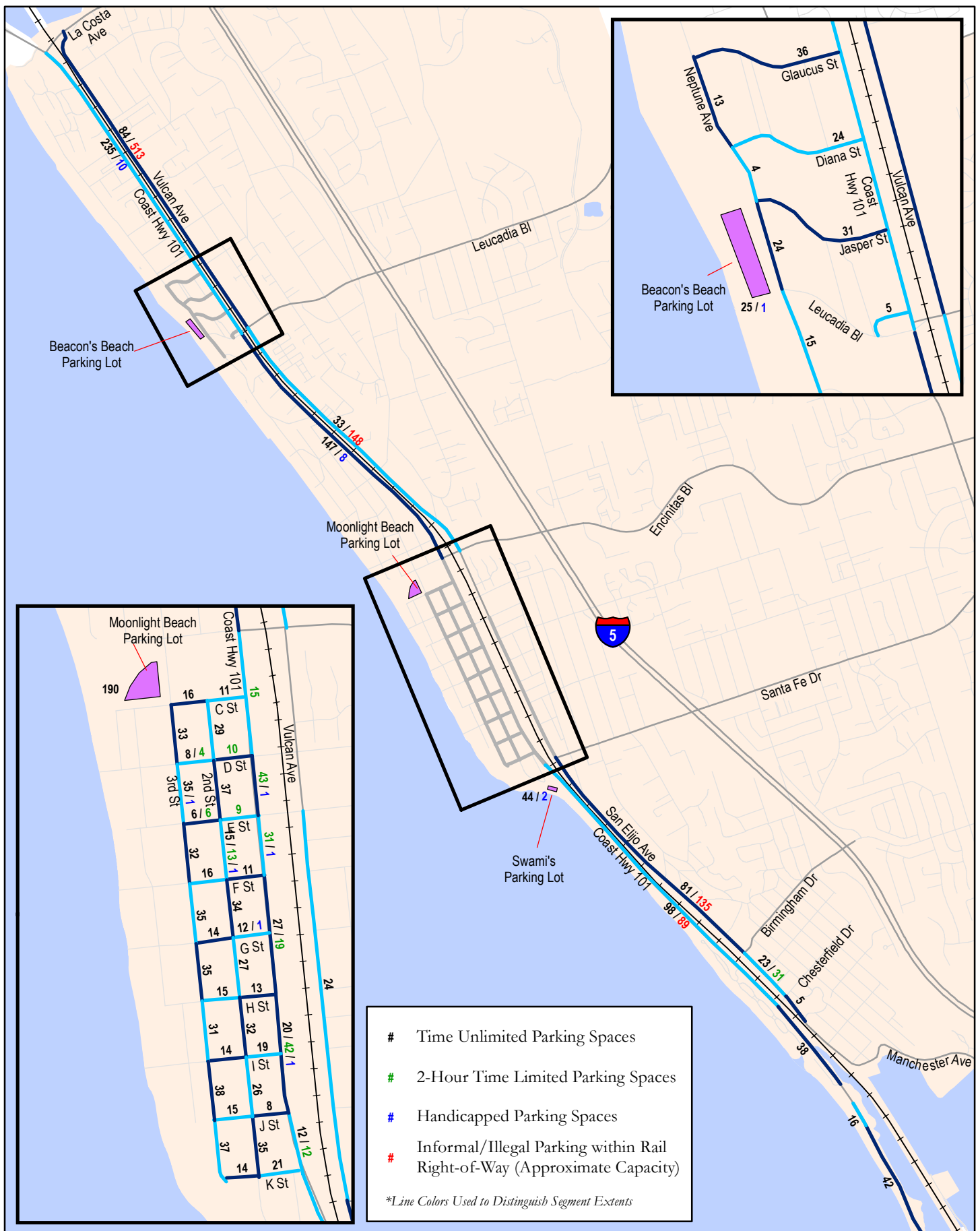
The Downtown Encinitas Specific Plan, Cardiff Specific Plan, North 101 Corridor Specific Plan, and the potential South Coast Highway 101 bike path on west side of rail right-of-way between Swami's Parking Lot driveway and Chesterfield Drive were also reviewed but were found not to affect the City's existing parking supply.

3.1 Future Parking Occupancy Data Extrapolation Process

Future Parking Capacity Determination

For locations within the project study area where no physical changes to the roadway impact the existing parking supply, the same parking capacity totals from existing conditions were carried over to future conditions. For locations within the study area where a potential project is known to affect changes to the existing parking supply, future parking capacity was determined by referring to the design documents associated with the known projects and determining the change in public parking spaces that will be associated with the project.

Figure 3-1 shows the future available parking capacity along each segment within the study area. **Figure 3-2** shows where the changes in the parking capacity are projected to occur. As shown, most of the effected parking capacity is taken from the informal/illegal parking within the NCTD rail right-of-way (approximately 594 spaces throughout the study area). The largest impacts to formal/legal parking spaces takes place on Vulcan Avenue between E Street and Santa Fe Drive, where approximately 139 on-street parking spaces will be removed due to the installation of Class II Bike Lanes, which is a component of the planned Coastal Rail Trail project. Coast Highway 101 between La Costa Avenue and Encinitas Boulevard will lose an existing capacity of approximately 324 informal/illegal spaces due to the improvements included in the Leucadia Streetscape project. This loss is associated with the closure of access to the NCTD rail right-of-way, which is used informally/illegally for parking. However, this roadway will receive an increase of 147 formal parking spaces as a result of the project. Likewise, San Elijo Avenue between Santa Fe Drive and Birmingham Drive will experience a net loss in parking capacity from the planned Coastal Rail Trail project due to the removal of access to a large stretch of informal/illegal parking along the rail right-of-way; however, this segment will receive an increase of 44 formal on-street parking spaces as a result of the project.





Land Use Changes Projecting Future Growth

Future parking demand was determined by applying a growth factor to the existing parking demand, calculated based on the currently assumed future land use changes within the City of Encinitas General Plan, as well as other relevant specific plan documents. Parking generation rates for each land use was obtained from Institute of Transportation Engineer's (ITE) *Parking Generation Manual 4th Edition*. **Table 3-1** shows existing and future land uses within the 26 Traffic Analysis Zones (TAZs) overlapping with the project study area and their associated parking generation rates. TAZs are small geographic units approximately the size of census block groups used in transportation modeling. Land uses which have zero or negligible parking generation, such as agriculture or communications and utilities, are excluded from this table.

Table 3-1 Land Uses and Parking Generation

Land Use	Existing Quantity	Future Quantity	Unit	Parking Generation Rate	Existing Parking Generation	Future Parking Generation
Active Park	40.8	40.8	acres	2.8/acre	114.2	114.2
Elementary School	601	602	students	0.17/student	102.2	102.3
General Commercial	251.5	535.2	ksf ³	4.1/ksf	1,031.2	2,194.2
Hotel/Motel	168	299	rooms	0.89/room	149.5	266.1
Low-Rise Office	144.6	87.0	ksf	2.84/ksf	410.7	247.1
Multi-Family/Mobile Home	2,492	2,191	du	1.23/du	3,065.2	2,694.9
Pre-School	315	186	students	0.24/student	75.6	44.6
Single-Family Residential	2,325	3,272	du	1.83/du	4,254.8	5,987.8
Total Parking Generation					9,203.3	11,651.4
Growth Factor (Future Parking Generation / Existing Parking Generation)					1.27	

Source: Chen Ryan Associates (2017)

As shown, the future parking generation is projected to increase by 27%. The growth rate of 27% represents a planning worst-case scenario. The assumption does not factor that future constructed land uses will have varying peak activity times, which would stagger, rather than concentrate during a single time of the day. It also does not assume that future land uses would provide off-street parking to serve their own uses.

To estimate future parking demand within the study area, a growth factor of 1.27 was applied to the peak and average parking occupancies from all of the existing conditions scenarios. The projected future parking demand totals were then divided by the future parking supply totals, on each corresponding segment, to calculate future parking occupancy projections.

The application of the growth factor will lead to instances where future parking demand will exceed supply along some segments. Where this occurs, it should be assumed that some or all of the excess parking demand from the over-capacity segments will filter to segments with available capacity that are within close walking distance.

