Parking & Transportation Demand Management Plan

Millenia Office – Lot 7

Chula Vista, CA

November 30, 2016

LLG Ref: 3-16-2586

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MILLENIA OFFICE – LOT 7

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1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared this Parking and Transportation Demand Management (TDM) Plan for the Millenia Office (Lot 7) Project. The project site is located on Lot 7 of the Millenia development in the City of Chula Vista.

The following items are included in this study:

- Project Description
- Parking Assessment
- Parking Management Best Practices
- Transportation Demand Management Best Practices
- Conclusion

Figure 1–1 shows the vicinity map. ***Figure 1–2*** shows a more detailed project area map.

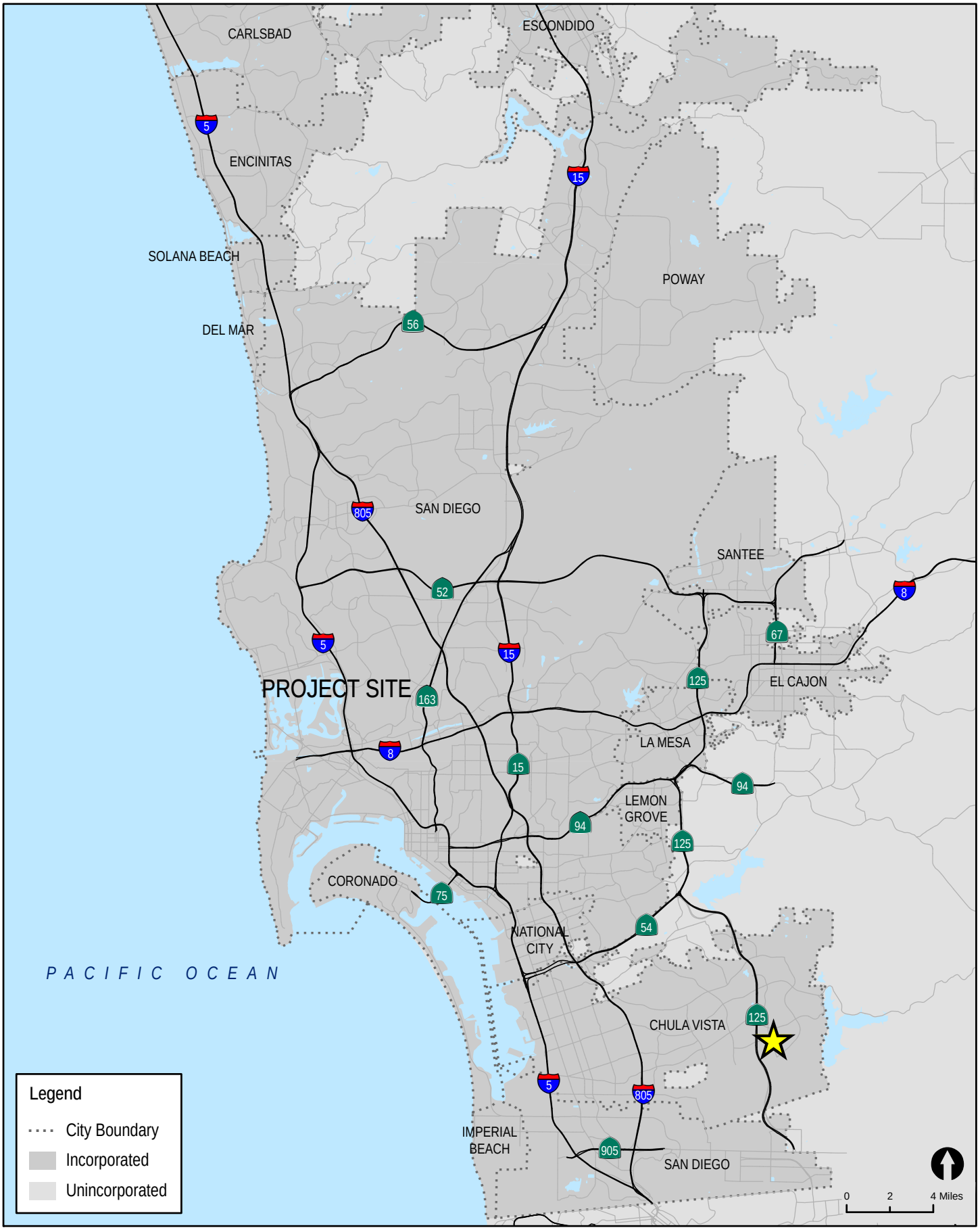

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Figure 1-1

Vicinity Map

MILLENIA OFFICE - LOT 7

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Figure 1-2

Project Area Map

MILLENIA OFFICE - LOT 7

2.0 PROJECT DESCRIPTION

The currently vacant project site is located on Lot 7 of the Millenia development, which is situated in the Otay Ranch Planned Community within the City of Chula Vista. The project proposes to develop a campus containing approximately 318,000 square feet (sq. ft.) of office space; a 3,500 square foot fitness center with a 3,250 square foot outdoor patio; and a 2,600 square foot restaurant with a 5,050 square foot outdoor patio. ***Figure 2–1*** shows the project site plan.

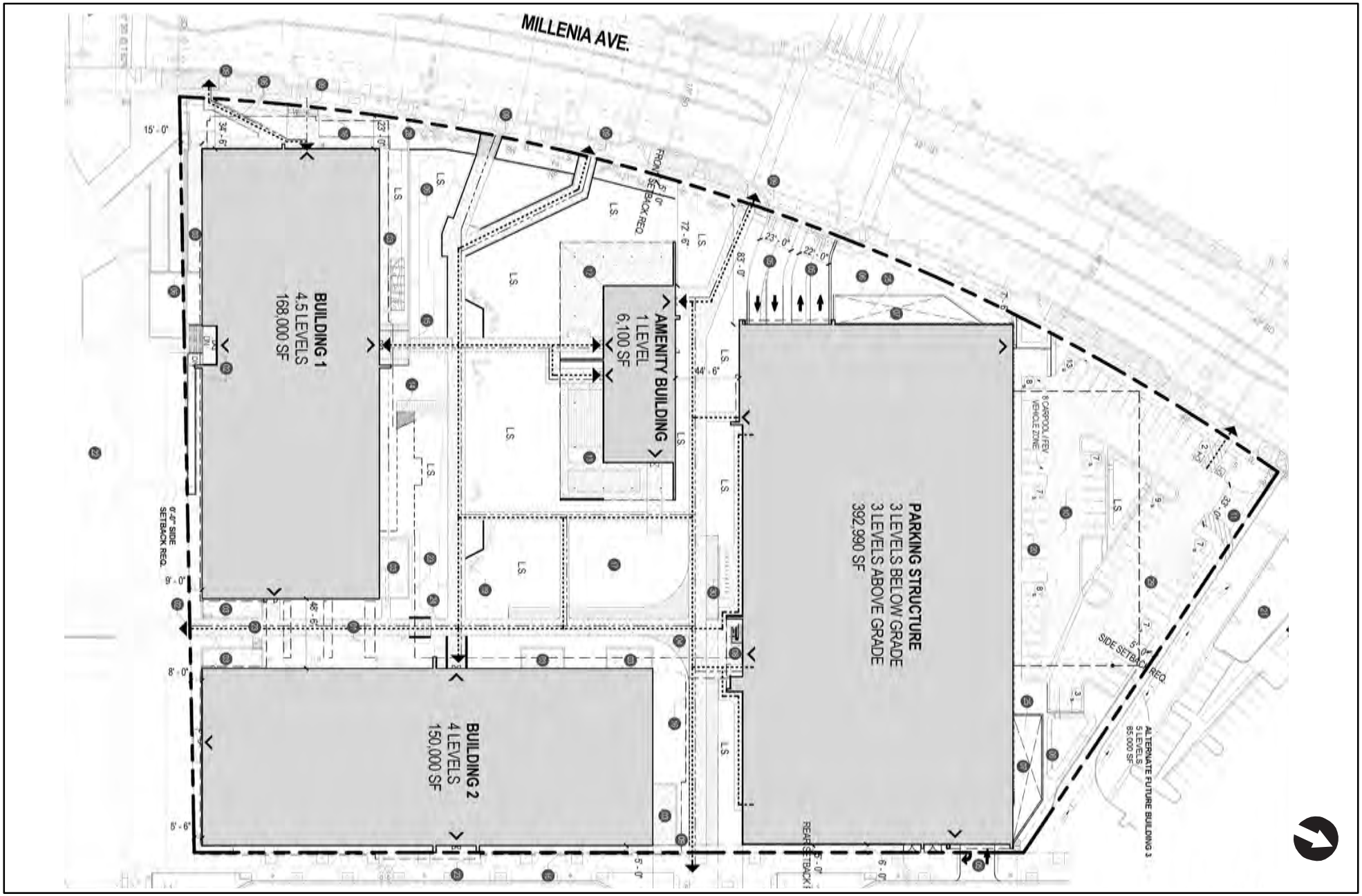

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Figure 2-1

Site Plan

MILLENIA OFFICE - CAMPUS 001

3.0 PARKING ASSESSMENT

3.1 Vehicular Parking Requirements

Section 3.15.003 of the Eastern Urban Center (EUC) Sectional Planning Area Plan (SPA) Form-Based Code contains parking rates for projects within the Millenia development. These parking rates match those in the draft Millenia Parking Management Plan (PMP). ***Table 3–1*** summarizes the parking requirement for the project per the Form-Based Code. As seen in *Table 3–1*, per the Form-Based Code, the parking requirement for the project is 1,003 spaces. This does not take into account any parking reduction measures that the project may claim.

The project proposes to provide 1,373 parking spaces (1,302 spaces in the parking structure, 71 spaces in the surface parking lot), which is more than the required parking per the Form-Based Code and per the Millenia PMP. It should be noted that the 1,373 parking spaces does not include any available on-street parking spaces adjacent to the project that, per the Form-Based Code, could be counted towards satisfying the project's total required parking.

Since future intensification of the surrounding land is expected to occur, the oversupply of parking in the parking structure is expected to advance shared parking in Millenia. Surplus parking within the parking structure could be available to be shared with surrounding land uses in the future and would be subject to a formal shared parking agreement. Additionally, the oversupply of parking accounts for the potential loss of parking stalls in the surface parking lot, which could then accommodate the parking requirements for an additional building ("future Building 3") containing 85,000 s.f. of office space.

