

ATTACHMENT C
NELSON/NYGAARD STUDY

Pasadena Playhouse District Parking District Strategic Plan

Parking Analysis Update

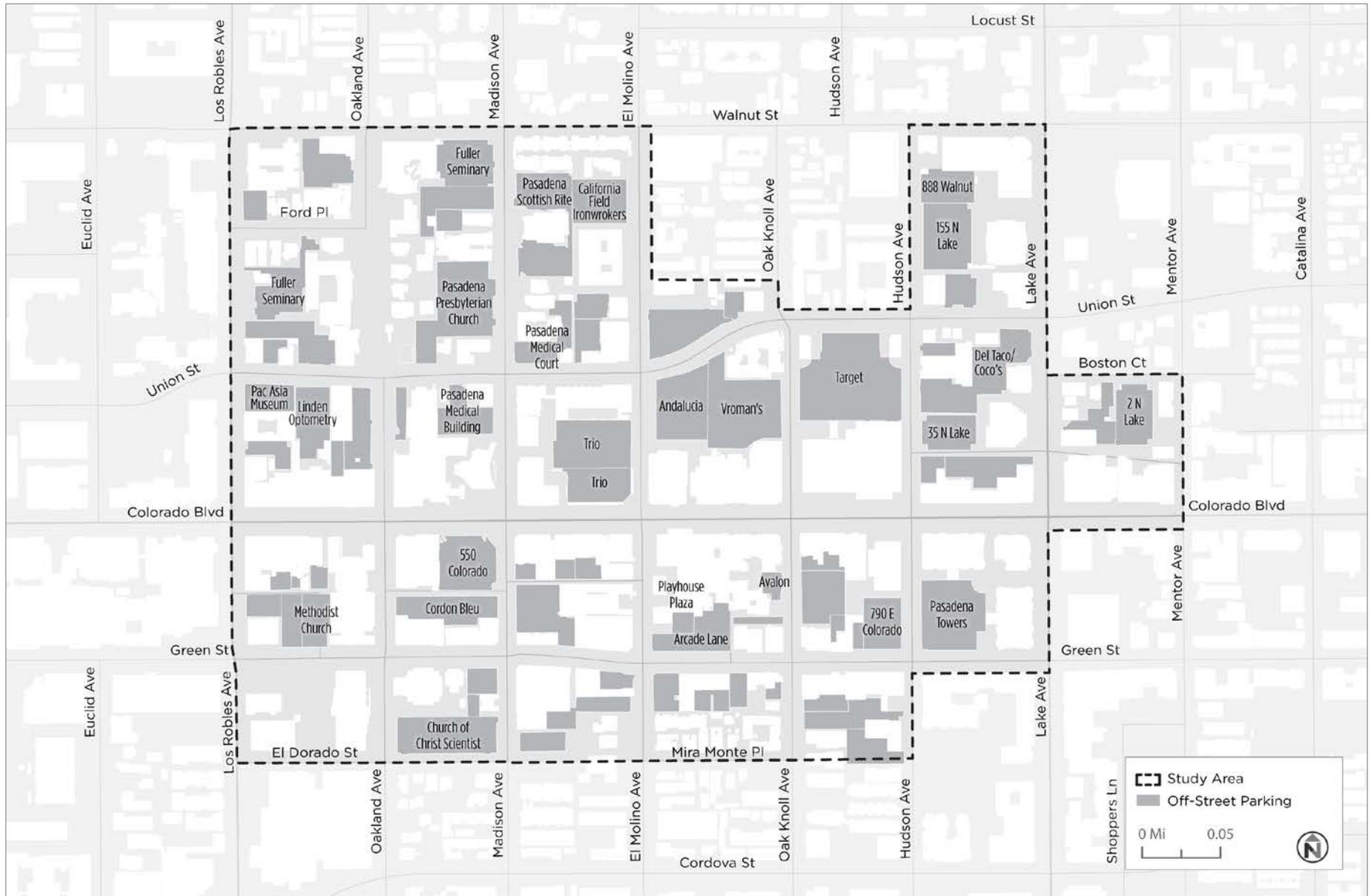
May 21, 2018

Parking Analysis

- Parking Inventory
- Parking Utilization
- Land Use and Parking Demand Analysis
- Next Steps