³ ksf – thousand square feet

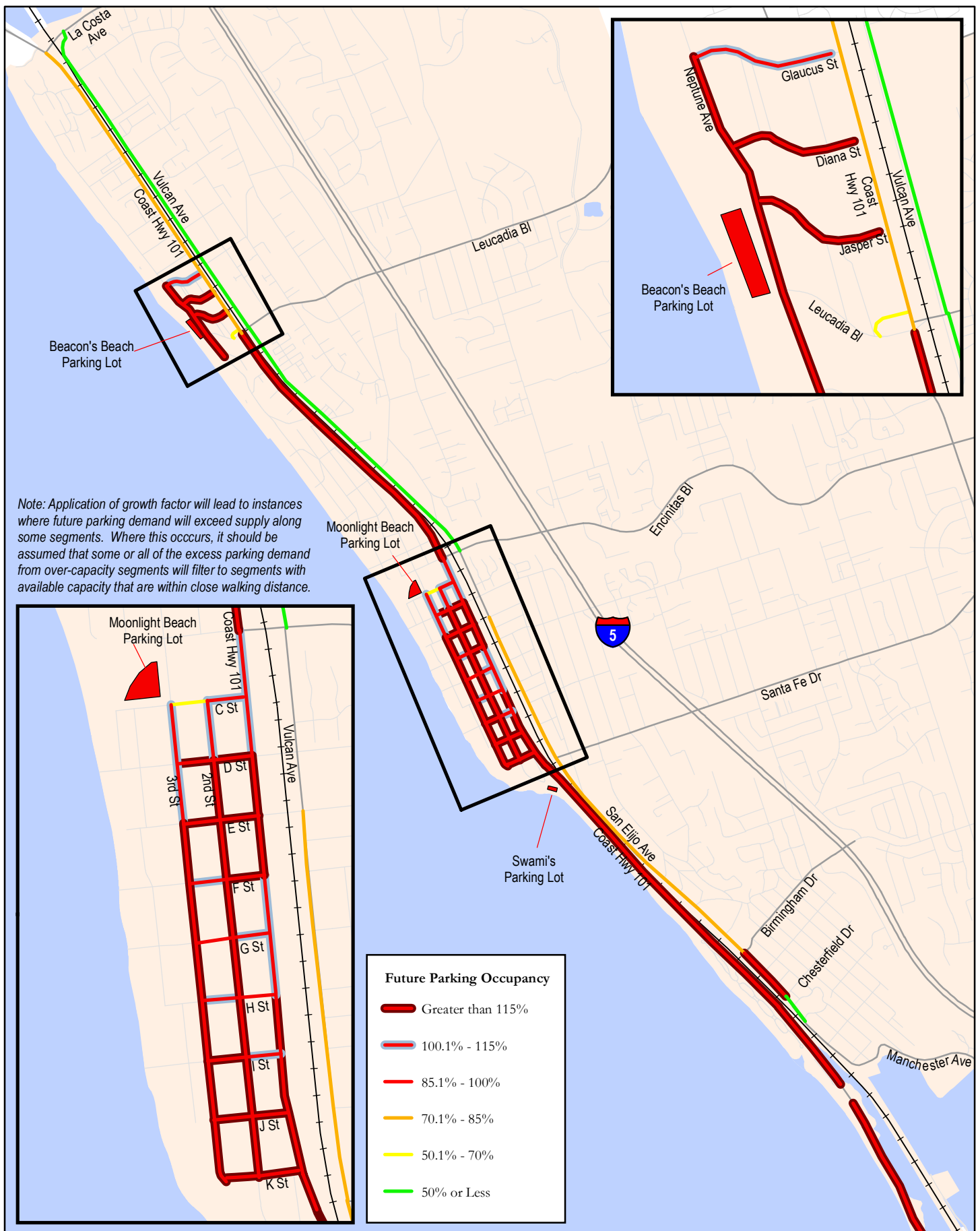
3.2 Future Winter Season Parking Occupancy

Figures 3-3 and 3-4 display the projected future peak period parking occupancy, by segment, during the winter season for weekdays and weekends, respectively. These represent estimated occupancies grown by a factor of 1.27 from the existing winter weekday and weekend peak (noon hour), as described in Section 2.2.

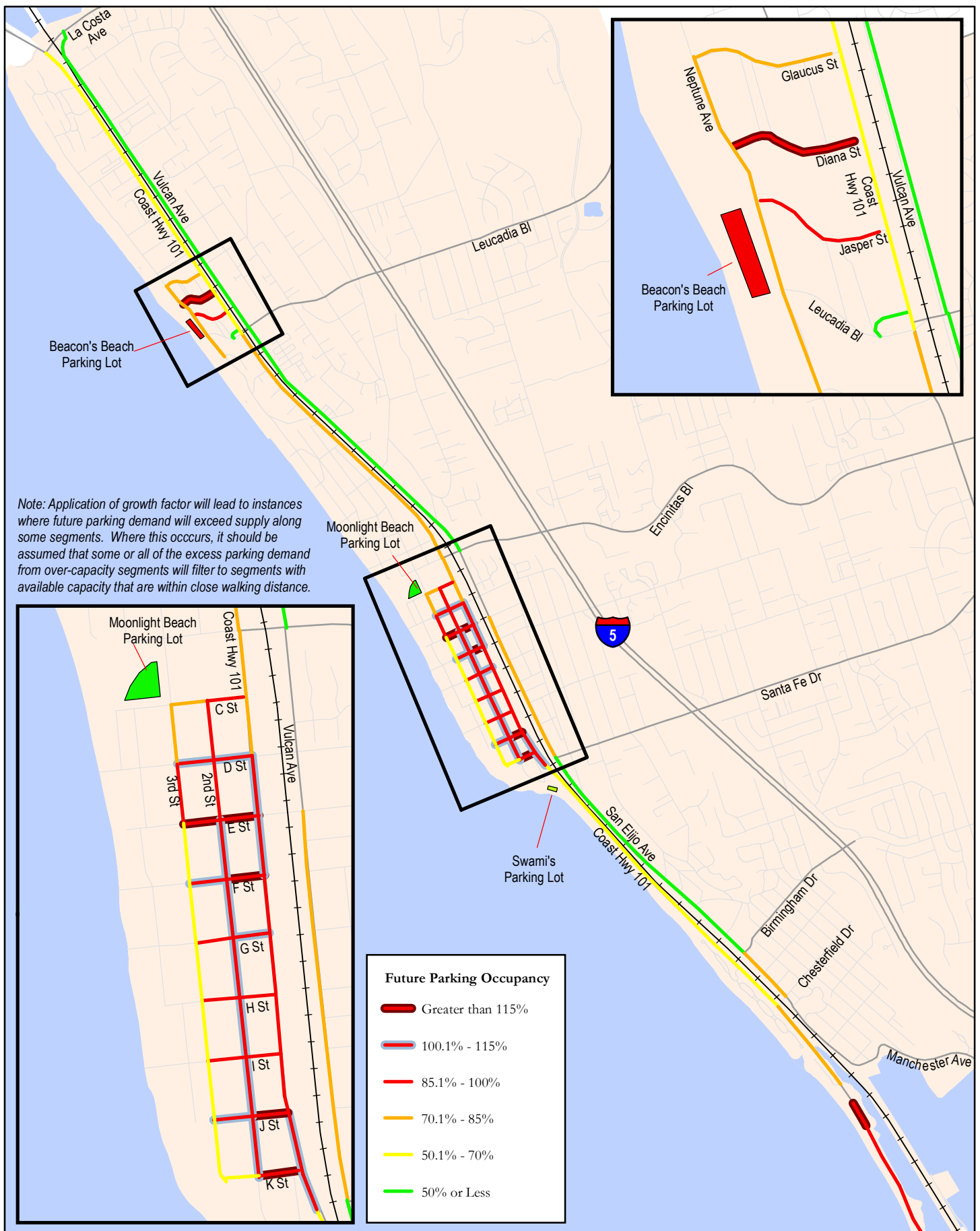
As shown, all parking areas west of the NCTD rail right-of-way except for portions of North Coast Highway 101 in Leucadia are projected to be above practical parking capacity threshold (85%) and most of those segments are projected to show parking demand well in excess of future supply (greater than 115% of the future parking supply). Based on the projected future parking demand, segments with greater than 115% occupancy are predicted to have a severe shortage of parking under future conditions. And in these cases, excess parking demand from the over-capacity segments will filter to segments with available capacity that are within close walking distance.