Section 3.15.001(d) of the Form-Based Code states that "shared parking, when feasible, should be mandatory." The concept of shared parking recognizes that parking can serve more than one destination point as a result of two conditions: 1) the relationship between the land uses within close proximity and 2) varying peak parking time of day periods of the various land uses. Depending on the land uses, their proximity and the walking conditions, shared parking can result from users parking once and visiting multiple land uses in the same auto trip instead of driving to and parking at each destination. This could reduce vehicle traffic, particularly in congested commercial centers.

Table 3–2 summarizes the future parking requirement for the future Building 3 addendum per the Form-Based Code. A shared parking assessment was conducted for the future parking scenario with the additional office building (***Attachment A*** contains the shared parking calculations). With the removal of the surface lot parking spaces, the addition of 85,000 s.f. of office space, and accounting for shared parking, the project's provision of 1,302 parking spaces still meets the minimum required parking per the Form-Based Code. It should be noted that shared parking will be required for the future Building 3 addendum to meet the parking requirements and a formal study will be required once the actual construction of the additional building is proposed. If the site plan shown in *Figure 2–1* is revised to include additional land uses, such as a library, the parking calculations should be re-evaluated.

Section 3.15.000 of the Eastern Urban Center (EUC) Sectional Planning Area Plan (SPA) Form-Based Code contains parking standards for projects within the Millenia development. The project site plan is compliant with Section 3.15.000 of the SPA.

Appendix B contains parking-related excerpts from the EUC SPA Planning Community District Regulations Form-Based Code.

TABLE 3–1
PROJECT PARKING REQUIREMENTS PER THE FORM-BASED CODE

Land Use	Size	Form-Based Code Rates		Proposed Parking (stalls)	Is the minimum required parking provided?
		Weekday Rate [b]	Parking Requirement (stalls)		
Office	318,000 s.f.	2.80 / ksf	891	1,373	***Yes***
Fitness Center	3,500 s.f.	7.00 / ksf	25		
Outdoor Patio	3,250 s.f.	7.00 / ksf	23		
Restaurant	2,600 s.f.	15.00 / ksf	39		
Outdoor Patio [a]	5,050 s.f.	5.00 / ksf	25		
Total		—	**1,003**		

Footnotes:

a. Per the Form-Based Code, up to 200 square feet of outdoor dining space is exempt from minimum parking required. Above 200 square feet, a minimum of 5 spaces per ksf should be provided.

b. The weekday rates were chosen as they reflect the governing parking rates for the project.

General Notes:

1. ksf. = 1,000 square footage
2. The fitness center and restaurant are provided as ancillary amenities to the office and a majority of their patrons are expected to come from the adjacent office buildings. However, to be conservative, the fitness center and restaurant were treated as stand-alone land uses in the calculations.

TABLE 3–2
FUTURE (WITH BUILDING 3) PARKING REQUIREMENTS PER THE FORM-BASED CODE

Land Use	Size	Form-Based Code Rates		Proposed Parking (stalls)	Is the minimum required parking provided?
		Weekday Rate [b]	Parking Requirement (stalls)		
Office	318,000 s.f.	2.80 / ksf	891	1,302	***Yes***
Future Office	85,000 s.f.	3.33 / ksf	284		
Fitness Center	3,500 s.f.	7.00 / ksf	25		
Outdoor Patio	3,250 s.f.	7.00 / ksf	23		
Restaurant	2,600 s.f.	15.00 / ksf	39		
Outdoor Patio [a]	5,050 s.f.	5.00 / ksf	25		
Subtotal		—	***1,287***		
Shared Parking Reduction [c]		—	(18)		
Total		—	**1,269**		

Footnotes:

a. Per the Form-Based Code, up to 200 square feet of outdoor dining space is exempt from minimum parking required. Above 200 square feet, a minimum of 5 spaces per ksf should be provided.

b. The weekday rates were chosen as they reflect the governing parking rates for the project.

c. *Appendix A* contains the shared parking reduction calculations.

General Notes:

1. ksf. = 1,000 square footage
2. The fitness center and restaurant are provided as ancillary amenities to the office and a majority of their patrons are expected to come from the adjacent office buildings. However, to be conservative, the fitness center and restaurant were treated as stand-alone land uses in the calculations.

3.2 Motorcycle Parking Requirements

The Millenia SPA Plan does not require nor contain standards for the provision of motorcycle parking. However, the project proposes to provide 26 motorcycle stalls (located in the parking structure). This amount is based on Section 142.0530(g) of the City of San Diego Municipal Code, which states that motorcycle parking shall be provided at a ratio of 2% of the minimum number of automobile parking spaces required or two spaces, whichever is greater.

3.3 Bicycle Parking Requirements

The City of Chula Vista has adopted the California Green Building Code (CalGreen) for residential and non-residential development, which includes standards for bicycle parking facilities. ***Table 3–3*** summarizes the bicycle parking standards listed in Section 5.106.4 of the CalGreen Code.

TABLE 3–3
CALGREEN BICYCLE PARKING STANDARDS
(SECTION 5.106.4)

Type of parking	Bicycle Parking Requirement
Short-term: *(If the new project or an addition or alteration is anticipated to generate visitor traffic)*	Provide: • Permanently anchored bicycle racks within 200 feet of the visitors' entrance • Readily visible to passers-by • For 5% of new visitor motorized vehicle parking spaces being added • Minimum of one 2-bike capacity rack
Long-term: *(for new buildings with over 10 tenant-occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces)*	Provide: • For 5% of new tenant motorized vehicle parking spaces being added • Minimum of one space Acceptable parking facilities shall be convenient from the street and shall meet one of the following: • Covered, lockable enclosures with permanently anchored racks for bicycles; • Lockable bicycle rooms with permanently anchored racks; or • Lockable, permanently anchored bicycle lockers.

The project proposes to provide 72 bicycle parking spaces within the parking structure for long-term bicycle parking, which is more than 5% of the provided vehicular parking. The project also proposes to provide permanently anchored bike racks that are decorative in color and design and that are readily visible to passers-by within 200 feet of the visitors' entrance. These bike racks will provide

58 spaces for short-term bicycle parking, which is more than 5% of the provided vehicular parking. Therefore, the project is compliant with the CalGreen bicycle parking standards.

4.0 PARKING MANAGEMENT BEST PRACTICES

This section describes parking management best practices for the project. Since the project is providing more parking than what is required, the current project is not required to implement any of the following parking management strategies. Even though not required, the project may consider the following strategies, to reduce vehicular dependencies and/or when a parking problem occurs. When the future Building 3 is constructed, shared parking should be mandatory, if feasible.

4.1 Shared Parking

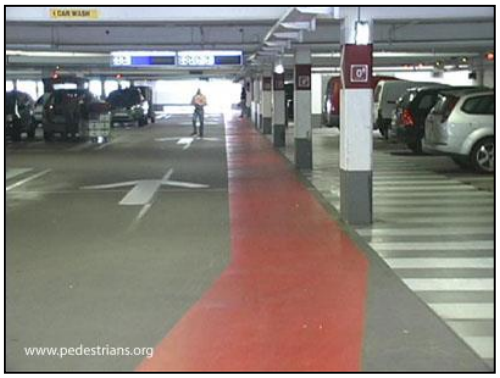
The feasibility of shared parking within the study area and with surrounding off-site land uses will be evaluated once specific tenants are identified. When the future Building 3 is constructed, shared parking will be implemented.

4.2 Strategies that reduce parking demand

4.2.1 *Enhance Walkability*

Walkability refers to the overall walking conditions in an area. Walkability takes into account the quality of pedestrian facilities, roadway conditions, land use patterns, community support, security and comfort for walking. Walkability can be evaluated at various scales. At a site scale, walkability is affected by the quality of pathways, building access ways and related facilities. At a street or neighborhood level, it is affected by the existence of sidewalks and crosswalks, and roadway conditions (road widths, traffic volumes, and speeds). At the community level, it is also affected by land use accessibility, such as the relative location of common destinations and the quality of connections between them. The following are examples of specific ways to enhance walkability:

- Construct walkways to provide a space for pedestrians who desire separation from auto traffic. Consideration should be given to developing a universal design that can accommodate people with disabilities and other special needs (See Section 03.15.009 (a)(iii) of the Form Based Code).
- Provide convenient sidewalk connections, multiple pedestrian access points to parking facilities and mid-block walkways in commercial districts. Consider limiting the location of curb cut entrances to parking facilities.
- Install adequate lighting within the parking areas.
- Increase pedestrian safety within parking lots, consider implementing traffic calming measures.



- Ensure that at-grade pedestrian crossings are highly visible and traffic is controllable.
- Install wayfinding signage to provide navigational information to patrons as to the location of various destinations within Millenia, the location of the parking lots, and the sections within parking lots.

Benefits:

- Improving walkability (the quality of walking conditions) expands the range of parking facilities that serve a destination. This increases the feasibility of sharing parking facilities and use of remote parking facilities.
- Improving walkability increases park-once trips, which reduces the amount of parking required at each destination.
- Pedestrian improvements can contribute to reducing total vehicle ownership and use in an area.

4.2.2 *Improve Bikeability*

Bikeability refers to the overall biking conditions in an area. The following are examples of specific ways to enhance bikeability:

- Provide bicycle parking: The provision of quality end-of-trip facilities for bicyclists is important to bicycling becoming a feasible mode of transportation. Long-term parking (e.g. bike lockers, bike cages) may be provided for bicycle storage for employees. Short-term bicycle parking (e.g. bike racks) for guests and recreational users should be secure and conveniently located.
- Provide showers, changing rooms, and lockers for employees.
- Consider participating in a future regional bike sharing program.

The provision of these facilities and amenities can encourage people to bike to Millenia from longer distances and makes it an attractive commute option by further improving safety and convenience for bicyclists. Bicycle improvements increase mobility, reduce auto dependency, congestion and air pollution, and can be a very important mode of transportation for families with low income.

4.2.3 *Implement Transportation Demand Management*

See Section 5.0 for Transportation Demand Management (TDM) best practices.

4.2.4 *Provide financial TDM incentives*

The following are several incentives that encourage commuters to reduce parking demand by using alternative modes of transportation:

- Cashing-out parking
- Transit benefits / Universal transit passes
- Discounted / preferential parking for rideshare vehicles
- Provide educational opportunities to employers focused on reducing parking demands of staff during business hours

Cash-out programs are transportation subsidy programs where the employer provides a transportation subsidy benefit to all employees. Generally, employees have a choice to apply that

subsidy to obtain free parking or almost free parking at or near the business or a tax-free transit subsidy. Alternately, commuters who bicycle or walk to work may exercise the cash-out option receiving that benefit as additional compensation. The effectiveness of cash-out programs depends on the availability of transit and other alternative modes to solo driving and the availability, or lack thereof, of free and unregulated parking supplies. Millenia cash-out programs are expected to become feasible and effective when the BRT is extended to the project along with the associated local bus service connections. BRT service is scheduled to begin in 2018.