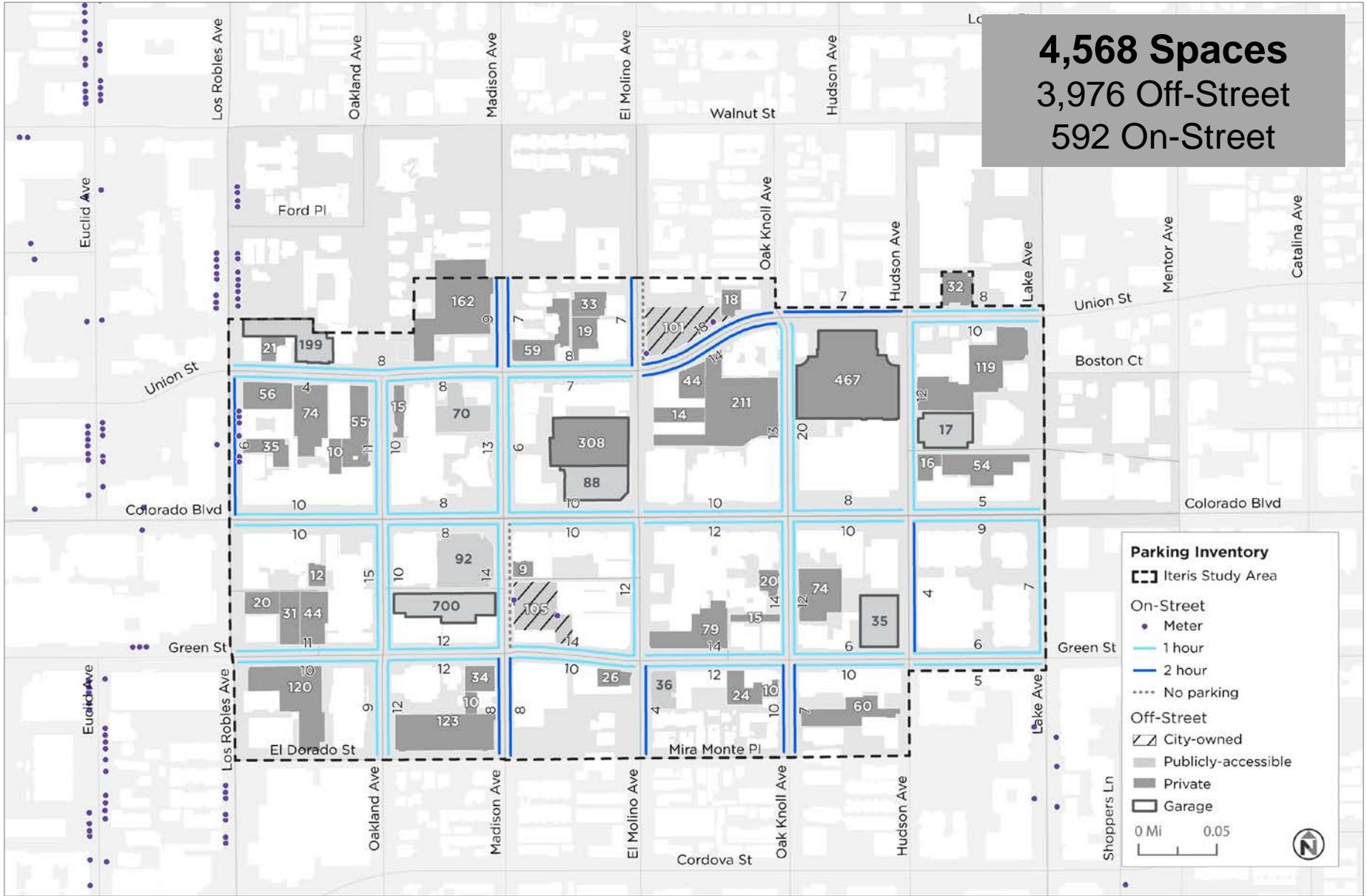
PARKING INVENTORY

Study Area



2014 ITERIS Parking Study Area

4,568 Spaces
3,976 Off-Street
592 On-Street



Parking Inventory

- Iteris Study Area
- On-Street
 - Meter
 - 1 hour
 - 2 hour
 - No parking
- Off-Street
 - City-owned
 - Publicly-accessible
 - Private
 - Garage

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Parking Inventory

	2014 ITERIS	2018 Study Area
On-Street		
1HR	483	522
2HR	109	182
Off-Street		
City-owned	206	206
Publicly Accessible	1,237	4,969
Private	2,533	4,036
TOTAL	4,568	9,915

PARKING UTILIZATION

Parking Utilization

➤ Methodology

- ITERIS 2013 study as base
 - Weekday counts: 10 am – 10 pm
 - Weekend counts: 11 am – 9 pm
 - Incomplete inventory and utilization survey for private lots
- Additional counts
 - Supplemental data collection (peak hour)
 - Nearmap (ITERIS Zone 1 and added study area zones)
 - Garage counts (from Playhouse District stakeholders)
 - Counts added to peak hour analysis

Key Findings from ITERIS Study

- On-street spaces are highly utilized (over 80%) during weekday evenings
- On- and off-street utilization is fairly low during Saturday mornings
- Utilization starts to increase during the midday period
- A considerable increase in on- and off-street utilization is seen during Saturday evenings

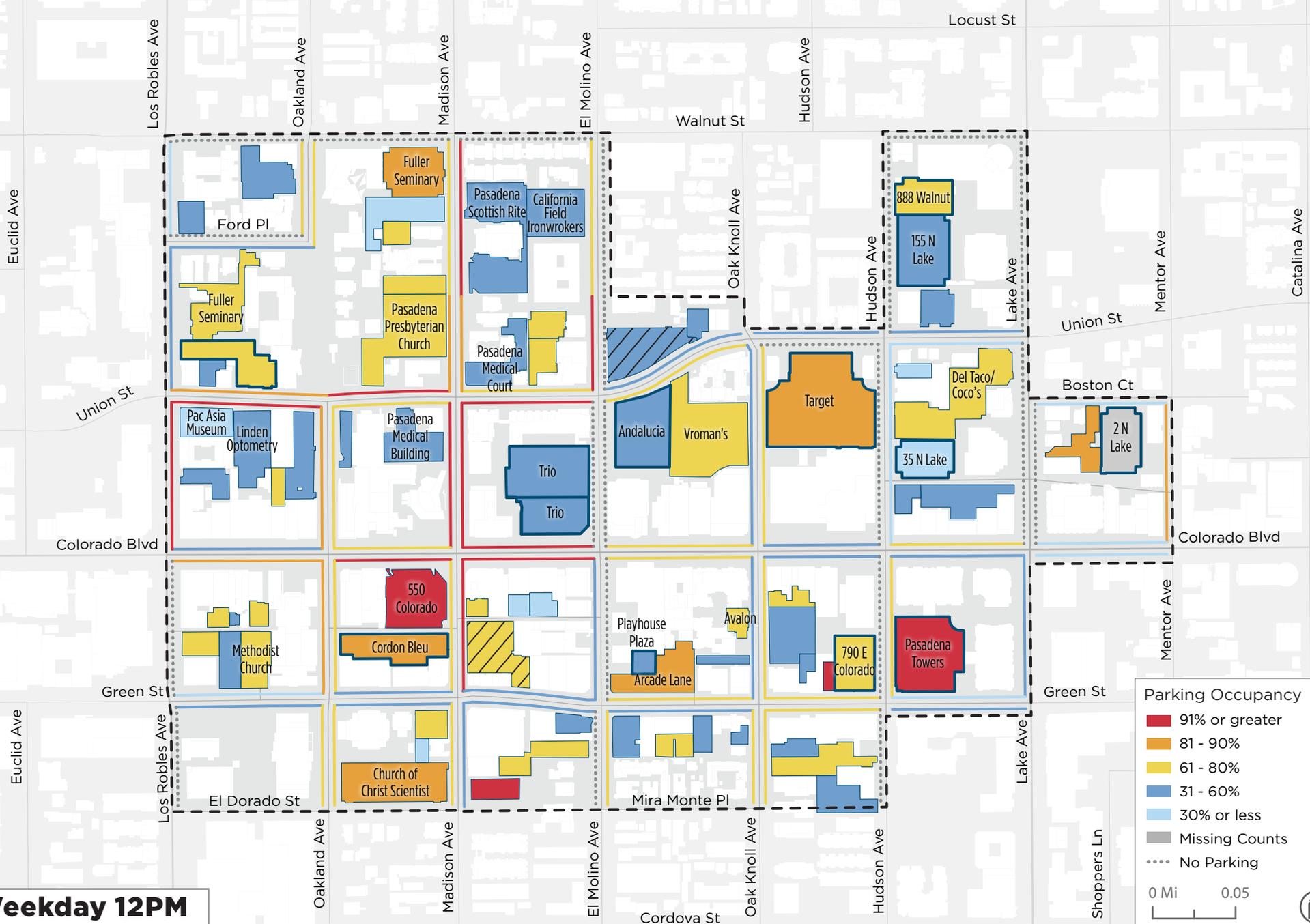
WEEKDAY PARKING UTILIZATION

Parking Utilization

Parking Occupancy

	91% or greater	Beyond capacity. Resources consistently here will generate perceptions of a lack of parking
	81 - 90%	Maximized efficiency. Blocks often look or feel full to drivers.
	61 - 80%	Actively used resources
	31 - 60%	Excess capacity. On-street blocks and off-street facilities are less than half full and viewed as underutilized.
	30% or less	

