City of Carlsbad

CARLSBAD VILLAGE, BARRIO, AND BEACH AREA PARKING STUDY

DRAFT

Technical Memorandum #3: Program Evaluation, Peer Reviews, and Best Management Practices

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Introduction

Parking is more than the storage of cars. A vital parking system consists of a complex connectivity to transportation, land use, and economic development. Parking availability impacts access to businesses and other destinations, linking it to the economic vitality of the community. It is the transition point where drivers become pedestrians, or transition to transit, linking the parking system with the larger mobility options in the area. An adequately managed parking system plays a role in sustainability measures by reducing traffic and congestion. If users know where to find parking and can find parking quickly, they spend less time circling the area looking for parking, which in turn helps the City of Carlsbad (city) achieve its goal for reducing greenhouse gas emissions.

Since parking is intimately integrated with a variety of aspects in the community, the parking strategies discussed in this technical memorandum are provided in the context of several other city -wide initiatives, policy and regulatory documents. These include: the City Community Vision (Envision Carlsbad); General Plan (including the Mobility Element); Carlsbad Climate Action Plan; Carlsbad Municipal Code (including the zoning ordinance); Local Coastal Program; Coastal Mobility Readiness Plan; the Draft Village and Barrio Master Plan; proposed Transportation Demand Management (TDM) Ordinance (under development); and the Sustainable Mobility Plan (under development).

The intent of this memo is to evaluate the City of Carlsbad parking system from the programmatic perspective by reviewing existing parking regulations, policies, and practices. Additionally, this memo summarizes strategies employed by peer cities in California to identify industry best management practices for addressing similar parking issues that the city is experiencing. Included in this technical memorandum is a summary of the following:

- Current city regulations and policies for managing parking in the study area (shown in **Figure 1**)
- Review of eight peer cities (details on each city reviewed provided in **Appendix A - Technical Memorandum #1**)
- Discussion of Best Management Practices (BMPs) identified from the peer city reviews and analysis of the parking system within the study area

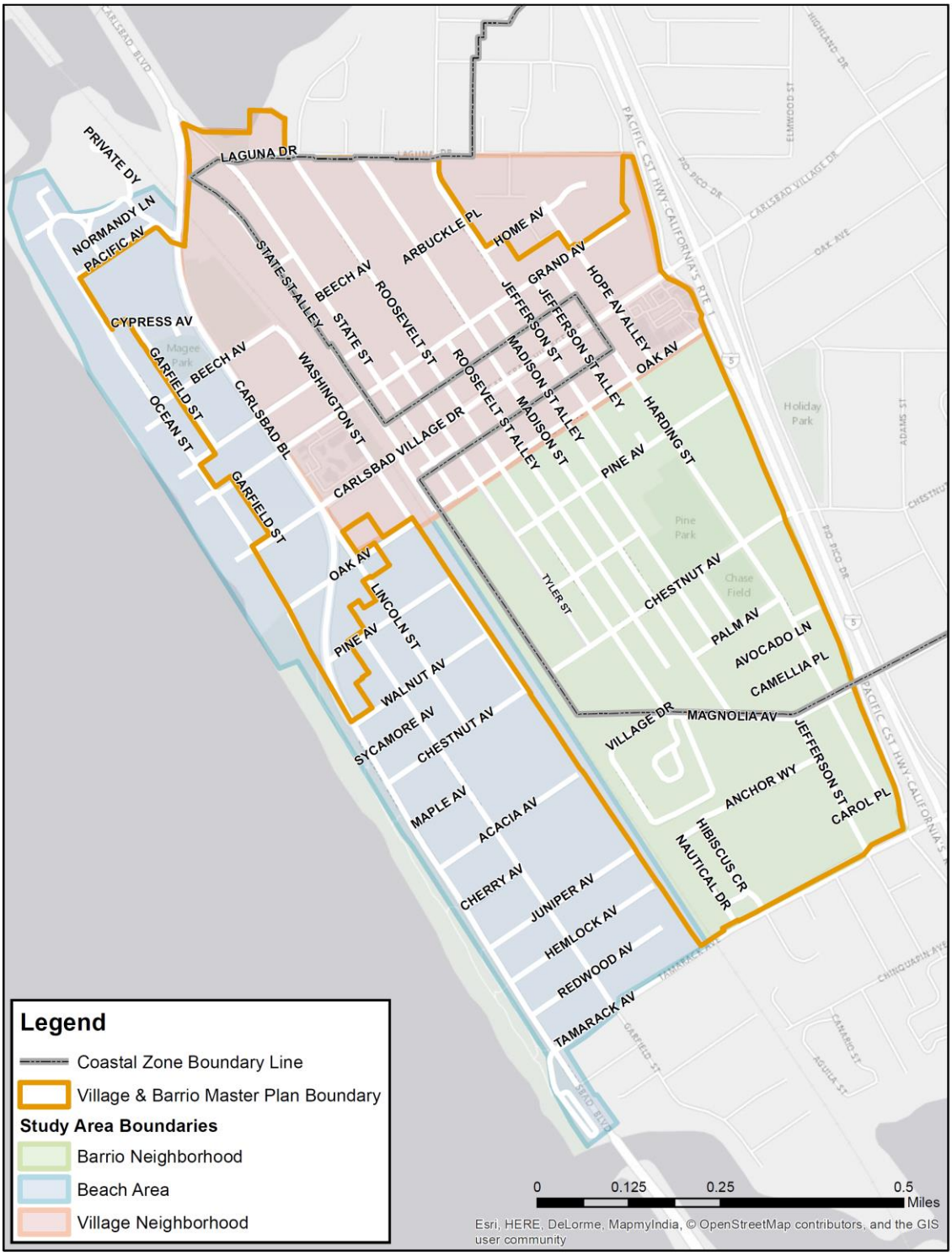
This document is organized by strategy and for each strategy presented in this document, the following information is included:

- A summary of the parking strategy
- Current practices in Carlsbad and the Village, Barrio, and beach areas
- Discussion of how peer cities are using the strategies
- A comparison of pros and cons
- Best management practices for the city to consider

As the study progresses, the strategies identified in this memo will be defined further to determine their applicability to the Village, Barrio, and beach areas. However, this does not preclude the city from exploring and integrating other strategies. Parking is flexible and regardless of whether the intention is to promote

multimodal transportation, improve emissions, or provide greater access, the more the parking system integrates with other programs and strategies, the greater the benefits will be for the community.

Figure 1. Study Area



Existing Parking Behaviors

The following provides a summary of the analysis results of the occupancy data collected in 2016. This information is provided in greater detail in Appendix A - Technical Memorandum #1; however, it is summarized here to provide context for the information presented in this memorandum.

The observed parking occupancy within the study area peaked at 7 p.m. during the July weekend collection period. During this peak hour, the system experienced an average occupancy of 54 percent. A parking system is considered to lose efficiency when it reaches occupancies at or above 85 percent during the peak time of day. With an average occupancy of 54 percent, the system is generally considered underutilized. However, even with the overall surplus, there are localized imbalances within the system. Therefore, a more in-depth look at the system was conducted.

When looking at all of the parking in the entire study area, the peak period is on a weekend in July at 7 p.m. However, different components of the parking system peak at different times of the day. For instance, the on-street parking has a different peak period than the off-street and the private parking has a different peak period than the public. This is due to the difference in how those facilities are used and when they are used. However, when looking at all components of the parking system (on-street, off-street, public and private) collectively, the peak period is 7 p.m. on a weekend in July. The following data summarizes the results for the on-street, public off-street facilities, and private off-street facilities during the system-wide peak (July, weekend at 7 p.m.) and for the peak periods for each of them individually.

Table 1. Occupancy Summary During System-Wide Peak (July, weekend at 7 p.m.)

	No. of Spaces	No. of city - Operated Facilities	Occupancy During System Peak (July, weekend 7p.m.)	Facility Peak Period	Facility Peak Occupancy
On-Street Parking	4,971	NA	53 percent	July, weekend 1 p.m.	57 percent
Public Off-Street Parking	730	9	51 percent	May, weekend 1 p.m.	62 percent
NCTD Transit Lots	514	NA	45 percent	May, weekday 1 p.m.	74 percent
Private Off-Street Parking	5,445	NA	36 percent	July, weekday 1 p.m.	38 percent

Parking Management Strategies

The following are practices being implemented or currently in use by the eight peer cities reviewed as part of this study. These best management practices were identified because of their applicability to managing the current and future parking demands in the Village, Barrio, and beach area. By recognizing these strategies and how they can benefit the City of Carlsbad, it is anticipated that the city will not only be equipped with tools to effectively manage their current parking system, but also strategies to help them proactively evolve the system as new development occurs.

Appendix A - Technical Memorandum #1 provides case study documentation on each of the eight cities. This section focuses on the culmination of all the strategies, and for each strategy discussed, the city or cities that have implemented the respective strategy is noted.

The parking system in Carlsbad is complex with competing interests and unique community character. As such, there is no singular strategy that can address all the parking elements in the system. The strategies discussed below are intended to work collectively with each other and optimize system efficiency by addressing the various components of the parking system.

Implementation of the strategies included in this section depends on how the system currently operates and changes that happen because of growth in the area. Once parking becomes constrained and residents and businesses start to feel the impacts, various forms of parking management strategies can be implemented to help remedy the situation. The trigger points for implementing these strategies are not always clearly identifiable. The moment for change can occur for several reasons, typically because of the following:

- Feedback from business owners indicates that parking for their customers and/or employees is not available
- Feedback from customers indicates that they cannot find available parking
- Parking occupancy data indicates that parking in the study area is hitting an unsatisfactory threshold (85 percent occupancy)

Determining the point when these concerns become an issue depends on the community's comfort level with tolerating the lack of availability or the level of concerns.

Strategies reviewed as part of this study and that are discussed in this memo include:

- Enforcement Practices
- Use of Time Limits to Encourage Turnover
- Reduced Minimum Parking Requirements
- Shared and Off-Site Parking
- Parking In-Lieu Fee Program
- Residential Parking Program
- Transportation Demand Management (TDM)
- Curb Lane Management
- Paid Parking
- Parking Program Administration
- Messaging and Wayfinding
- Parking Benefit District
- Trolley or Shuttle Circulator
- Rideshare Options
- Recreational Vehicle (RV) Parking
- Preferential Transit Commuter Parking

It should be noted that each of these strategies require open communication with the public and between multiple government departments. Transparency is a common theme in each of these strategies. Regardless of what type of strategy is implemented, information on that strategy should be posted on the city's website. The information should explain the strategy, why the strategy is being implemented, its benefits and how the decision was made to implement the strategy.

Peer City Review

As part of this study, eight cities were identified as peer cities based on their size (population), community character (beach community), and the various parking strategies the cities are using. The intent of conducting peer city reviews is to: (1) identify strategies that similar cities are using; (2) determine whether they are appropriate for the City of Carlsbad; and (3) if the strategies are appropriate, decide how they can potentially be adapted to meet the needs of the Village, Barrio, and beach areas. The eight peer cities selected for review are listed below.

- Santa Monica
- San Luis Obispo
- Monterey
- Laguna Beach
- Dana Point
- Encinitas
- San Clemente
- Huntington Beach

Figure 2 illustrates the location of each of these cities in relation to the City of Carlsbad.

Details from each of the peer cities are mentioned in the Parking Management Strategies section of this memo. However, **Table 2** provides a summary comparing the different strategies being used in each of the eight communities and **Table 3** compares the minimum off-street parking requirements for different development types in each of the cities, including Carlsbad, and compares those to the national parking standards, as well as to the demands generated through the Park+ modeling. The Park+ model evaluates observed data collected in the field, existing land use intensities within the study area, parking relationships to surrounding land uses, walking tolerances, transportation system attributes and community specific parking behaviors. Note that the standards shown in **Table 3** are general and may not be inclusive of all requirements.

For more specific details to the each of the eight cities, **Appendix A - Technical Memorandum #1** contains the individual reviews for each of the eight cities.

Figure 2. Peer City Locations Map

Table 2. Peer City Matrix

City	City Population	On-Street Spaces	Public Off-Street Spaces	Time Limits	Enforcement Hours	Parking Rates (Public Parking)			Trolley/Shuttle Service	Residential Permits	Other Permits	TDM Strategies	In-Lieu Fee (per space)	Reduced Parking Requirements
						On-Street	Off-Street	Beach						
Carlsbad	105,328	4,971	633	2-hr and 3-hr	7 a.m.- 6 p.m. M-Sa 2 a.m. and 5 a.m., 3 a.m. and 5 a.m., 10 p.m. and 6 a.m.	Free	Free	Free	Currently conducting Trolley Feasibility Study	–	–	Currently developing TDM ordinance	$11,240	Reduced requirements for Village area
Santa Monica	93,220	6,000	Unknown	3-hr	8 a.m. to 2 a.m. daily; 8 a.m. to 9 p.m. daily in the Civic Center area	$1/hr	Varies based on the area	$2/hr (on-street); Permits-$15-$27/month	Yes-Free	Yes - Free for resident; $15 for visitor permit	–	Employee Trip Reduction Plans	$20,000	Reduced requirements for downtown
San Luis Obispo	47,339	1,151	1,177	2-hr & 10-hr Zoned	9 a.m. to 6 p.m. daily	$0.75-$1.50/hr	$1 (Hourly); $10 (Daily); $60-$75 (Month)	–	Yes- Free; $0.50	Yes - $10/yr	–	Access Pass; Rideshare Program	$4,660-$18,641	Reduced requirements for downtown
Monterey	28,338	1,151	3,690	20-min; 1-hr; 90-min; 2-hr	9 a.m. to 6 p.m. daily	$0.50-$1.50/hr	Varies	–	Yes-Free	Yes-$10/yr	–	–	$5,872.50	Shared parking agreements
Laguna Beach	23,365	896	1,032	3-hr & 10-hr	8 a.m.-7 p.m.	$1-$3/hr	$1.50-$3/hr; $5-$20 daily	–	Yes - Free	Yes-$200/yr	Shopper, Residential, School District, Senior, Employee	Carpool preferential parking; information centers; rideshare coordination; transit improvements	$20,000	On- and off-site shared parking
Dana Point	33,110	Unknown-unmetered	Unknown	30-min; 1-hr; 2-hr	9 a.m. and 6 p.m. M-Sa	$1/hr max (no meters yet, but code allows for it)	–	Free; $1/hr; $55 annual permit	Yes-Free	Yes-Free	–	Cooperation and support of Lyft rideshare	$40,000	Reduced requirements for Lantern District; Shared parking agreements
Encinitas	62,930	Unknown-unmetered	Unknown	2-hr	7 a.m.- 6 p.m.	Free	Unknown	–	–	–	–	Bike and ped master plans, iCommute	–	Reduced requirements for downtown
San Clemente	66,245	Unknown-unmetered	Unknown	2-hr	9 a.m.-7 p.m.	Free	Unknown	Metered-$1.50/hr	Planning Process	Yes-$10/yr	Meter permits	Carpool preferential parking; information centers; rideshare coordination; transit improvements; bicycle amenities; vanpool spaces	$10,000	Reduced or waived requirements for downtown
Huntington Beach	201,899	Over 1,000	3,646	2-hr	6 a.m.- 12 a.m.	$1.5-/hr	$1 ; $15-$17 (daily)	$1.50; 8 a.m. - 10 p.m.	Yes-Free	Yes-$24/3-5yrs	Beach parking pass, RV parking permit	Carpool preferential parking; information centers; rideshare coordination; transit improvements; bicycle amenities; vanpool spaces	$26,383	Reduced requirements for downtown

Sources: The source for each of the data points provided in this table can be found in the respective individual report for each city. These individual reports can be found in Appendix A

Table 3. Parking Requirements[1]

REQUIREMENT SOURCE	RESIDENTIAL			COMMERCIAL	RESTAURANT	OFFICE	HOTEL
	SINGLE FAMILY	MULIT-FAMILY	GUEST				
Carlsbad Municipal Code (CMC 21.44)	2 spaces/unit	1.5-2 spaces/unit	0.3 spaces/unit (up to 10 units); 0.25 spaces/unit (more than 10 units)	3.3-5 spaces/1,000 sf[3]	1 space/100 sf if < 4,000 sf; if 4,000 sf or more, 40 spaces plus 1 space/ 50 sf in excess of 4,000 sf	4-5 spaces/ 1,000 sf	1.2 spaces/room
CMC 21.45 (Planned Developments)	Same as CMC 21.44	Same as CMC 21.44	Same as CMC 21.44, except guest parking may be permitted on-street	n/a	n/a	n/a	n/a
CMC 21.82 (Beach Area Overlay Zone)	Same as CMC 21.44	Same as CMC 21.44	Same as CMC 21.44	n/a	n/a	n/a	n/a
Existing Master Plan – inside the Coastal Zone (Chapter 6)	Same as CMC 21.44	Same as CMC 21.44	0.5 spaces/unit (up to 10 units); 0.25-0.3 spaces/unit (more than 10 units)	3.3 spaces/1,000 sf	Same as CMC 21.44	3.3 spaces/ 1,000 sf	Same as CMC 21.44

Existing Master Plan – outside the Coastal Zone (Chapter 6)	Same as CMC 21.44	1-2 spaces/unit	None	3.3 spaces/1,000 sf	1 space/125 sf	2.9 spaces/1,000 sf	Same as CMC 21.44
Proposed Master Plan (Section 6.4, 2016 Draft)	Same as CMC 21.44	1-1.5 spaces/unit	"ND" and "ED" Districts: 0.3 spaces/unit (up to 10 units); 0.25 spaces/unit (more than 10 units) All other districts: None	2.8 spaces/1,000 sf	1 space/125 sf	2.8 spaces/ 1,000 sf	1 space/room

[1]This table is a representative list of parking requirements for common uses. Please refer to the respective document for a complete list of all parking standards.
[2]The Planned Developments and Beach Area Overlay Zone chapters apply to residential properties only outside the existing Master Plan; they also would not apply to the proposed Master Plan.
[3]"sf" stands for "square feet."
[4]Parking requirements inside the existing Master Plan are based on net square footage. Parking requirements outside the existing Master Plan are based on gross square footage.

It is important, as shown in **Table 2** to note that each of the peer cities, except for on-street facilities in Encinitas, Dana Point, and San Clemente (off-street is unknown), have paid parking for both on-street and off-street parking facilities. **Table 3** indicates that the parking requirements for residential and hotel developments in Carlsbad are comparable to the other peer cities. However, Carlsbad requires more parking for commercial and office land uses than some of the peer cities do.

Enforcement Practices

Parking management strategies are only as effective as the enforcement practices used to monitor and uphold the policies and regulations. If the policies and regulations are not consistently enforced, users quickly learn how to abuse the system, preventing the parking system from operating efficiently and causing user frustration because parking spaces are not being managed appropriately. Parking enforcement should be conducted regularly and consistently. For instance, if an area has two-hour time limits, the route for the enforcement personnel needs to be completed in two hours so that time limit offenders can be identified and cited accordingly. Active enforcement encourages compliance with the parking regulations through education and citations, thus maximizing the use of the existing parking resources.

Consistent enforcement ensures that users comply with the parking regulations, thus allowing the system to function more efficiently by promoting the turnover of parking spaces to increase availability and provide greater access to the surrounding businesses. When parking spaces turnover, those spaces are made available to more people (as opposed to being occupied for long periods of time by a single user). Increased turnover of parking spaces means that access to businesses improves because more people are able to use the parking spaces to visit the businesses. A study in Vancouver, BC concluded that sales increased due to higher parking turnover rates because each parking space could accommodate more customers throughout the day[1]. Having enforcement practices that encourage regulations that promote turnover can have beneficial economic impacts.

Enforcing the parking regulations is critical to the success of the program. However, enforcement does not necessarily have to be negative. The intent of the enforcement program should not be to cite every violator, but rather, to provide the appropriate amount of enforcement in a friendly manner to promote patron compliance so that the parking program realizes the intended effects (e.g. increased turnover, balanced parking for short-term and long-term parkers, etc.) of the applied policies and regulations. The primary goal of enforcement practices should be to promote compliance with parking regulations through education rather than strict enforcement and punishment.