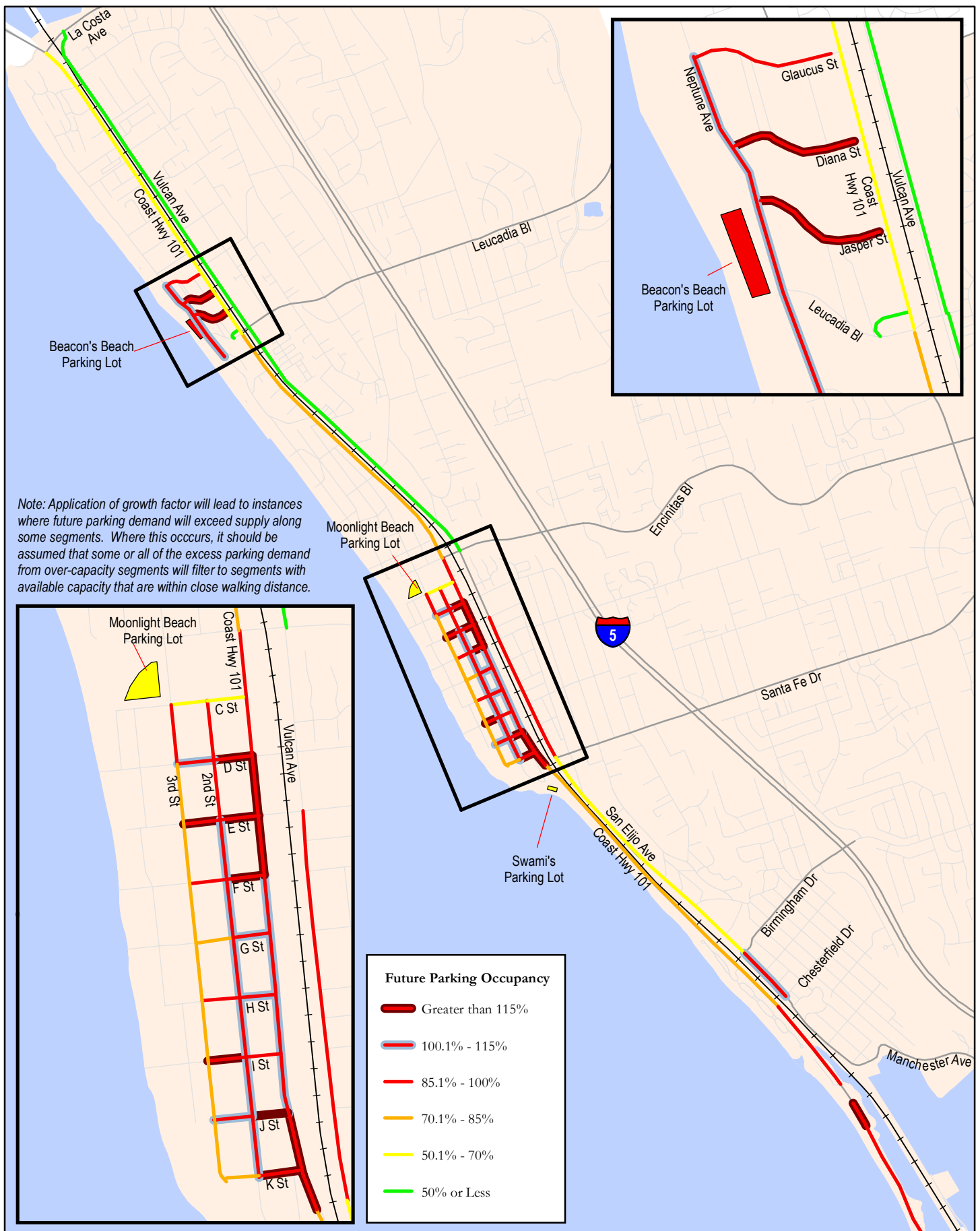
Figures 3-5 and 3-6 display average weekday and weekend parking occupancy, by segment, for the winter season for weekdays and weekends in the future, respectively. As shown, much of Downtown Encinitas is projected to be above practical parking capacity threshold on average throughout the day, while most other parts of the Coastal Corridor are below the practical parking capacity threshold. There are a few short segments which are projected to have demand well in excess of supply throughout the day though neighboring blocks provide some available capacity.

Based on the overall observations, it was found that much of the study area will not have enough parking to handle the peak periods during the winter. Some portions of Downtown Encinitas will be above practical capacity threshold throughout the day. And in these cases, excess parking demand from the over-capacity segments will filter to segments with available capacity that are within close walking distance.









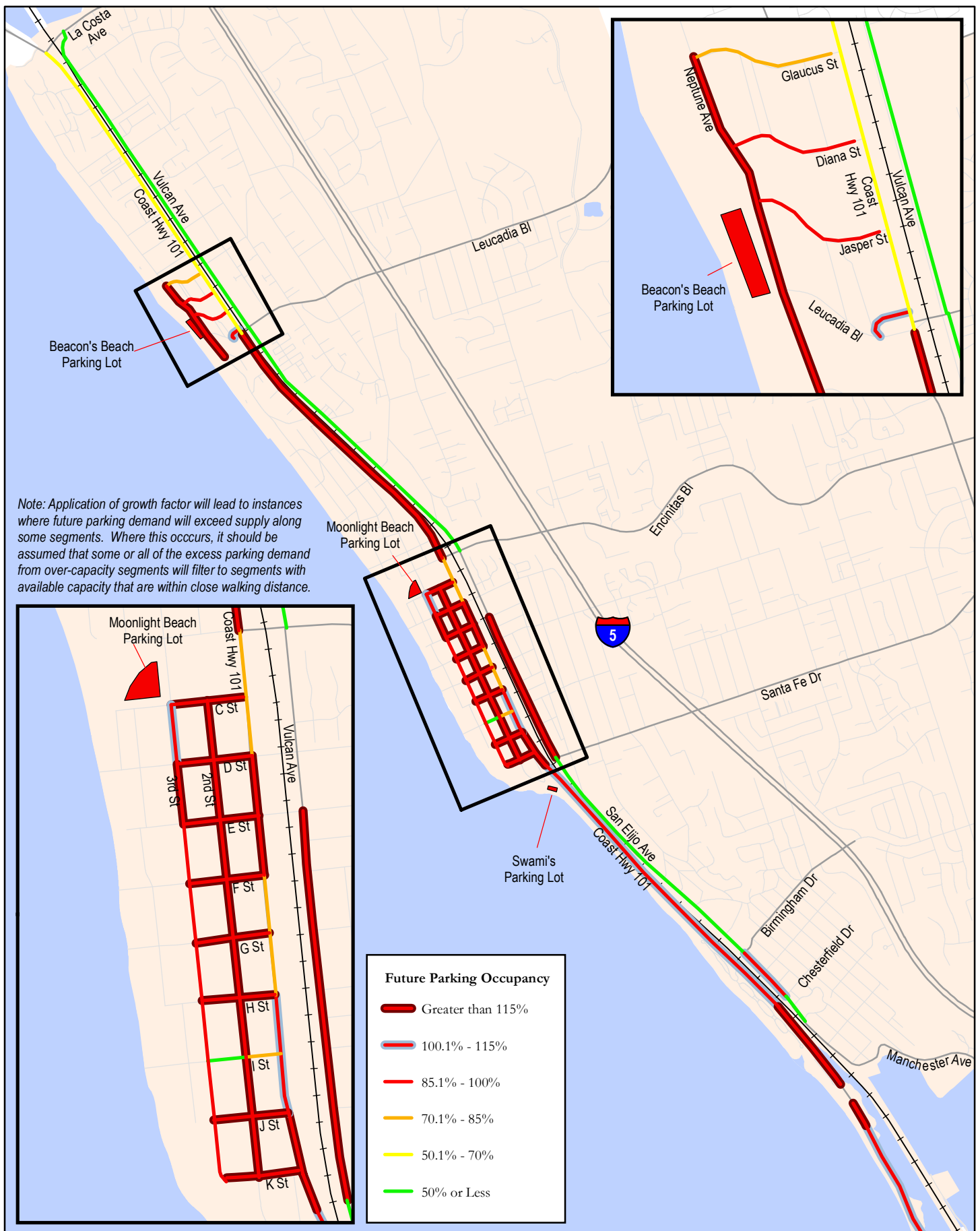
3.3 Future Summer Season Parking Occupancy

Figures 3-7 and 3-8 display projected future peak period parking occupancy, by segment, during the summer season for weekdays and weekends, respectively. These represent estimated occupancies grown by factoring the existing summer weekday and weekend peak (noon hour), as described in Section 2.3.