Weekday 12PM

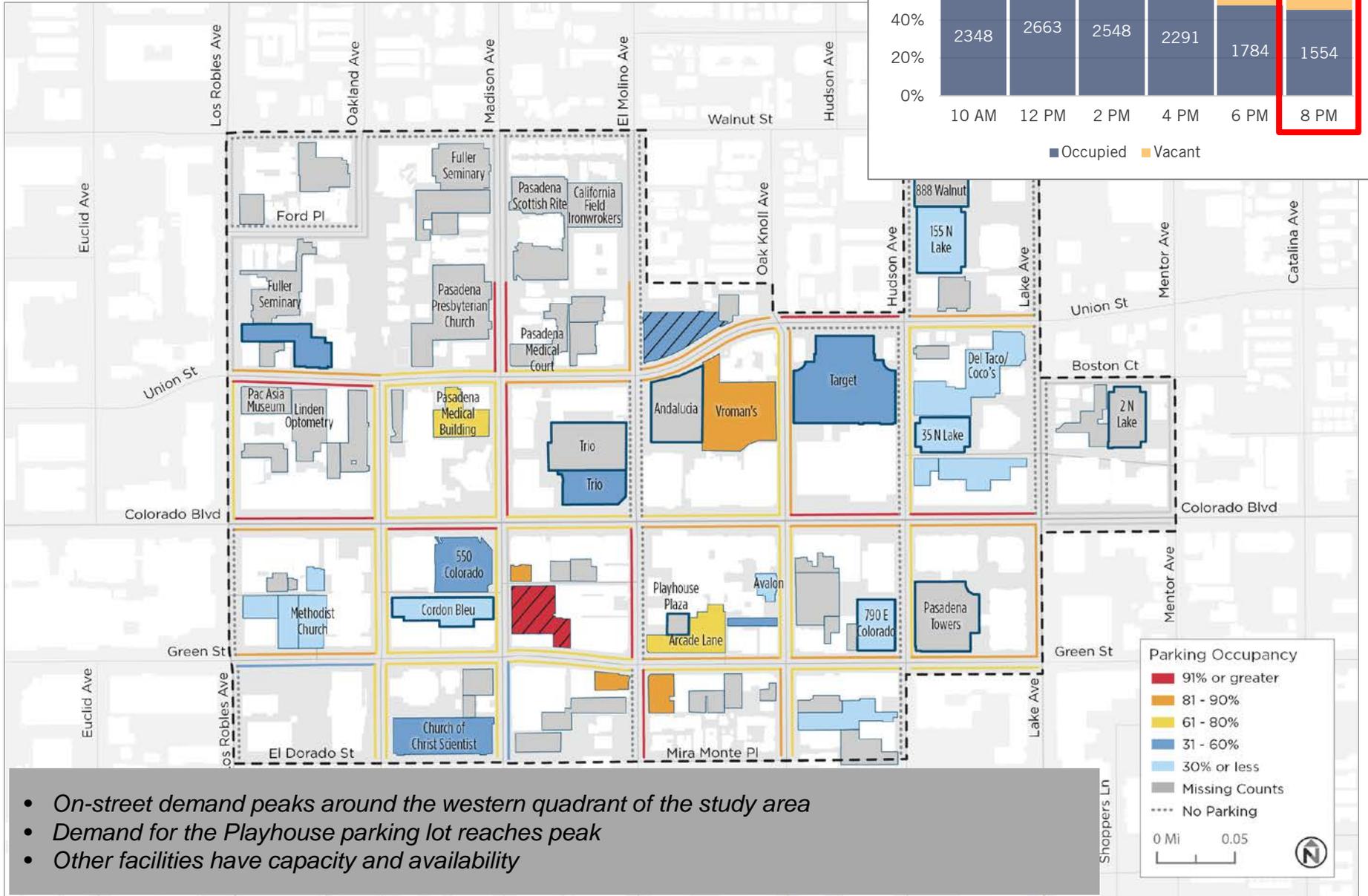


Parking Occupancy

- 91% or greater
- 81 - 90%
- 61 - 80%
- 31 - 60%
- 30% or less
- Missing Counts
- No Parking

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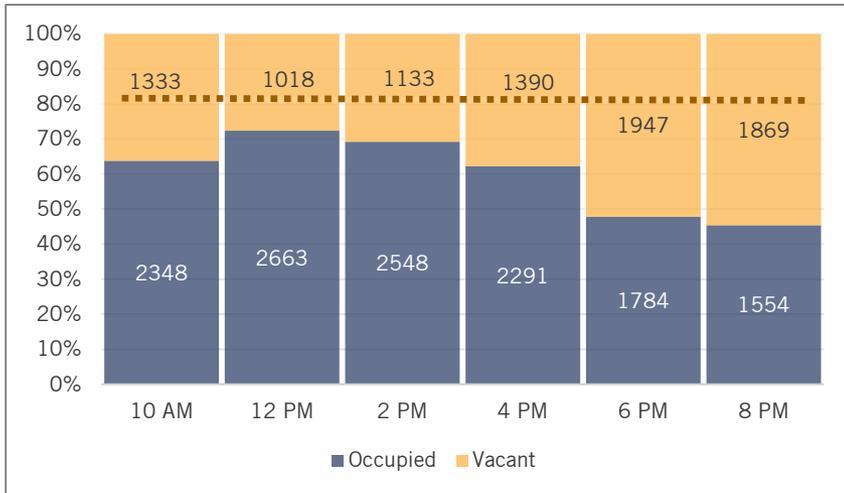
WEEKDAY 8PM