Employers can also choose to offer free or subsidized transit passes to make transit a more attractive mode of transportation for their employees. Universal transit passes typically allow unlimited rides on local or regional transit for a low monthly fee, which are often absorbed entirely by the employer or developer. The universal transit pass system typically requires that the participating agency purchase passes at a discounted rate for all employees.

Another financial incentive is the provision of discounted or preferential parking for rideshare if the parking facility is privately owned. This entails reserving close-in, secure, covered, or otherwise preferable parking spaces for high-occupancy vehicles such as carpools and vanpools. These parking spaces should be the closest spaces to the building entrance after the accessible (ADA) parking spaces. Employers may use pricing strategies to strengthen the effectiveness of these strategies.

4.3 Strategies that increase parking facility efficiency

4.3.1 *Implement Intelligent Parking Guidance Systems*

Since the 1970s, intelligent parking management systems (IPS) have been utilized to improve the quality of service and the traffic operations associated with parking. These systems involve the application of advanced technologies to help inform drivers of the location and availability of parking in an efficient manner. This translates to less time spent searching for a vacant parking space and optimizing the use of parking facilities. Early systems provided basic information such as a sign at the entrance of a parking facility stating whether or not it was full and maps indicating the location of parking facilities within a given area. Today, IPS is capable of providing real-time parking information through various applications including pre-trip Web-based information systems to turn-by-turn directions leading directly to an available parking space. These advanced systems employ various vehicle detection technologies as well as parking wayfinding and guidance technologies. A summary of some of these technologies is described below.

Vehicle Detection Technology

In order to provide real-time information on parking availability, the number of vehicles within the parking facility must be continually accounted for. There are two methods for counting vehicles within a parking facility: entry/exit detection and space occupancy detection. A summary of these

two methods is shown in ***Table 4–1.*** There are two types of vehicle detectors: intrusive and non-intrusive. Intrusive detectors are installed directly on the pavement surface through a variety of means including in saw-cuts and holes on the surface and tunneling underneath the surface. A description of several examples of intrusive detectors is found in ***Table 4–2***. Non-intrusive detectors are installed aboveground, usually mounted above or to the side of the study area. A description of several examples of intrusive detectors is found in ***Table 4–3***.

TABLE 4–1
VEHICLE COUNTING METHODS

Method	*Description*
Entry/Exit Detection	For the purpose of advanced parking management systems, there are two ways of monitoring the occupancy in a parking facility. One is to continually track the number of vehicles entering and exiting the parking facility or even sections of the facility. For parking facilities with a few access points, this can be easily accomplished through manual counting. However, for areas with several parking facilities within the system, any of the technologies described below can be utilized as a less labor-intensive and more efficient method of tracking the number of vehicles moving throughout the parking facility.
Space Occupancy Detection	Another way of monitoring the occupancy in a parking facility is to monitor the occupancy of each parking space. Sensors (typically magnetic sensors) and video image processors (VIPs) are the prevalent technologies that are used to detect the occupancy of individual parking spaces. Recently, sensors in the form of pucks have gained increased attention with cities such as San Francisco and Washington, D.C. utilizing them in their parking management programs. However, this requires sensors to be installed at each parking space, which may not be a feasible approach depending on the size and layout of the parking facility. An alternative method is to use VIPs for detection. This would require less equipment to cover the same amount of area but this technology is still in its beginning stages.

TABLE 4–2
TYPES OF INTRUSIVE DETECTORS

Intrusive Detector Type	*Description*
Pneumatic Road Tubes	A pneumatic road tube is a hollow rubber tube placed across the roadway that is used to detect vehicles by the change in air pressure generated when a vehicle tire passes over the tube. These road tubes can be placed at the entry and exit points of a parking facility, perpendicular to the flow of traffic, to monitor the number of vehicles entering and exiting. The advantages include low cost and simple maintenance. The disadvantages include inaccurate axle counting in the case of trucks and buses and quick wear and tear.
Inductive Loop Detectors	Inductive loop detectors (ILD) are the most common sensors used in traffic management systems. ILDs are square, circular, or rectangular in shape. The wire loop is excited with a signal ranging in frequency from 10 kHz to 200 kHz and functions as an inductive element in conjunction with the electronics unit. When a vehicle stops on or passes over the loop, its inductance is decreased. The decreased inductance causes the electronics unit to send a pulse to the controller, indicating the presence or passage of a vehicle. The advantages include low cost, reliability, flexible design, and a well-known technology. The disadvantages include possible cause of decrease in pavement life, the need to cut pavement to install, and the loops being subject to stresses of traffic and temperature.
Piezoelectric Sensors	Piezoelectric sensors are mounted in a groove that is cut into the roadway surface within the traffic lane. The sensors gather data by converting mechanical energy into electrical energy when a tire passes over the sensor. One advantage is that, unlike the road tubes, piezoelectric sensors can classify what type of vehicle is passing through, leading to a more accurate count. It is also within the same price range as ILDs. The disadvantages include its sensitivity to vehicle speed and its inability to detect stopped vehicles.
Magnetic Sensors	Magnetic sensors operate similar to ILDs. These sensors detect the presence of a vehicle by the disturbance the vehicle causes in a magnetic field. There are two types of magnetic sensors: 1) the active type known as the two-axis fluxgate magnetometer and 2) the passive type known as the induction or search coil magnetometer. The advantages of magnetic sensors include less susceptibility over loops to the stress of traffic and the ability to be used in smaller-area locations where loops are not feasible. The disadvantages include the inability to detect stopped vehicles and the need to install multiple sensors to detect smaller vehicles, such as motorcycles.

TABLE 4–3
TYPES OF NON-INTRUSIVE DETECTORS

Non-Intrusive Detector Type	*Description*
Video Image Processor	Video image processors (VIP) use typically consists of one or more mounted cameras, a microprocessor-based computer for digitizing and processing the imagery, and software for interpreting the images and converting them into traffic flow data. VIPs detect the presence of a vehicle by examining the change in pixels between successive video frames. One advantage of VIPs is that it can replace several ILDs and can accommodate a larger detection zone. Some disadvantages include vulnerability to viewing obstructions and sensitivity to adverse lighting and weather conditions. However, proper installation and calibration can minimize these impacts.
Microwave Radar	The frequency modulated continuous wave (FMCW) radar transmits energy at a frequency that continuously changes over time. It can either be mounted overhead or from a side-looking configuration. When a vehicle passes by this radar, a portion of the transmitted energy is reflected back to the radar, which will process the data. One advantage is that this technology has been used to detect objects since the 1940s and is well-understood. When properly mounted and programmed, a single FMCW radar can cover multiple lanes. It can also detect stopped vehicles and is insensitive to inclement weather. Disadvantages include susceptibility to interference from other radio devices, and possible subjection to licensing and FCC regulation.
Infrared Sensors	There are two types of infrared sensors – active and passive. Like microwave radars, infrared sensors are mounted overhead or to the side of the roadway. Active infrared sensors transmit low-power infrared beams to a detection area on the pavement and measures the time it takes for the beams to reflect back to the sensor. When a vehicle passes through the detection area, its presence is measured by the reduced time it takes for the beams to be reflected. Passive infrared sensors detect energy from their detection area, but do not transmit any energy themselves. These sensors use signal-processing algorithms to gather the desired information. Infrared sensors have the same range of detection as the human eye. Advantages for both types of infrared sensors include the ability to operate during both day and night and to cover multiple lanes. One disadvantage is its sensitivity to inclement weather, atmospheric particulates, and ambient light. However, this is usually not a significant issue at short operating ranges.
Ultrasonic Sensors	Using a similar process as infrared sensors and microwave sensors, ultrasonic sensors emit ultrasonic energy and measure the transmitted energy that is reflected back from a given surface. The sensors are typically calibrated to identify the range the transmitted energy that is reflected back from the road surface. When a range different from the road surface is measured, such as when a vehicle passes by, the sensor will signal the detection of the vehicle. This technology has been widely used in Japan. Advantages include the ability to operate in all weather conditions and to cover multiple lanes. One disadvantage is its sensitivity to temperature changes.

Parking Guidance Systems

Up to 20% of traffic congestion is attributed to drivers searching for available parking. Often, the cause of parking problems is not a parking shortage but rather the perception of a parking shortage due to lack of information. A parking guidance system (PGS) provides information to travelers on the availability of parking. The implementation a PGS can help overcome the perception of a parking shortage by identifying all available parking options for the traveler. Traditionally, PGS delivered information through highway advisory radio and telephone-based systems such as 511. Today, information on parking availability is also delivered through the internet and VMS. Combining variable message signs (VMS) with the vehicle counting technologies that monitor the parking demand, a PGS can report the real-time availability of parking at a facility and can direct drivers to the row of an available parking space or even to the available parking space itself.

In addition to reducing driver confusion and frustration, effective parking guidance can reduce extraneous traffic circulation through the parking facility and congestion on the adjacent streets, thus reducing vehicle emissions. It can also help optimize the parking supply and make parking management more efficient.

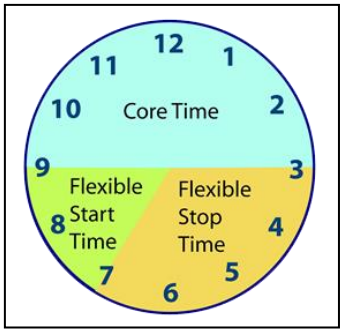
5.0 TRANSPORTATION DEMAND MANAGEMENT BEST PRACTICES

This section describes recommended transportation demand practices for the project. Transportation Demand Management (TDM) refers to a variety of strategies that aim to change travel behavior in order to improve the efficiency of the transportation system. *While not mandatory*, the Millenia SPA Plan states that large employers (those with 100 or more employees) should be actively encouraged to develop TDM programs. TDM programs often reduce parking demand, and many parking management strategies help reduce vehicle traffic and support other TDM objectives. Specific TDM practices cannot be identified until specific tenants are known.

5.1 Alternative Work Schedule

Alternative work schedules can include one of the following approaches:

- Flextime: Employees are allowed some flexibility in their daily work schedules. Employees still work five eight-hour days per week, but they are allowed to choose their arrival and departure times. Employees are generally required to be present in the office during specified core business hours when meetings and other company-wide events are scheduled. Flextime allows commuters to match their work schedules with transit and rideshare schedules, which can significantly increase the feasibility of using these modes.