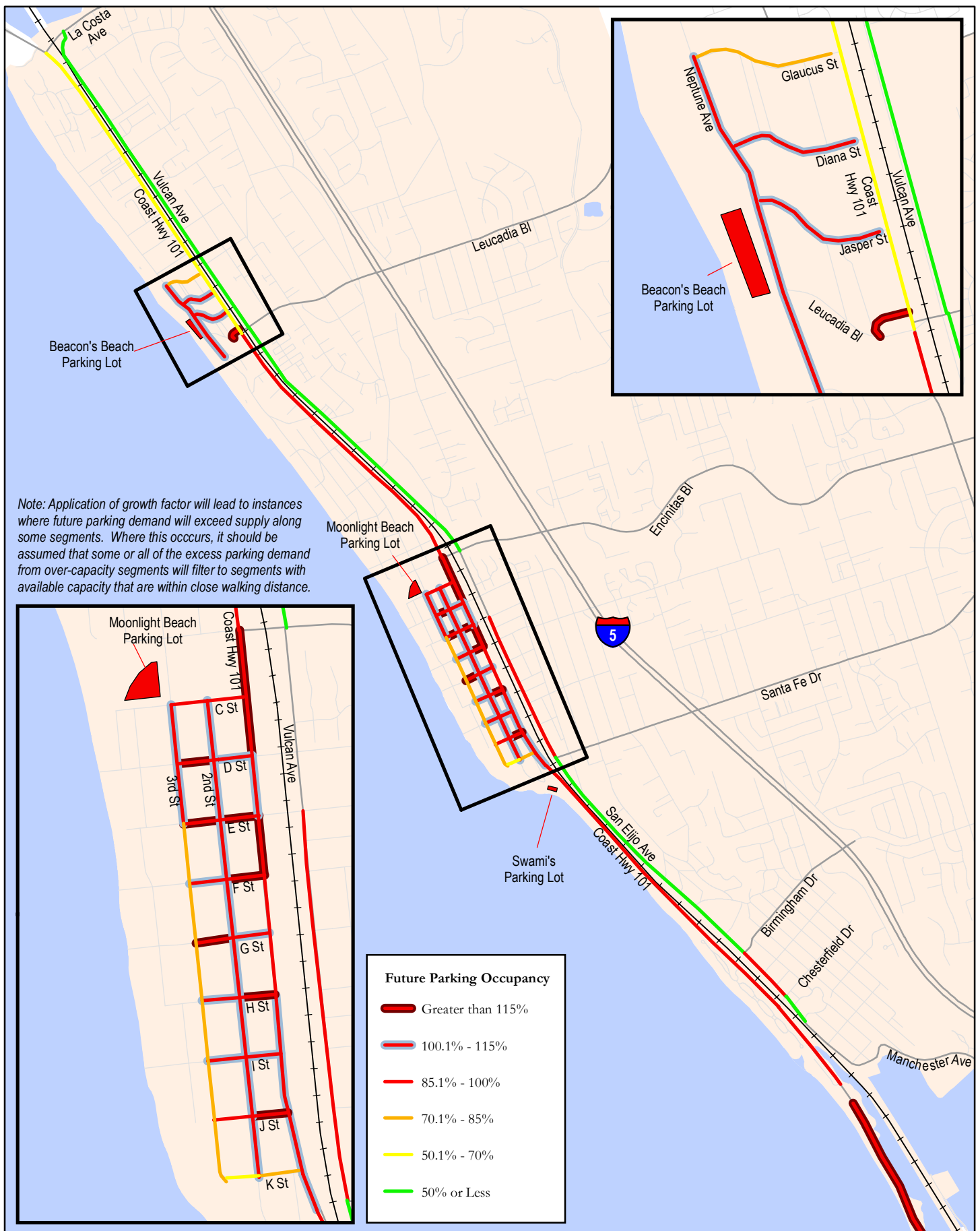
As shown, the vast majority of the parking supply west of the NCTD rail right-of-way is projected to be above practical parking capacity threshold (85%), except for Coast Highway 101 between La Costa Avenue and Leucadia Boulevard. During the weekday summer peak, many segments within Downtown Encinitas, are projected to experience parking demand well in excess of future supply (greater than 115% of the future parking supply). During the weekend summer peak, nearly all of Downtown Encinitas is estimated to be above 115% occupancy. Parking occupancy is projected to exceed supply throughout Leucadia (west of the NCTD right-of-way) except for Coast Highway 101 between La Costa Avenue and Leucadia Boulevard, which is projected to have some available capacity during the summer weekend peak. Based on the projected future parking demand, segments with greater than 115% occupancy are predicted to have a severe shortage of parking. And in these cases, visitors will often be willing to park and walk further from their destination.

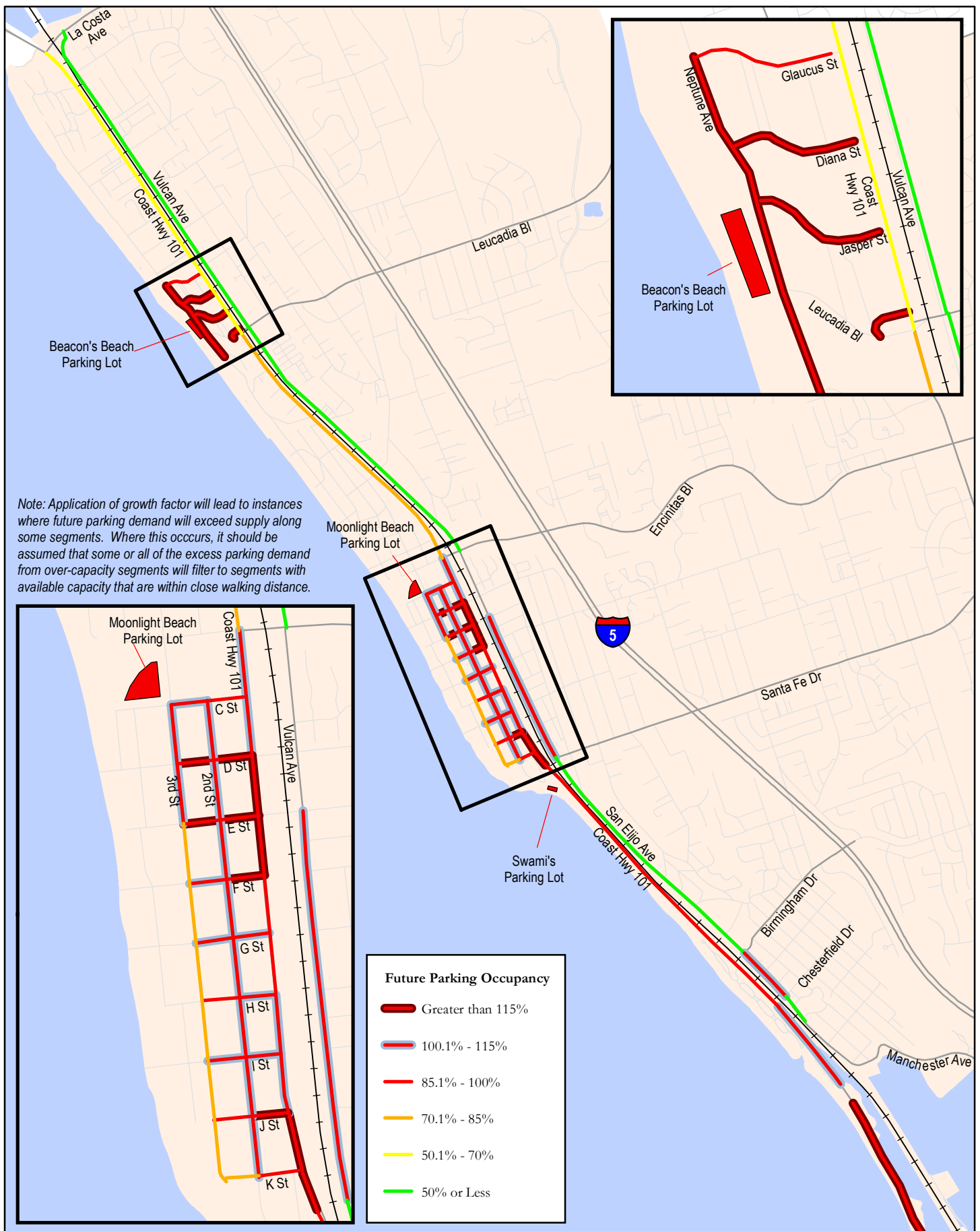
Figures 3-9 and 3-10 show projected future average parking occupancy during the summer, by segment, for weekday and weekend. As shown, the vast majority of the project study area west of the NCTD rail right-of-way will have average parking occupancies exceeding 85%, the practical parking capacity threshold. Within Leucadia, parking occupancy rates are below 85% along Coast Highway 101 between La Costa Avenue and Leucadia Boulevard.