How Carlsbad is Doing It Now

Carlsbad Municipal Code (CMC) Chapter 10.40 establishes parking restrictions or prohibitions. For many streets and some public parking lots in the Village, this chapter enforces a three-hour parking limit between 7 a.m. to 6 p.m. Monday through Saturday (except for holidays). The three-hour limit was established in 2000. Additionally, the city currently restricts late night/early morning parking on certain streets and some public

[1] http://www.cityofvancouver.us/sites/default/files/fileattachments/community_and_economic_development/page/11729/downtown_vancouver_employee_parking_guide.pdf

parking lots to prevent cars from parking overnight in residential areas and to allow for street sweeping. Depending on the street and area, parking is not allowed between 2 a.m. and 5 a.m., and 3 a.m. and 5 a.m. Signs are posted indicating these restrictions. Furthermore, some study area streets are signed to prohibit parking on certain days and times specifically to accommodate street sweeping. Parking is also prohibited at all times along one or both sides of certain streets so traffic flow may be safely accommodated, such as along Carlsbad Village Drive and Ocean and Tyler streets.

Enforcement is overseen by the city's Police Department; however, it is not currently staffed sufficiently to monitor the two- and three-hour time limits during the enforcement hours. Police officers respond to complaints regarding parking and monitor areas periodically upon request. However, the department does not have the resources to follow a prescribed route to monitor parking conditions. The current fee for receiving a citation for parking over the time limit is $50. Frequently, the complaints received are regarding the presence of recreational vehicles (RVs) and vehicles with people sleeping overnight in them. The complaints focused on RVs blocking parking spaces near the beach areas for long periods of time and leaving trash in those areas when leaving. In addition, the Police Department enforces overnight parking on streets where street sweeping occurs and access is needed.

The Police Department has recently invested in handheld technology for streamlining enforcement practices. The handheld devices are efficient for capturing violation and vehicle data and issuing citations. The data is entered manually by an officer as they make the rounds. This type of technology is appropriate for the current parking system in the study area. However, as the area becomes more developed and the parking system more complex, another form of technology may be necessary to further enhance enforcement operations.

A concern that was mentioned by residents who took the online survey and residents who attended the public meeting was the issue of RVs parking overnight and blocking access to on-street parking spaces for residents. Oversize vehicles, which can include RVs, are restricted from parking on any street between 2 a.m. and 5 a.m. without a valid permit. Permits are available for any resident in the city at no cost and allow RVs to park up to 72 consecutive hours four times per month. A resident may also apply for a permit to park an out-of-town visitor's RV up to six times per calendar year. Permits can be renewed annually. Even though there are restrictions in place, the enforcement of the regulations is not always consistent, which means RVs often park for longer periods than allowed, creating frustration for residents.

The lack of a consistent enforcement presence allows people to abuse the system, making existing parking regulations ineffective. Individuals familiar with the lack of enforcement in the study area park with very little threat of receiving a parking citation. This practice congests the parking system and makes on-street parking less available in high-demand areas, like the beach area and the Village near the beach area. With proper enforcement applied, these spaces would likely turn over more and the system would be better balanced.

Peer City Best Management Strategies

The use of license plate reader (LPR) technology is beneficial for cities when regulating the parking system. The City of Monterey uses LPR technology to streamline the enforcement practices. The cost to enforce is often reduced because the number of staff required to monitor the system is lowered. As part of their enforcement practices, the Monterey Parking Division utilizes a system that uses images of licenses plates, collected time

stamps, and Global Positioning System (GPS) coordinates to identify vehicles that are violating time limit regulations, often referred to as electronic chalking of tires. The system allows officers to cover more ground in shorter periods of time. It also streamlines documentation of the violation for the officers since the violation information is immediately recorded into the program, which is maintained on a local server for easy reference after shifts. The local server stores the data collected by the LPR technology, which can be exported to Excel or other usable formats for further analysis. The type of server and how it is located within a cities technology system depends on individual cities and their policies and existing Information Software systems.

The enforcement officers in the City of San Luis Obispo act as city ambassadors, providing help, direction, and information to visitors. The ambassadors not only inform visitors about the parking system but also assist with navigating the city in general. Ambassadors issue warnings for first-time violators in the hopes that the warning educates the offender and they learn to comply with the parking regulations. Furthermore, by receiving a warning instead of a citation, the user is less likely to have a negative perception of parking in the area.

While not a peer city, it is worthwhile to point out another visitor-friendly approach practiced in Toronto, Canada. The enforcement effort is unique in that a vehicle in non-compliance with parking regulations receives a courtesy envelope that includes a fee that is much lower than a regular parking citation. This courtesy envelope fee is voluntary, essentially acting as a warning to prevent any motorists from completing the infraction a second time. If a vehicle is found to be in non-compliance a second time, the vehicle will receive a full parking citation.

Pros/Cons

Pros

- The success of the parking system relies heavily on consistent enforcement
- Promotes compliance with parking regulations through education
- Education on how, when, and why to park properly is more effective than simply increasing the number of citations issued
- Over time, reduction in citations issued can be seen while compliance with parking regulations increases
- Ensures the parking regulations are effective
- Contributes to turnover and availability of parking spaces in high demand areas, a benefit to merchants and visitors

Cons

- Requires investment in staff, staff training, and technology
- Customers may perceive the city and the parking program negatively due to increased enforcement presence
- May cause spillover on nearby streets where time limits are not applicable

Parking Management Strategies for Consideration

The following best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, could be applicable for the City of Carlsbad:

- **Provide information to the public** – Publish enforcement information, including citation types and fine structure on the city website. Use this location to also educate users about where to park based on parking type (e.g., short-term vs. long-term, or patron vs. employee). An important component of this strategy is to note that after years of little enforcement, people will have become accustomed to parking wherever they want for as long as they want. Once enforcement becomes consistent and regular, people may become frustrated if not warned that enforcement practices are changing. Transparency of information and education on the changes (why the changes are happening, where the changes are taking place, and what it means for people) will reduce frustrations. First-offense warnings and enforcement officers as ambassadors also help to soften the negative perception of parking enforcement.
- **Issue warnings for first offenders** – Do not penalize first-time offenders with a citation, but rather use the opportunity to educate on how and where to park legally with a friendly warning. A warning should have a different look from a regular citation (e.g., different color paper) and provide information on parking regulations in the study area (e.g., time limits, hours of enforcement). The warning also could include a map of restricted parking locations and available off-street public parking. The intent is to encourage compliance through education rather than

through citation. People will appreciate that they did not receive a ticket, thus creating a positive perception of enforcement and parking in the area. Additionally, they will likely park correctly the next time, which contributes to the system operating more efficiently for all people in the area.

- **Graduated fine structure for repeat offenders** – In combination with the first-time warning approach, implement a graduated fine structure that becomes more punitive for habitual offenders. Citation information will have to be recorded and saved in a database so that officers in the field can access the data using hand-held devices to determine if the vehicle has multiple offenses. These fine levels should be applied and modified over time as the program evolves.
    - 1st Offense: $0 fine with a warning educating the public
    - 2nd Offense: $25 fine with an education component on the ticket, such as a brief description that indicates why the ticket was issued and how to avoid it in the future
    - 3rd Offense: $50 fine
    - 4th Offense: $100 fine
- **Use advanced technology** – The use of LPR or handheld devices allows enforcement personnel to cover more area than can be with traditional chalking methods. LPR technology enables enforcement officers to cover more area and easily collect more data about the parked vehicles. Data includes how long vehicles are parked, allowing officers to easily identify which vehicles are in violation of the time limit restrictions; a tracking system for repeat offenders based on a readily available database of issued tickets and associated violations; and vehicle registration information if issuing a citation is necessary.
- **Enforcement officers as ambassadors** – Within the parking industry, the preferred approach to parking enforcement is rapidly shifting to one that focuses on customer service and promoting the proper use of parking facilities. As such, many parking programs are realigning their enforcement staff to act as ambassadors rather than regulatory agents, with the goal of improving the customer experience, not only for parking but also general access into the community. The ambassadors' role is to be highly visible and approachable to residents and visitors who have questions, not only regarding parking but about the general area. These staff members are likely the first (and sometimes only) interaction patrons have with the parking program.
- **Contract out enforcement practices** – The city currently does not have the resources to take over enforcement operations from the Police Department. Therefore, it is recommended that the city contract enforcement operations to a third party that will handle day-to-day enforcement. The contracted company will be instructed by the city and enforce according to how the city dictates (first offense warnings, ambassador-style approach, etc.).
- **Consistency with enforcement** – Increase enforcement staff (through the contracting out) to consistently enforce parking time limits. This would include providing more routine enforcement in high-demand commercial areas and increased focus in areas with high levels of repeat offenses.

- **Extend enforcement hours to 8 p.m.** – The peak parking period in the study area is 7 p.m.; therefore, parking should be enforced through at least 7 p.m. to ensure proper turnover occurs to provide more parking availability.

Use of Time Limits to Encourage Turnover

One of the basic initial tools to manage parking allocation and demand is to implement parking regulations in the form of time limits. This approach provides guidance or the proper use of parking and is intended to help balance demands between short- and long-term users and allocate demand appropriately among resources. This technique is effective in the on-street environment, when spaces need to turnover to support short-term transactions at retail and commercial businesses. The technique is only as effective as the enforcement practices that support the policies. If enforcement is consistent, the time limits will promote turnover and allocate spaces effectively. If enforcement is inconsistent, the public will take more chances because they know they are likely to get away with parking violations.

How Carlsbad is Doing It Now

Currently, the on-street parking in the study area is managed using time limit restrictions on certain streets. The intent of the time limits is to encourage turnover in high demand areas so that more spaces become available and access to businesses and other destinations are maintained. Although there are signs posted indicating the time limits, the enforcement is not consistently present to ensure adherence to time limits. As a result, the public who know the system well, and know that they likely will not receive a citation, do not conform to the regulations, which causes the system to operate less efficiently than it could. This contributes to frustrations when trying to find available parking near their destinations at particular times of day and reduces access to surrounding businesses.

In the online survey (summary provided in Appendix A - Technical Memorandum #1), business owners indicated that employees were parking in on-street spaces adjacent to their workplace. Employees, as recurring users, would likely know the system well and know that they likely will not be cited for parking on the street for longer than the two-hour limit. Data collected as part of this study indicate that this abuse of the time limits might be isolated to employees. In the online survey, 64 percent of employees who took the survey noted that they park in front or directly adjacent to where they work, whereas business owners/managers stated, in the same survey, that they believed only 15 percent of the adjacent parking was being utilized by employees. This indicates that there is a lack of knowledge regarding which user groups utilize the spaces in the parking system. This information is provided in Appendix A - Technical Memorandum #1.

Additionally, duration was evaluated in high demand areas, such as along State Street, and it was found to have a duration of two hours or less; however, some cars were parked there up to ten hours. The vehicles in the Village and beach areas also park for a duration of two hours or less. Durations in the Barrio neighborhood are longer (ranging from two to four hours up to longer than 12 hours). However, this is not unusual since the Barrio contains more residential properties than the Village and beach, which are characterized by commercial properties. This information suggests that the current two-hour and three-hour parking limit is sufficient to meet the needs of the users in the Village and beach areas, but additional enforcement efforts may be needed in high-demand commercial areas to support effective operations of the practices.

Peer City Best Management Strategies

All the peer cities evaluated for this study use time limits as a form of parking management. The time limits range from short-term (30 minutes) to accommodate quick-turnover areas adjacent to uses like dry cleaners or post offices, and long-term (10 hours) to accommodate long-term users who know they will likely be in the area a while to visit multiple locations or conduct their business at one location for an extended period and for employees of nearby businesses. To encourage turnover, the short-term parking is usually located in the areas that have higher demands and shorter visit durations. The long-term parking is located where there is less parking demand, and therefore less need for the spaces to turn over. Having the shorter time limits in areas of high demands encourages vehicles to turn over at a faster rate, allowing more users to park in those spaces throughout the day and resulting in increased access to businesses. Although not a peer city, the City of Vancouver, BC conducted a study that evaluated on-street turnover rates and business sales. The study concluded that higher turnover rates increased sales because each space could accommodate more customers throughout the day. With a turnover rate of 5.6 vehicles per day, average retail transaction of $31.55, and 303 shopping days in a year, the potential retail sales per occupied stall was found to be $53,534 per year[2].

The intent is also to provide long-term users with an appropriate place to park. Those parking for longer periods of time should park farther away from high-demand areas so that they do not occupy the prime spaces. If long-term users, like employees of the business district, occupy these prime spaces all day, access to businesses decreases because patrons are unable to find parking nearby their destination.

As an example of how to use regulations to distribute demands, the City of San Luis Obispo uses time limits to encourage turnover by implementing different time limits in different zones of their downtown. The City of San Luis Obispo refers to these areas as the Super Core, Core, and Non-Core. The Super Core and Core have time limits of two hours, whereas the Non-Core areas have a 10-hour time limit. Signage is used to indicate the time limits to users. Additionally, the City of San Luis Obispo's website provides a map of the parking regulations. The intent is to disperse demands for the Core areas by providing spaces for long-term users on the periphery.

Pros/Cons

Pros

- Improves turnover and availability of parking in areas of high parking demand
- Distributes parking demands by encouraging long-term users to park off-street or in unrestricted on-street locations
- Creates more consistent access to businesses

Cons

- City must prioritize enforcement, which could mean more staff, more budget, more resources, etc. which might not be readily available and would be costly to obtain
- Annual analysis of parking durations and occupancy are needed to determine how well the time limits are functioning

[2] http://www.cityofvancouver.us/sites/default/files/fileattachments/community_and_economic_development/page/11729/downtown_vancouver_employee_parking_guide.pdf

- Relatively inexpensive management technique – cost of signage
- Encourages people to park further away if they desire unrestricted parking. Installing lighting and sidewalk amenities will further enhance their decisions and contribute to balancing the parking conditions in the study area
- Could create spillover parking in areas that don't have parking regulations
- City could experience increase costs associated with implementing and enforcing regulations

Parking Management Strategies for Consideration

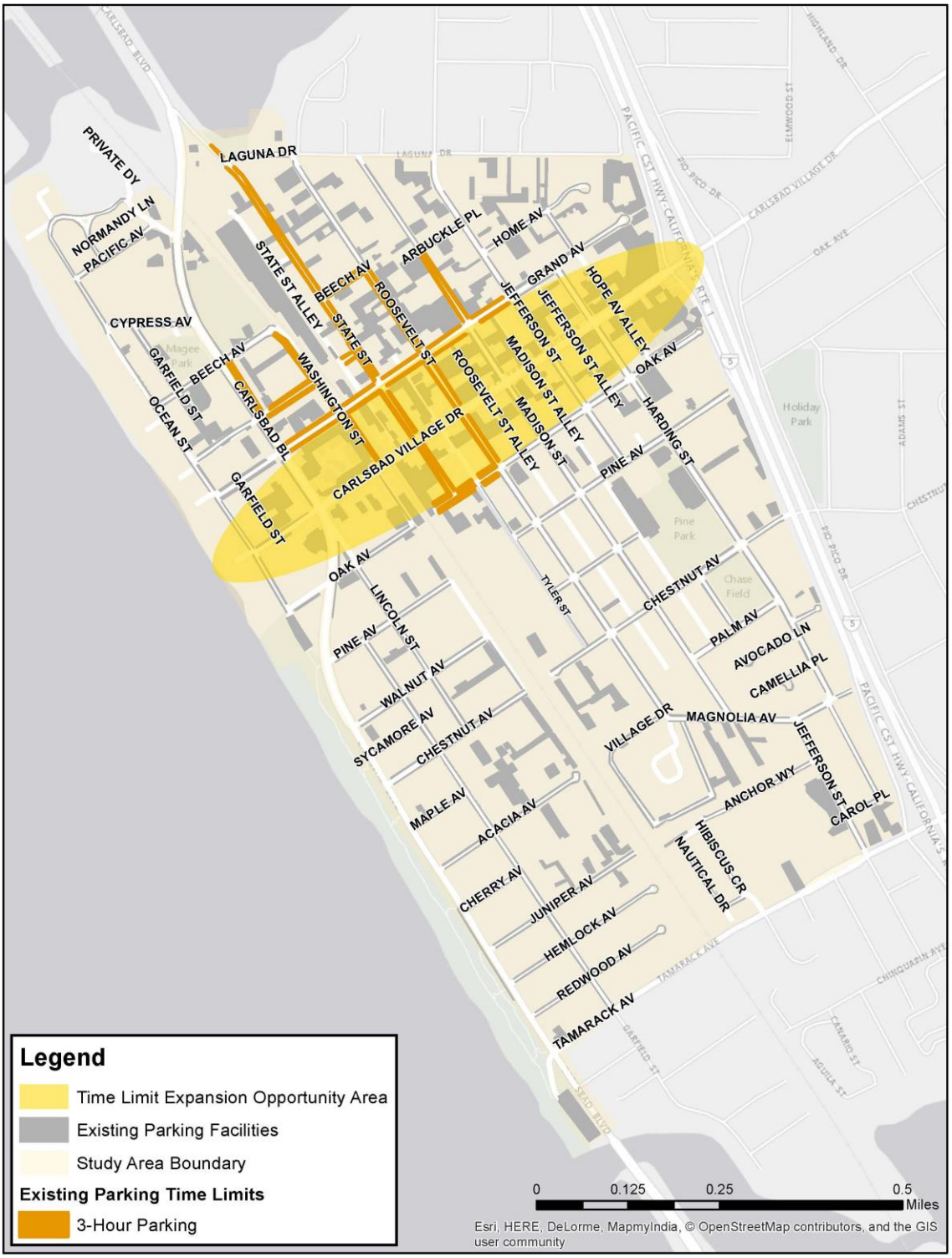
The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Enforce existing time limits** – Consistent enforcement promotes turnover and improves access to business areas. The annual collection of parking occupancy and turnover data can be used to adjust time limit regulations to meet the changing needs of the community. In some instances, it may be suitable to implement shorter time limits to influence turnover or longer time limits to influence a shift in demand.
- **Extend time limits to new areas** – According to the buildout (2035) projections, commercial development is planned to intensify in the Village, particularly along Grand Avenue through the length of the study area (from Ocean Street to I-5), and on streets between Grand Avenue and Oak Avenue. To encourage turnover in these areas and support business access, it would be beneficial to implement time limit restrictions along those streets. Although the Master Plan calls for future growth in these areas, real growth may occur differently than what is anticipated. Therefore, the city should evaluate parking occupancies and duration annually in conjunction with a review of commercial developments to identify areas of commercial growth and expand the time limit restrictions to those areas accordingly. **Figure 3** illustrates the opportunity area for expanding time limits.
- **Extend enforcement hours to 8 p.m.** – The peak parking period in the study area is 7 p.m.; therefore, the parking should be enforced at least through 7 p.m. to ensure that proper turnover occurs to provide more parking availability. The enforcement hours need to be consistent with the business peaking to ensure that patrons can find parking and employees are not allowed to park on-street directly adjacent to businesses.
- **Extend parking time limits to 4 hours after 5 p.m.** – If parking enforcement hours are extended to 8 p.m., the time limits during this time should also be adjusted. In the evening, people come to the area for nightlife activities, such as dining. Parking for restaurants requires a slightly longer time period than retail, which is about 2 or 3 hours. The existing daytime parking limits are adequate to accommodate the daytime demands; however, the city should extend the time limits to 4 hours after 5 p.m. to allow patrons to visit restaurants and other nightlife destinations without worrying

about receiving a citation. It is important to maintain parking time limit restrictions after 5 p.m. to encourage turnover of spaces, since 7 p.m. is the peak parking period in the study area.