- Compressed Work Week (CWW): Employees work fewer but longer work days per week. The two most popular CWW schedules are the 4/40 (four 10-hour work days each week) and 9/80 (nine-hour work days with one day off every two weeks). In any CWW program, there should be adequate coverage of employees who are taking their day off. Generally, this means that not everybody takes the same day off.

- Staggered Shifts: Employees' shifts are staggered anywhere between 15 minutes to 2 hours to reduce the number of employees arriving and departing from the worksite at one time. This can help reduce bottlenecks in the employee parking lots and in streets at the entrance of your office park.

Of course, not all jobs may be suitable for alternative work schedules. Alternative work schedules are usually implemented as an employee and manager option (both employees and their managers must agree). Alternative Work Schedule may require changes in management practices that reduce the need to have employees physically together at one time, including more outcome-oriented management practices (evaluating employees based on their performance rather than simply the amount of time they spend at their desk), and increased use of electronic communication to compensate for reduced face-to-face interaction.

5.2 Telecommuting (or "teleworking")

Telecommuting (or "teleworking") refers to a transportation alternative that allows employees to work at home, at a nearby satellite facility, or from a "virtual office" for a portion, or all, of the work

week. It replaces physical travel to and from work with telecommunications technology, which therefore reduces the parking demand at the work site.

Employers should work with managers and employees to develop suitable telework policies and practices. The telework policy should specify:

- Which job categories are suitable.
- What is required of employees to qualify.
- What equipment, support and benefits employers will provide to telecommuting employees.
- What criteria are to be used to evaluate the performance of employees when they telecommute.
- How telecommuting schedules are determined, and what is required to change schedules.
- Periodic review of the arrangement.
- Model contracts and forms for establishing and tracking telecommuting.

5.3 Ridesharing

Ridesharing refers carpooling or vanpooling, in which a vehicle carries additional passengers when making a trip. This does not include chauffeured trips.

Carpooling generally uses participants' own automobiles and is formed voluntarily. Institutions, employers, developers and property owners can encourage and accommodate them through the establishment and reservation of preferred parking spaces and free or reduced parking costs for designated and registered carpools.

Vanpooling generally consists of a group of 5 to 15 commuters who rideshare to and from work using a rented van (often supplied by employers, non-profit organizations, or government agencies). Vanpool is more suitable for longer commutes with very limited or no existing transit services.

A variety of improvements and incentives can increase ridesharing, such as:

- Increased flexibility, for example,
  - allowing commuters to vanpool two or three days a week, rather than every day
  - allowing unscheduled use as long as a van has extra space, such as allowing a commuter who misses their regular 5:30 vanpool to use a later van.

- Empty seat subsidies (temporarily paying a share of costs if a vanpool has less than six riders).

- Fare subsidies by employers or transit agencies (currently, transit commuting is often subsidized, but similar trips by vanpools are not).

- Targeted, direct marketing, for example, calling households in a particular suburb with an offer of one month's free vanpooling to encourage area commuters to try the service.

- Rent cars for carpools the same as vans are rented for vanpool use. This provides an option for groups of two to five who want to rideshare if none have a suitable vehicle, including vanpools that lose members.

- Premium quality service options, such as extra high-quality vans with bucket seats, workstations (fold-down tables with electric power so vanpoolers can work while commuting), and complementary newspapers and drinks for vanpoolers who pay an extra fee.

- Pay-As-You-Drive Vehicle Insurance, Commuter Financial Incentive and Road Pricing, to financially reward commuters who shift to Ridesharing.

- Vanpools scheduled to transfer to transit service or other vanpools.

- HOV Priority and preferred parking spaces.

5.4 Carsharing / Bike Sharing

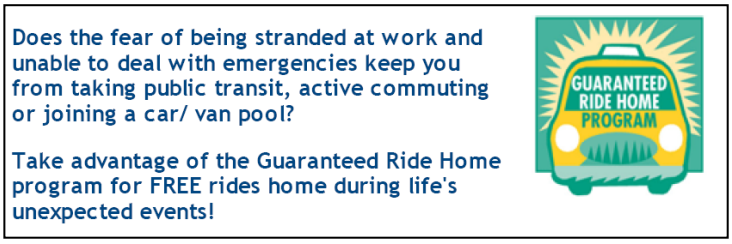
Carsharing refers to automobile rental services that substitute for private vehicle ownership. Carsharing programs provide participants with access throughout the day to a fleet of centrally owned and maintained vehicles located near residences, workplaces, or transit hubs and generally priced by the hour or per distance traveled. Generally, no separate written agreement is required each time a member reserves and uses a vehicle. Carsharing is primarily designed for shorter time and shorter distance trips as an extension of the transportation network. It is intended to improve mobility options for non-drivers.

Similarly, bike sharing refers to bicycle rental services intended for short distance trips (approximately 0.5-3 miles). Typically, a fleet of bikes are stored at conveniently located automated self-serve docking stations and bikes may be rented at one station and returned at another within the service area. Like carsharing, bike sharing is intended to improve mobility options for non-drivers.

5.5 Guaranteed Ride Home

Employers can also implement a Guaranteed Ride Home (GRH) program, which provides occasional subsidized rides to commuters who use alternative modes of transportation. For example, if an employee who normally takes the bus to work has to return home in an emergency or if one person who carpools needs to work overtime, the GRH program would provide a taxi ride or use of a company vehicle or rental car. GRH programs help alleviate concerns about dealing with unexpected events when using alternative modes of transportation.

A GRH policy should specify the following:



- Who is eligible. The program could cover all employees, or only those who use alternative modes for a specified portion of commuting.
- What trips are eligible. The program could cover any trip, or it could be limited to unexpected business appointments, employee or family member sickness.
- Maximum number of uses allowed during a certain period, maximum miles within a period, or maximum cost per trip.
- Which staff or department is responsible for implementation.
- Procedures for using the GRH service.
- Appropriate forms (e.g. registration and reimbursement vouchers).

5.6 Ride-matching services

Ride-matching services promote ridesharing (i.e. carpooling and vanpooling) by identifying potential driving companions. Recently, many ride-matching services have utilized web-based programs where users can log on to a website and enter information about their trips – such as origin, destination, time of arrival and departure, and which days of the week – and the system will identify people with similar trip patterns who are willing to carpool. Traditional ride-matching services match users who then agree in advance to a fixed schedule of commute. These services can be carried out at an office-wide level or a regional level.

6.0 CONCLUSION

Based on the assessment included in this report, the project is in conformance with the parking requirements of the Millenia SPA Plan, and provides vehicular, motorcycle, and bicycle parking above what is required per the Millenia SPA Plan. The project site plan is compliant with Section 3.15.000 of the SPA. However, when finalizing the design and construction of the parking facilities, the project should ensure full compliance with the SPA. When the future Building 3 is constructed, shared parking will be implemented. Even though not required, the additional Parking Management and Transportation Demand Management Strategies included in this report should be considered to reduce overall vehicular dependencies.

LINSCOTT
LAW &
GREENSPAN
engineers

TECHNICAL APPENDICES

MILLENIA OFFICE – LOT 7

Chula Vista, California
November 30, 2016

Prepared by
Linscott, Law & Greenspan, Engineers

LLG Ref. 3-16-2586

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APPENDIX A

SHARED PARKING CALCULATIONS

Future Building 3 Addendum Shared Parking Analysis - Weekday

Hour of Day	Office		Future Office		Fitness		Fitness - Patio		Restaurant		Restaurant - Patio		Total Spaces Required
	318 KSF		85 KSF		3.50 KSF		3.25 KSF		2.6 KSF		5.05 KSF		
	Rate= 2.8		Rate= 3.33		Rate= 7		Rate= 7		Rate= 15		Rate= 5		
	891 spaces		*284 spaces*		*25 spaces*		*23 spaces*		*39 spaces*		*25 spaces*		1287 spaces
	Distribution[a]	Required Parking Spaces	Distribution[a]	Required Parking Spaces	Distribution[a]	Required Parking Spaces	Distribution[a]	Required Parking Spaces	Distribution[b]	Required Parking Spaces	Distribution[b]	Required Parking Spaces	
6:00 AM	3%	27	3%	9	70%	18	70%	16	5%	2	5%	2	74
7:00 AM	30%	268	30%	85	40%	10	40%	10	10%	4	10%	3	380
8:00 AM	75%	668	75%	213	40%	10	40%	10	20%	8	20%	5	914
9:00 AM	95%	846	95%	269	70%	18	70%	16	30%	12	30%	8	1169
10:00 AM	100%	891	100%	284	70%	18	70%	16	55%	22	55%	14	1245
11:00 AM	100%	891	100%	284	80%	20	80%	19	85%	34	85%	21	1269
12:00 PM	90%	802	90%	255	60%	15	60%	14	100%	39	100%	25	1150
1:00 PM	90%	802	90%	255	70%	18	70%	16	100%	39	100%	25	1155
2:00 PM	100%	891	100%	284	70%	18	70%	16	90%	36	90%	22	1267
3:00 PM	100%	891	100%	284	70%	18	70%	16	60%	24	60%	15	1248
4:00 PM	90%	802	90%	255	80%	20	80%	19	55%	22	55%	14	1132
5:00 PM	50%	446	50%	142	90%	23	90%	21	60%	24	60%	15	671
6:00 PM	25%	223	25%	71	100%	25	100%	23	85%	34	85%	21	397
7:00 PM	10%	90	10%	29	90%	23	90%	21	80%	32	80%	20	215
8:00 PM	7%	63	7%	20	80%	20	80%	19	50%	20	50%	13	155
9:00 PM	3%	27	3%	9	70%	18	70%	16	30%	12	30%	8	90
10:00 PM	1%	9	1%	3	35%	9	35%	8	20%	8	20%	5	42
11:00 PM	0%	0	0%	0	10%	3	10%	3	10%	4	10%	3	13
12:00 AM	0%	0	0%	0	0%	0	0%	0	5%	2	5%	2	4

Peak Peak Parking Demand:	1269	1269 spaces	Reduction	1.4%	18

Footnotes:

a. Shared parking time of day distribution used for "General Office" per ULI's *Shared Parking (2nd Ed.)*

b. Shared parking time of day distribution used for "Health/Fitness Club" per ULI's *Shared Parking (2nd Ed.)*

c. Shared parking time of day distribution used for "Fast Food Restaurant" per ULI's *Shared Parking (2nd Ed.)*

General Notes:

a. All parking rates are from the Form-Based Code

Legend:

KSF = 1000 Square foot

Future Building 3 Addendum Shared Parking Analysis - Weekend

Hour of Day	Office		Future Office		Fitness		Fitness - Patio		Restaurant		Restaurant - Patio		Total Spaces Required
	318 KSF		85 KSF		3.50 KSF		3.25 KSF		2.6 KSF		5.05 KSF		
	Rate= 0.353		Rate= 0.38		Rate= 5.75		Rate= 5.75		Rate= 14		Rate= 5		
	113 spaces		*33 spaces*		*21 spaces*		*19 spaces*		*37 spaces*		*25 spaces*		248 spaces
	Distribution[a]	Required Parking Spaces	Distribution[a]	Required Parking Spaces	Distribution[b]	Required Parking Spaces	Distribution[b]	Required Parking Spaces	Distribution[c]	Required Parking Spaces	Distribution[c]	Required Parking Spaces	
6:00 AM	0%	0	0%	0	80%	17	80%	15	5%	2	5%	2	36
7:00 AM	20%	23	20%	7	45%	10	45%	9	10%	4	10%	3	56
8:00 AM	60%	68	60%	20	35%	8	35%	7	20%	8	20%	5	116
9:00 AM	80%	90	80%	26	50%	11	50%	10	30%	11	30%	8	156
10:00 AM	90%	102	90%	30	35%	8	35%	7	55%	21	55%	14	182
11:00 AM	100%	113	100%	33	50%	11	50%	10	85%	31	85%	21	219
12:00 PM	90%	102	90%	30	50%	11	50%	10	100%	37	100%	25	215
1:00 PM	80%	90	80%	26	30%	7	30%	6	100%	37	100%	25	191
2:00 PM	60%	68	60%	20	25%	6	25%	5	90%	33	90%	22	154
3:00 PM	40%	45	40%	13	30%	7	30%	6	60%	22	60%	15	108
4:00 PM	20%	23	20%	7	55%	12	55%	11	55%	21	55%	14	88
5:00 PM	10%	12	10%	4	100%	21	100%	19	60%	22	60%	15	93
6:00 PM	5%	6	5%	2	95%	20	95%	18	85%	31	85%	21	98
7:00 PM	0%	0	0%	0	60%	13	60%	12	80%	30	80%	20	75
8:00 PM	0%	0	0%	0	30%	7	30%	6	50%	19	50%	13	45
9:00 PM	0%	0	0%	0	10%	3	10%	2	30%	11	30%	8	24
10:00 PM	0%	0	0%	0	1%	1	1%	1	20%	8	20%	5	15
11:00 PM	0%	0	0%	0	1%	1	1%	1	10%	4	10%	3	9
12:00 AM	0%	0	0%	0	0%	0	0%	0	5%	2	5%	2	4

Peak Peak Parking Demand:	219	219 spaces	Reduction	11.7%	29

Footnotes:

a. Shared parking time of day distribution used for "General Office" per ULI's *Shared Parking (2nd Ed.)*

b. Shared parking time of day distribution used for "Health/Fitness Club" per ULI's *Shared Parking (2nd Ed.)*

c. Shared parking time of day distribution used for "Fast Food Restaurant" per ULI's *Shared Parking (2nd Ed.)*

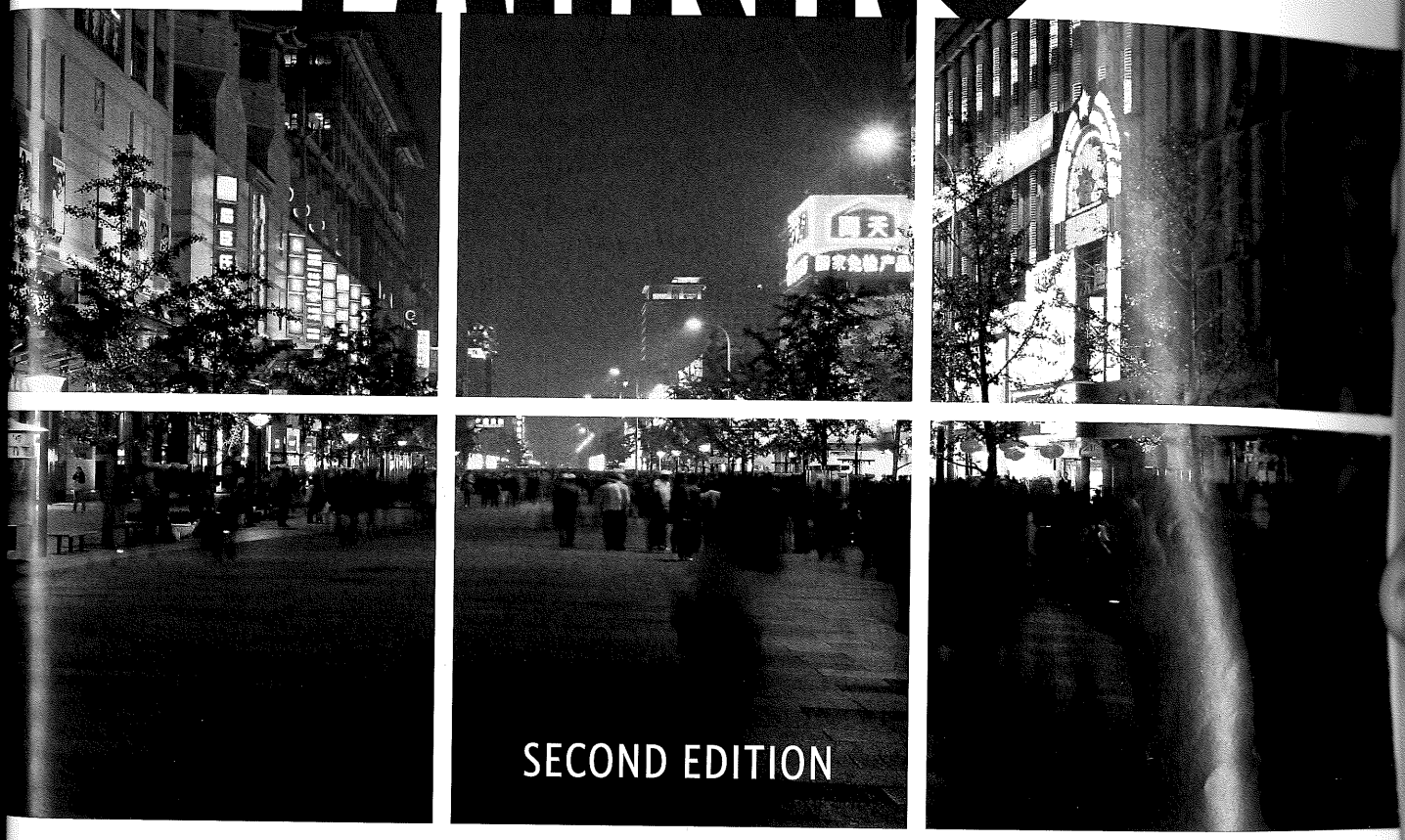
General Notes:

a. All parking rates are from the Form-Based Code

Legend:

KSF = 1000 Square foot

SHARED PARKING



SECOND EDITION

Mary S. Smith

Urban Land Institute

International Council of Shopping Centers

Table 2-5 Recommended Time-of-Day Factors for Weekdays

Land Use	User	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.
Shopping Center—Typical	Customer	1%	5%	15%	35%	65%	85%	95%	100%	95%
Peak December	Customer	1%	5%	15%	30%	55%	75%	90%	100%	100%
Late December	Customer	1%	5%	10%	20%	40%	65%	90%	100%	100%
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%
Fine/Casual Dining	Customer	—	—	—	—	15%	40%	75%	75%	65%
	Employee	—	20%	50%	75%	90%	90%	90%	90%	90%
Family Restaurant	Customer	25%	50%	60%	75%	85%	90%	100%	90%	50%
	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%
Fast Food	Customer	5%	10%	20%	30%	55%	85%	100%	100%	90%
	Employee	15%	20%	30%	40%	75%	100%	100%	100%	95%
Nightclub	Customer	—	—	—	—	—	—	—	—	—
	Employee	—	—	—	5%	5%	5%	5%	10%	10%
Cineplex—Typical	Customer	—	—	—	—	—	—	20%	45%	55%
Late December	Customer	—	—	—	—	—	—	35%	60%	75%
	Employee	—	—	—	—	—	—	50%	60%	60%
Performing Arts Theater	Customer	—	—	—	1%	1%	1%	1%	1%	1%
No matinee	Employee	—	10%	10%	20%	20%	20%	30%	30%	30%
Arena	Customer	—	—	—	1%	1%	1%	1%	1%	1%
No matinee	Employee	—	10%	10%	20%	20%	20%	30%	30%	30%
Stadium	Customer	—	—	—	1%	1%	1%	5%	5%	5%
8 p.m. start	Employee	—	10%	10%	20%	20%	20%	30%	30%	30%
Health Club	Customer	70%	40%	40%	70%	70%	80%	60%	70%	70%
	Employee	75%	75%	75%	75%	75%	75%	75%	75%	75%
Convention Center	Visitor	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%
Hotel—Business	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%
Hotel—Leisure	Guest	95%	95%	90%	80%	70%	70%	65%	65%	70%
Restaurant/Lounge	Customer	—	10%	30%	10%	10%	5%	100%	100%	33%
Conference/Banquet	Customer	—	—	30%	60%	60%	60%	65%	65%	65%
Convention	Customer	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	90%	90%	100%	100%	100%	100%	100%
Residential	Guest	—	10%	20%	20%	20%	20%	20%	20%	20%
Residential	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%
Office	Visitor	—	1%	20%	60%	100%	45%	15%	45%	100%
Office	Employee	3%	30%	75%	95%	100%	100%	90%	90%	100%
Medical/Dental Office	Visitor	—	—	90%	90%	100%	100%	30%	90%	100%
	Employee	—	—	60%	100%	100%	100%	100%	100%	100%
Bank	Customer	—	—	50%	90%	100%	50%	50%	50%	70%
	Employee	—	—	60%	100%	100%	100%	100%	100%	100%