Based on the overall observations, it was found that the study area will not have enough parking supply to handle the peak periods during the summer season. In the future, Downtown Encinitas and Cardiff, west of the NCTD rail right-of-way, will experience severe parking shortages (demand in excess of 115% of supply) during the peak hours of summer. On average during the summer, most of the study area will be above practical parking threshold (85%) and many locations, particularly in Downtown Encinitas, will experience severe parking shortages on average between 8am and 10pm.









4.0 Public Outreach Efforts

As a part of this project, three public workshops – one in each of the neighborhoods of the Coastal Corridor communities, were held in October 2016.

A combination of three survey instruments were used to gather information pertaining to community members such as residents, visitors, and business owners along the Coastal Corridor. The three survey tools consisted of an:

- Intercept survey,
- Household survey, and
- Business survey.

Key findings from each survey will be discussed in this chapter, the complete survey instruments and full summaries of each survey are included in this report as **Appendix A**.

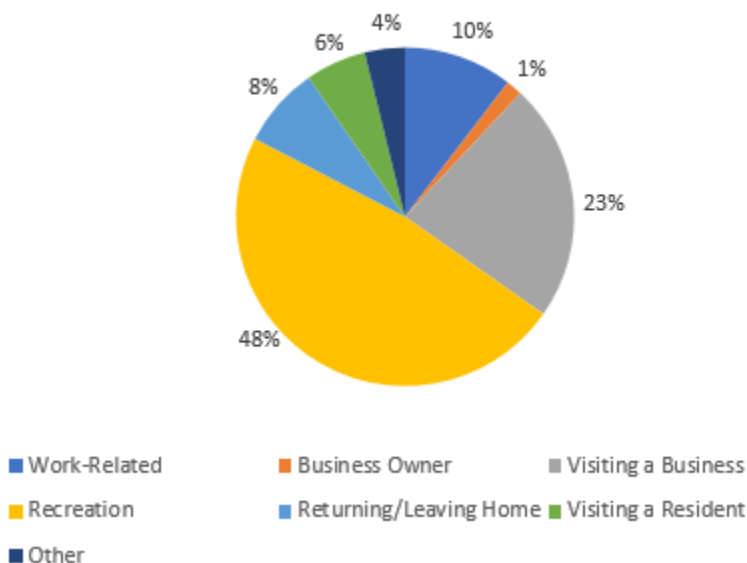
4.1 Intercept Surveys

Intercept surveys, which are in-person surveys administered in public locations, were conducted in each of the three Coastal Corridor communities. Surveys were administered during typical mid-week days (Wednesday and Thursday), as well as during a typical weekend day (Saturday) between October 29 and November 3, 2016. The intercept survey consisted of ten questions, which gathered information such as place of residence, purpose for visiting the Coastal Corridor, opinions on ease and availability of parking, and priorities surrounding future possible solutions to parking congestion.

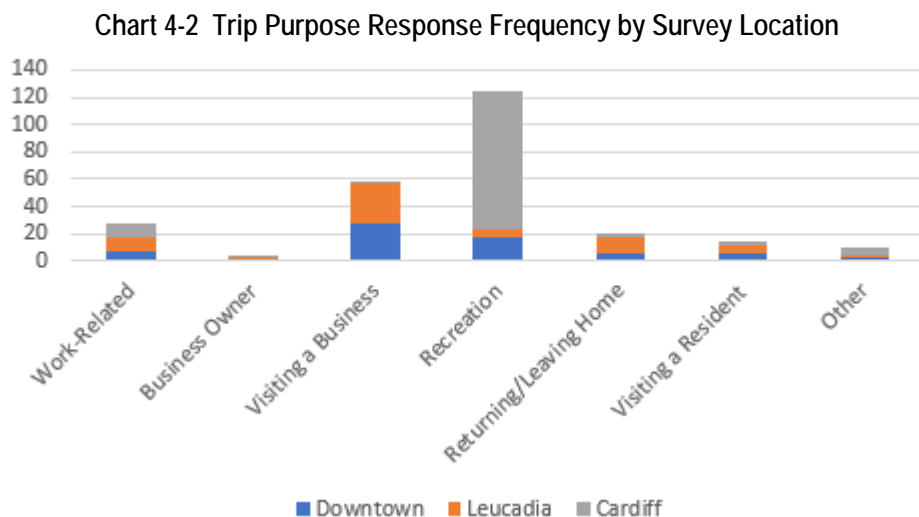
Approximately 250 intercept surveys were collected, nearly 40% of the respondents indicated they resided outside of Encinitas.

Chart 4-1 displays the trip purpose as a share for all who were surveyed. Recreational purposes (48%) comprised a plurality of all trip purposes, followed by visiting a business (23%). However, when broken down by site, as shown in **Chart 4-2**, recreation was overwhelmingly the leading trip purpose in Cardiff, while business visits accounted for the higher trip purpose frequencies than recreation in the Downtown Encinitas and Leucadia locations.

Chart 4-1 Trip Purpose Share Among Intercept Survey Respondents



Approximately 60% of the respondents indicated they would visit the Coastal Corridor communities for more leisure activities if parking were easier to find, however a majority of the respondents also indicated that they did not encounter much difficulty finding parking (56%) and viewed their location where they found parking as acceptably close enough to their destination (77%).



About 80% of the respondents indicated they would not be willing to pay for parking. Of the respondents surveyed in all locations, 8% completed their trip in a transportation mode other than driving. Of those who did drive, 56% indicated an openness to using modes of transportation other than driving.

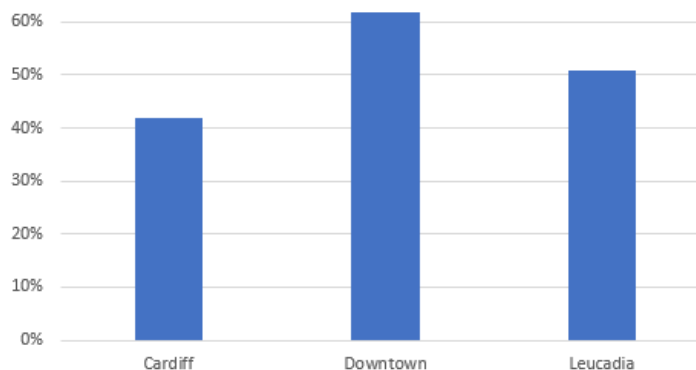
4.2 Household Surveys

A household survey was also administered to a random sampling of 1,622 occupants within the project study area. Household surveys consisted of 16 questions, and were administered in two formats – online and via US Mail. Approximately 700 household surveys were received.

Most Encinitas households surveyed indicated they visit the Coastal Corridor communities multiple times a week. About half of the trips made by locals is typically for the purpose of visiting a business (51%), while 29% indicated recreation as a typical trip purpose.

Respondents were asked the level of difficulty in finding parking in each of the communities. **Chart 4-3** shows the percent of respondents who believe parking is at least occasionally difficult by each of the three communities within the Coastal Corridor. Downtown Encinitas is believed to be the most difficult of the Coastal Corridor communities to find parking in, with 62% indicating they encounter a difficulty in finding parking at least occasionally. Considerably fewer people find parking difficult to find in Cardiff (42%), while just about half view parking as difficult to find in Leucadia.