- **Revise overnight parking restrictions** – The current overnight parking restrictions are in place to prevent non-residential users from parking on the street. However, this has restricted access to on-street parking by the residents. It is recommended that overnight parking be allowed for residents and their guests only in areas where overnight restrictions are present. Refer to the Residential Parking Program section below for further discussion of this strategy.
- **Revise recreational vehicle (RV) restrictions** – during the public outreach process, many participants noted that RVs blocked access to on-street spaces for long periods of time. The current city policy allows RVs to park on the street for a consecutive 72-hours four times a month. It is recommended that the city reduce the time RVs are allowed to park in on-street spaces to 24-hours. This time allows RV users to load and unload while still providing turnover of the on-street spaces. The city should also implement a graduated fee for repeat offenders. Each time the same RV is in violation of the parking regulation, the fee will increase. The intent is to deter repeated violation of the regulation.
- **Provide time limit information on city website** – Develop program information to be placed on the city's existing website. The intent is to provide easy-to-access information on parking regulations throughout the study area.

Figure 3. Time Limit Expansion Opportunity Area



Reduced Parking Requirements

Parking requirements define the amount of on-site parking that various developments must provide. Traditionally, these requirements have been applied to ensure that specific land uses have adequate parking supply to meet demand. Although common in many communities, the requirement for each land use to provide a minimum amount of parking could become detrimental to the economic growth and preservation of the pedestrian-friendly character in the Village and beach area. The intent of establishing reduced parking requirements is to better align parking requirements with actual parking needs in the community and to transition to a system that utilizes a shared parking supply. Shared parking in combination with reduced parking requirements for developers would optimize the use of existing parking while still allowing developers to provide necessary parking on-site. The reduced number of spaces required encourages mixed-use, pedestrian-scaled development, and can stimulate economic growth in the area. Given the underutilization of the overall parking system, as observed and previously discussed above and in further detail in Appendix A - Technical Memorandum #1 and modeled in Appendix B - Technical Memorandum #2, a combination of shared parking initiatives, participation in the fee in-lieu program, and reduced parking requirements could promote a more efficient use of existing parking facilities.

How Carlsbad is Doing It Now

Developments in the study area are required to build a certain amount of on-site parking per the Village Master Plan and Design Manual (2013) and the CMC to satisfy the generated parking demands associated with the respective type of development. It should be noted that the city is currently updating the Master Plan; however, the parking requirements in the current draft are not final and may be modified based on the findings of this study. For the purposes of this study, the existing (2013) document was used. However, the Master Plan and CMC, as well as other applicable regulations and programs in the city (which are discussed below), allow for waivers, modifications, and reductions to the requirements to address hardships and unique development situations.

- CMC Requirements - The CMC is based on minimum parking requirements, which requires that each development must have at least the minimum required number of spaces for that land use type. The following summarizes the reductions that are included in the CMC.
    - Waivers and Modifications – The CMC requirements can be modified by the city planner if it is demonstrated through a parking study that adequate parking is available to serve the needs of the development and will not adversely affect the neighborhood, site design, or circulation patterns. (CMC Section 21.44.040)
    - Shared Parking – The city allows for the shared use of off-street parking facilities by multiple land uses as long as they can show that they do not have conflicting hours of operation. (CMC Section 21.44.080)
    - Off-Site Parking – Properties can fulfill their parking requirements with the use of an off-site facility rather than providing parking on site. The details of off-site parking are discussed in the following section. (CMC Section 21.44.080)
    - Common Parking Facilities – The city allows businesses to utilize a common, off-site parking facility to satisfy their parking requirements, rather than provide parking on-site. The common facility must be at least 5,000 square feet. Upon approval by the city, the parking requirement may be reduced up to 15 percent if the facility is shared between two or more businesses. (CMC Section 21.44.090)
- Village Master Plan and Design Manual (2013) – The Master Plan highlights parking requirements that are specific to the Village area. These specific requirements are a reflection of the different character and development patterns that exist in this area. Many of the same reductions that are provided under the CMC are applicable in the Village, however, they are further enhanced in the Village. The parking requirements in the Village are reduced, and the reduced rates are found in the Master Plan (Chapter 6). Furthermore, parking standards may be waived through a Development Standard Modification. Modifications to the parking standards are granted by the City Council (Chapter 3). Additionally, the Master Plan allows non-residential developers to pay an in-lieu fee payment rather than provide the required parking spaces. East of the railroad tracks, developers/property owners are able to pay an in-lieu fee for up to 100 percent of their required on-site parking for new development or conversion of uses (Chapter 6).
- Carlsbad Climate Action Plan (CAP) and Mobility Plan – Reductions to the parking requirements could be allowed to a property if the applicant performed a parking study and could show how Transportation Demand Management (TDM) measures would support the reductions. The Mobility Plan calls for flexible parking requirements that utilize a variety of techniques including, although not limited to, shared parking, off-site parking, cash-out programs, in-lieu fees, and public-private partnerships. The CAP and Mobility Plan both recognize that a focus on implementing TDM strategies can also reduce the parking demands and allow the city to provide enough parking to support economic development without providing too much parking that it deteriorates the community's character.

- Density Bonus Law – State density bonus law provides a means for granting density bonuses and incentives or concessions to developers that provide affordable or senior housing. If the development includes the maximum percentage of low or very low income units or is comprised of affordable rental units, and is located within a half-mile of a major transit station, then the maximum parking requirement is 0.5 spaces per bedroom, as opposed to the standard 1-2 spaces/unit. The transit station within the study area is designated as a major transit stop, and therefore, many Village properties benefit from this reduced parking standard.
- In-Lieu Fee Program – The in-lieu fee program allows developers of non-residential properties to pay a fee per space rather than provide some or all required parking on site. The in-lieu fee program is discussed in greater detail later in this Technical Memorandum.
- Accessory Dwelling Unit (ADU) Law – The ADU law is a California State law that applies to secondary, or accessory, dwelling units. In accordance with the law, parking space requirements may not exceed one space per unit or bedroom. However, no parking is required if the accessory unit is within a half mile of a major transit stop, within an existing primary unit, or within one block of a car-sharing vehicle service or designated pick up or drop off location. The transit station within the study area is designated as a major transit stop, and therefore, properties in the Village, Barrio, and beach areas generally north of Chestnut Avenue benefit from this exemption.

Peer City Best Management Strategies

Of the cities reviewed as part of this study, Dana Point, San Luis Obispo, Huntington Beach, and Santa Monica all have established reduced parking requirements in their downtown areas. In the cities of San Luis Obispo and Dana Point, parking requirements in their downtowns are half of what is required outside of the downtown areas. For instance, in San Luis Obispo, hotels outside the downtown core are required to provide one parking space per room, whereas hotels within the downtown core may provide 0.5 space per room. For restaurants outside the downtown core, parking must be provided at one space for every 60 square feet of customer use area, but is reduced to one space for every 120 square feet of customer use space within the downtown core. As a result, businesses can develop in a more walkable and pedestrian-oriented fashion in the downtown areas, contributing to improved economic vitality of the communities. Refer to **Table 3** above for a summary of the parking requirements for each of the peer cities, including primary land use categories and whether the community enforces a minimum or maximum (the lower or upper supply limits established per site or across a defined area).

Active links to peer city parking requirements referenced above:

City of Dana Point – Town Center Lantern District Parking Plan (January 2014)

San Luis Obispo: Zoning Regulation 17.16.060 H. Parking Space Requirements

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Pros/Cons

Pros

- Allows for the provision of appropriately sized parking, rather than oversupplied facilities
- Promotes smart growth development
- Supports pedestrian-friendly orientation
- Allows redevelopment of older buildings that currently are under parked
- Allows developers to provide adequate parking that meets their needs

Cons

- Concern from the public that sufficient supply of parking will not be provided
- Parking reductions can encourage development by alleviating projects of the cost of over supplying parking spaces
- Parking reductions decrease the cost of living for residents as the cost of constructing parking is passed on to residents through their rents

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Establish parking requirements that are appropriate for the community** – As shown in the Park+ modeling discussed in the Evaluation Findings section of Appendix A - Technical Memorandum #2, current parking requirements have resulted in an unbalanced distribution of parking assets. The model generated parking rates that represent actual demands in the study area. Municipalities typically base their parking rates on national standards such as ULI and ITE and are then modified for the community per Staff input and observed behaviors collected in the field. National standards are based on parking occupancy case studies from around the country. The Park+ model rates are based on the parking occupancies observed in May and July 2016 and the existing land uses and parking relationship in the study area. **Table 4**, on the following page, compares the current parking rates for the city and Village with the rates generated by the Park+ model and national standards. With the exception of restaurants, the table shows that the proposed rates in the proposed Village and Barrio Master Plan are comparable with those derived from the Park+ model, with the Park+ model being slightly lower.

  The proposed rates in the proposed Village and Barrio Master Plan are more consistent with the observed parking conditions in the study area and should be adopted as new reduced parking requirements for the areas the proposed Master Plan represents. The use of these requirements in future developments should help to reduce the amount of underutilized parking in the study area and move to both right-size the parking system and promote better shared parking, especially as involvement in the city's in lieu program increases with recommendations from the previous section.

Though the restaurant parking rate in the proposed Master Plan is lower than the Park+ model (requiring 8 spaces per 1,000 square feet versus 13 spaces per 1,000 square feet), adequate parking supply exists in the study area and the parking management strategies identify opportunities, such as shared parking, to further increase and enhance supply. Strategies also recommend monitoring implementation of parking requirements as well as parking demand and adjustment of parking rates if necessary.

Table 4. Minimum Parking Requirements

CITY	RESIDENTIAL			COMMERCIAL	RESTAURANT	OFFICE	HOTEL
	SINGLE FAMILY	MULTI-FAMILY	GUEST				
Carlsbad Municipal Code (CMC 21.44)	2 spaces/ unit	1.5-2 spaces/ unit	0.3 spaces/ unit (up to 10 units); 0.25 spaces/ unit (more than 10 units)	3.3-5 spaces/ 1,000 sf	1 space/100 sf if < 4,000 sf; if 4,000 sf or more, 40 spaces plus 1 space/ 50 sf in excess of 4,000 sf	4-5 spaces/ 1,000 sf	1.2 spaces/ room
CMC 21.45 (Planned Developments)	Same as CMC 21.44	Same as CMC 21.44	Same as 21.44, except guest parking may be permitted on-street	n/a	n/a	n/a	n/a
CMC 21.82 (Beach Area Overlay Zone)	Same as CMC 21.44	Same as CMC 21.44	Same as CMC 21.44	n/a	n/a	n/a	n/a
Existing Master Plan – inside the Coastal Zone (Chapter 6)	2 spaces/ unit	1.5-2 spaces/ unit	0.5 spaces/ unit (up to 10 units); 0.25-0.3 spaces/ unit (more than 10 units)	3.3 spaces/ 1,000 sf	Same as CMC 21.44	3.3 spaces/ 1,000 sf	1.2 spaces/ room
Existing Master Plan – outside the Coastal Zone (Chapter 6)	2 spaces/ unit	1-2 spaces/ unit	None	3.3 spaces/ 1,000 sf	1 space/125 sf	2.9 spaces/ 1,000 sf	1.2 spaces/ room
Proposed Master Plan (Section 6.4, 2016 Draft)	2 spaces/ unit	1-1.5 spaces/ unit	"ND" and "ED" Districts: 0.3 spaces/ unit (up to 10 units); 0.25 spaces/ unit (more than 10 units) All other districts: None	2.8 spaces/ 1,000 sf	1 space/125 sf	2.8 spaces/ 1,000 sf	1 space/ room
Study Area (Park+ Results)**	1.5 spaces/ unit	1.04 spaces/ unit	-	2.7 spaces/ 1,000 sf	13 spaces/1,000 sf	2.4 spaces/ 1,000 sf	0.69 spaces/ room

National Parking Standards[3]	1-1.2 spaces/unit	0.59-1.52 spaces/unit	-	3.6-4.5 spaces/1,000 sf	-	2.4-2.84 spaces/ 1,000 sf	-
San Diego Region[4]	-	1.75-2.5 spaces/unit	-	4 spaces/1,000 sf	-	3.6 spaces/ 1,000 sf	-

[3] "Parking Strategies for Smart Growth" (DRAFT), SANDAG (June 2010)
[4] Residential and office rates from ITE Parking Generation, Retail rate from ULI Shared Parking

- **Monitor implementation and demand** – Annually monitor the new parking demand associated with development and adjust parking requirements accordingly. With evolving transportation patterns associated with driving behaviors, travel mode choice, and changing automobile characteristics (rideshare, autonomous and connected vehicles), it will be critical for the city to observe demands and adjust based on evolving occupancy and community impacts.
- **Adjust parking ratios to account for calculation method changes** – For current developments, the city has calculated parking requirements that account for the net floor area of a specific building or development. The net floor area removes non-active areas like hallways, utility closets, and lobbies from the gross floor area. Additionally, once the TDM program is in place and the impacts of it start taking effect, the city should evaluate their parking rates and consider further reductions to the rates. A reduction may be necessary as parking demands and relationships within the study area may have changed due to the effects of TDM strategies. Even further into the future, possibly beyond the scope of this Plan, the city should consider implementing parking maximums within the study area. The city could allow developers to provide more than the maximum allowed, with the caveat that those extra spaces be made open to the public. The intent of maximums is to right-size the parking that is added into the study area so that developments don't provide too much parking, which would be detract from the walkable character of the community.

Shared and Off-Site Parking

Traditionally, throughout the United States, new developments or infill developments have been required to provide parking for their patrons on site, adjacent to the business. This practice was designed to ensure that new vehicular demands from a business would not impede the operations of another business or adjacent residential areas. However, in the past 20 years, the planning community has developed new strategies that help to alleviate the need for undue space for parking and in many cases, provides a reduction in the overall need for parking in an area. In addition to reduced parking standards and other regulatory means discussed in the previous sections, two additional primary strategies are defined below:

- **Off-site parking** allows land uses to provide their required parking spaces in another location that is not on the building site. The parking site must be within a defined, reasonable walking distance of the development. Often, these off-site facilities are also shared between a number of land uses with varying peak demand periods, optimizing the use of the facility.
- **Shared parking** allows two or more land uses to utilize the same parking facility without conflict. The intent is to optimize the use of the parking facility so that parking is not underutilized. The practice of shared parking works best with a mixture of land uses that are near one another and have offsetting peak conditions, such as an office and a church. Typically, shared parking is a tool that is used between private businesses. However, cities can, and do, participate in shared parking opportunities.

  In the cases where cities provide a pool of shared parking for the business community, the spaces often come in the form of additional public parking lots with an emphasis on leased spaces for employees or businesses. While this form of shared parking is not yet practiced in Carlsbad, shared

parking also may occur between businesses. Cities can also use revenues generated from their parking system (e.g., revenue from in lieu fees and metered parking) to lease spaces for public use from privately owned facilities that are underutilized. These facilities may be on the periphery of the high-demand areas or private lots in popular locations that are underutilized because the facilities restrict public parking.

How Carlsbad is Doing It Now

Per Chapter 21.44 of the CMC, the city allows property owners to enter lease agreements where properties can share a common off-street and/or off-site parking resource to meet their parking needs. Chapter 6 of the existing Village Master Plan and Design Manual (2013) provides more information on the city's current policies and approval process for establishing shared parking agreements. General guidelines, however, include:

- **Shared Parking** – Land uses can share parking as long as their operating hours do not conflict with one another. The following regulations must be followed to share parking:
    - Up to 50 percent of parking required for a use with daytime demands can be accommodated by the parking facilities for a use with nighttime parking demands, and vice versa
    - Up to 100 percent of required parking can be satisfied for a church by facilities that primarily have weekday daytime parking demands
    - Up to 50 percent of required parking for churches can also be utilized by on-site accessory day care use, so long as the operating hours for the church and day care do not conflict with one another
    - Outside the Village, properties looking to share off-street parking must be within 150 feet of the parking facility
    - Inside the Village, properties looking to share off-street parking must be within 300 feet of the parking facility per the city's existing General Plan
    - Interested participants must submit an application to the city demonstrating that the uses utilizing the parking facility do not have conflicting operating hours
- **Off-Site Parking** – Properties can share common parking facilities that are not on the actual property site.
    - Inside the Village, the proposed Village and Barrio Master Plan (2016) recommends that properties looking to fulfill their parking requirements off-site must be within 1,320 feet (quarter mile) of the parking facility. A quarter mile walking distance was identified as a distance that people could comfortably walk within the study area. It is considered a "reasonable walking distance."
    - Property owners have two options for off-site parking: 1) lease spaces from an existing facility, or 2) purchase land and build parking for their needs. In both situations, the

parking can be shared with other properties and uses. The property owners can collectively fund new parking and share the spaces if desired. In either situation, the off-site parking must satisfy the parking requirements for the combined, standalone uses. If the parking facility is 5,000 sf or larger, then each of the businesses or properties that share the parking facility are able to reduce their respective requirements up to 15 percent. For instance, if three properties are required to provide 100 spaces each to meet their individual parking demands per the CMC, the property owner can reduce their required parking to 85 spaces each if they plan to share parking in an off-site facility that is 5,000 sf or larger, subject to city approval.

In the city of Carlsbad, shared parking is primarily an agreement between private businesses. However, the city can participate in leasing property from other public entities at a monthly or annual rate for public parking. The city currently leases land from NCTD to provide public parking in lots on the east and west sides of the railroad tracks between Washington Street and State Street, for a total of 102 parking spaces. The lease rate is approximately $44,000 annually, or $431 per space.

Peer City Best Management Strategies

Most of the cities reviewed in this study allow property owners to share parking, as long as the property owners can prove that the parking demands of the properties will be met.

Allowing shared parking between property owners is an important tool to use for managing parking without oversupplying spaces. However, cities can take a more active role and work with private operators to lease spaces. The City of Laguna Beach leases spaces from private parking facilities that are underutilized and remotely located. During the week, the spaces are for City of Laguna Beach employees, but in the evenings (after 5 p.m.) and on the weekends, the spaces are available to the public. Proper wayfinding signage and messaging have been highly effective in directing the proper users to the appropriate facilities at the proper times. Furthermore, sharing parking in the remote lots distributed the parking demand from the high-demand areas and brought occupancies in those areas down to at least 85 percent, which is the City of Laguna Beach's threshold for parking occupancy.

Pros/Cons

Pros

- Balances parking demands by distributing the demands from high-utilization areas to lower utilization areas, creating more availability in facilities
- Makes the cost of doing business or living in the area more affordable because the parking requirements can be met without the developer having to pay for on-site parking
- Promotes smart growth development
- Supports pedestrian-friendly orientation

Cons

- Concern from the public that sufficient supply of parking will not be provided, especially as uses change over time
- Requires monitoring the parking system frequently and consistently by the city to ensure the system works properly
- Requiring developers to meet their individual parking requirements on-site can be prohibitive for developers and small businesses by increasing the cost of doing business because they have to pay for parking that may not be necessary
- Requiring developers to meet their individual parking requirements on-site can increase the cost of living for residents as the cost of constructing parking is passed on to residents through their rents

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Maintain and broker shared parking agreements to encourage development** – The parking program should be responsible for brokering shared parking agreements for existing businesses and new development using the known inventory of parking spaces, occupancy data from this study, and subsequent updates based on annual data collection efforts to help define opportunity areas. For shared parking to be successfully implemented, the city needs to play a very active role in both identifying shared parking opportunities in high-demand areas and negotiating agreements for the shared use of the parking facility. Shared parking can be between two private businesses or between the city and private business, where the private business decides to open its parking facility to the public during non-business hours.
    - Identify parking that is underutilized and is within 1,320 feet (quarter mile, which has been identified in the proposed Village and Barrio Master Plan (2016) as an acceptable walking tolerance in the study area) to the business.