- On-street demand peaks around the western quadrant of the study area
- Demand for the Playhouse parking lot reaches peak
- Other facilities have capacity and availability

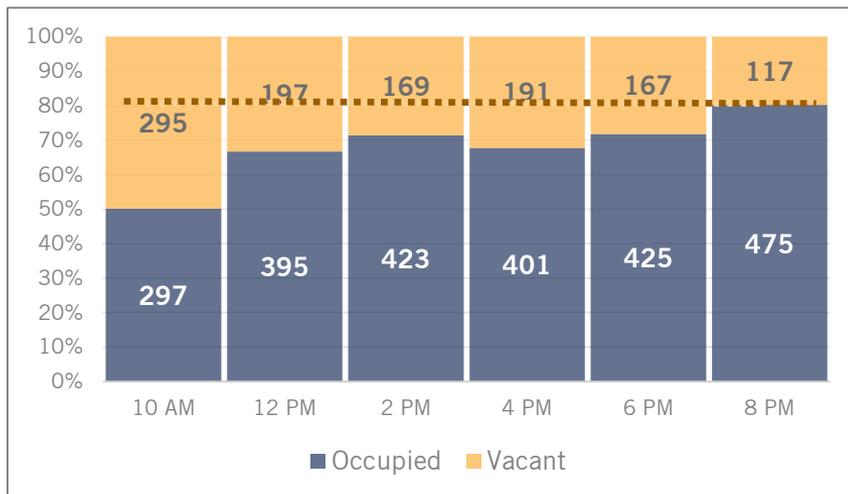
WEEKDAY UTILIZATION – On-Street vs. Off-Street

Overall

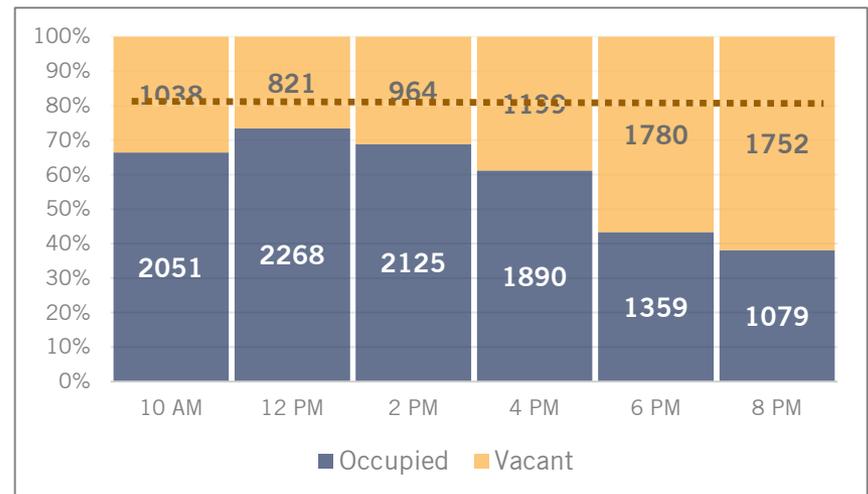


- *There is availability both on-street and off-street during the peak hour (12pm)*
- *Availability on-street is limited during the evening period, while off-street parking has capacity*