Chart 4-3 Perceptions of Parking Difficulty by Community



Nearly three-quarters of the respondents surveyed arrive in the Coastal Corridor communities by vehicle. 34% of survey respondents indicated they would use a shuttle service if it were made available.

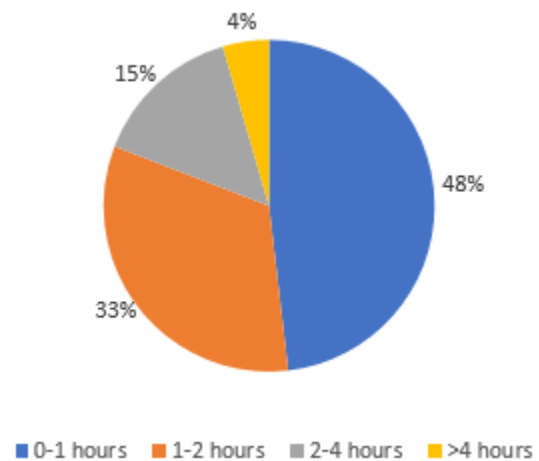
82% of respondents indicated they would not entertain paying for parking even if it meant having a parking space readily available.

4.3 Business-Owner Surveys

A mail-in survey was sent to business-owners throughout the Coastal Corridor communities. Approximately 70 responses were received. Key results are described below.

Chart 4-4 shows the typical length of time business-owners indicated their customers need for a parking space when patronizing their business. As shown, just over 80% of the businesses indicated the typical length of stay for a customer is two hours or less. This is consistent with parking turnover observations in Downtown Encinitas along Coast Highway 101, where mean lengths of stays for parked vehicles are between 1.2 and 1.5 hours. Two hours is also typical length interval for locations with time-limited parking, which is currently in place in primarily commercial parts of Downtown Encinitas (including Coast Highway 101) and Cardiff.

Chart 4-4 Business Visit – Typical Length of Stay



70% of the business-owner respondents indicated they instruct their workers to park away from the parking spots located adjacent to or near their businesses, in an effort to not take up supply otherwise accessible to customers.

About 75% of the business-owners surveyed would not support paid parking in Encinitas, even if it guaranteed parking would be readily available for their customers.

5.0 Conclusions and Recommendations

The analysis of the parking occupancy data confirms that there are several areas within Encinitas with occupancies above the practical parking capacity threshold (85%) during the respective weekday and weekend peaks of both seasons. As shown in **Figure 5-1**, the areas most affected during the peaks include the residential streets adjacent to Beacon's Beach in the Leucadia community, a majority of the streets within Downtown Encinitas west of Vulcan Avenue (including Coast Highway 101), and Coast Highway 101 within Cardiff.

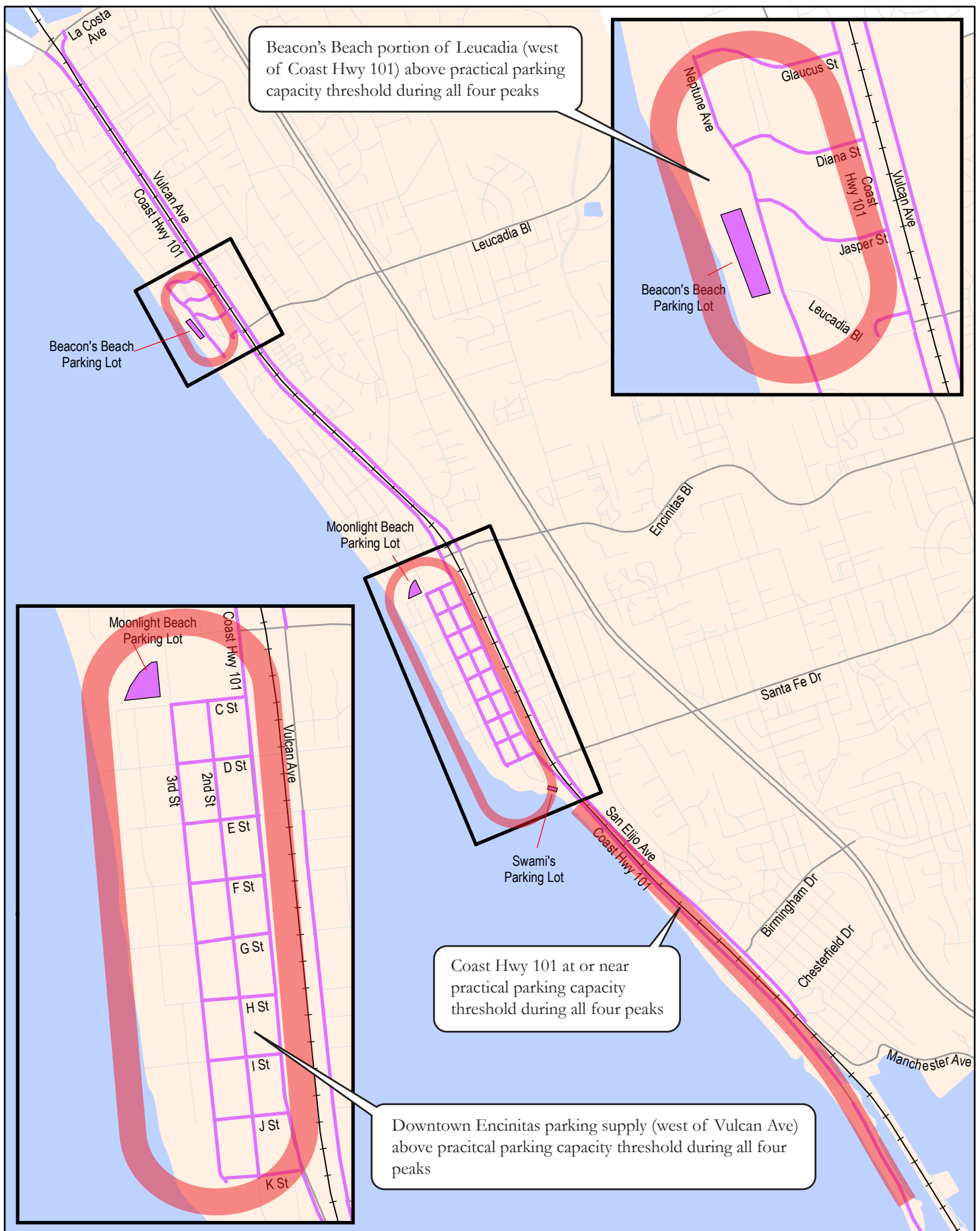
Outside of the peaks, which are typical mid-day or early afternoon, the capacity of parking available within the study area is adequate for the average conditions. The summer average weekend occupancies are the highest of the four average occupancy periods studied, and show several segments with average occupancies above the practical parking capacity threshold.

Along Coast Highway 101 within Downtown Encinitas, where occupancies throughout the day exceed 90%, the average length of stay for a parked vehicle was observed to be between 1.2 and 1.5 hours. The time limits on parking along Coast Highway 101 in Downtown are likely attributed to the higher turnover.

Average parking length of stay in the Leucadia and Cardiff study areas along Coast Highway 101 were typically around 2 hours. The lowest turnover rates were found along Vulcan Avenue in Leucadia, where average parking lengths of stay were between 2 to 5 hours on the weekday and 6 to 7 hours on the weekend.

Of the areas where turnover was observed, only the Downtown Encinitas locations had average parking occupancies above the practical capacity threshold. Low turnover is not regarded as a parking problem if there are still large amounts of parking supply available.

Projected future parking demand growth, along with some removal of informal/illegal parking supply within the study area – particularly along Coast Highway 101 in Leucadia, may lead to severe parking shortages where parking demand is projected at 115% or higher than parking capacity. This severe shortage will be manifested during the peak hours for both seasons on weekdays and weekends, and for some individual block locations, severe shortages on average throughout the day.



5.1 Parking Management Recommendations

Table 5-1 provides a list of near-term parking options, along with their advantages and disadvantages, that could be considered within the Coastal Corridor communities. Near-term options consist of non-infrastructure-based solutions which facilitate parking turnover and can be implemented rapidly.

Table 5-2 provides multi-modal parking options, along with their advantages and disadvantages, that could be considered within the Coastal Corridor communities. Multi-modal options are centered around providing or improving alternative modes of transport to the Coastal Corridor communities.