- For instance, in the Park+ modeling further discussed in Appendix B - Technical Memorandum #2, facilities observed at 50 percent occupied or less were identified and re-categorized to demonstrate the impact of such agreements on the parking demand distribution. This metric, however, can be adapted as opportunities are reviewed, if needed.
- While any facility that is consistently observed below effective capacity can be a good candidate for a shared parking agreement, the greatest impact will be achieved through incorporation of those facilities with lower occupancies that can realistically absorb more vehicles. For instance, a surface lot with 100 parking spaces that averages 50 percent occupancy may provide a greater return on effort in negotiating an agreement than a surface lot of the same size that averages 80 percent occupancy. However, if the lot with the lower occupancy is in an area that does not already experience high demand, a shared agreement will have little to no effect on redistributing the demand. Therefore, both occupancy and location must be evaluated in identifying shared parking opportunities.

- Revise existing distance requirements for shared parking from 150 feet and 300 feet (as stated in the Code) to the longer distance of 1,320 feet (quarter mile).
- Use incentives to encourage businesses and developers to participate in shared parking agreements. Incentives successfully utilized in other communities include:
  - Reductions to parking minimum requirements
  - Maintenance services (i.e., snow removal, line striping, or lot cleaning)
  - Direct monetary compensation/lease agreements
  - Provision of liability insurance to help cover risk for private property owners
- As with any parking facility, the pedestrian experience should be considered when evaluating potential facilities for shared parking opportunities. This includes a safe path of travel between the parking facility and destination that is well illuminated, has clear wayfinding and signage, and is designed to promote a walkable, park-once mentality for residents, employees, and visitors in the area.

- **Utilize shared parking opportunities to create permit-only off-site employee parking** – Define specific employee parking opportunities where employees who work in the study area can park in the designated facility with a valid permit. This approach works best when on-street parking is regulated with time limits or paid parking, because employees must choose among the options including:
  1. Potentially receiving a citation for a time limit violation
  2. Moving their vehicle every two or three hours to avoid a citation

3. Paying for premium parking near their business
4. Paying a lower amount for permit parking that is off-street and may be in a less convenient location but provides a consistent destination without the threat of citation and fines

Permits can also be provided at no cost to further incentivize their use. However, without paid parking to discourage continued use of the more convenient on-street parking spaces, consistent enforcement and restrictive time limitations are necessary to ensure employees do not abuse the on-street parking. The city should administer the permits to employees, with proof of employment in the study area.

Permit programs can be scaled as appropriate for shared parking agreements. For instance, the EasyPark Employee Parking Program in Anchorage, Alaska provides employees of the central retail district with reduced cost permits that provide access to specific shared and public parking facilities, but require employees to demonstrate continued employment within the qualifying area on a regular basis.[5] Large-scale permit programs such as these generally permit based on license plates to prevent pass-back entries often associated with card systems or doubling up on placards.

- **Utilize shared parking opportunities for valet parking** – Underutilized off-street parking facilities can be used to house vehicles that use valet services, where applicable. The city should broker agreements between the valet companies and parking facility managers to determine the amount of parking that could be set aside for valet use and the times and days of the week it would be appropriate to share the parking facility. Not only does this support improved utilization of existing parking assets, but may provide new developments an additional resource when applying for a reduced parking requirement variance.

  Each application of this strategy will be unique to the land use(s) associated with the demand being met and should be reviewed for location of valet station, loading zone and queues, the location of the storage lot, and parking method (i.e., stacked parking, traditional spacing, or other method), as well as the impact of traffic along the route from the generating land use(s) to the storage lot. Policies should be set to determine how far a storage lot can be from the associated land use(s) and around valet service operations to ensure neighborhood livability is not detrimentally impacted.

  - The valet concept could be enhanced through the concept of a centralized valet that serves primary destinations in the Village. A centralized valet uses one valet operator stationed at strategic locations throughout the area to serve a large section of the community. This centralized operation allows patrons to drop their vehicle at one location, walk between multiple destinations, and pick up their car from another valet stand at another location. This concept provides greater access to businesses in a district and promotes more active use of the district. Coral Gables, Florida has a centralized valet program along their Miracle Mile shopping area that is supported by

[5] Downtown Employee Parking Program – Parking Incentive for Downtown Workers, July 15, 2016 http://www.easyparkalaska.com/latest-news/16-07-15/Downtown_Employee_Parking_Program_%E2%80%93_Parking_Incentive_for_Downtown_Workers.aspx

adjacent businesses and promotes a much more active environment and has resulted in higher sales returns for restaurants and businesses in the area.

- **Lease parking spaces in existing private facilities for public use** – Investigate the potential to lease parking spaces in underutilized private facilities to open those spaces to the public and optimize the available parking supply in the study area. These locations could be used as Park Once locations that are served by mobility services that access areas outside of a reasonable walking distance of the leased lots. The Park Once concept promotes development and policies that encourage parking patrons to utilize one parking space to access multiple destinations. For instance, visiting shopping at a retail shop, then visiting a restaurant, without moving their vehicle between destinations. This is often promoted through improved pedestrian environments, shuttle and circulator service, and/or shared mobility services.
- **Lease parking spaces in NCTD facilities for public use** – NCTD currently owns the right of way along the railroad tracks through the study area. Current plans to double-track the railroad, and possibly trenching the tracks in the future, would use additional right of way, but still leave a surplus of useable space in the future. This space would be predominately along the west and east sides of the tracks between Tamarack Avenue and Oak Avenue. Parking along the tracks could provide additional parking for Barrio residents, beach visitors, which in turn would relieve parking conflicts on residential streets between residents and beach-goers. **Figure 4** illustrates opportunity areas for leasing additional spaces from NCTD.

NCTD Rail Corridor – Potential to add more parking as a shared resource

- **Monitor shared parking system annually** – Annually audit the effectiveness of the shared parking program by collecting parking occupancy data and feedback regarding the business and patron experience. At the same time, the city should also assess the status of any shared parking agreements in place and how well those agreements are functioning, which should be obtained through the same data collection effort conducted to identify potential additional facilities previously described. Using this data, the city could adjust the program to meet the needs of the community as it evolves. Refer to the Parking Program Administration section of this document for further details on data collection and analysis processes.

Figure 4. Leased Parking Opportunity Areas

Parking In-Lieu Fee Program

To encourage economic growth, maintain character, and encourage pedestrian-friendly downtown areas, a growing number of municipalities allow developers to pay for the construction of parking spaces that are not provide on-site, which can then be used for shared parking for their businesses. The city currently has an in-lieu fee program, but this study recommends that the current program be restructured to minimize an overabundance of the underutilized parking facilities and to contribute to mobility improvements in the area.

How Carlsbad is Doing It Now

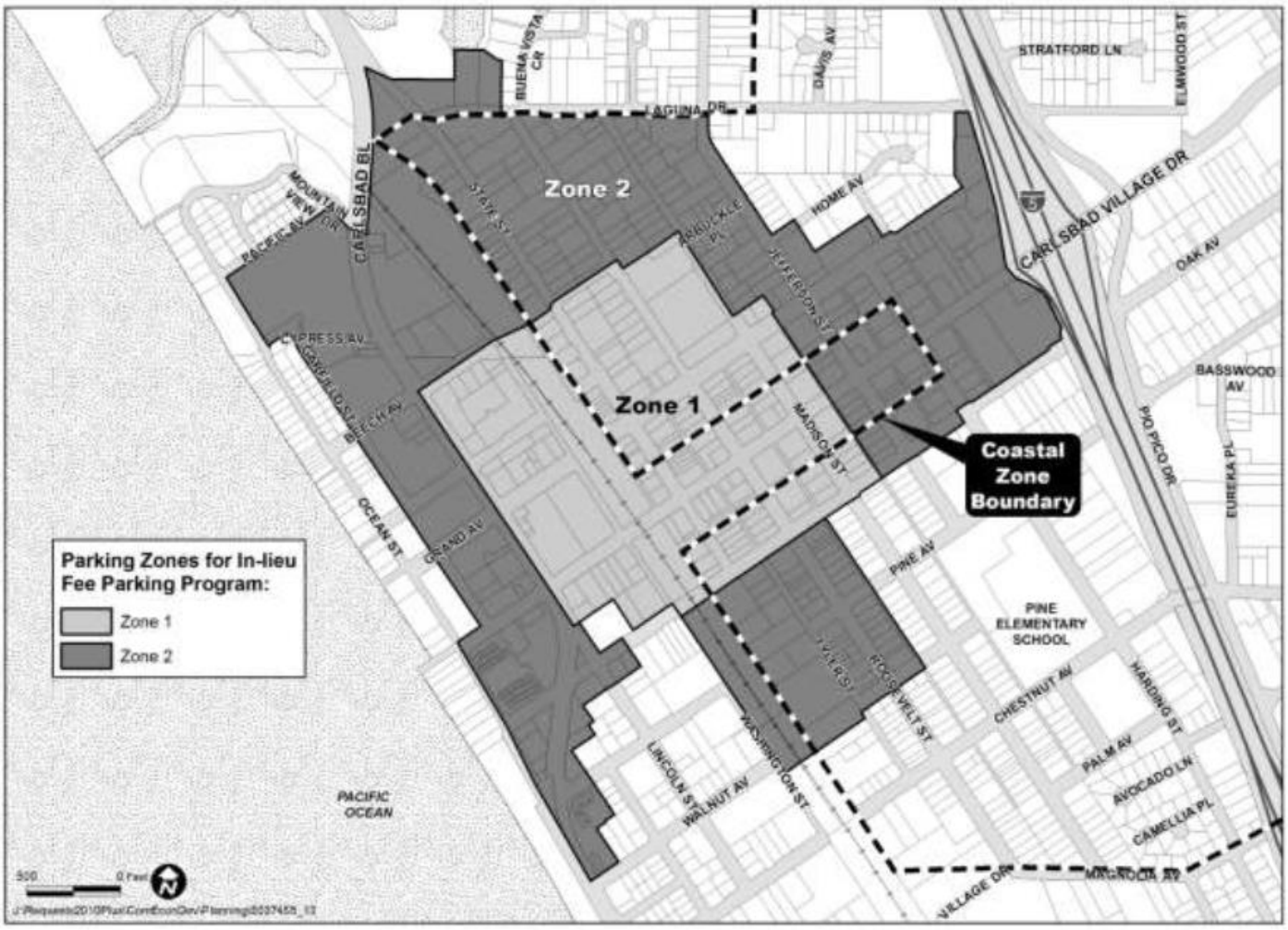
A parking in-lieu fee program allows non-residential developers to build less parking than is required by the code by paying the city a fee for each space that the developer is not providing on-site. The city can then use that fee to construct new or maintain existing, public parking facilities within the Village. The fee is based on a determination of the estimated cost of providing a single above ground structured parking space, including land, construction, soft costs and maintenance. Participation in the in-lieu fee program is at the city's discretion and is based on, among other things, the availability of adequate public parking to accommodate a project's parking demand. In-lieu parking fees have been collected by the city since 2000.

Two aspects of the In-lieu Fee Program are essential to understand:

1. The funds are put toward development, or maintenance, of shared Village public parking facilities. The revenues do not result in a reserved parking space or spaces for those who pay the fees. Reserved parking conflicts with the objective of maximizing the utility of all parking resources.
2. In-lieu fees alone are not likely to equal the entire cost of new parking facilities on a per space basis, but will need to be matched or leveraged with other funding sources. Because the fees are intended to function as an incentive, in-lieu fees are not expected to cover the cost of remedying existing parking deficits. In-lieu fees will also reflect the fact that public parking will be shared, resulting in better utilization and relatively lower costs in comparison to the cost of exclusive on-site private parking.

Presently, payment of the in-lieu fee is permitted only for properties in the Village which are located east of the railroad corridor. An in-lieu fee parking program shall only be permitted in the remaining Village Review west of the railroad right-of-way when it can be demonstrated that 1) a bona fide fee has been established to implement such a program; 2) specific sites have been identified where parking facilities will be constructed; and 3) detailed criteria and procedures have been established for the annual assessment of parking utilization subject to the completion of a parking study or other technical information. Before the program can be implemented west of the railroad, it must be first reviewed and approved by the California Coastal Commission through an Amendment to the city's Local Coastal Program (LCP). There are two zones that define the in-lieu fee program, as illustrated in **Figure 5**. **Table 5** summarizes the different restrictions within each zone.

Figure 5. Existing In-Lieu Fee Boundaries



Source: Existing Village Master Plan (2013)

Table 5. In-Lieu Parking Zone Participation Requirements

CONDITION	ZONE 1	ZONE 2
Property is outside of Coastal Zone	100 percent of required parking may be offset by in-lieu	100 percent of required parking may be offset by in-lieu
Property is within Coastal Zone and there is/will be public parking within 600 feet in the next three years	100 percent of required parking may be offset by in-lieu	50 percent of required parking may be offset by in-lieu

CONDITION	ZONE 1	ZONE 2
Property is within Coastal Zone and there is not/will not be public parking within 600 feet in the next three years	50 percent of required parking may be offset by in-lieu	25 percent of required parking may be offset by in-lieu

In both zones, the property owner or developer can participate in the program and pay a fee-per-space instead of providing the required on-site parking. Currently, the city's in-lieu fee program does not apply to residential developments. Residential developments must provide the required parking on site.

The current in lieu fee per space is $11,240, which has remained the same since the Village Parking In-Lieu Fee Program was established by the city's Housing and Redevelopment Commission in June 1999. The fees are intended to cover one-third of the cost of a structured parking space in the Village, which includes land, construction, maintenance, operations, and the purchase of parking spaces. The fees are deposited into a separate fund, which can be solely used to purchase and maintain existing parking. **Table 6** summarizes the number of developments that participated in the program each year since the program's inception and the associated number of spaces purchased.

Table 6. Historical In-Lieu Fee Program Participation

YEAR	NO. OF PARTICIPANTS	NO. OF SPACES
2000	1	12
2001	1	11
2002	0	0
2003	0	0
2004	1	4
2005	0	0
2006	3	28
2007	1	63
2008	0	0
2009	0	0
2010	1	1
2011	0	0
2012	0	0
2013	1	9
2014	2	6
2015	1	8
2016	1	21
Total	**13**	**163 spaces**

Since the start of the program in 2000, 13 development projects have participated in the program, equating to a total of 163 spaces that have been paid for through the program, which equates to approximately $1,832,000. On average, developers have paid into the program at a rate of nearly 10 spaces per year,

equating to approximately $112,400 annually. Since its inception in 2000, the fee in-lieu program has earned $1.9 million and has an approximate balance (as of October 2016) of $790,000. At the current rate of participation in the fee in-lieu program, the revenue earned through the program is not substantial enough to pay for the construction of structured parking.

As stated previously, the city uses the revenues earned through the program to purchase and maintain existing parking. In 2009, the city purchased property for a public parking lot located at 3045 State Street for $1.15M that provides 50 public spaces. In the 1970's and 1980's, the city started leasing NCTD land east and west of the railroad tracks between Washington Street and State Street, to provide an additional 102 spaces. This is a total of 152 spaces that the city has paid for or is leasing with money collected from the in-lieu program. **Table 7** summarizes the annual monetary results of the in-lieu fee program to-date.

Table 7. Historical In-Lieu Fee Program Revenues and Expenditures

YEAR	NUMBER OF SPACES PAID FOR BY FEE	REVENUE	EXPENDITURES	INTEREST EARNED	FUNDS AVAILABLE*
2000	12	$ 134,880	$ -	$ 12,005	
2001	11	$ 123,640	$ -	$ 13,468	
2002	0	$ -	$ -	$ 13,410	
2003	0	$ -	$ -	$ 2,520	
2004	4	$ 44,960	$ -	$ 8,537	
2005	0	$ -	$ -	$ 8,253	
2006	28	$ 314,720	$ -	$ 29,311	
2007	63	$ 696,880	$ -	$ 53,299	
2008	0	$ -	$ -	$ 65,318	
2009	0	$ -	$ (1,150,845)	$ 8,410	
2010	1	$ 11,240	$ -	$ 5,509	
2011	0	$ -	$ -	$ 4,655	
2012	0	$ -	$ (42,359)	$ 756	
2013	9	$ 101,160	$ (42,196)	$ 5,788	
2014	6	$ 67,440	$ (42,901)	$ 3,778	
2015	8	$ 146,120	$ (43,332)	$ 8,412	
2016	21	$ 236,040	$ (38,328)	$ 1,645	
Total	**163**	**$ 1,877,080**	**$ (1,359,962)**	**$ 245,074**	**$ 762,193**

**In addition to the spaces paid for through the in-lieu fee program, there are revenues that contribute to the same fund that are generated from the café curb use fee. The café curb use fee is $1,200 per parking space, per year, and has contributed $18,000 to the fund since 2013. As of February 2017, the total amount of funds available is $780,193.*

Comments made at the August 2016 public workshop and in the online survey indicated that citizens in the study area are divided about using in-lieu fees to meet parking requirements. One side of the argument

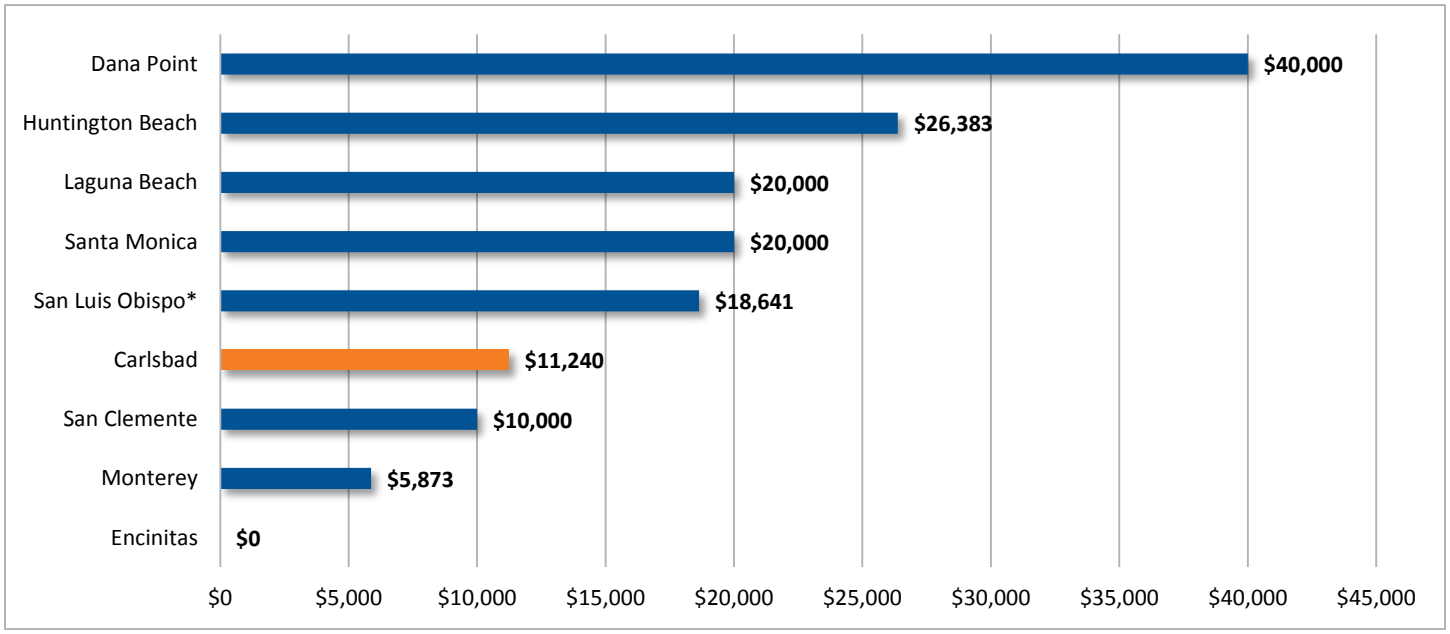
supports the concept of using in-lieu fees to contribute to shared parking resources, stating that requiring businesses to pay for and build parking on-site was not cost effective and a deterrent for attracting new development. However, opponents stated that they are concerned about available parking if businesses do not provide on-site parking.

The cost to provide parking can be substantial for businesses. On average, in the State of California, construction of above-ground structured parking is estimated at approximately $20,000 per space without land acquisition. However, this cost can vary throughout the state. The cost for underground parking is substantially more expensive. The cost for underground parking increases with each level that is constructed underground. For the first level of underground parking the cost is estimated at approximately $30,000, the second level is $35,000, and $40,000 for a fourth level, all without land acquisition. These costs vary based on the specifics of the underground facility and location.