On-Street

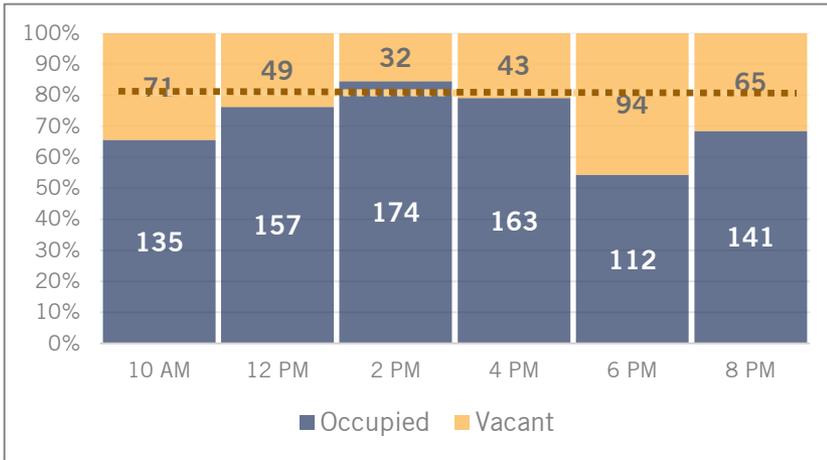


Off-Street

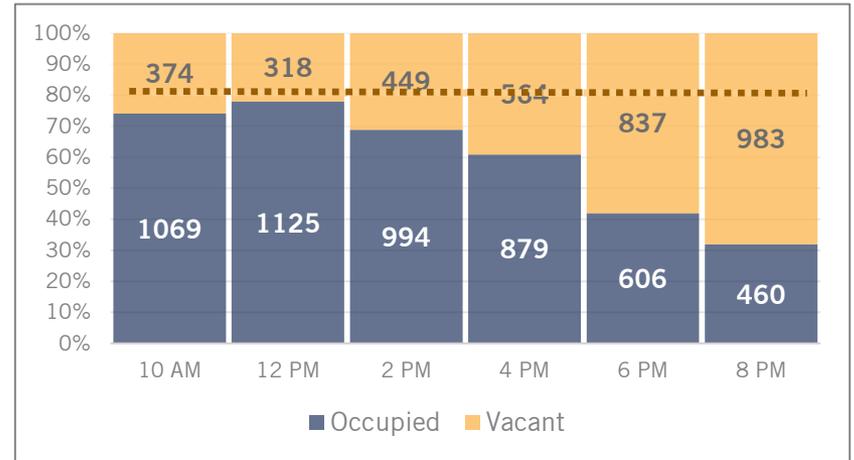


OFF-STREET WEEKDAY UTILIZATION

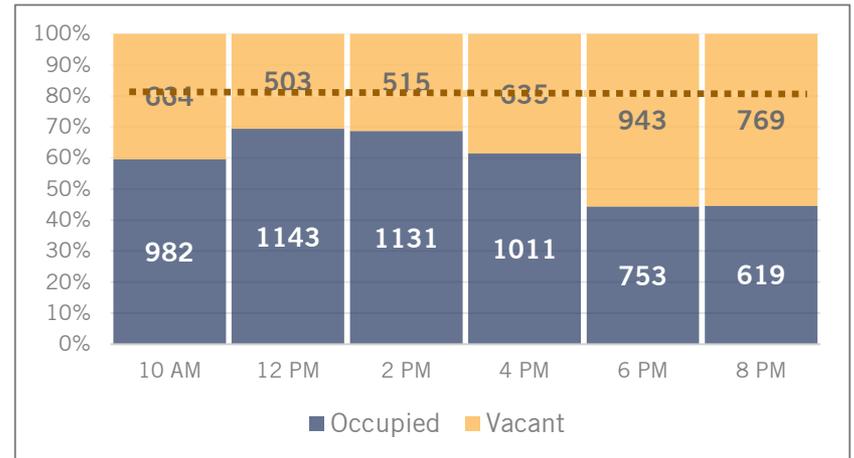
City-Owned Lots



Publicly Accessible Lots/Garages



Private Lots/Garages



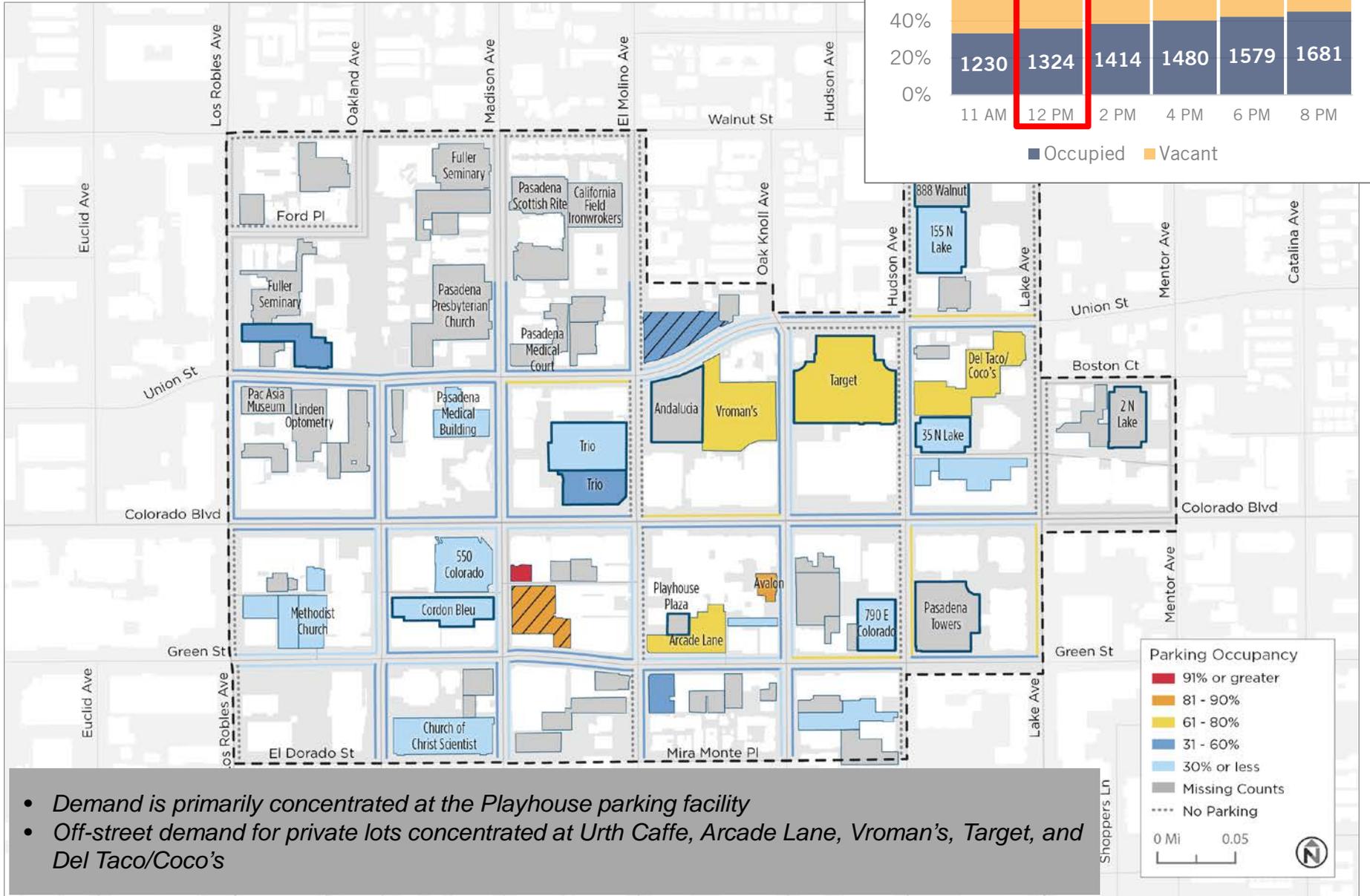
- *City owned parking facilities are at or reaching effective capacity throughout late morning into late afternoon*
- *Publicly accessible facilities show similar trends but there is ample capacity during the evening*
- *There is consistent availability in private lots and garages*

WEEKDAY KEY FINDINGS

- **Peak demand occurs at 12pm with 72% utilization**
 - City owned and publicly accessible lots are reaching functional capacity)
 - Availability in private lots in the study area
- **Demand for on-street parking**
 - Consistently use throughout the course of the day but peaks during the evening period
- **Other findings**
 - Public facilities surrounding the playhouse are consistently reaching functional capacity but lots west of Hudson continue to have availability as well as Trio public spaces