Table 5-3 provides long-term parking options, along with their advantages and disadvantages, that could be considered within the Coastal Corridor communities. With the exception of increasing parking supply, the long-term parking options consider parking demand management strategies.

Table 5-1 Near-Term Parking Options

Install One to Two Time-Limited Parking Spaces per Block within Commercial Areas			
Description:	When to Implement:	Advantages:	Disadvantages:
Allocation of one to two 20-minute parking spaces, per block, within commercial areas for quick turnover businesses.	<p>If demand for parking exceeds parking supply.</p> <p>If parking turnover is low.</p> <p>If quick turnover businesses are present.</p>	<p>Ensures a minimum number of parking spaces per block are turning over rapidly.</p> <p>Provides parking which caters to quick turnover businesses (take out establishments, dry cleaners, etc) within low supply/low turnover parking environments.</p>	<p>Requires enforcement.</p> <p>Removes some supply away from slower turnover businesses (sit down establishments, furniture retailers, etc.).</p>
Hire Parking Enforcement			
Description:	When to Implement:	Advantages:	Disadvantages:
Parking enforcement patrols ensure owners of parked vehicles are obeying the time limits of the parking space by way of the authority to levy a citation and fine.	If district implements time limits to a supply of parking and parking demand still exceeds supply.	<p>Ensures parking regulations are being obeyed, thereby ensuring desired parking turnover rates and appropriate parking utilization/availability.</p> <p>Net revenues could be reinvested back into public services.</p>	<p>May deter some economic activity from occurring in the district.</p> <p>May create parking spillover problems in nearby residential areas if not accompanied with residential permit program or other protections.</p> <p>Enforcement requires labor/staffing.</p>

Table 5-1 Near-Term Parking Options

Shared Parking Arrangement for Private and Public Lots			
Description:	When to Implement:	Advantages:	Disadvantages:
<p>Arrangement where multiple adjacent businesses and/or institutions with complementary (differing) activity peaks/operating schedules share a single parking lot.</p> <p>Potentially use public parking facilities (such as Moonlight Beach) for employee parking during evening hours.</p>	<p>If private parking lot exists adjacent to businesses with complementary peaks/schedules.</p>	<p>Might be an untapped source of parking supply.</p> <p>Ensures a more efficient utilization of off-street parking supply than individual parking lots not shared between businesses/institutions.</p>	<p>Requires some level of coordination.</p> <p>The opportunity will not always be available to implement.</p> <p>Limits redevelopment potential if parking agreement or formal sharing is recorded.</p>
Provide/Encourage More Valet Parking			
Description:	When to Implement:	Advantages:	Disadvantages:
<p>Motorist drops-off vehicle at curb in front of destination and, for a fee, a valet company parks car at an off-site location.</p>	<p>If demand for parking exceeds parking supply.</p> <p>If off-street parking lots are available in vicinity.</p>	<p>Valet companies are capable of fitting more vehicles into a conventional parking lot than self-parking.</p> <p>User of valet can exit/enter vehicle in close proximity to destination.</p> <p>Valet parking lots can be sited in a more remote location, freeing up space within the district for other uses.</p>	<p>Typically costs more than self-parking.</p> <p>Most trips are made by vehicle/self-parking; benefits will primarily be experienced by persons who shift modes.</p> <p>Requires labor/staffing.</p>

Table 5-1 Near-Term Parking Options

Provide Convenient Drop-Off/Pick-Up Locations for Taxis and Ride-Hailing Services in Select Locations			
Description:	When to Implement:	Advantages:	Disadvantages:
Allocation of dedicated space for taxi and ride-hailing services to conduct drop-offs and pick-ups.	If there is evidence of taxi and ride-hailing services already being widely-used in the area with presence of complications, nuisances and/or occupying available parking supply	<p>User of service can exit/enter vehicle in close proximity to destination.</p> <p>Added convenience and user-certainty affirms service as a legitimate alternative to driving.</p> <p>Drivers are less likely to perform any nuisance behaviors such as double-parking, when conducting pick-ups or drop-offs.</p>	<p>Removes some supply away from self-parking</p> <p>Most trips are made by vehicle/self-parking; benefits will primarily be experienced by persons who shift modes</p>

Source: Chen Ryan Associates (2017)

Table 5-2 Multi-Modal Parking Options

Improve Walking and Cycling Environment			
Description:	When to Implement:	Advantages:	Disadvantages:
Improvements to the walking and cycling environment may constitute the installation of infrastructure (new facilities, wider facilities, safety/comfort enhancements) or changes to the operational characteristics of the roadway (lower speed limits, narrowing/reducing travel lanes, traffic signal modifications).	If there is community/stakeholder support, and when cost and construction is feasible.	<p>Can encourage 'park-once and walk' economic activity (reducing vehicular trips/parking instances).</p> <p>May encourage visitors to walk or bicycle instead of driving to district.</p> <p>Might make parking farther away from destination more tolerable, thereby reducing cruising and idling behaviors in pursuit of parking.</p> <p>Public health benefit.</p> <p>Greenhouse Gas emissions reduced.</p>	<p>Most trips are made by vehicle; benefits will primarily be experienced by persons who shift modes.</p> <p>Costs to implement improvements.</p> <p>Improvements might be in conflict with vehicular mode.</p>
Provide Quality and Convenient Bicycle Parking			
Description:	When to Implement:	Advantages:	Disadvantages:
Bicycle racks which allow the user to secure lock to the frame of bicycle (instead of wheel), installed in prominently visible/accessible locations relative to destination.	If there is community/stakeholder support, and when cost and installation is feasible.	<p>Low cost treatment</p> <p>Provides closest parking to destination to most space-efficient transportation mode.</p> <p>May encourage visitors to bicycle instead of drive to district.</p> <p>Public health benefit.</p> <p>Greenhouse Gas emissions reduced.</p>	<p>Most trips are made by vehicle; benefits will only be experienced by persons who shift modes.</p> <p>Costs money to purchase/install.</p> <p>Improvements might be in competition for space with other modes (pedestrian space or vehicle parking spaces).</p>

Table 5-2 Multi-Modal Parking Options

Provide Incentives for Employees to Commute by Different Modes or Park Remotely			
Description:	When to Implement:	Advantages:	Disadvantages:
Encourage employees to use alternative transportation modes when commuting. Such incentives can include a direct subsidy of an alternative mode (transit passes), or issuing rewards for commuting behavior which frees up parking in the district.	<p>If demand for parking exceeds parking supply.</p> <p>If parking turnover is desired outcome.</p> <p>If cost is feasible.</p>	Limiting employee parking in neighborhood can potentially be substituted for capacity for visitors with higher parking turnover trip purposes.	<p>Potential costs to implement programs.</p> <p>Requires cooperation among all businesses.</p>

Source: Chen Ryan Associates (2017)

Table 5-3 Long-Term Parking Options

Provide Remote Parking Coupled with Shuttle Services for Commuters (or Visitors)			
Description:	When to Implement:	Advantages:	Disadvantages:
Provide a shuttle service which links locations within the district with remote long-term parking areas	<p>If most of the parking supply costs money to use and is regulated by time limits</p> <p>If cost is feasible</p> <p>When coupled with incentives for employees to commute by different modes</p>	<p>Provides an alternative parking arrangement for commuters</p> <p>Frees up some supply of parking within district for higher-turnover parking activity</p>	<p>Requires labor/staffing</p> <p>Costs money to implement</p> <p>Low convenience factor</p> <p>Commuters represent a minor share of the total number of trips</p>
Real-Time Information on Parking Supply / Parking Supply Wayfinding			
Description:	When to Implement:	Advantages:	Disadvantages:
Changeable signage near major destination to inform motorists of locations with available parking; information can also be disseminated with smart phone apps.	<p>If demand for parking exceeds parking supply.</p> <p>If major destination's parking supply is divided among numerous small-sized lots.</p>	<p>Allows parking supply to be utilized more efficiently.</p> <p>Can reduce cruising and idling behaviors in pursuit of parking.</p>	<p>Costs of technology requirements monitoring supply.</p> <p>Technology may not be accessible or readily convenient to all visitors.</p>