Peer City Best Management Strategies

To encourage economic growth, maintain character, and encourage pedestrian orientation in downtown areas, cities allow developers to pay for the spaces that are not provided on-site. Almost all the peer cities reviewed as part of this study had some form of an in-lieu fee program. The peer cities represent a comparable market for the City of Carlsbad based both on the size of the city or the character of the community. As such, their in-lieu fee rates were reviewed to determine the market rates for the area. **Figure 6** compares the in-lieu fees for the peer cities that were reviewed with the current fees for Carlsbad.

Figure 6. Comparison of In-Lieu Fees with Peer Cities



**San Luis Obispo has a fee of $4,660 per space fee for a change in the occupant. The higher fee of $18,641 is the per space fee for new construction*

Pros/Cons

Pros

- Supports economic development
- Supports the concept of "park once"
- Helps contribute to a walkable community
- Enables developments to provide "right-sized" parking in a downtown setting
- Contributes to the supply of shared public parking, which can serve many uses effectively

Cons

- The parking system must be monitored frequently and consistently to ensure that the parking supply can support parking demands
- Concern from the public that adequate parking will not be provided over time as developments enter the area
- Depending on in-lieu fee pricing, other funding sources may be required to construct parking

Parking Management Strategies for Consideration

In-lieu fee programs are important to not only support economic development in a downtown area, but also provide a significant funding source for the community. In many communities, in-lieu fee programs fund non-parking infrastructure improvements, such as alternative transportation measures that support a reduction in parking demand.

- **Maintain the current fee in-lieu rate –** While the city's current in-lieu fee is less than most of the peer cities reviewed as part of this Plan (refer to Figure 6 for a comparison of rates), it is recommended that the city maintain its existing fee. Maintaining the fee in-lieu rates will incentivize developers to participate in the program. The current fee ($11,240) is 60 percent of the estimated cost to construct a structured parking space in California ($20,000) and does not include land acquisition or other soft costs. However, because a parking structure was not found to be necessary to accommodate future demand, a lower rate is feasible to fund leased parking and TDM programs. Furthermore, keeping the fee lower than the full cost of constructing a parking space incentivizes developers to participate in the program. It is cheaper for them to pay the in-lieu fee than it is to construct a structured parking space. The city should continually monitor participation in the fee in-lieu program as well as public parking occupancy rates. As participation rates and occupancies increase, the in-lieu fee level should be reevaluated by the City Planner for potential increases.
- **Review fees annually –** Evaluate the in-lieu fee annually and as needed. The goal is to maintain a fee that encourages participation in the program and is high enough to fully fund implementation of parking management strategies. The cost of the parking management strategies should be regularly evaluated and should be implemented is cost effective compared to the price of a new space. The city should refer to RSMeans data to evaluate their fees annually. RSMeans data provides construction costs and will enable the city to determine the cost of constructing a parking

space. Over time, the city should set the in-lieu fee to be no higher than 60 percent (based on current conditions) of the cost of constructing a structured parking space in the community to encourage participation in the program. All fees should be used to reinvest back into the parking system and parking management strategies.

- **Use development regulations to encourage participation in the in-lieu fee program –** Current development in the study area provides ample space to build parking; therefore, there is little incentive for developers to participate in the in-lieu fee program. While the fee in-lieu program is not widely utilized currently, development will likely increase. As infill development occurs in the study area, developers will be encouraged to pay the in-lieu fee rather than construct new parking because the relative value for other uses will increase. The city could also use development regulations that limit the ability to build surface parking for good urban design reasons: more efficient use of land, improved aesthetics, reduce heat islands, promote walkability, etc. These regulations could include location and placement of surface parking, setback requirements, and general density requirements to minimize lots that are primarily composed of surface parking and a smaller building. The city should also actively promote the program during the development review process to encourage participation.
- **Allow funds to pay for improvements that reduce parking demand –** Amend the policies related to the in-lieu fee program to allow the collected funds to support shared parking and leased parking that the city will broker. Funds should also be used to support strategies that reduce parking demand in the area. Eligible projects could include valet services, transit, bicycle, and pedestrian amenities or programs that encourage ridesharing, which would reduce the need for on-site parking at businesses and encourage the use of centralized shared parking.
- **Consider geographic expansion –** As the community develops, the city should annually evaluate the need to expand the in-lieu fee area to support new public demands and maintain proximate walking distances from future shared public parking facilities. The city currently has two in-lieu fee zones that cover most of the commercial areas of the Village. Because the majority of commercial properties of the study area are within the current zones, it is recommended that the geographic coverage of these remain the same. The lack of publicly available parking, or potentially lease parking, within a reasonable walking distance of the commercial properties outside of the in-lieu fee zones further contributes to the current zones being sufficient in coverage. If future development contributes a significant amount of commercial building uses or need for public parking supply outside of the current zones and parking demand is high, it is recommended that the parking manager re-evaluate the need for expanded coverage. **Figure 7** illustrates the area where it would be appropriate to expand the in-lieu fee program west of the tracks.
- **Evaluate the program annually –** The intent of evaluating the program annually is to monitor participation in the program and make changes to structure and rate as necessary. The following metrics should be tracked and evaluated annually. The Parking Manager (discussed in the Parking Program Administration section) will have to develop a database to track these metrics and

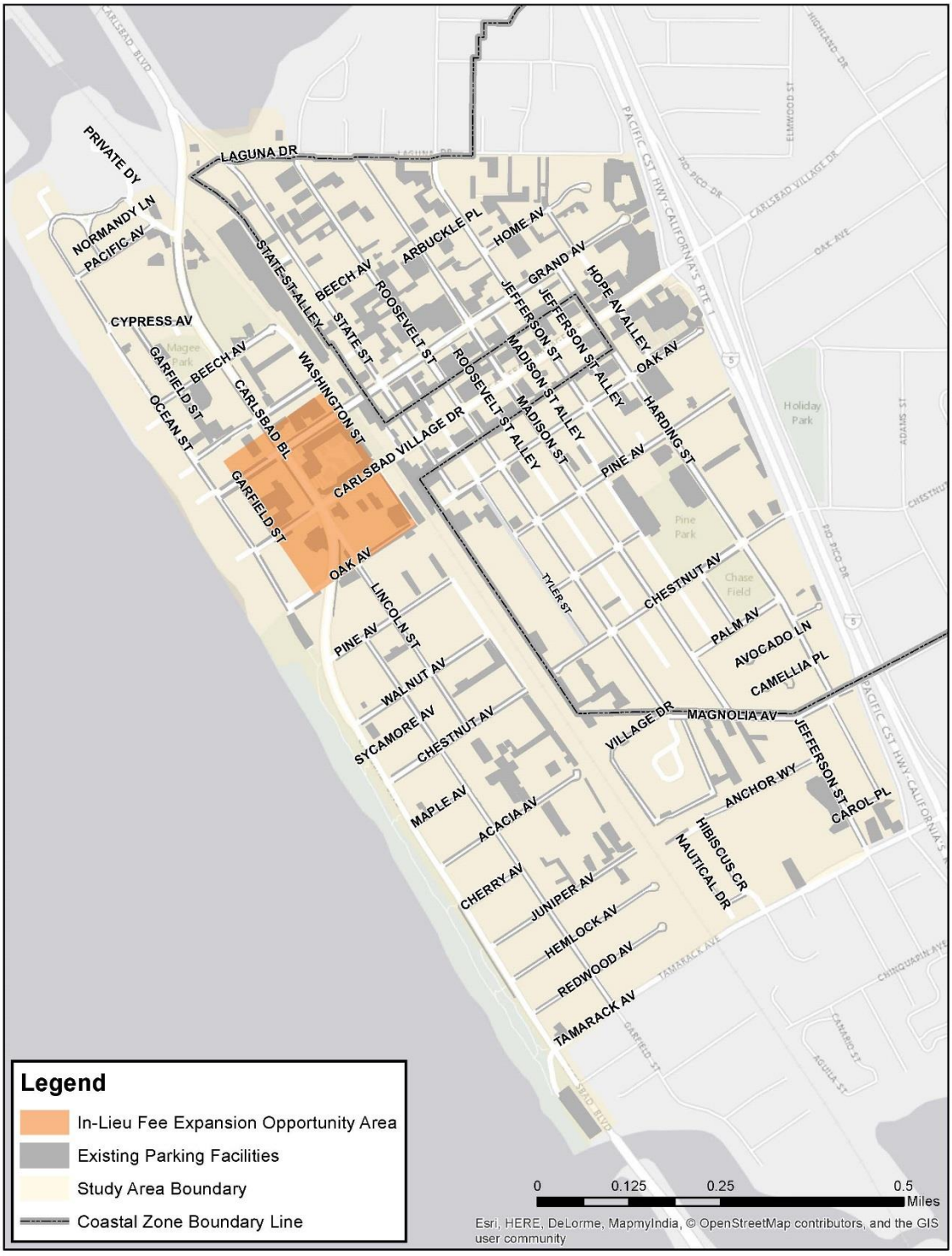
coordinate with other departments in the city to obtain the necessary information. The city could evaluate on a more frequent basis if desired.

- **Revenue generated –** Understanding how much revenue is generated by the program will help inform investment decisions into parking management strategies. If the program is not generating enough revenue to cover parking management strategies (e.g. lease rates for shared spaces), the city should consider discontinuing portions of the shared parking program funded by in lieu fees that do not impact participants.
- **Compare the number of developments participating in the program vs. not participating –** Reviewing how many developments are using in-lieu fees to pay for parking compared to those that don't will indicate whether the program and supporting policies provide enough incentive to encourage participation. As the area becomes more developed, it is anticipated that more developers will opt to participate in the program so that their developments are not encumbered by the economic burden of having to provide on-site parking. Leased spaces and TDM improvements should be implemented within a reasonable walking distance (1,320 feet) to the participating developments.
- **Number of spaces paid for with the in-lieu fee vs. spaces actually provided (by development and annual total) –** Tracking this will allow the city to easily quantify how much parking is being added to the parking system (both public and private) in the study area, and the rate at which parking is being paid for through the in-lieu fee. Using this information coupled with parking occupancy (public vs. private) will inform the city whether the public parking supply is continuing to adequately meet demands of participating developments and the community at large.
- **Type, size, and location of new developments –** Understanding where new development is occurring, the type of developments (residential vs. non-residential), and how large developments are, in terms of square footage or number of units, can help the city make informed decisions about where the in-lieu fee program should expand. This expansion should primarily occur where commercial and office developments occur that can benefit from shared parking supply. Over time, if non-residential development starts to overtake the residential areas in the study area, the city should consider expanding the boundary of the in-lieu fee area.
- **Parking occupancy in and around new developments –** Parking occupancy should be used as the metric that determines when changes to the fee in-lieu program need to occur. The threshold for making these changes is when parking within the in-lieu fee boundary meets or exceeds 85 percent occupancy. When this threshold is exceeded, the city should consider adding more public parking through leased and shared spaces.

- **Make the program transparent –** Provide information about how the in-lieu fees are utilized to help promote transparent application of the collected fees. The program website should document current and historic usage of the fee to help the community understand how the program is

working. Part of this transparency should stem from information released to the public and business community regarding economic impacts and how those impacts are related to parking availability. It needs to be made clear to the public and businesses that it is not more parking that supports businesses, but access to available parking that will contribute to economic success.

Figure 7. In-Lieu Fee Expansion Opportunity Area



Residential Parking Program

One of the unintended consequences of implementing enhanced parking regulations and policies is the creation of new impacts in areas where parking issues were once minimal, known as the spillover impact, it is when non-residential users spill over into residential areas. This is of particular concern in areas with multi-family housing where adequate on-site parking may not be provided, but can also occur in single family home areas directly adjacent to higher demand commercial or activity areas. Residential users experience difficulties finding available parking near their homes when non-residential parkers spillover into the on-street spaces in residential streets. In these situations, it often becomes necessary to implement some type of protection for the residents who are being infringed upon. This is typically in the form of a residential permit parking program.

A residential parking permit program (RPP) allows permit holders (primarily residents, with limited visitor passes incorporated into the program) to park on-street in select residential neighborhoods while restricting those without a permit (i.e., commuters, customers) from parking on-street in the area. Although a permit does not guarantee a permit holder a space, or a space directly in front of their home, this type of program prevents non-residential users from occupying those spaces. This type of program should be reserved for high-demand areas where the spillover impacts of parking become a nuisance for residents.

The implementation parameters of a program need to include measured occupancy, resident complaints, and willingness to fund the operation and enforcement of the program through paid residential permits. Based on the first of these three items, the measured and projected occupancies, the predominantly residential areas bordering the Village Neighborhood to the south and southwest would be an ideal candidate to review data available on parking utilization, resident complaints, and their willingness to fund the operation and enforcement of an RPP through the purchase of permits.

Many regulations can be implemented with a RPP. For instance, permits can restrict non-residential users all day, every day. However, it is advisable to have the restrictions in place for peak periods in the evenings and overnight when residential demand is greatest. Cities often have different regulations in differing residential parking areas, which can be confusing from an administrative perspective. However, from a parking management and user perspective, having different regulations caters to the uniqueness of each area and allows them to use their parking resources more efficiently. Any new RPP should be supported by data showing spillover trends from non-residential uses, utilization rates above the effective maximum occupancy, and an extensive community engagement process to weigh the needs of the greater community with that of the neighborhood residents.

How Carlsbad is Doing It Now

The City of Carlsbad currently does not have an established residential parking permit program. Input from residents during the parking study's public meeting and online survey indicated that parking on the residential streets is a concern for many due to commercial trucks, non-residents, and RVs occupying on-street spaces.

In 1997, City Council considered but did not approve residential permit parking at the south end of the beach area near Carlsbad Boulevard and Tamarack Avenue. This consideration was in response to resident concerns

about Sand Bar Café (now Vigilucci's Seafood and Steakhouse) patron parking along residential streets in the restaurant vicinity.

Peer City Best Management Strategies

A common strategy that nearly all the peer cities have implemented is the use of residential parking permits. The City of San Luis Obispo has nine residential permit districts, formed at the request of the residents living within the districts. Each district has their own days and hours of enforcement, although the majority are enforced during the evening and early morning hours. Some are enforced during the daytime and one is enforced 24 hours per day. There are no time limits, except around the Cal Poly campus, where there is a two-hour time limit. The cost for a permit is $10 per permit and there is a limit of two permits per residence.

The City of Santa Monica's program is simplified in that each neighborhood must adhere to the same regulations. The City of Santa Monica's preferential parking permit program was established to accommodate the needs of the residents and their guests by allowing those with a valid permit to be exempt from the parking restrictions on the street within a two-block radius of their registered address. Only residents living on a block that has preferential parking restrictions may apply for the permit. Applicants must show proof of residency and have reconciled any parking citations. One annual resident permit per vehicle registered to the address, two annual visitors permits per household, up to 25 one-day temporary permits per date, and up to 300 one-day temporary permits per year are allowed. The City of Santa Monica has an online system for users to apply for and print their temporary permits.

Pros/Cons

Pros

- Creates parking availability in residential areas
- Protects residential streets from competing demands
- Balances competing residential and non-residential users

Cons

- Success of the program relies on effective and consistent enforcement in the residential areas
- Can restrict the active balancing of commercial demands when adjacent to a residential area
- Funds must be allocated in the budget to manage this program
- A resident's vehicle parked on the street without a permit could be cited.

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Consider a RPP only if necessary** – Consideration of a RPP may be advisable in select areas due to growing impacts of visitors parking in residential areas, restricting on-street parking access for residents and their guests. However, the program should only be implemented when all other

management practices are exhausted and data clearly indicates there remains a serious parking problem within the community. A RPP would preserve on-street parking for residents and their guests, limiting the conflict to find available on-street parking. With regard to coastal access, the RPP is intended to balance the on-street parking demands, while maintaining access for residents and visitors. The program should be considered in neighborhoods that meet the criteria listed below. These criteria should be made publicly available on the city's website.

  - **Pre-permit implementation occupancy levels** – Prior to the implementation of a permit program, the neighborhood streets must exhibit consistent occupancies at or above 85 percent of total capacity. If the residential area is already regulated by time limits, or will become regulated by time limits in the future, the use of a permit would allow residents in those areas to park longer than the time limits without being penalized.
  - **Neighborhood support** – Neighborhoods should have petitioned signatures from at least 51% of the residents in the neighborhood.
  - **Permit cost and application** – Residents will need to apply for permits, based on permanent address, and are eligible for up to two permits per home and no more than five guest permits per year. Guest permits should be good for up to two weeks. Applicants must pay a fee per year for each permit. The cost for the fee should be set by the and should cover the cost of administering the program.

- **Conduct public outreach prior to implementation** – When a neighborhood meets the criteria for inclusion in a permit program, the city should conduct outreach to the impacted residents and adjacent businesses to communicate the parameters of the program, as well as potential impacts.
- **Evaluate the application of residential permit time limits** – In areas adjacent to commercial districts (for example, along State Street), the city should implement time limit restrictions on parking during daytime hours to allow non-residential users to park when residents are not typically home. In the evening, nighttime and overnight restrictions should prohibit anyone without a residential permit from parking on the streets. Residents will be allowed to park in on-street spaces overnight, as well as guests with an appropriate guest permit.
- **Provide consistent enforcement in residential areas** – The success of the residential program will require consistent enforcement. This could include responding to neighborhood complaints in a timely manner, as well as providing frequent enforcement of restricted areas. The use of LPR technology to enforce will greatly improve the efficiency of this type of enforcement.
- **Provide ongoing evaluation of the program** – Evaluation should include data collection related to occupancy of parking spaces and impacts to adjacent residents and businesses. Impact evaluation should include citation issuance and payment, as well as registered complaints from neighbors, businesses, and/or patrons.

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) strategies are typically implemented in a community to influence travel behavior and reduce demand related to the traditional single-occupancy vehicle (SOV) trip. TDM strategies intend to change the travel patterns within the area and promote a more multi-modal transportation network. TDM solutions promote pedestrians, cyclists, and transit riders as the primary users of the area and de-emphasizes SOVs through policy, management practices, and price. With the presence of a major transit station in the heart of the study area, the implementation of TDM strategies could prove very effective in influencing behavior. TDM strategies that are relevant to transit stations include, but are not limited to, improved bicycle and pedestrian amenities, shared mobility services, incentives for using transit or other non-SOV modes, employer sponsored commuter benefit programs, carpool/vanpool programs, and campaigns and promotions that encourage transportation alternatives.

How Carlsbad is Doing It Now

The city is currently developing a TDM ordinance and program, which will align with the goals of the Carlsbad Climate Action Plan, and the Coastal Mobility Readiness Plan.

The ordinance aims to identify many TDM strategies that will act toward reducing the number of SOV trips. The success of the TDM program could mean reduced parking demands in the study area. As such, the parking management strategies and TDM strategies, although not always viewed in the same light, work collaboratively with each other to achieve similar goals. The following is a list of TDM strategies that are being considered for inclusion in the ordinance, many of which overlap with strategies considered in this study:

- Real-time parking availability
- Shared parking
- Parking cash-out
- Real-time commuter travel information
- Transit improvements
- Coordination with regional TDM program (iCommute)
- Wayfinding signs
- Carpool/vanpool preferred parking
- Mobility hubs and comfort stations
- Park once approach and on-demand ride-hailing services which may include a trolley
- Improved bike parking spaces
- Bike rental along the coast
- Walk+Bike Carlsbad programs and maps
- Connectivity to the coast and amenities: mid-block pedestrian crossing
- Universal Design (Barrier-free transportation planning along sidewalks)

- Car-Free Planning (Strategies to reduce automobile travel at specific times and places, and create pedestrian-oriented streets)

Coastal Mobility Readiness Plan transportation solutions that complement TDM:

- Valet/delivery/drop off locations
- New beach and downtown parking space identification
- Electric vehicle (EV) parking and charging stations
- Motorized bikes, and small car parking spot integrated with flexibility

Peer City Best Management Strategies

Many of the cities reviewed as part of this study have implemented TDM strategies. Those that have the most robust programs focus on employer-based TDM strategies. For instance, businesses in Santa Monica must implement a trip reduction program as part of an Emission Reduction Plan. A trip reduction program identifies several strategies that, if implemented and followed by the business owners and employees, would reduce the number of commute trips by a personal vehicle. The strategies vary, as each business identifies strategies appropriate for their employees and business. As part of this plan, small and larger businesses must develop a transportation plan that focuses on reducing commute trips to their place of business. The intent is to incentivize employees using other forms of transportation rather than driving alone.