3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	Midnight	Source
90%	90%	95%	95%	95%	80%	50%	30%	10%	—	1
100%	95%	85%	80%	75%	65%	50%	30%	10%	—	1
100%	95%	85%	70%	55%	40%	25%	15%	5%	—	1
100%	100%	95%	95%	95%	90%	75%	40%	15%	—	2
40%	50%	75%	95%	100%	100%	100%	95%	75%	25%	2
75%	75%	100%	100%	100%	100%	100%	100%	85%	35%	2
45%	45%	75%	80%	80%	80%	60%	55%	50%	25%	2
75%	75%	95%	95%	95%	95%	80%	65%	65%	35%	2
60%	55%	60%	85%	80%	50%	30%	20%	10%	5%	3
70%	60%	70%	90%	90%	60%	40%	30%	20%	20%	2
—	—	—	25%	50%	75%	100%	100%	100%	100%	2
10%	20%	45%	70%	100%	100%	100%	100%	100%	100%	2
55%	55%	60%	60%	80%	100%	100%	80%	65%	40%	2, 6
80%	80%	80%	70%	80%	100%	100%	85%	70%	55%	2, 6
75%	75%	100%	100%	100%	100%	100%	100%	70%	50%	2
1%	1%	1%	1%	25%	100%	100%	—	—	—	2
30%	30%	30%	100%	100%	100%	100%	30%	10%	5%	2
1%	1%	1%	10%	25%	100%	100%	85%	—	—	2
30%	30%	30%	100%	100%	100%	100%	30%	10%	5%	2
5%	5%	5%	10%	50%	100%	100%	85%	25%	—	2
30%	30%	30%	100%	100%	100%	100%	100%	25%	10%	2
70%	80%	90%	100%	90%	80%	70%	35%	10%	—	2, 4
75%	75%	100%	100%	75%	50%	20%	20%	20%	—	2, 4
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	70%	40%	25%	20%	20%	5%	—	—	2
60%	65%	70%	75%	75%	80%	85%	95%	100%	100%	5
70%	75%	80%	85%	85%	90%	95%	95%	100%	100%	2
10%	10%	30%	55%	60%	70%	67%	60%	40%	30%	5, 3
65%	65%	100%	100%	100%	100%	100%	50%	—	—	2
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	70%	40%	20%	20%	20%	20%	10%	5%	2
20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	2
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2
70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	2
45%	15%	10%	5%	2%	1%	—	—	—	—	2
100%	90%	50%	25%	10%	7%	3%	1%	—	—	3
100%	90%	80%	67%	30%	15%	—	—	—	—	2
100%	100%	100%	67%	30%	15%	—	—	—	—	2
50%	80%	100%	—	—	—	—	—	—	—	3
100%	100%	100%	—	—	—	—	—	—	—	2

Sources:

1. Confidential data provided by shopping center managers.
2. Developed by team members.
3. *Parking Generation*, 3rd ed. (Washington, D.C.: Institute of Transportation Engineers, 2004).
4. John W. Dorsett, "Parking Requirements for Health Clubs," *The Parking Professional*, April 2004.
5. Gerald Salzman, "Hotel Parking: How Much Is Enough?" *Urban Land*, January 1988.
6. Parking study conducted by Patton Harris Rust & Associates for the Peterson Companies, 2001.

Table 2-6 Recommended Time-of-Day Factors for Weekends

Land Use	User	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.
Shopping Center—Typical	Customer	1%	5%	10%	30%	50%	65%	80%	90%	100%
Peak December	Customer	1%	5%	10%	35%	60%	70%	85%	95%	100%
Late December	Customer	1%	5%	10%	20%	40%	60%	80%	95%	100%
	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%
Fine/Casual Dining	Customer	—	—	—	—	—	15%	50%	55%	45%
	Employee	—	20%	30%	60%	75%	75%	75%	75%	75%
Family Restaurant	Customer	10%	25%	45%	70%	90%	90%	100%	85%	65%
	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%
Fast Food	Customer	5%	10%	20%	30%	55%	85%	100%	100%	90%
	Employee	15%	20%	30%	40%	75%	100%	100%	100%	95%
Nightclub	Customer	—	—	—	—	—	—	—	—	—
	Employee	—	—	—	5%	5%	5%	5%	10%	10%
Cineplex—Typical	Customer	—	—	—	—	—	—	20%	45%	55%
Late December	Customer	—	—	—	—	—	—	35%	60%	75%
	Employee	—	—	—	—	—	—	50%	60%	60%
Performing Arts Theater	Customer	—	—	—	1%	1%	1%	1%	17%	67%
With matinee	Employee	—	10%	10%	20%	20%	20%	30%	100%	100%
Arena (two shows)	Customer	—	—	—	1%	1%	1%	1%	25%	95%
	Employee	—	10%	10%	20%	20%	20%	30%	100%	100%
Stadium (1 p.m. start; see	Customer	—	—	1%	1%	5%	5%	50%	100%	100%
weekday for evening game)	Employee	—	5%	10%	20%	30%	30%	100%	100%	100%
Health Club	Customer	80%	45%	35%	50%	35%	50%	50%	30%	25%
	Employee	50%	50%	50%	50%	50%	50%	50%	50%	50%
Convention Center	Visitor	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%
Hotel—Business	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%
Hotel—Leisure	Guest	95%	95%	90%	80%	70%	70%	65%	65%	70%
Restaurant/Lounge	Customer	—	10%	30%	10%	10%	5%	100%	100%	33%
Conference/Banquet	Customer	—	—	30%	60%	60%	60%	65%	65%	65%
Convention	Customer	—	—	50%	100%	100%	100%	100%	100%	100%
	Employee	5%	30%	90%	90%	100%	100%	100%	100%	100%
Residential	Guest	—	20%	20%	20%	20%	20%	20%	20%	20%
Residential	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%
Office	Visitor	—	20%	60%	80%	90%	100%	90%	80%	60%
Office	Employee	—	20%	60%	80%	90%	100%	90%	80%	60%
Medical/Dental Office	Visitor	—	—	90%	90%	100%	100%	30%	—	—
	Employee	—	—	60%	100%	100%	100%	100%	—	—
Bank	Customer	—	—	25%	40%	75%	100%	90%	—	—
	Employee	—	—	90%	100%	100%	100%	100%	—	—

3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	Midnight	Source
100%	95%	90%	80%	75%	65%	50%	35%	15%	—	1
100%	95%	90%	80%	75%	65%	50%	35%	15%	—	1
100%	95%	85%	70%	60%	50%	30%	20%	10%	—	1
100%	100%	95%	85%	80%	75%	65%	45%	15%	—	2
45%	45%	60%	90%	95%	100%	90%	90%	90%	50%	2
75%	75%	100%	100%	100%	100%	100%	100%	85%	50%	2
40%	45%	60%	70%	70%	65%	30%	25%	15%	10%	2
75%	75%	95%	95%	95%	95%	80%	65%	65%	35%	2
60%	55%	60%	85%	80%	50%	30%	20%	10%	5%	3
70%	60%	70%	90%	90%	60%	40%	30%	20%	20%	2
—	—	—	25%	50%	75%	100%	100%	100%	100%	2
10%	20%	45%	70%	100%	100%	100%	100%	100%	100%	2
55%	55%	60%	60%	80%	100%	100%	100%	80%	50%	2, 6
80%	80%	80%	70%	80%	100%	100%	100%	85%	70%	2, 6
75%	75%	100%	100%	100%	100%	100%	100%	70%	50%	2
67%	1%	1%	1%	25%	100%	100%	—	—	—	2
100%	30%	30%	100%	100%	100%	100%	30%	10%	5%	2
95%	81%	1%	1%	25%	100%	100%	—	—	—	2
100%	100%	30%	100%	100%	100%	100%	30%	10%	5%	2
85%	25%	—	—	—	—	—	—	—	—	2
100%	25%	10%	5%	5%	—	—	—	—	—	2
30%	55%	100%	95%	60%	30%	10%	1%	1%	—	2, 4
50%	75%	100%	100%	75%	50%	20%	20%	20%	—	2, 4
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	70%	40%	25%	20%	20%	5%	—	—	2
60%	65%	70%	75%	75%	80%	85%	95%	100%	100%	5
70%	75%	80%	85%	85%	90%	95%	95%	100%	100%	2
10%	10%	30%	55%	60%	70%	67%	60%	40%	30%	5
65%	65%	100%	100%	100%	100%	100%	50%	—	—	5
100%	100%	100%	50%	30%	30%	10%	—	—	—	2
100%	90%	75%	60%	55%	55%	55%	45%	45%	30%	5
20%	20%	40%	60%	100%	100%	100%	100%	80%	50%	2
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2
70%	75%	85%	90%	97%	98%	99%	100%	100%	100%	2
40%	20%	10%	5%	—	—	—	—	—	—	2
40%	20%	10%	5%	—	—	—	—	—	—	3
—	—	—	—	—	—	—	—	—	—	2
—	—	—	—	—	—	—	—	—	—	2
—	—	—	—	—	—	—	—	—	—	3
—	—	—	—	—	—	—	—	—	—	2

Sources:

1. Confidential data provided by shopping center managers.
2. Developed by team members.
3. *Parking Generation*, 3rd ed. (Washington, D.C.: Institute of Transportation Engineers, 2004).
4. John W. Dorsett, "Parking Requirements for Health Clubs," *The Parking Professional*, April 2004.
5. Gerald Salzman, "Hotel Parking: How Much Is Enough?" *Urban Land*, January 1988.
6. Parking study conducted by Patton Harris Rust & Associates for the Peterson Companies, 2001.

APPENDIX B

EXCERPTS FROM THE EASTERN URBAN CENTER (EUC) SECTIONAL PLANNING AREA (SPA) PLANNING COMMUNITY DISTRICT REGULATIONS FORM-BASED CODE

03.15.000 Parking Standards

03.15.001 Parking Principles:

a. Encourage a "Park once, walk further" environment.

b. Parking should not be over-prescribed.

c. Total parking demand will consider walkability, transit and mixed use reductions

d. Shared Parking, when feasible, should be mandatory

e. Parking should be actively managed to maximize efficiency

03.15.002 Parking Requirements - General:

Parking space requirements shall be as provided for herein, or as consistent with an approved Parking Management Plan. The Parking Management Plan shall consider shared parking opportunities and time of day and day of the week differences in peak parking demand to accurately project the total amount of parking required to meet total demand at any one time. All available on-street parking spaces shall be counted towards satisfying a project's total required parking.

The Director of Development Services shall approve and adopt the Parking Management Plan, which shall incorporate the parking rates adopted by City Council Ordinance 3372 and reflected in Table III-A herein. Once the Parking Management Plan is adopted, all subsequent revisions to parking rates in Table III-A, herein and in the Parking Management Plan, shall require prior review and approval by the Planning Commission until such time as the Parking District Council transfers from the Master Developer to the Community Association. Following this transfer, further revisions to parking rates shall be approved by the Director of Development Services.