Table 5-3 Long-Term Parking Options

Install Metered Parking			
Description:	When to Implement:	Advantages:	Disadvantages:
Driver of parked vehicle pays for time-limited on-street parking space at parking meter or pay/display kiosk.	<p>If demand for parking exceeds parking supply</p> <p>If parking turnover is desired outcome.</p>	<p>If properly priced/regulated, metering can ensure more frequent parking turnover and appropriate parking utilization/availability</p> <p>Provides revenue to help pay for enforcement and other district benefits</p>	<p>May deter some economic activity from occurring in the district.</p> <p>May create parking spillover problems in nearby residential areas if not coupled with residential permit program or other protections</p> <p>Generally has low stakeholder support.</p> <p>Enforcement requires labor/staffing.</p>
Increase Parking Supply			
Description:	When to Implement:	Advantages:	Disadvantages:
Identification of new on-street and off-street parking locations; conversion of parallel parking supply to angled parking where feasible.	<p>If there is community/stakeholder support.</p> <p>When cost and construction is feasible.</p> <p>When land is available.</p>	Increases supply of parking.	<p>If on-street:</p> <p>Improvements might come at the expense of degrading performance through the district of other transportation modes.</p> <p>If off-street:</p> <p>Costs of land acquisition.</p> <p>Opportunity cost of allocating revenue-producing land to uses which generate little to no revenue.</p>

Table 5-3 Long-Term Parking Options

Residential Parking Permit Program			
Description:	When to Implement:	Advantages:	Disadvantages:
A program which restricts on-street parking during an enforcement period to all vehicles except for residential parking permit holders.	When a formal study concludes that residents of a certain area who rely on an on-street parking supply are detrimentally impacted by parking spillover caused by a nearby major destination.	Preserves parking supply for residents.	<p>Potential costs to implement programs.</p> <p>Enforcement requires labor/staffing.</p> <p>May deter some economic activity from occurring in the district</p>
Increase Parking Supply			
Description:	When to Implement:	Advantages:	Disadvantages:
Identification of new on-street and off-street parking locations; conversion of parallel parking supply to angled parking where feasible.	<p>If there is community/stakeholder support.</p> <p>When cost and construction is feasible.</p> <p>When land is available.</p>	Increases supply of parking.	<p>If on-street:</p> <p>Improvements might come at the expense of degrading performance through the district of other transportation modes.</p> <p>If off-street:</p> <p>Costs of land acquisition.</p> <p>Opportunity cost of allocating revenue-producing land to uses which generate little to no revenue.</p>

Source: Chen Ryan Associates (2017)

5.2 Downtown Encinitas Recommendations

Near-Term Recommendations

Within Downtown Encinitas, parking occupancy is currently above practical parking capacity thresholds during the peak periods. In the future, Downtown is projected to have parking shortages during the peaks and on average during the summer. Some near-term strategies to deal with the severe parking shortage within Downtown Encinitas could be:

- Expand the areas with time-limited parking. Currently, the only streets other than Coast Highway 101 with any time-limited parking supply are D Street and E Street.
- Where opportunities exist, shared-parking arrangements between businesses or institutions with different activity peak schedules should be encouraged.
- The two City-maintained beach parking lots at Moonlight Beach and Swami's are significantly under-utilized after 6:00 PM (under 50% occupancy), these lots could also be used for downtown employee and patron parking as well, during evening hours.
- Utilize the City-owned or maintained parking lots in Downtown in which shared-parking arrangements could be encouraged during off-peak and off-business hours: upper City Hall parking lot, and the Encinitas Library parking lot.
- The aforementioned lots are within short walking distance of the commercial activity nodes within Downtown Encinitas. Businesses could encourage their employees to park in these locations to free up closer, more desirable spaces for their patrons.
- Where feasible, convert blocks with parallel parking to angled or head-in parking. One aisle of parallel parking per block can be converted to angled or head-in parking on 2-Lane roadways as narrow as 50 feet assuming there are no bike lanes. Currently, there are dozens of blocks within Downtown Encinitas matching those characteristics.
- It should also be noted that the City plans to provide public electric vehicle charging in the lower City Hall Lot.

Long-Term Recommendations

Given the extremely high future parking occupancy projections for both seasons within downtown, converting some blocks to metered parking could also be considered as a long-term strategy. Meter parking may deter some motorists (paying for parking was overwhelmingly unpopular with survey respondents); however, it will detour long term parkers such as beach-goers and employees from parking in these areas, which in turn will create additional capacity for customers. Additionally, the revenue associated with metered parking can be used for the enhancement, expansion or creation of parking facilities, multi-modal improvements within the project study area as well as to pay parking enforcement officers to enforce the time restrictions. Opportunities to expand the Swami's parking lot by acquiring adjacent vacant parcels should be explored. Additionally, a parking in-lieu fee program could be used to fund the purchase of adjacent parcels, or parcels elsewhere, to add to the area's parking supply.

5.3 Leucadia Recommendations

Near-Term Recommendations

Within Leucadia, Coast Highway 101 between Leucadia Boulevard and Encinitas Boulevard is projected to have severe parking shortages during the peaks in the future due to a combination of the loss of the

informal/illegal parking along the rail right-of-way and the expected future increased parking demand. To cope with the expected parking shortages in Leucadia, the following measures are recommended:

- Implementation of time-limited parking along Coast Highway 101 in sections where there are nodes of quick-turnover businesses present could be considered. As noted in the survey, customers only need two-hours of parking for over 80% of surveyed businesses.
- The construction of the planned grade-separated rail crossing at El Portal Street should also be expected to ease the parking difficulties along that portion of Coast Highway 101. Currently, there are no legal rail crossing locations between Leucadia Boulevard and Encinitas Boulevard, which is a distance of nearly 1.2 miles. A crossing will create new walking and bicycling opportunities for residents east of the rail and it will also make Vulcan Avenue, where there typically available parking capacity, a more realistic parking option for visits to Coast Highway 101 and other locations further west.

Long-Term Recommendations

The implementation of the Leucadia Streetscape plan will provide an additional 147 formal parking spaces along Coast Highway 101 within Leucadia. Most of the added supply will be between La Costa Avenue and Encinitas Boulevard. The additional parking supply, as shown in many of the map exhibits within Future Parking Conditions chapter, is expected to accommodate all of the future parking growth along Coast Highway 101 north of Leucadia Boulevard.

5.4 Cardiff Recommendations

Near-Term Recommendations

The City is considering a potential grade-separated crossing at either Verdi Avenue or Montgomery Avenue. Currently, there are no legal rail crossing locations between Santa Fe Drive and Chesterfield Drive, which is a distance of 1.25 miles. A crossing will create new walking and bicycling opportunities for residents east of the rail and it will also make San Elijo Avenue, where there is typically available parking capacity, a more convenient parking option for visits to beach. Improving the convenience of parking along San Elijo Avenue will help redistribute parking shortages within Cardiff. As indicated previously, Coast Highway 101 is expected to have parking demand exceeding capacity and San Elijo Avenue is expected to have available capacity.

Long-Term Recommendations

Within Cardiff, parking capacity is only expected to decrease along San Elijo Avenue, and the loss of supply within this segment is from the illegal/informal parking along the rail right-of-way. Legal on-street parking spaces along San Elijo Avenue will actually increase with the construction of the Coastal Rail Trail segment. Despite the net loss of parking capacity, projected parking generation growth is not expected to cause adverse impacts within San Elijo Avenue.

Parking demand along South Coast Highway 101 within Cardiff, despite no expected parking supply loss, is anticipated to increase.

A strategy to deal with parking shortage along Coast Highway 101 in Cardiff might be to charge for parking. Based on future projections, all motorists cannot be accommodated by the existing and future supply. A considerable portion of vehicular trips parking along Coast Highway 101 in Cardiff are for the purposes of visiting the beach – an activity which generates a lower turnover of parking than commercial-purposed

trips. The City could consider the installation of parking meters which allow parking stays of up to 8 hours, which are more appropriate for accommodating lower-turnover parking activities. Charging for parking will filter away the subset of motorists who are deterred by paying for parking over nearby under-utilized parking areas such as San Elijo Avenue and bring the demand to park along the segment in closer equilibrium to the supply. This arrangement will allocate the closest parking to the beach, along Coast Highway 101, to function as 'premium' parking and the less convenient parking for beach visits along San Elijo Avenue as free parking.