The cities of Huntington Beach, Laguna Beach, and San Clemente require at least 15 percent of their parking spaces for employees be designated as carpool only. The cities also require developers to make improvements to transit stops. San Luis Obispo Council of Governments (SLOCOG) takes a very active role in TDM and provides a single website that consolidates information on many TDM programs and offers resources and incentives to commuters that do not drive alone. Furthermore, many programs are funded through the SLOCOG to not only promote TDM programs but to enable them by providing education materials, marketing materials, and funds.

As with SLOCOG, all peer cities with TDM strategies promote them through a central source of information. A dedicated TDM program was established and promoted by a specific city department or on a city TDM website.

Pros/Cons

Pros

- TDM promotes the use of alternative modes, which reduces SOV trips and therefore improves parking availability where TDM strategies are implemented
- Many of the TDM strategies align with the parking management strategies. By reducing the use of SOV trips, parking demand is also reduced
- Supports multimodal transportation objectives
- Supports bike and pedestrian-friendly oriented development
- Supports smart growth design and development
- Benefits compound as more strategies are implemented
- Promotes frequent coordination between government departments, which strengthens all programs by combining knowledge and resources

Cons

- Requires annual evaluation of the parking system to gauge the impacts of the TDM program
- The importance of the communication between the government departments should not be overlooked. Programs can fail or take longer than necessary if the necessary departments are not in sync with each other
- Requires cooperation of businesses and infrastructure investment, which may take time

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Develop and adopt the TDM Ordinance** – Adopt a TDM ordinance and establish a formal TDM program that encourages transportation alternatives to the SOV. The TDM program should align with the parking program and coordinate with the objectives and regulations of the proposed Village and Barrio Master Plan (2016). For example, TDM strategies that incentivize employees of businesses in the Village to use transportation alternatives can help reduce parking demand.
- **TDM outreach and encouragement** – Outreach, education, and marketing of the TDM program is critical. Promoting information and incentives will increase awareness of TDM and encourage people to make informed decisions about how they travel. Information on the TDM program should be posted on the city's website and provide clear instructions on how to participate in or

use various TDM programs and services. The website should provide all information in a single location so that people don't have to search to find information on a specific TDM strategy.

In conjunction with the messaging on the website, the city should continue to lead (or encourage other groups and organizations to lead) promotional events such as a bike-to-work day or rideshare week. An additional benefit of these promotional events is that they foster relationships between the city and area businesses. The city continues to find new ways to partner with SANDAG to promote commuter programs and services such as rideshare to residents and employees, and should leverage this partnership to improve transportation conditions in the community.

- **Ongoing coordination with the city department responsible for managing the TDM program** – Collaboration between the parking program and the TDM program is critical. As both programs develop, regular meetings should be established to discuss strategies and make mutual decisions where both parking and TDM are impacted.
- **Provide ongoing evaluation of the program** – Collect data related to primary travel mode and parking occupancy. Mode share data can be collected via employee surveys. The city should also encourage employers to join the employer services program of iCommute, the region's TDM program, which conducts surveys to assess employee commuting travel behavior.
- **Expand wayfinding signage** – Current wayfinding signage in the study area directs people to off-street public parking facilities. The signage should be expanded to incorporate transit stops, shuttle stops, rideshare stop locations, and popular bicycle routes. The signage should be developed in the existing theme, which has been well received by the community.
- **Identify and dedicate passenger pick-up/drop-off locations throughout the study area** – Several locations throughout the study area could serve as drop-off and pick-up locations for both shuttle services and on-demand rideshare services like Lyft or Uber. On the periphery of the study area, these locations should be underutilized parking facilities. The city should work with private property owners to allow public use of their private lots. For the use of these periphery lots to be effective, the lots will need to be adequately signed and well maintained to provide a safe and secure environment for riders. These lots will only serve the efficient use of the parking system with consistent access to shuttles.

The city should consider leasing railroad right of way between Oak Avenue and Tamarack Avenue on both the east and west sides to provide additional public parking (as discussed in the Shared

Parking section of this document). This can provide another option where people can catch a shuttle or rideshare to travel into the higher demand locations.

Shuttle stops and dedicated rideshare curb space should be placed in the high-demand areas to facilitate shuttle access as an alternative to driving to these periphery parking areas. These areas should be well lit to provide safety and encourage use. An example of a high-demand area is the area around the Village Faire and beach access points. If people can park in the underutilized peripheral parking facilities and take a shuttle or rideshare to these destinations, then parking demand in these destination areas should be reduced. Education and business owner support will be critical for successful implementation of this strategy.

- **Provide employer based TDM programs** – The city should encourage employer participation in the TDM program by providing incentives such as pre-tax benefits, subsidized transit passes, and preferential parking for carpool and vanpool participants. The intent of these incentive programs is to not only give employees options on how they travel to work but also to incentivize the choice to not drive a SOV by offering some type of monetary compensation. The SOV remains the most convenient travel choice in many situations. However, if incentives are provided that make other options enticing, people could opt to change their behavior, which will lead to decreases in parking demands. The city will continue to partner with the SANDAG iCommute program and leverage regional TDM services for employers and employees.
- **Provide a circulator-type transit service within the Barrio, Village, and beach areas** – A circulator service can reduce parking demand by allowing residents to travel from their homes to the Village, Village Station, Barrio, and beach areas without driving. Similarly, it would allow visitors to travel through the area without moving their vehicles, promoting Park Once. The city is currently conducting a Trolley Feasibility Study to help stakeholders and constituents understand the recommended resources for potentially establishing future trolley services in the city. The results of the feasibility study will help the city determine whether trolley services are a viable option in the study area.
- **Build out a protected bicycle network with barrier** – Protected cycle tracks through the Village and Barrio areas could encourage residents to bicycle between destinations while running errands. This network is intended to increase biking comfort for short and medium trips within and between the Barrio and Village. Cycle tracks could connect to existing bike lanes to create a seamless bicycle network that attracts a variety of users. Safe bicycle facilities and bicycle amenities, such as secure bike parking and repair stations, throughout the study area encourage biking as a convenient alternative and can help reduce parking demand.

Buffered bike lane along Carlsbad Boulevard

- **Build out an enhanced pedestrian network** – Enhance pedestrian network through north-south and east-west streets that feature wide, tree-covered sidewalks, curb extensions and wide curb ramps, safe crosswalks with rectangular rapid flash beacon (RRFB) indicators where needed, and pedestrian wayfinding. This network is intended to increase walking comfort for short trips within and between the Barrio and Village, thus reducing parking demand.
- **Promote the use of transit through transit-focused infrastructure upgrades** – Include enhanced bus stops (bench, shelter, trash can, lighting, route and system information), bus stop curb extensions (to create room for increased amenities and speed up service), next bus arrival digital displays, and bus priority treatments (bus-only lanes and queue jumps).

On-Street Parking Reconfigurations and Curb Lane Management

A curb lane management program consolidates and efficiently manages the curbside environment, so that curbside uses are consistently managed throughout the study area, allowing for easier access to businesses or residences, and less confusion on where, when, and how to park. Curb lane users (including transit passengers, motorists, bicyclists, and pedestrians) can then easily navigate to appropriately designated curb space, thus reducing the number of conflicts, parking violations, and improving overall mobility throughout the study area. Easier parking for motorists also means less time spent searching for an available parking space and reducing congestion and the adverse environmental impacts related to congestion. The development of an effective curbside management program can also help to better define policies for passenger and commercial loading, transit staging, and curb lane allocation for business supporting uses.

The act of implementing a curbside management program includes defining practices, policies, and tools to better utilize curb space in an urban setting. The strategies of a curbside management program are intended to:

- Balance competing needs along the curb (valet, bicycles, transit, residents, employees, and visitors)
- Move people and goods efficiently by supporting and enhancing shared mobility options
- Support business district vitality by improving access
- Create livable neighborhoods
- Improve on-street parking operations
- Prioritize curbside practices and structure to best fit the needs of the adjacent users
- Identify technologies to support policies and practices

Additionally, as parking demands in areas dictate that new on-street parking supply be added to the system, through restriping to angled parking, the established curb lane priorities ensure that any new parking is added in a manner consistent with the existing parking and associated regulations.

On-Street Parking Reconfigurations

Reconfiguring existing parking can add spaces to the system. The following methods can result in new spaces.

Red curb to parallel spaces

Red curb areas restrict parking; however, as development and land use changes, these red curbs may no longer be necessary allowing them to be converted into parallel parking. Thoughtful consideration into the application and maintenance of red curbs should be given to ensure that the curbs are appropriate and their intended use is fulfilled.

Example of red curb in study area that could be reviewed for potential conversion

Red curbs exist for safety, including providing safe sight-lines near intersections and driveways and safe access for parked vehicles, transit stops, and fire hydrant access. As land use and infrastructure conditions change, the need for a portion or the entire red curb may no longer be required. To assess the need for a red curb to remain when land use changes occur, a technical

review and analysis should be conducted. This analysis must include traffic safety best practices, the city's street design manual, and surrounding context along the curb to determine whether a red curb area could be converted into parking spaces. These reviews should be conducted on a case-by-case basis as developments change or if questioned by the public, developer, or city.

If deemed unnecessary, the curb area can be converted to vehicle parking if 22-foot sections of curb are available. With the amount of curb area needed to add additional full parking spaces and the low number of instances where red curb might be deemed unnecessary, it is unlikely that a substantial number of spaces could be added through this conversion method.

Curb cuts and driveways to parallel spaces

Unnecessary curb cuts can limit on-street parking supply. The city should carefully analyze curb cuts to define areas where closures can occur and additional on-street parking can be implemented.

Curb cuts and driveways provide access to properties and facilitate efficient movement between the property and the roadway. Regulated by city code and development agreements, some curb cuts and driveways may no longer be necessary as land uses and access needs change over time. To convert a curb cut or driveway into new parking, a study must be conducted to determine if access remains necessary. If determined to be unnecessary, the curb cut or driveway is chained off or new curb is installed. Red curb related to the driveway also may be removed based on the access removal. If there is enough space for parked vehicles along the new curb, additional spaces could be added into the parking system for each contiguous 22-foot segment of conversion. Because the amount of curb cut and driveway removal is likely limited in the study area, any new spaces are also likely to be limited.

Parallel parking spaces to angled parking spaces

Some roadways have large amounts of right-of-way dedicated to vehicular travel. In the case of lower speed corridors, this right-of-way can be minimized to reconfigure parallel parking spaces into angled parking spaces, providing additional capacity. This conversion type requires several factors:

- At least 49 feet of right-of-way for angled parking along both curbs
- At least 44 feet of right-of-way for angled parking along one curb
- No more than two lanes of travel

If these conditions are met, further analysis of safety conditions and street design standards will help determine the feasibility of creating additional parking spaces. A new angled parking space may be created for each 12 feet of contiguous curb space and 5 feet of buffer on either end of the angled parking area. Because multiple roadways meet the criteria for parallel to angled parking conversion, a significant number of new spaces might be created pending site-specific analysis.

The following summarizes the two types of angled parking spaces and their main attributes and benefits:

- **Front-In Angled Parking** – This type of angled parking requires the user to pull into a parking space with the front of their vehicle in the direction of travel on the roadway. Front-in angled parking is the most common form of angled parking and is easy for users to enter the space.
- **Back-In Angled Parking** – This type of parking requires the user to back into a parking space with the rear of the vehicle in the opposite direction of travel. The back-in angled parking strategy has been adopted because of the safety enhancements realized for users leaving a parking space.

Angled parking uses more right-of-way than parallel parking and may preclude additional bicycle enhancements along the roadway. If a bikeway is planned adjacent to an area with angled parking, back-in angled parking is recommended to enhance sight lines between drivers and bicyclists. However, while back-in angle parking is safer for bicyclists, it is not necessarily safer for drivers. Many drivers feel uncomfortable with back-in angle parking because it is uncommon and requires a backing movement within an active travel lane.

Curb Lane Management

In addition to reconfigurations on a case-by-case basis, the city should consider the implementation of a curb lane program that helps define a more prioritized and dynamic use of the curb lane as the community evolves. A curb lane management program defines practices, policies, and tools to better utilize curb space in an urban setting.

Establishing a curb lane management program creates a cohesive and consistent curb structure that is easy to understand, use, and manage, which helps the city achieve its larger community goals. A curb lane management program prioritizes and organizes curb lane uses in a manner that:

- Supports business vitality, without compromising the character and vitality of residential neighborhoods
- Creates a clear and consistent messaging and management system that reduces confusion and promotes use of transit and other modes of transportation
- Helps manage expectations when parking and will therefore improve the parking experience

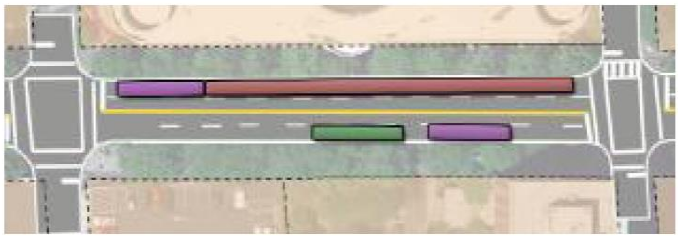
Additionally, the curb lane management program is adaptable to changing conditions as the city grows over time. Curb lane management helps guide management and implementation decisions for new developments,

thus maintaining the established structure of curb lane uses over time. Curb lane uses are consolidated along each block, in accordance with the surrounding land uses, to provide a standard structure. A standard structure creates predictability, which decreases the amount of confusion on knowing where to park.

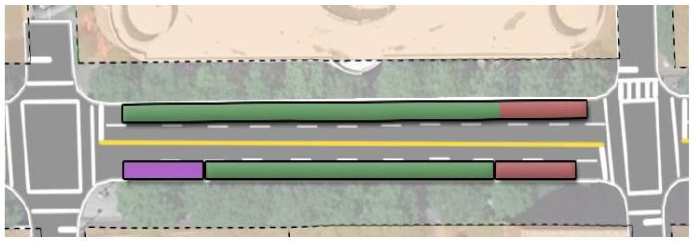
Figure 8 illustrates the concept of curb lane management. The image on the left provides an example of unstructured curb lane uses. The space along the curb is inefficiently used, with most of the curb along the north dedicated to passenger loading and the southern curb not used to its full potential. The image on the right demonstrates structured curb uses in which the same curb uses are consolidated to use available curb space more efficiently.

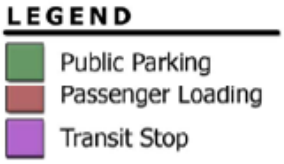
Figure 8. Example of Curb Lane Structure

Example of Unstructured Curb Lane Uses



Example of Structured Curb Lane Uses





The strategies of a curb lane management program are intended to improve overall mobility throughout the study area. People can easily navigate to appropriately designated curb space, thus reducing the number of conflicts and parking violations and improving access to businesses. Signage associated with curb lane management should have the same theme, branding, and messaging style as the wayfinding signage already implemented in the study area. **Figure 9** compares images of existing curb lane signage in the study area and an example that illustrates signage incorporated into a consistent city-wide parking theme.

Figure 9. Example of Curb Lane Signage

Example of Signage Without Branding Theme

Example of Signage Incorporated into Brand Theme

Source: City of Seattle

How Carlsbad is Doing It Now

There are currently 4,971 on-street parking spaces in the study area which are most visible to visitors and business patrons. This section discusses strategies for possible reconfiguration of on-street spaces. This section also addresses curb lane management strategies to balance user needs including commercial and passenger loading, on-street parking, safety restrictions, etc.

- Red zones – no stopping, standing, or parking at any time, except for buses if the zone is marked for buses
- Yellow zones – no stopping, standing, or parking between 7 a.m. and 6 p.m. unless loading or unloading passengers and materials. Loading and unloading procedures cannot exceed 20 minutes
- White zones – no stopping, standing, or parking except for loading and unloading passengers and materials for no more than three minutes between 7 a.m. and 6 p.m. (except in front of hotels and theaters, then the zone applies at all times)
- Green zones – no standing or parking for longer than 20 minutes for any reason between 7 a.m. and 6 p.m.

Decisions regarding the placement and type of curb markings are made by the City Traffic Engineer. The following are best management practices that should be considered for curb lane management.

Peer City Best Management Strategies

While none of the specific cities interviewed for this study have coordinated curb lane programs, several of the peer cities identified for the development of the San Diego Association of Governments (SANDAG) Regional Parking Management Toolbox had strategies and practices related to the curb lane. Below is an excerpt from that study summarizing some key lessons learned.

Additionally, the City of Charlotte completed the Uptown Curb Lane Management Program in 2011, which was developed in response to public feedback related to signage and confusing messaging about curbside parking requirements. The goal of the program was to provide a clear and consistent curb lane structure and ensure that the curb lane uses made sense in relation to the adjacent land uses. The program's mission was to properly serve and support business, residents, commuters, employees, and other users. As such, all curb lane uses were documented and analyzed (bus stops, commercial loading, passenger loading, on-street parking, residential parking), as well as traffic patterns (e.g. rush hour volumes and parking restrictions during rush hour, bicycle volumes), type, number, and location of citations issued, surrounding land uses, and parking policies and regulations.

The recommendations from the study were implemented in 2012 as part of a pilot project, which included consolidating curb lane uses to create more parking spaces and more efficient use of those spaces. Additionally, improved signage with clear communications on how, when and where to park was added.

Lessons Learned:

- Fewer customer complaints as users gained a better understanding of where and how to park. This led to increasing voluntary compliance with parking regulations, more satisfied customers, increased turnover of parking spaces and revenues for the parking system.
- Citations related to parking violations were reduced by approximately 50 percent. This can be attributed to the increased availability of space, as well as reduced customer confusion.

Pros/Cons

Pros

- Reduces confusion along the curb lane and helps users identify appropriate parking locations
- Reduces competition amongst users and allocates spaces appropriately amongst loading, parking, and staging operations
- Provides transparent template to communicate to the business community related to curb lane access

Cons

- Requires ongoing adjustment as businesses and priorities change
- Requires frequent data collection and evaluation to inform decisions and ensure that the curb lane priorities are being upheld and that decisions are based in sound data

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Review red curbs and driveway closures on a programmatic basis** – Using red curb location data collected (Spring 2017) during the development of the PMP and other data sources, the City Engineer should conduct a comprehensive and area-wide review to determine safety and access priorities of each red curb and driveway to determine the appropriateness of removal or closure. If acceptable to remove red curb markings or close driveways based on safety protocols, the city can then determine whether there is sufficient space to convert to on-street parking. An on-street parking space requires 22 feet of contiguous space in a parallel parking configuration. If 22 feet is not available, a new parking space cannot be added to the curb lane. It is unlikely the closure of red curbs and driveways will yield significant on-street parking; however, when adequate space is available, there is an opportunity to convert that space to on-street parking.
- **Consider angled parking** – Angled parking could replace existing parallel parking on roadways that meet the following criteria:
    - At least 49 feet of right-of-way for angled parking along both curbs
    - At least 44 feet of right-of-way for angled parking along one curb
    - No more than two lanes of travel
- **Develop a specific curb lane management program** – Define priorities for curb lane use including parking, transit, loading (passenger and commercial), and business support. Priorities will likely differ among Village, Barrio, and beach areas. The curb lane strategy should define how and why assets are allocated along the curb to help define the specific application of active uses. This strategy should be developed in concert with merchants and, where appropriate, residents. The

curb lane strategy should account for all modes and define priorities for each area or street type. For instance, arterials may prioritize vehicular movement to enable mobility through the area, whereas local streets with commercial land uses may prioritize bicyclists, on-street parking, passenger and commercial loading, and transit equally, and neighborhood streets may prioritize pedestrians and on-street parking. For the TDM program to be successful, a multimodal approach to curb lane management must be implemented. Vehicle parking is only one consideration. Example components of the curb lane strategy include the following:

- **Structure delivery services** – The city has received complaints about delivery vehicles blocking travel lanes during peak times of day. To address this, the city should consider prioritizing commercial loading during off-peak times (e.g., night deliveries or times of day that avoid 7 p.m. on a weekend and 1 p.m. on a weekday) or require delivery services to use alleys (through signage) during peak conditions to remove the potential conflict. The prioritization of loading could include flexible loading areas (e.g., all on-street parking spaces) in morning periods and restrictive loading areas (e.g., limited loading zones spread throughout the area) in peak conditions.
- **Prioritize curb lane uses** – It is important to identify block-face priorities (vehicular movement, passenger loading, bicycle movement, etc.) and develop guiding standards that follow these prioritizations. The guidelines communicate how the city intends to manage parking and other curb lane assets to businesses and landowners who wish to request certain business-supporting uses along the curb. Business-supporting uses include loading areas, valet staging, curb cafes, and other business-specific uses that only serve the adjacent use rather than the community as a whole.