03.15.003 Parking Rates:

Parking Rates: Table III-A (Parking Rates) for the EUC are established based on the following national parking standards. These standards are intended to be implemented in conjunction with the approved Parking Management Plan. In calculating required parking for a simgle use, the highest number of parking spaces (weekday vs. weekend) shall be used. For mixed use, multiple use or shared use scenarios the sum of the required spaces for all uses shall be determined for both the weekday and weekend scenarios, with the larger of the two governing.

For uses not identified in the table below, parking rates shall be determined by using the provisions outlined in General Note 3 of Table III A with appropriate adjustments made by a registered traffic engineer to account for the mixed use and transit-oriented nature of the EUC.

TABLE III A
PARKING RATES

LAND USE	PARKING RATES	
	WEEKDAY	WEEKEND
COMMERCIAL CENTER		
Community Shopping Center (<400,000 sq.ft.) [c]	3.6/ksf GLA	4/ksf GLA
COMMERCIAL (Stand-Alone Land Uses)		
Retail		
Bank	5/ksf GLA	18/ksf GLA
Restaurants [a, c]		
Fine/Casual dining (Quality Restaurant)	18/ksf GLA	20/ksf GLA
Family Restaurant (High-Turnover/Sit-down Restaurant)	10.5/ksf GLA	15/ksf GLA
Fast-Food Restaurant, including coffee shops with or without drive-through window [b]	15/ksf GLA	14/ksf GLA
Nightclubs	16.5/ksf GLA	19/ksf GLA
Cineplex		
Multiplex movie theater	0.2/seat	0.29/seat
Performing Arts Theaters and Arenas		
Performing Arts Theater (Live Theater	0.37/seat	0.4/seat
Sports arenas, authoriums, assembly halls	0.29/seat	0.29/seat
Health Clubs and Entertainment/Party Venues		
Health/Fitness Club	7/ksf GLA	5.75/ksf GLA
Bowling Alleys	5/lane	5/lane
Hotels		
Hotel	1.04/room	0.97/room
OFFICE		
General Office (<150,000 sq. ft.)	3.33/ksf GLA	0.38/ksf GLA
General Office (>150,000 sq. ft.)	2.8/ksf GLA	0.353/ksf GLA
Medical/Dental Office	5/ksf GLA	0.38/ksf GLA
Government Office Building	6.13/ksf GLA	0.6/ksf GLA
RESIDENTIAL		
Apartment	1.65/du	1.65/du
Residential condominium/townhouse		
< 4 bedrooms	1.85/du	1.85/du
5+ bedrooms	1.85/du +0.5/bedroom >4	1.85/du +0.5/bedroom >4
Senior adult housing-attached [d]	0.66/du	0.66/du
Assisted living	0.33/bed	0.33/bed

continued on following page with footnotes

TABLE III A *(continued)*
PARKING RATES

LAND USE	PARKING RATES	
	WEEKDAY	WEEKEND
RESIDENTIAL *(Continued)*		
Live-Work Units (Commercial component <50% of total GFA)	1.85/du	1.85/du
Live-Work Units (Commercial component >50% of total GFA)	1.85/du + 30% of corresponding rate for non-residential use	1.85/du + 30% of corresponding rate for non-residential use

Footnotes:

a For enclosed proprietary outdoor dining spaces, up to 200 square feet, is exempt from minimum parking requirements. Above 200 square feet, a minimum of 5 spaces per ksf should be provided. All sidewalk cafes within public right-of-way are exempt from minimum parking requirements

b Fifteen (15) spaces minimum.

c For shopping centers with dining and entertainment land uses, the ULI recommends the following methodology for determining the appropriate pasrking rate to apply:

If Dining/Entertainment Uses in Shopping Center equals:	Parking Requirement
Less than 10% of GLA	Apply shopping center parking rates, as-is, to the total GLA
10%-20% of GLA	Increase parking rate by 0.03 for every 1% above 10%
Greater than 20% of total GLA	Use the stand-alone dining and entertainment land use rates for the dining and entainment land use GLA and the shopping center rate for the remaining GLA. Conduct a parking study.

d Senior adult housing at market rate (not affordable)

Gneral Notes:

1 ksf GLA = 1,000 square feet of gross leasable area. Gross leasable area is the amount of floor space available to be rented in a commercial property. It is the total floor area desiged for tenant occupancy and exclusive use (including any basements, mezzanines, or upper floors), but not including areas such as utility, roof access or fire service rooms accessible from the outside of the lease space.

2 du = dwelling unit

3 For any land use not listed in above, the developer will have options, such as using a parking ratioi published by ITE, ULI or the City of Chula Vista Municipal Code for similar land use, using the parking ratio obtained from a project-specific study, a case study, or conducting a parking survey at an existing site to determine an appropriate parking rates.

Projects requesting parking at a higher rate than those shown in the table above are required to submit a parking study, approved by the parking district as part of their Design Review application.

03.15.004 Design Standards

The following types off-street parking facilities shall be permitted:

a. Surface Lot

b. Tuck-under / Direct Access Parking

c. Subterranean / Podium Parking

d. Central (Embedded or Wrapped) Parking Structure

e. Parking Garage

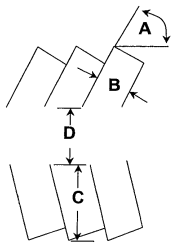
f. Tandem Parking

Table III-B
Parking Stall Dimensions

Standard Parking Space	8’ 3” x 18’
Retail/Restaurant Space	8’ 6” x 18’
Spaces adjacent to columns/walls (one side)	+ 1 foot
Spaces adjacent to columns/walls (two sides)	+ 1 foot
Setback Reductions	Reduced by 3” every 1’ column is set back from aisle
Space Parallel to Aisle	8’ x 24’

Table III-C
Parking Aisle Dimensions

EASTERN URBAN CENTER PARKING TABLE (DEVELOPMENT STANDARDS)									
A	B	C	D		A	B	C	D	
			One Way	Two Way				One Way	Two Way
0º	8' 3"	24	12	20	60º	8' 3"	19' 9"	18	22
	8' 6"	24	12	20		8' 6"	19'10"	18	22
	8' 9"	24	12	20		8' 9"	20'	18	22
	9'	24	12	20		9'	20' 1"	18	21
	9' 3"	24	12	20		9' 3"	20' 3"	18	21
	9' 6"	24	12	20		9' 6"	20' 4"	18	20
20º	8' 3"	13' 11"	12	20	70º	8' 3"	19' 9"	22	24
	8' 6"	14' 2"	12	20		8' 6"	19' 10"	22	24
	8' 9"	14' 5"	12	20		8' 9"	19' 11"	21	24
	9'	14' 7"	12	20		9'	20'	20	23
	9' 3"	14' 10"	12	20		9' 3"	20' 1"	19	23
	9' 6"	15' 1"	12	20		9' 6"	20' 2"	19	22
30º	8' 3"	16' 2"	12	20	80º	8' 3"	19' 2"	24	24
	8' 6"	16' 4"	12	20		8' 6"	19' 2"	24	24
	8' 9"	16' 7"	12	20		8' 9"	19' 3"	23	24
	9'	16' 10"	12	20		9'	19' 3"	22	23
	9' 3"	17'	12	20		9' 3"	19' 4"	21	23
	9' 6"	17' 3"	12	20		9' 6"	19' 5"	20	22
45º	8' 3"	18' 7"	13	20	90º	8' 3"	18'	24	24
	8' 6"	18' 9"	13	20		8' 6"	18'	24	24
	8' 9"	18' 11"	13	20		8' 9"	18'	23	24
	9'	19' 1"	13	20		9'	18'	22	23
	9' 3"	19' 3"	13	20		9' 3"	18'	21	23
	9' 6"	19' 5"	13	20		9' 6"	18'	20	22



A Parking Angle

B Stall Width

C Stall to Curb

D Aisle Width

Minor reductions or modifications in design standards may be permitted subject approval of the City Engineer

03.15.005 Parking Facility Performance Standards

a. Avoid curb-cuts along Main Street, relying on side streets for access to parking facilities.

b. Position on-site parking facilities to minimize their visual impact on the street. Parking facilities should generally be embedded (located interior to the block) and should avoid interrupting storefront continuity along principal shopping streets.

c. Parking garages that are adjacent to the street right-of-way of the EUC's primary grid of public streets shall not be located on opposite sides of the street right-of-way for a distance of more than 200 feet or 50% of the length of the block, whichever is less. The EUC primary grid of public streets are A, B, C, F and K Streets.

03.15.006 Architectural Design

a. Design parking structures that are compatible with adjacent buildings in terms of scale, massing, and materials. In general, a parking structure should not exceed the height of the principal building(s) that it serves.

b. Laminate (i.e., wrap) parking structures with active uses along the main street retail level facade. In other areas, where structures are not laminated, compatible architectural treatment, graphic art displays and / or landscape screening (i.e., perimeter planting or green screens) is required. See Section 03.11.000 (c) for treatment options.

c. Screen and/or locate vehicular ramps within the parking structure so that they are not readily visible or expressed on the facade of the parking structure fronting a street.

d. Make sure that pedestrian entries to the parking structure are clearly defined, and that stairwells and elevators may be readily identified. These areas should be safe and user-friendly, designed for effective surveillance.

e. Consider Crime Prevention Through Environmental Design (CPTED) principles in the design of all parking structures to permit active surveillance from the street.

03.15.007 Surface Lots

a. Permanent Parking Lots

Use landscaping to break up large expanses of paved area and to shade surface lots per the Chula Vista Landscape Manual and Design Manual. Exceptions to this requirement for certain permanent parking lots and temporary parking lots are noted below.

It is expected that some permanent parking lots will ultimately be replaced by structured parking or additional buildings as the EUC intensifies over time. This type of permanent lots may exist for a number of years as a surface parking lot depending on market conditions, and will be depicted on the comprehensive block plan at the time of application for Design Review, and will be approved as part of the Design Review application for the site. Primary considerations for these types of lots is to encourage future intensification of a site by avoid excessive redevelopment costs, while at the same time, decreasing heat island effects and ensuring that these longer-term facilities do not negatively affect surrounding properties or create a negative

visual element when viewed from adjacent public streets.