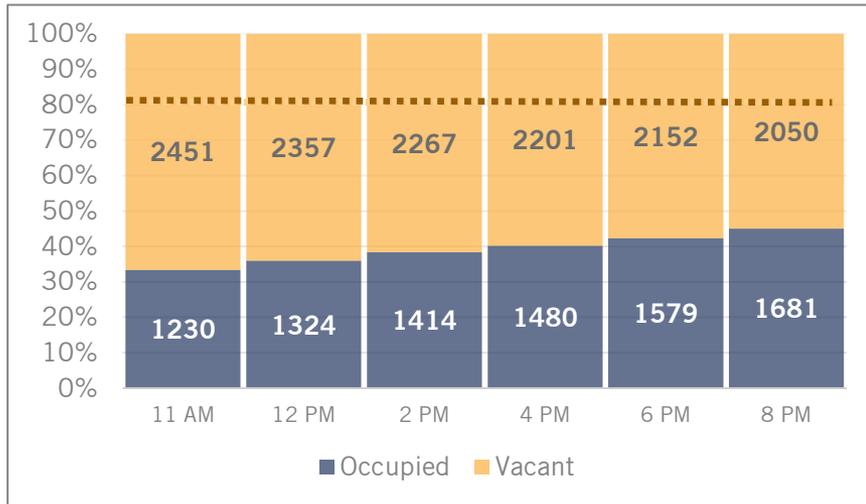
WEEKEND PARKING UTILIZATION

WEEKEND 12PM



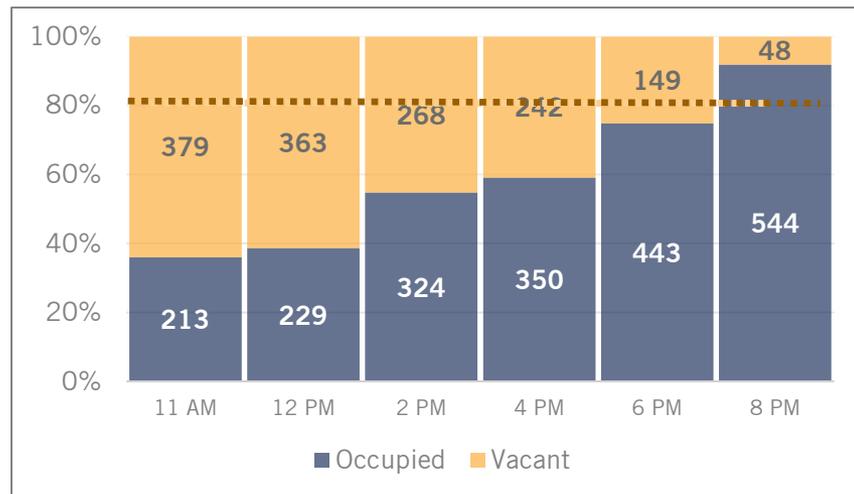
WEEKEND UTILIZATION – On-Street vs. Off-Street

Overall

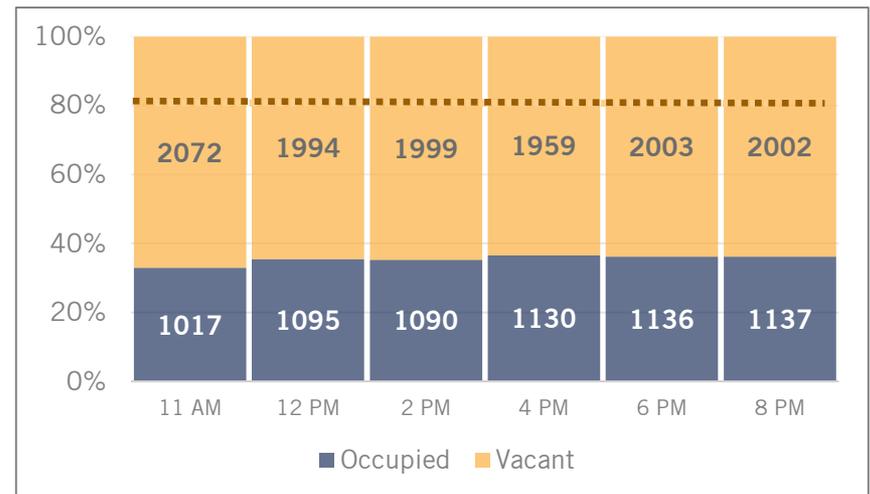


- Peak occurs at 8pm
- On-street parking is at capacity
- Availability in off-street parking throughout the day