Paid Parking

Paid parking is often one of the most highly-contested parking management strategies initially, because patrons would prefer to park for free and business owners perceive that paid parking will negatively impact business operations. However, when parking demands in an area become so high that parking facilities (on- and off-street) are operating above the system's effective capacity (85 percent occupancy is the industry standard), paid parking becomes a highly effective way to influence behavior, redistribute parking demands, and promote economic activity. Paid parking should not be implemented with the intent to increase revenues. Implementation of paid parking must be driven by the parking demands experienced in the study area and the need to create access to businesses.

The fee for parking encourages people to choose between the priced transaction or making an alternative decision, such as parking a little farther away, parking in a lower priced facility, or utilizing an alternative transportation option to reach their destination, thus creating more available spaces in high demand areas, which in turn increases access to businesses. In the on-street environment, paid parking usually involves the implementation of parking meters (pay stations or single-space meters) and requires users to pay an hourly rate. In the off-street environment, paid parking could include gate controls or pay-on-foot stations for hourly/daily parking, or permitted parking for longer term (e.g., monthly or annual) transactions. Both on-

street and off-street paid parking systems can be enhanced by the addition of a pay-by-phone program, including a smartphone application that helps guide customers through the transaction.

One of the major concerns surrounding implementation of paid parking for the first time is the perceived impact to businesses. It is often assumed that paid parking will deter customers from visiting the area. However, if the decision to implement paid parking is driven by evaluating actual parking data (e.g. occupancy, duration, and citations), then this indicates that demand is already too high and patrons are effectively being turned away or they avoid the area altogether because they are unable to find available parking. Using a paid parking strategy to make spaces more available in appropriate locations increases access to businesses and helps to balance the parking demands across the system. When combined with options for either parking in other locations or enhanced transportation options, the demand for the area can be redistributed throughout the transportation system.

As a result of this improved access created by paid parking, businesses in the area could experience an increase in sales revenue by having better access to more customers. The City of Vancouver, Washington conducted a parking study with the downtown retail businesses and found that the annual potential retail sales per occupied stall in their downtown was $53,534 per year. This study analyzed the average daily turnover per occupied stall and the average retail sale per customer transaction and factored in the number of shopping days[6]. The implications of this study suggest that paid parking improves turnover, which allows more customers to park, and therefore, generates more sales for businesses. Additionally, the City of Houston monitors sales tax revenues and development monthly and have found that since the implementation of meters, the sales tax revenues are higher than before meters were installed. The revenues increased by $99,646 over the course of a year. A component of the increase in sales tax revenues is the fact that paid parking was used to shift employees to off-street parking facilities (rather than allowing them to park in on-street spaces). Moving employees to off-street facilities opened the on-street parking for customers to access businesses[7].

It is important to have transparency about why and how paid parking decisions are being made. The public may desire a new parking facility rather than implementing paid parking. From the public perspective, a new facility means more free, available parking. However, it is not really free and it does not support many of the community goals, such as sustainability, mobility and access. Involving the users, residents, and business owners in the process is critical. It is important for the public to understand how paid parking can be beneficial to the community by improving access to business and the beach and how the revenues can be used to fund community improvements. It is also important to understand that although construction of a new facility is often desired, it is not what is best for the community in terms of costs, improving mobility in the area, and supporting the community's businesses. For these reasons, paid parking should be implemented before investment in a new garage. A robust and transparent outreach program is necessary to hear community concerns so that the paid parking can be implemented in a manner that meets their needs.

[6] http://www.cityofvancouver.us/sites/default/files/fileattachments/community_and_economic_development/page/11729/downtown_vancouver_employee_parking_guide.pdf

[7] SANDAG Regional Parking Management Toolbox

How Carlsbad is Doing It Now

The City of Carlsbad currently does not charge for parking and the analysis conducted as part of this study, and summarized in Appendix A - Technical Memorandum #1, indicates that paid parking is not required at this point based on the current system occupancies. However, it could be considered as a long-term option as new developments over time begin to strain the parking system. Even though this might be a long-term strategy, it should still be considered before investment in a new garage. The following are best management practices that should be considered for paid parking, should the need to implement occur.

Peer City Best Management Strategies

Just like the City of Carlsbad, the City of Dana Point currently does not have paid parking. However, the City of Dana Point is prepared from a regulatory standpoint for when it does need to implement paid parking. An ordinance was passed in the City of Dana Point that outlines the specific criteria for a paid parking program so that if/when the City of Dana Point does implement paid parking, the code supports the change. The City of Dana Point established a parking district where paid parking is to be implemented, and set the maximum rate to not exceed $1 an hour. The parking system will be reviewed annually, and if parking occupancies exceed 80 percent the City of Dana Point can increase the rate by $0.25 an hour but not to exceed the $1 an hour limit.

Pros/Cons

Pros

- Highly effective at distributing parking demands and balancing the parking system
- Encourages turnover and therefore improves access to businesses
- Transparency and frequent communication with the public are necessary for the success of the strategy. Inform the public early on how, why, and when paid parking will be implemented
- Supports pedestrian-friendly character
- Supports smart growth initiatives
- Encourages alternative transportation choices

Cons

- Highly contested by the public and stakeholders such as business owners (can overcome this with good outreach program)
- Relies significantly on enforcement to ensure compliance
- Prices need be evaluated on an annual basis, using occupancy and duration as indicators of how the system is operating. Decisions on pricing should be data driven, and these decisions and how they are determined should be made public

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Determine the threshold for implementing paid parking** – Based on the findings of the parking supply and demand analysis (see Appendix B - Technical Memorandum #2 for detailed information), consider implementing paid parking in the future as the area continues to develop. The city should continue to monitor parking demands in the short term and develop plans for evaluating technology, pilot projects, and implementation as parking demands reach thresholds approaching the effective capacity of the public system (consistently at or above 85 percent occupied). To prepare for the potential implementation of paid parking, the city should pass an ordinance in the near future that allows paid parking in the future, including rate structures for proposed parking and the policy framework for how it will be continually evaluated.
- **Define locations to implement paid parking** – Annually analyze collected data to identify locations within the study area that are reaching the effective capacity faster than other locations in the study area. Occupancies in the Village and beach areas north of Oak will likely reach occupancies at or greater than 85 percent before the Barrio. From a cost perspective, it would be beneficial to implement meters in a smaller area rather than study area-wide. Over time, the paid parking system can expand as parking demands dictate. It may also be beneficial to implement a Residential Parking Program at the same time paid parking is implemented to mitigate impacts of spillover into areas surrounding the paid parking area. Off-street and on-street public parking areas should be evaluated in conjunction with each other and priced to encourage the desired user parking behaviors (i.e., short-term parkers in on-street spaces and long-term parkers in off-street parking).
- **Define technology to manage the system** – Identify technology that works to accomplish the goals of the parking program. Technology to be considered include:
    - **Smart Meters** – Evaluate available smart meter technology to determine the most effective use of resources within the area (multi-space meters, single-space meters, and the various vendors that provide these meter types). The city should also consider how well the available smart meter technology integrates with existing and future software and technology systems, payment options available for users, ease of use (e.g., how far users must walk, how complicated the machine interface is, etc.), cost, ability to collect and retrieve backend system data (transaction information), and additional technology enhancements (pay-by-cell, solar options, etc.). Additionally, the use of smart meters helps to support enforcement practices by quickly indicating to enforcement personnel that a meter is expired, unpaid, broken, etc. If enforcement officers are equipped with handheld devices that communicate in real-time with the smart meters, then officers can be informed immediately of these issues, which streamlines enforcement and operation practices.

- **Pay-on-foot stations** – In the off-street surface parking environment, pay-on-foot stations work well because they require minimal infrastructure and can be configured to accept pay-by-space, pay-and-display, or pay-by-license plate transactions.
- **Gated access** – In the off-street structured parking setting, gate access with either pay-in-lane or pay-on-foot configurations will help manage access and payments, while minimizing the enforcement needed in the structure.
- **Smartphone applications and parking space readers** – Applications can be used to illustrate available parking facilities within the system and allows users to reserve or pay for the parking transaction. This remote payment method provides greater flexibility to the customer. However, the accuracy of the system will require real-time space detection capability or a data aggregation system that can be used to define historic trends and predict parking availability. This does not require a paid parking system to implement, but the presence of paid parking will provide a better set of data (transactions and durational information) to inform a prediction system.

Once the occupancy threshold reaches 85 percent and the need to implement paid parking has been reached, the city should consider a pilot project to test these technologies in small areas, obtain user feedback, and make an informed decision on what type of technology is appropriate for the community.

- **Establish a Parking Benefit District where paid parking is implemented** – As the community continues to develop, evaluate possible implementation of Parking Benefit Districts in high-demand areas and where paid parking has been implemented. The intent is to create synergy between the community and parking system, allowing the city to collect revenue from the parking system and reinvest that back into the community in a transparent and collaborative manner. Parking Benefit Districts have been used effectively in California to support appropriate use of the parking system through paid parking and community enhancements through the application of fund revenues to implement aesthetic and transportation improvements in the community.
- **Evaluate the parking system regularly** – Annual evaluation of the parking system (on-street and off-street) is recommended to review parking behaviors and identify whether the occupancy has reached a point where it is necessary to implement paid parking. Parking occupancy and duration metrics should be used to determine the need for paid parking. The threshold occupancy for indicating the implementation point is when the system (on-street and off-street) reaches a peak occupancy that is consistently at or above 85 percent for average periods. Thresholds for duration depend on adjacent land uses and prevailing peak occupancies. **Table 4** in the Existing Parking Behaviors section details these thresholds.

Parking Program Structure

How a parking program is staffed or structured depends greatly on the type of system (e.g. municipal system, transit, university, etc.), the location and unique community characteristics, the size of the parking system, community goals, and the political structure and atmosphere. However, even though these components can create variations of how a parking program is structured, there are some overarching models for the organization and management structure to create an effective parking system. The following summarizes these commonly used organizational models. The application of these models depends on the system's size, degree of development, programs offered, political atmosphere, and community goals.

- **Consolidated ("Vertically Integrated") City Department Model** – Under this model, the program is led by a department director with assistance from an assortment of support staff. The department director has complete authority and responsibility for the management of all parking-related program elements. Responsibilities that can be included under the department, depending on the needs of the community, can include branding, marketing, community outreach, support and implementation of TDM strategies, implementation of new technologies, and interface with downtown development and economic development.
- **Parking Authority Model** – This model uses an appointed board with political authority granted to manage the daily parking operations. The parking authority is responsible for all aspects of the parking operations, including off-street, on-street, enforcement, and rate adjustments. It is governed by a management agreement and is self-funded. The authority is typically headed by a president or executive director who reports to a board consisting of community stakeholders.
- **"Contract" or Business District Model** – In this model, a downtown business district or authority assumes the responsibility of managing and operating the parking in a particular area. This model is governed by a well-defined operating agreement that sets specific expectations and limits on the use of parking assets, policies, and rate adjustments. This model can be very successful because the managing agency is typically more in tune with the strategic goals of the community. However, it requires that the business district hire a parking professional who is well versed in operations and management.
- **Parking District or Commission Model** – This model involves clearly defining an area where parking is to be managed, as well as establishing a revenue source to fund the parking program. The revenue sources may be generated from on- and off-street parking revenues, parking enforcement revenues, a special property tax assessment that applies to all properties in the district. The revenues are invested back into the district in the form of district improvements, parking additions, technology upgrades, etc.
- **Professional Services Model** – A small, professional-level parking services group is developed in conjunction with contracting out the daily parking operations. There can be many variations of this model; however, the most successful variation is when there is a management group that can focus on the administrative responsibilities of the parking system, and the daily operations of the parking system are contracted to a qualified parking management firm.

- **Parking Management Collaborative Approach** – Under this model, the on-street parking facilities are managed by the city as a short-term parking resource. A coordinated approach would be required to manage the off-street parking facilities, which would be privately owned and operated with a coordinated management and marketing approach. This could include common branding and marketing, a wayfinding system, a parking and transportation information clearinghouse, and coordination with downtown management in support of downtown business needs.
- **Eco District Model** – This model focuses on integrating sustainability goals to accelerate sustainable community or neighborhood development. A parking and transportation Eco District approach would recognize technologies and strategies for enhancing district sustainability. Under this model, parking revenues can be dedicated first to supporting parking system operations, and excess revenues can be used for programs that support the community's sustainability initiatives, such as community bike programs, car sharing, etc.

How Carlsbad is Doing It Now

The parking management in the City of Carlsbad has evolved organically to this point, and as a result no one department or entity is responsible for overseeing the entire parking system and making comprehensive management decisions to improve the system as a whole. The city police department oversees enforcement, the Planning Division has taken on the role of reviewing the management practices in the context of larger community goals and planning needs, and the Traffic Engineer is responsible for implementing various curb lane regulations such as street sweeping locations, parking restrictions, and parking time limit regulations.

Peer City Best Management Strategies

The management of City of San Luis Obispo's parking system follows a Vertically Integrated model, which consolidates the roles and responsibilities of the parking program under a single department, Parking Services. Under the City of San Luis Obispo's larger organization structure, Parking Services is housed under Public Works. The Parking Services group is responsible for enforcement, revenue management, maintenance of publicly owned on-street and off-street facilities, and parking structure operations. A Parking Services Supervisor and Parking Manager lead the Parking Services division.

Pros/Cons

Pros

- Provides clear organization and responsibilities as they relate to parking management
- Centralizes the program for decision-making, policy setting, and oversight of the program and parking system

Cons

- Requires some level of department restructuring
- As the program grows, additional staff will be needed to help manage the various branches of the program (financial, enforcement, technology, etc.)

- Simplifies coordination between parking management and other departments (e.g. TDM and land use planning)

Parking Management Strategies for Consideration

The program should take a few years to fully form. At the start of the program, a manager should be identified as the leader who can coordinate the various elements of the parking program (enforcement, financials, decision-making, etc.). Over time as the parking program grows, additional staff may be required to support this initiative. The following sections provide an overview of the staffing roles and responsibilities associated with the parking program.

Program Manager

The city should implement a program structure that includes a manager, which is a single internal staff member responsible for managing and directing the program. This person will act as the voice and face of the Parking Program. The Parking Manager will provide management oversight for the program and direct the actions of the outsourced staff. The components of the program include public off-street parking facilities, on-street parking, shared parking program, residential parking programs, program financial performance, system planning, and enforcement. The Parking Manager will oversee policies and management strategies in relation to each of the program components.

- **On-Street** – Analyze data collected annually and make management and policy decisions to make parking more efficient in the study area. This could include time limit adjustments, enforcement hour adjustments, and creation and implementation of a curb lane management program.
- **Off-Street** – Analyze data in all off-street facilities, both publicly and privately owned, to identify opportunities for improving and balancing the parking.
- **Shared Parking Program** – Review shared parking agreements annually in conjunction with annual occupancy data to determine new shared parking opportunity areas for the city.
- **Residential Parking Program** – Review participation in the residential parking program annually in conjunction with annual occupancy data to determine whether the program is performing adequately or whether changes need to be made. Metrics to use as indicators for whether the program is effective are:
    - **Occupancy** – Evaluate the occupancy levels of residential neighborhoods to make sure street parking is used effectively.
    - **Citations** – Identify the number of citations issued in residential neighborhoods and the type of citation to identify parking problems in those areas.
    - **Complaints** – Complaints by the residents should be documented and reviewed to determine the nature of the parking issues so they can be addressed as necessary. As complaints decrease, it could be an indication that the program is reaching equilibrium

whereby residents parking needs are being met with minimal spillover from or to neighboring land uses.

- **Communications and Marketing** – There is an opportunity to share the marketing and communication responsibilities with the TDM program so that both programs benefit from streamlined management of messaging. This also inherently creates consistency in messaging between the programs, which is critical as these programs intricately support one another.

In the short-term, the Parking Manager will help with program building and implementation of parking management strategies. This will include helping to enact policies of this Parking Management Plan, procuring and managing contracted vendors, and developing new policies and strategies to help the program evolve and respond to community needs.

After the program is more established, the Parking Manager will need to focus more on program maintenance and management, helping to ensure that the system is self-sustaining and financially accountable. The longer-term role of the Parking Manager will include evaluating program management, helping to implement new parking assets and policy, and strengthening the connection between mobility and the parking program.

In House vs. Contracted Management

One of the first projects for the new Parking Manager will be to evaluate whether to hire in-house staff versus contracting staff. In an in-house approach, the Manager would be supported by city staff, including an enforcement and operations supervisor. If the parking enforcement staff come under the management of the parking departments, there could be upwards of ten staff members as part of this program. If the program support staff is contracted, the Parking Manager will be supported by contracted staff, procured through a request for proposals, to conduct the day-to-day operations. These contracted employees would be embedded in city offices and serve as proxy staff members with responsibilities to the city. In successful examples of this type of program throughout the country, embedding staff within the city has helped promote a more seamless operation internally. It is recommended that the city pay a management fee for the contracted management and not tie their fee to revenues. If the fee is tied to revenues, the contracted company will focus on writing citations, which is not a customer-friendly approach to enforcement.

Program Considerations

The following elements should be considered, whether the operations are in-house or contracted.

- **Enforcement** – Enforcement operations should be moved from the Police to the outsourced management company so that parking enforcement is streamlined and aligns with other parking regulatory and management initiatives.
    - **Enforcement of parking facilities** – Contracted staff will enforce on-street parking, off-street parking (public and private), residential streets, and shared parking areas.
    - **Parking Ambassadors** – Another benefit of contracting enforcement is that the outsourced staff can become Parking Ambassadors to help improve customer service and awareness of the parking program. Even though these Ambassadors are contracted staff, they will be representatives of the city. As such, the Ambassadors will dress like a

city employee and not a police officer, company employee, or enforcement officer. Ambassadors can be uniformed in khaki pants with polos that have the city's logo on it. From the public perspective, this style of dress allows Ambassadors to be recognizable and approachable as city staff.

- **Sporadic enforcement patterns** – Introduction of a consistent enforcement presence can cause some members of the public to react negatively because parking has been unregulated, and change is sometimes uncomfortable. To minimize the presence of enforcement while still maintaining consistent and effective enforcement that encourages proper parking, enforcement should be conducted on sporadic schedules. The same pattern of enforcement should not be repeated each day. Rather, a few days a week of intensive, targeted enforcement should occur in the study area. On other days, the enforcement pattern can be less intensive, with only enforcing a couple of times a day or only in certain areas in the study area. The intent of this type of enforcement style is to provide effective enforcement without being an overwhelming presence in the community. It is effective because the sporadic nature of enforcement keeps the public from learning the enforcement pattern. The public is then more likely to comply with parking regulations because they won't know whether parking enforcement is intensive or not that day or at that time of day. Over time, the community should begin to adapt to parking regulations and better utilize the parking spaces as intended.