Reduced landscape requirements will be applied to those permanent parking lots, or portions of lots, which are: 1) not visually prominent when viewed from public streets (Examples are lots which are located behind buildings and not directly visible from public streets or where significant grade differences exist that limit views into the lot from adjacent streets; and, 2) which are shown on a comprehensive block plan to be ultimately replaced by structured parking or future buildings. Reductions that can be considered include: total landscaped area / coverage (up to a 25% reduction); requirements for landscaped perimeter strips or islands (not adjacent to public streets); tree sizes, etc. Should future intensification not result in the replacement of these parking lots with structured parking or buildings, then full landscaping requirements shall be applied to those lots as a condition of approval of a Design Review Application for full build-out of the site.

b. Temporary Parking Lots - Temporary parking lots are surface parking lots used on a temporary basis to provide additional parking to support existing development or to facilitate construction phasing. Because of their short-term nature, permanent landscape and improvements will not be required. Temporary parking lots are subject to the approval of a Temporary Use Permit, unless approved as part of a Design Review Application, and may be approved for an initial term of up to 3 years, with future extensions as approved by the City.

Temporary parking lots shall be paved with either asphalt or a stabilized permeable paving material consistent with Section 19.62.100 (b) of the Municipal Code, and subject to the City's stormwater ordinances. Temporary public pedestrian access shall be provided to ensure adequate connections between adjacent uses are maintained. Parking lots shall include marked parking spaces, contain directional and informational signage and have security lighting.

Screening of the lot from the public street must be provided using at least two of the following techniques:

i. Decorative fences or screening, 36” in height, to screen cars at the perimeter.

ii. Perimeter tree plantings. Trees shall be minimum 24” box size specimens and can remain in raised containers and be used for future planting elsewhere (phased contract growing). Temporary irrigation must be provided. Trees shall be planted at a rate of one tree for each ten spaces located along the periphery of any side of the parking lot fronting a public street.

iii. Art or graphics screens as a means of enhancing temporary fencing, the parking lot or the paving

The method of screening shall be shown on the plans submitted with the application.

c. Street Fronting Surface Parking Lots - Permanent surface parking lots should be located to avoid fronting on the EUC primary grid of public streets, which includes A,B,C,F and K Streets. For all other streets, permanent surface parking lots may not exceed 50% of the frontage of any block and may not be located across the street from another permanent street fronting surface parking lot. Exceptions to this are noted in Section 03.11.000.c.2 of the Form Based Code.

Temporary Parking lots are not subject to this limitation, and Temporary Parking Lots are exempt only if the temporary nature of the street fronting lot can be demonstrated through comprehensive block planning.

03.15.008 Lighting

a. Provide lighting in all parking areas to ensure an adequate level of security.

b. Direct and shield lighting associated with parking facilities away from adjacent residential properties.

03.15.009 Parking Management

The following principles shall apply to all projects in the EUC and shall be used to guide the development and implementation of a Parking Management Plan

a. Principles - General

i. On-street metered parking should be considered throughout the project (especially the main street district) when the districts have become established and can support the imposition of metered parking.

ii. All parking revenues, including enforcement revenues, should go to the parking district, a business improvement district or other entity and be used for parking management or maintenance activities within the district.

iii. All parking facilities intended for the public shall comply with ADA standards and shall be accessible and barrier free. Parking stall and aisle dimensions shall be per the standards in Table III-B and Table III-C.

b. Principles – Non- Residential

i. Encourage grouping users to creatively advance the construction of shared parking structures. All conceptual block planning exercises will evaluate structure parking, as feasible, when future intensification of a site is expected to occur in the future. The use of in-lieu fees may be considered as an option by the Parking District as a mechanism for advancing structured parking.

ii. All projects generating a need for more than 100 parking spaces, based on the initial parking rates above or those in an approved Parking Management Plan, shall prepare a parking study to identify their parking needs and to detail shared parking strategies.

iii. Prior to the establishment of on-street metered parking, consideration should given to posting time limits within retail parking areas to encourage turn over of prime on-street parking spaces and to discourage employee parking during hours of peak demand.

iv. Consider the development of an on-street parking meter system for managing parking in retail areas when the retail area has become established and stabilized.

v. Large employers (those with 100 or more employees) shall be actively encouraged to develop programs to promote off-peak hour commuting and to reduce parking demand by subsidizing transit passes, providing showers and bicycle facilities or participating in Ridelink or other Transportation Demand Management (TDM) programs sponsored by the local or regional transportation planning agencies. Examples of TDM programs currently administered as part of SANDAG's Ridelink program include: the Regional Vanpool Program, Regional Bike Locker program, Employer Outreach program, Transit pass programs, Telework / Flex Time program support, Carpool Matching and the Guaranteed Ride Home program.

vi. On street parking spaces along the perimeter of a public park shall be allocated for public use only, and may require restrictions to ensure adequate parking is available for park users. Options may include imposition of two hour time restrictions on weekdays (and weekends if necessary), or prohibition of parking before 10:00 a.m. on weekdays to prevent office workers from parking in these spaces. Final measures shall be identified in the Parking Management Plan and may be modified or adjusted as the plan is updated.

vii. All projects located within the Gateway Commercial Mixed Use District, the Main Street District and the Mixed Use Civic/Office Core District shall be required to participate in a comprehensive shared parking program and be included in the EUC parking district.

c. Principles – Residential

All residential projects shall institute a residential parking permit program to avoid spillover parking impacts from adjacent districts. The parking permit program shall apply to the public street fronting the project. The permit program shall include an enforcement program carried out by the HOA, a private enforcement entity, or the City.

03.15.010 Parking District Formation and Responsibilities

A Parking District shall be formed in the EUC and a management entity put in place to actively implement, update and enforce the parking management plan.

a. Prior to approval of the first project in the EUC, a parking district ("District") shall be formed by the project applicant to cover the Gateway Commercial Mixed Use District, the Business District, the Main Street District and the Mixed Use Civic/Office Core District and the residential districts, (Exhibit III-84 – Conceptual Parking Districts). The district may be formed in a phased manner or comprised of multiple zones.

b. The City would approve the charter of the District and grant the district the authority to manage parking supply; conduct parking studies; evaluate conformity of development projects to the parking plan; set parking fees; establish and collect parking fines; implement enforcement measures; collect and spend in-lieu parking fees and allocate revenues on parking and pedestrian related improvements consistent with the goals of the parking management plan.

c. The City would also receive the District's updated parking plan every two years and would, at the City's discretion, have the ability to appoint a staff member to sit on the District board.

d. The District or similar management entity shall be responsible for preparing, implementing and enforcing a Parking Management Plan for the EUC. The initial Parking Management Plan shall be approved no later than the first occupancy in the project.

e. The District will have the right to set fees (including in-lieu fees), establish charge and set time limits to regulate on-street parking and in shared lots and structures. The District will be empowered by the City to enforce those regulations. Any individual business desiring to set parking fees in excess of those established by the District shall be required to gain District approval.

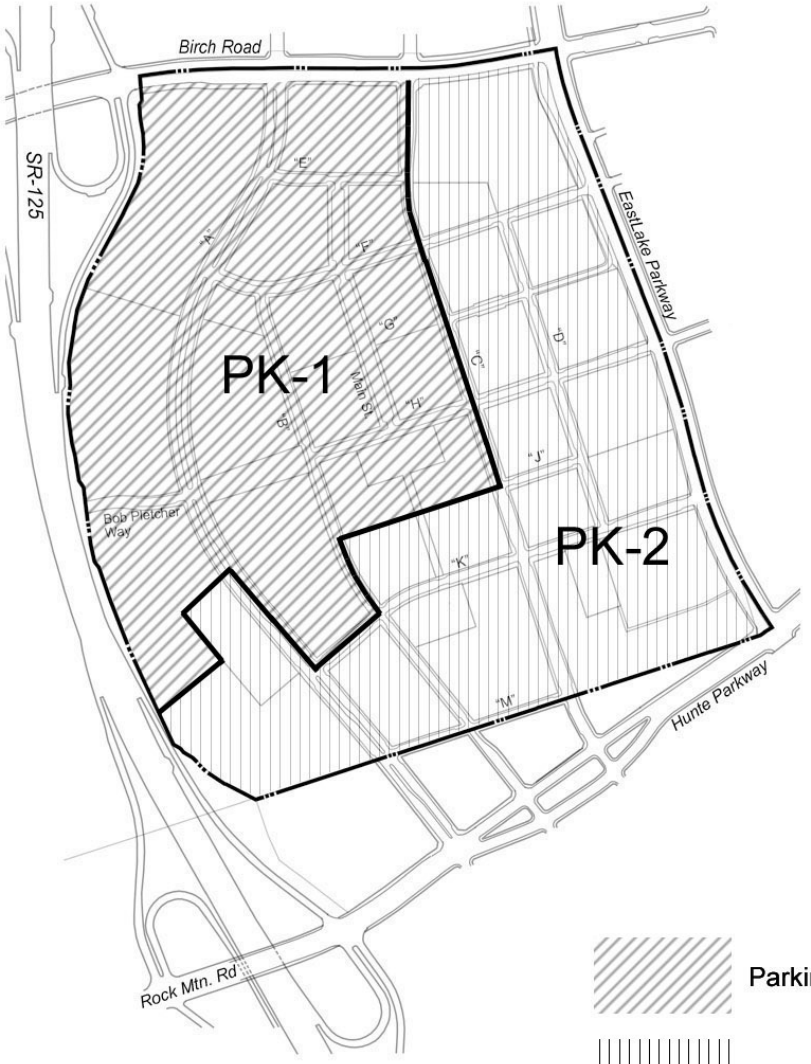
f. The District shall conduct an inventory and occupancy study every two years to determine the number of available spaces in the District during peak periods and to evaluate shared parking effectiveness. The study shall be used to update the Parking Management Plan, including the development of new parking ratios for projects within the District. The new ratios would apply to all development projects in the district during the following two year period.

g. All projects generating a need for more than 100 parking spaces, based on the initial parking rates above or those in an approved Parking Management Plan, shall prepare a parking study to identify their parking needs and to detail shared parking strategies. All projects will be required to obtain approval of their specific parking plan from the District and will be issued a letter of concurrence for submittal to the City at the Design Review stage of their approval process. Projects generating a need for 100 spaces or less shall use the initial parking rates listed in Table III-A or those in an approved Parking Management Plan, to determine adequate parking supply.

h. All residential projects shall institute a parking permit program to avoid spillover parking impacts from adjacent districts. The parking permit program shall include the public streets fronting the project and may include internal private streets at the developer's discretion. The program shall also include an enforcement program to be carried out by the District, the HOA, a private enforcement entity or the City.

i. Prior to occupancy, all projects located within the area of the district shall be formally annexed into the District.

Parking Districts



Note: *Boundaries of the Parking Districts are conceptual*

Eastern Urban Center
OTAY RANCH
CITY OF CHULA VISTA

Urban Design: RTKL
Cinti Land Planning
San Diego, CA (619) 223-7408

Exhibit III-84