On-Street

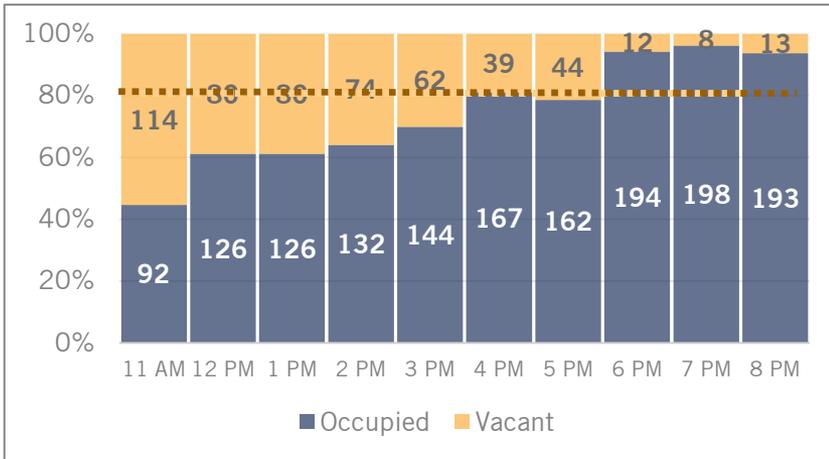


Off-Street

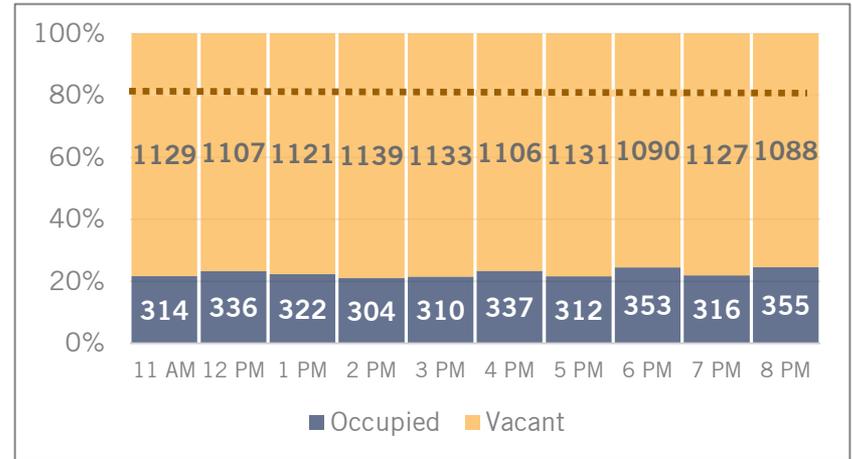


OFF-STREET WEEKEND UTILIZATION

City-Owned Lots

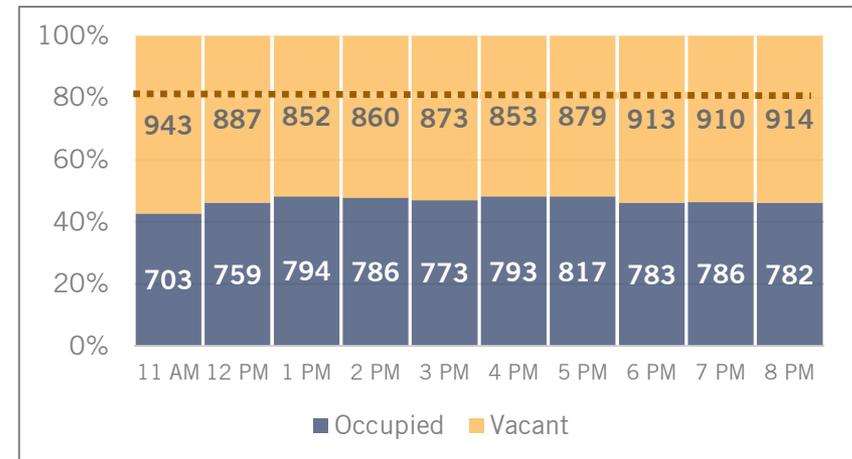


Publicly Accessible Lots/Garages



- *City-owned lots peak during the evening periods*
- *Availability in both private and publicly accessible lots throughout the weekend*

Private Lots/Garages



WEEKEND KEY FINDINGS

- Weekend peak occurs at 8pm, and is primary a result of high on-street and city-owned lot parking demand
- Availability exists in publicly accessible and private facilities throughout the course of the day

PARKING DEMAND ANALYSIS

Goals and Objectives

- Identify macro trends related to land use and parking supply/demand to inform strategy development
- Identify current parking surpluses and deficits
- Use best understanding of new development to estimate future demand and supply.
- Quantify ways to achieve a park once, shared downtown supportive of additional development

Summary of Methodology

1. Catalog Existing Land Uses

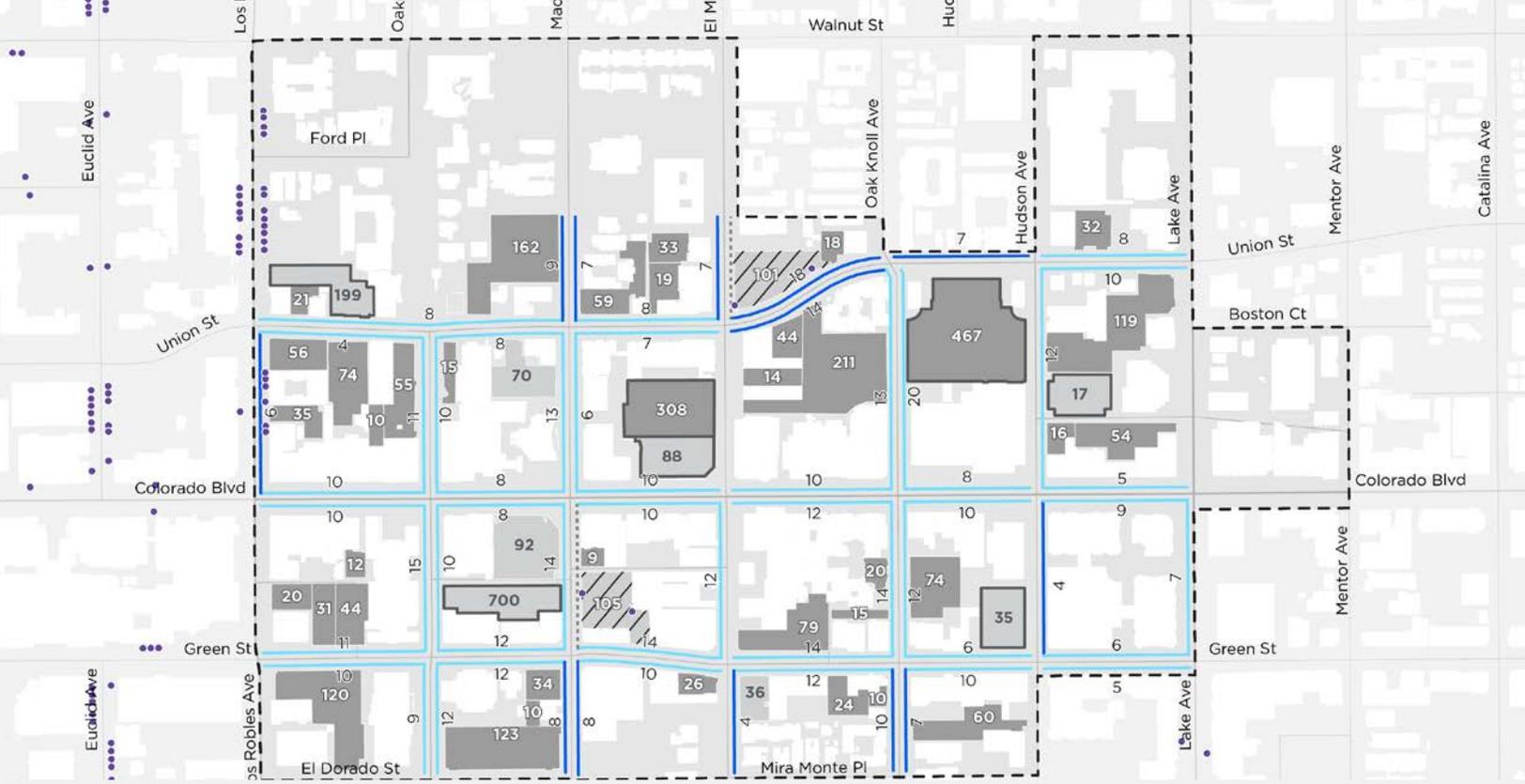
2. Parking Demand Modeling

3. Calibrate Model

4. Future Demand Modeling

Next Steps

- Future demand assessment
- Catalytic sites input
- District strategy options



PLAYHOUSE PARKING DISTRICT STRATEGIC PLAN

Parking Analysis and Recommendations

October 2018

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1 INTRODUCTION AND EXECUTIVE SUMMARY

The Playhouse District has been studying and considering the appropriate parking policies for several years. Parking is a challenging topic to get right: a vibrant district needs adequate parking availability for visitors, but too much parking can also harm that vibrancy. While the District has a great deal of parking, much of it is privately owned and operated, which makes a comprehensive demand management approach more complex. The District recently developed a Vision Framework that calls for the District to be a unique, comfortable, and accessible walking district. At this point, District stakeholders wish to move forward by selecting an implementable set of parking strategies that supports the District's strategic goals and visions.