- **Technology** – Contracted companies can bring their own technology for which the city can pay a rental fee and use. However, when the city decides to stop using the contracted manager, the technology will leave as well. It is recommended that the city purchase critical technology so that in the event contracted staff is no longer necessary or the company procured to manage parking changes, the city will maintain ownership of their technology. Further details of technology needs that the city should consider for managing parking in the study area are discussed below.

Parking Benefit District

Establishing a parking benefit district enables a city to manage the parking resources within the prescribed district while also building community consensus with business owners, residents, and stakeholders. The consensus is built because any funds in excess of operating costs that are earned from the parking system (through permits, paid parking, citations, etc.) within the district are reinvested back into the district. Revenues can be used for managing the parking system (which includes leasing, purchasing, installing, operating, and maintaining parking supply options), aesthetic improvements like streetscape, or transportation and TDM strategies. Although this strategy can invest revenues from permits or citations, the majority of the investment funds are derived from paid parking revenues. Therefore, this strategy may be the most beneficial to implement if/when paid parking is also implemented in the study area.

How Carlsbad is Doing It Now

There are currently no parking benefit districts in Carlsbad.

Peer City Best Management Strategies

One of the eight peer cities, Dana Point, implemented this strategy as a policy in 2015. The district was established to allow the City of Dana Point to reinvest any revenues from the parking system back into the District. Revenues will be derived from permit sales, citations, and paid parking. Currently, the benefit district is established by ordinance as part of the City of Dana Point's Municipal Code, and will begin to receive revenues once paid parking and permitted parking are implemented. See additional discussion about the City of Dana Point under the Paid Parking Strategy.

Pros/Cons

Pros

- Provides a funding source for community improvements
- Funds can be used to subsidize TDM strategies, which reduce personal vehicle trips and improves mobility and access
- Supports pedestrian-friendly character

Cons

- Policy needs to be drafted to establish a district and direct the various revenue sources to a fund that can be used for community improvements
- Requires annual review to evaluate the budget, investments, and plan for future investments
- Generation of revenues in the district relies on other strategies being implemented (enforcement, permits, and paid parking)

Parking Management Strategies for Consideration

Although it is not recommended now, the following strategies should be considered when/if paid parking is implemented to ensure that the revenues generated from paid parking are invested back into the community. The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Involve the community and local stakeholders** – Communication with the community through surveys or meetings will help identify preferences for how the revenues should be invested. Additionally, outreach efforts provide an opportunity to inform the public on how the district and parking program are operating.
- **Use revenues to fund the parking program and for community improvements** – The revenues from the parking district that are earned through citations, parking permits, or paid parking should be reinvested back into the district to pay for improvements such as pedestrian amenities, bicycle amenities, the TDM program, transit, and parking improvements.
- **Amend the Municipal Code** – The Code should be amended to establish the district and specify the parameters and regulations for the district. This should include how revenues are collected, what revenues can be invested in, and various authorities for managing the district.

- **Establish a fund** – A fund should be established into which revenues can be directed. Keeping the funds separate from the general fund increases transparency and allows the city to track and manage the district revenues more effectively.

Parking Wayfinding

Consistently themed signage allows the city to communicate parking and destination locations and helps users easily recognize parking and navigate the system. Wayfinding can be a simple, highly effective strategy for distributing demands at a minimal cost compared to some other strategies. Wayfinding signage can be used to direct users to underutilized parking facilities that get overlooked because those facilities are not as prominent or as centrally located. The signage helps to educate users on where additional parking is without them having to circle to find it, thus improving the users' parking experience. Additionally, the underutilized facility then accepts more of the parking demands, which ultimately makes more spaces available in the higher demand areas.

In addition to signage, posting parking information on a website and/or smartphone applications can be used to help parking patrons find available parking before beginning their trip. A smartphone application can let people know where parking is located (both on- and off-street) and any associated parking regulations, such as time limits, enforcement hours, necessary permits, and prices if applicable. Having this information in advance of coming to the area can reduce congestion and makes navigating the parking system easier because drivers already have a better idea where to park.

How Carlsbad is Doing It Now

Currently, the city has installed numerous parking and destination wayfinding signage throughout the study area, including eight monument signs to identify off-street parking facilities and approximately 30 wayfinding signs that direct people to the public parking facilities. In addition, the city installed approximately 50 pedestrian and bicycle wayfinding signs to direct people to local destinations. These signs have successfully served to help patrons navigate throughout the study area, and recommendations below aim to continue this practice and strengthen wayfinding opportunities.

Peer City Best Management Strategies

The City of Dana Point recently implemented new wayfinding signage with the goal of distributing the demands in the few highly-utilized facilities to those on the periphery. Business community stakeholders were involved in the discussions regarding the design so that the theme would be consistent with other business themes. The stakeholders considered what type of information to include on the signs and their locations

In addition to having a clear signage plan that combines wayfinding for parking with wayfinding for businesses and popular destinations such as the beach area, the use of dynamic wayfinding signage is also something that should be considered. The City of Laguna Beach is considering the implementation of dynamic wayfinding messaging to not only direct people to off-street parking but to communicate how much parking is available in these facilities. These systems rely heavily on real-time data, so the use of upgraded technology at off-street facilities is being considered to integrate the parking system with the dynamic messaging system. Ideally, the technology will integrate with the City of Laguna Beach's smart meters and potential mobile applications. The City of Laguna Beach proposed to have electronic signage installed on peripheral lots for the 2017 Festival Season.

Source: City of Seattle, Kimley-Horn site visit

Pros/Cons

Pros

- Distributes parking demands, creating more availability
- Optimizes the use of underutilized parking facilities
- Allows users to find parking faster, thus reducing the amount of circling to find parking, which contributes to traffic congestion and greenhouse gas emissions
- Improves the user experience by making parking easier to find
- Creates a consistent "face" of the parking system that users recognize

Cons

- Requires money and time investment to plan the system, design the signage, install the signs, and maintain them
- Signs require maintenance and will likely need to be adjusted, relocated, or increased in number as the community evolves
- Dynamic wayfinding signage relies on real-time data to provide availability of parking spaces. Installation of technology and integration of technologies will be needed to make this successful

- Dynamic messaging can be combined with dynamic traffic message signage at community gateways to help direct visitors to the area

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Additional signage for lots where the city leases spaces** – As more off-street facilities are made available to the public through shared parking agreements or leased spaces by the city, appropriate signage is needed to let people know that the general public is allowed to park in these locations. If there are times of the day when the parking is not open to the public, messaging should be included on the signage to relay this information. For instance, an office may restrict parking to its employees and visitors during the day but will make its spaces publicly available in the evening. Any new signs should be similarly themed and consistent with the existing wayfinding signage, even if the parking facility is private but makes its parking publicly available. From the public perspective, if it is publicly available parking, whether it is owned by the city or a private owner, it should be recognized as a single public system by the user. This helps to minimize confusion on where to park in the study area.
- **Smartphone applications** – The city should use a smartphone application that provides a map of the study area and identifies both on-street and public off-street parking. The city could work with private parking managers to include their parking on the map as well. The map should also provide information on parking regulations (time limits, enforcement hours, etc.). The intent is to enable people to make informed decisions on where to park before entering the study area. This knowledge could help to distribute parking demands since people will know where parking is permissible and may choose to park a block further than their destination, knowing it would be available rather than competing for parking directly adjacent to their destination. Having this information could alleviate traffic congestion and greenhouse gas emissions created by circling for parking. Eventually, the city should provide this data to online mapping platforms (e.g., Google Maps) to reach an even wider audience of people who are visiting the City of Carlsbad.
    - **Real-time parking information** – Real-time data can provide people with the necessary information to know whether the parking near their destination is full or available. Although obtaining real-time occupancy information is reliant on technology investments (discussed in the Technology Needs and Management section below), it is effective at distributing demands and encouraging users to park in lower demand areas because the parking availability is known ahead of time.
- **Post parking map on website** – Parking location information and real-time occupancy information (if available) should also be posted to the city's website. Although most people have smartphones, not everyone does. Therefore, posting the same information on the website is another way of

helping people plan their trip and reduce the time it takes to find available parking near destinations. Businesses should be educated to direct their patrons and employees to this website to support its use and help their patrons make better decisions about how and where to park.

Trolley or Shuttle Circulator

Trolley or shuttle services are beneficial for connecting people to multiple destinations in a community, moving people throughout an area without requiring them to move their vehicles. Circulators are beneficial for residents and employees who want to move throughout the area conveniently. However, circulators are also beneficial for visitors who may be unfamiliar with the community, allowing them to easily and conveniently access community points of interest without worrying about when, where, and how to park. By connecting popular destinations, a trolley or shuttle system can reduce the number of vehicle trips made in the area, thus reducing the demand for parking.

How Carlsbad is Doing It Now

The City of Carlsbad is currently conducting a Trolley Feasibility Study to help stakeholders and constituents understand the recommended resources for potentially establishing future trolley services in the city. The results of the feasibility study will help the city determine whether trolley services are a viable option in the study area.

Peer City Best Management Strategies

Six out of the eight peer cities have a trolley system that is used to move people throughout the community. In these peer cities, the trolley circulator connects popular destinations (hotels, restaurants, tourist destinations, and beach access points) within the downtown areas. In many of the cities, the trolley service is popular with both tourists and residents for making local trips. In conjunction with the shared parking strategy, the trolley circulator can act as a shuttle service to encourage people to park in remote parking lots and use the trolley to access their destinations. Additionally, revenues from the parking program (citations, permits, paid parking) can be used to support the circulator.

In the City of Laguna Beach, the city provides a free shuttle service from a remote and free parking lot to the downtown area. The lot was previously underutilized, but with the combination of signage to direct users to the lot and the circulator, the lot is now operating near capacity. It should be noted that the City of Laguna Beach charges for parking in the downtown area and the combination of free parking and access to the shuttle led to the success of this strategy.

Pros/Cons

Pros

- Reduces personal vehicle trips
- Supports economic development
- Supports pedestrian-friendly character
- Supports smart growth initiatives

Cons

- Requires significant investment (initially and annually), which can be subsidized through partnerships with business owners, grants, or other funds.

- Improves mobility and access
- Support a "Park Once" approach
- May require components of an overall circulation system (remote parking lots, trolley stops) to be in place
- Requires annual review to evaluate the system

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Transparency** – Information on the circulator system and how it integrates with the parking system should be posted on a website, social media, and other communication outlets so that the public is informed about the service and how to use it. Information should include routing, times of service, cost (if there is one), stop locations, list of destinations on or near the route, and how to use the system. Additionally, information on how the circulator benefits the community (e.g. reduce personal vehicle trips, improve mobility, support businesses, promote access throughout the community, etc.) needs to be relayed so that the public becomes educated on why the service is important to the community.
- **Evaluate service annually** – An annual review of the circulator service should be conducted to determine its performance. Ridership and route timing should be used as metrics for evaluating the system. Ridership can indicate how well the system is used.
- **Seek funding so that the service can be offered for little or no charge** – Funds provided from state or federal programs or partnerships with private businesses can allow the circulator service to be provided for little or no cost to the customer. This would be ideal since most of the circulators that were reviewed as a peer city in this study are also free of charge.

Rideshare Options

In the last two years, on-demand shared services such as Uber and Lyft, have become increasingly popular. The rise in popularity has left cities feeling the impacts of these services but without a real sense of how to manage or embrace the new travel option. Shared services reduce parking demands by providing users an alternative mode for their trip, or connection between transit and their destination.

How Carlsbad is Doing It Now

Rideshare services are available in the study area, however, are not managed by the city, nor do these services work with the city to define drop-off and pick-up practices.

Peer City Best Management Strategies

The City of Dana Point is one of the peer cities that are proactively embracing rideshare options to reduce parking demand. The City of Dana Point is working with the rideshare providers to encourage alternative access to the community and its businesses. The City of Dana Point works with Lyft to promote the use of the

rideshare options as an alternative to driving into town. The city reimburses new users to Lyft with a $20 credit by using a code posted on the city of Dana Point's website. Restaurants in the area are also involved in this effort. New Lyft users, who can show the code receipt, receive 15 percent off their meals at the participating restaurants. In return, Lyft donates $10 to the Ocean Institute for every new user who uses the code.

In the City of Huntington Beach, the police are trying to direct rideshare drivers to nearby loading zones so that they do not block traffic. They have been experiencing issues where rideshare drivers drop-off and pick-up passengers in the middle of the street, causing traffic congestion and potentially unsafe conditions for all parties involved. The first attempt to manage drivers is to educate them with fliers that identify loading zone locations that can be used for pick-ups and drop-offs. If the drivers continue to load and unload passengers in the street, the police will begin to cite drivers for blocking traffic.

Pros/Cons

Pros

- Reduces parking demands
- Can promote local businesses through partnerships and discounts
- Improves mobility and enhances accessibility
- Reduces greenhouse gasses and traffic impacts associated with people driving alone
- Reduced greenhouse gases and contributes to reduced traffic

Cons

- Potential to obstruct traffic and create unsafe conditions for pedestrians and motorists
- Uncertainty with how to manage and regulate these services
- Could impact parking adjacent to businesses

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Establish rideshare loading zones or areas** – Establishing designated drop-off and pick-up areas throughout the community so that passengers can load and unload into vehicles safely and without obstructing traffic.
- **Education** – The city can post information regarding the drop-off and pick-up locations on their website to educate users and drivers on the appropriate locations. The city can also communicate directly with the rideshare providers to establish pick-up and drop-off locations.

Recreational Vehicle (RV) Parking

RV parking on streets can become problematic when RVs are parked for long periods of time. The vehicles take up multiple on-street parking spaces and can create aesthetic concerns, especially in residential areas.

The problem is more pronounced when the RVs park overnight in on-street spaces because these oversized vehicles take up parking that is needed for residents. Establishing parking regulations that specifically address RVs helps to balance the competing uses along the curb while allocating available space to meet the needs of RV users.

How Carlsbad is Doing It Now

Oversize vehicles and RVs are restricted from parking on any street between 2 a.m. and 5 a.m. without a valid permit. Permits are available for any resident in the city at no cost and allow RVs to park up to 72 consecutive hours four times per month. Permits can be renewed annually.

Even though there are restrictions in place, the enforcement of the regulations is not always consistent, which means RVs often park for longer periods than allowed, creating frustration from residents who also use on-street parking to access their homes. During the process of this study, the concern regarding RVs blocking on-street parking access was mentioned by the users in the online survey and at the public meeting.

Peer City Best Management Strategies

The City of Huntington Beach has implemented RV parking restrictions to manage and help balance the competing curb space users. The City of Huntington Beach restricts the length of time RVs may park on-street, providing 24 hours for loading and unloading purposes. Another component of the City of Huntington Beach's approach is consistent enforcement. Constant and consistent enforcement combined with other factors has led to greater compliance and more availability of on-street parking.

Pros/Cons

Pros

- Creates more availability of on-street spaces
- Balances competing demands

Cons

- Requires constant and consistent enforcement to ensure compliance

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Reduce the amount of time RVs can park on the street** – Reducing the amount of time RVs can occupy on-street spaces will likely create more on-street availability for area residents and visitors. A time limit of 24 hours provides RV owners with sufficient time to load or unload materials, prepare the RV for a trip, or clean up the RV after a trip.
- **Use permits to manage the system** – Require RV owners to obtain a permit that allows them to utilize on-street parking for 24 hours and another for the off-street parking. A fee for the permits would be beneficial to help offset the cost of administering the permits and managing the system.

- **Constant and consistent enforcement** – Enforcement is critical to ensuring the success of this strategy. Compliance is the result of effective enforcement. Without proper enforcement, RV owners will quickly learn that they can abuse the system and park for longer periods on-street, leading to continued frustrations among residents who experience no perceived change when their access is continued to be blocked by RV users.
- **Implement a graduated fee for repeat offenders** – Deter repeat violators and improve bona fide public access to the coast with escalating fines each time the same recreational vehicle is in violation of the parking regulation.

Preferential Transit Commuter Parking

Transit lots that are not being used to their full capacity provide an opportunity for shared parking. Preferential parking can be provided to commuters, where only commuters are allowed to park in the facility during the morning rush, typically between 5 a.m. and 10 a.m. Commuters can be provided with a permit that allows the permit holder to park in the facility between those hours and restricts anyone without a permit. After 10 a.m., the parking becomes open to the public and commuters. The intent behind this strategy is to optimize the use of the lot while also ensuring that spaces are available for commuters. Various permit options can be provided based on how frequently the permit holder uses transit. For instance, if a person uses transit to commute only three times a week instead of five times, the user may purchase a different pass at a reduced cost.

How Carlsbad is Doing It Now

Preferential transit commuter parking could be implemented in the City of Carlsbad at the NCTD lots. The evaluation of the parking system (presented in Technical Memorandum #1) indicated that the largest of the NCTD lots, which is located north of Grand Avenue, between State Street and Washington Street, is underutilized (45 percent occupancy during the system-wide peak on a July, weekend at 7 p.m.) when much of the public parking facilities in that area are overutilized. As such, it could be an opportunity for shared parking with public users. However, shared parking would require coordination and planning with NCTD to ensure that transit riders continued to have priority in parking access. Currently, NCTD does not enforce parking nor issue permits for their lots, although signage designating spaces as “transit parking only” are located throughout the transit station. These changes would have to be implemented for this strategy to be successful.

Source: NCTD signage, image provided by City of Carlsbad

Peer City Best Management Strategies

The City of San Clemente does not use a permit, but rather posts signs that let users know that prior to 9 a.m., the spaces are reserved for transit users only. The City of San Clemente also implemented a rate for parking. The rate for parking in the spaces before 9 a.m. is $1 per hour. After 9 a.m. users must pay $1.50. As a result, the transit lot receives greater usage while still maintaining space for the commuters.

Pros/Cons

Pros	Cons
• Optimizes the use of underutilized transit parking lots • Balances parking demands • Coordination and cooperation between the transit agency and the city is critical to success	• NCTD would be required to change management operations and participate in enforcement and permitting practices, which may require an increase in costs • Costs for leased spaces public users and non-commuters, new signage, and management • Requires consistent enforcement to encourage compliance

Parking Management Strategies for Consideration

The following are best practices, identified through evaluation of the city's current policies and practices and the peer city reviews, which could be applicable for the City of Carlsbad:

- **Coordination** – Coordination with the transit agency (NCTD) will need to be frequent when initiating the program to establish the parameters of the strategy and identify roles and responsibilities. After the program is established, communication will still be key to evaluate the system and implement changes.
- **Establish Appropriate Regulations** – Through coordination with NCTD, appropriate regulations will need to be identified that meet the needs of both the NCTD commuters and public users. Regulations that should be considered are:
    - The time of day when commuter demands are highest and that meet NCTD needs
    - Number of spaces necessary to accommodate commuter demands and that meet NCTD needs
    - Appropriate management approach (permits, marked spaces, free parking, paid parking)
    - Enforcement practices and responsibilities
- **Enforcement** – Once regulations have been established and implemented, it is critical to enforce those regulations. Consistent and constant enforcement encourages users to comply with the established parking regulations. Without proper enforcement, users quickly learn to abuse the system. NCTD owns and manages the lots and therefore would need to participate in the enforcement of the facilities. NCTD and the city could develop an agreement where the city's enforcement staff is granted access to NCTD's facilities for enforcement purposes, and in return NCTD pays the city an agreed upon fee.
- **Transparency** – Information regarding the use of the transit lot should be posted on the city's website to communicate the regulations and clearly define the times when commuter-only parking

is allowed and when the parking is available to all users. It is also important to present background information as to why this change is happening and how it benefits the area. Signage from the wayfinding program would also need to establish where the additional public parking is and how it can be used.