A study of parking demand in the area, accompanied by stakeholder meetings and peer research, was initiated to establish specific, actionable recommendations. Parking recommendations include the following:

- Create a shared parking system that allows property owners to more easily monetize their parking supply so it seems more like public supply to visitors.
- Establish a District valet program and waive parking requirements for restaurants.
- Create an employee parking program whereby District employees, especially service workers, have access to parking at privately-operated parking facilities that are currently underutilized.
- Implement angled parking on Colorado Boulevard and Green Street for a net gain of spaces to help offset the conversion of the El Molino/Union parking lot into a community park.
- Pilot new passenger loading zones at key locations to draw attention to ride hailing services (e.g., Lyft, Uber) as an option to access the District (that does not require parking).
- Implement paid parking at on-street spaces in the District to create open spaces and reduce circling. Paid parking should have longer time limits to encourage visitors to linger, and to help them avoid parking citations.
- Return parking meter revenue to the district to fund local enhancements. This could include Lake Street Gold Line station enhancements, improved walkability, or enhanced streetscaping or cultural programming to make the district more identifiable and attractive to visitors. These funds could also be used to position PDA as a transportation manager; implementing programs that help encourage other mobility options and reduce future parking demand.

These parking and transportation recommendations will be most effective when implemented in tandem. The programs require leadership from the PDA, and support and collaboration from private stakeholders to be successful.

BACKGROUND

A review of parking supply and demand in the district found that there are nearly 10,000 parking spaces in the district. However, only 2% of the total off-street parking supply is publicly owned. There is significant excess parking supply that could be more leveraged and used to increase efficiencies – however much of it is privately-owned and operated. While some of that private supply is publicly-available, it tends to be more expensive than the city lots, and more expensive than the free on-street parking – thus it is not heavily used by general public drivers not associated with the site. Future parking supply and demand were also modeled, to ensure that upcoming development is factored in. That analysis projected an increase in the number of spaces, about half of which will be publicly accessible.

Although building a new city or district owned facility would create new parking supply, it would do so at great expense. Leveraging existing private supply is more cost-effective and beneficial – though it also takes strong leadership and implementation to create. Implementation of more shared parking initiatives can ensure future parking supply can absorb new projected parking demand. Simultaneous implementation of other mobility options, in the form of Transportation Demand Management (TDM) strategies and investments, could decrease parking demand from 5 to 18%, depending on the level of programming.

The way the District and City manage parking in the area should reflect overall goals, which focus on creating a sense of place and identity, and supporting ongoing revitalization efforts by attracting more restaurants and increasing the vibrancy of the District. PDA must strike a balance between investing in multimodal infrastructure and ensuring auto-oriented businesses in the area have available parking spaces to support local and regional business access. Parking management strategies, listed below, are uniquely suited to striking that balance when implemented thoughtfully.

RECOMMENDATIONS

A unified parking strategy for Pasadena Playhouse District must focus on:

- Supporting the District's economic vitality and visibility.
- Making it easier for drivers to find a parking space.
- Incentivizing use of other mobility options, while balancing initiatives to ensure access for those who must travel by vehicle.

The following parking strategies are guided by the goals above and, if implemented together, represent a cost-effective way to create more available parking spaces in the district.

Coordinate a Shared Parking Network

In order to better utilize existing parking supply before building new supply, the City and District must find an approach to convert underutilized private parking facilities into shared public parking spaces. Including as many spaces as possible into a common pool of publicly available spaces that can be shared by multiple uses, will help private owners monetize their supply while allowing improved access and efficiency of the overall system.

Parking Analysis and Recommendations
Playhouse District Association

There are several options:

- **Lease or purchase existing private parking lots** from willing sellers and open them for public use. Prioritize strategically located sites that are convenient to many destinations. This may be challenging to identify and implement, as most parking in the area is associated with a use nearby, and although there is excess capacity, it is legally required to be reserved for a surrounding land use. With a relaxing of parking minimums (recommended), this option can become more viable in future years. For example, a revised code that either removed minimums or allowed parking requirements to be satisfied by shared parking would remove that barrier to participation.
 - o Approach: In this scenario, the City or PDA would fully lease a facility and operate it as a City or District facility.
- **Create agreements** for consistent pricing, branding, rules, and operations among partial supply of a variety of facilities.
 - o Approach: The City of Pasadena has recently piloted a mobile phone app in City garages that allows unattended access to parking spaces, and starts and stops payment automatically on ingress and egress. This Bluetooth-enabled system has potential to be leveraged for privately owned and shared parking as a payment and access tool. It is relatively low-investment so it may integrate well with private facilities without a major technology overhaul or interruption of other parking infrastructure in each facility.
 - o Recommended: Unless a location is identified for a full lease described earlier, which is unlikely, this is the preferred recommendation. This can likely be implemented swiftly at some locations, with more expansion possible in the future as leases change hands, and if the City and District can successfully relax office parking minimums to free up owners to lease empty spaces without zoning code violations.
 - o Estimated Quantity: The five private parking facilities in the District with low utilization comprise a total supply of about 2,892 spaces, with 1,502 used at peak. If a 10% buffer is applied to current peak use, that would indicate a buffer of 1,240 spaces, which could potentially be used in a shared parking network. That figure can be considered a high, maximum figure. The District should set an initial goal of identifying at least 110 spaces (equivalent to the loss of Union/El Molino parking lot spaces due to a park conversion, with a 10% buffer in acknowledgement that the lot is currently well-used).
- **Uniformly brand and advertise existing shared parking**. There is already significant shared parking in the District: 4,969 spaces are privately owned and operated but publicly available. At minimum, these spaces could be better advertised – ideally also branded, with consistent rules. This approach may be less effective because it does not necessarily put PDA in a position to actively control and manage spaces – but it is a positive step at minimum.

Regardless of approach, the success of shared parking depends on consistent branding, wayfinding, and communications, and coordination must be an ongoing effort. Ideally, pricing and regulations would also be consistent, and match the City garages to the extent possible. This

may be challenging, as free 90-minute parking requires a significant subsidy. While coordination with the City and a determination on the financial resources available will need to be a factor, **the guiding principle for a shared parking network should be to make it look and feel like the public parking supply. The most important feature of this is clear branding and signage, indicating that any member of the public can and should park in a shared facility.**

Shared Parking Case Studies

The following three case study briefs present a successful and replicable approach to each of the three levels of shared parking coordination. Elements of these examples may prove helpful in the Playhouse District. The Park Omaha example best relates to the opportunity to leverage the City of Pasadena's new paid parking app – ideally serving as a pilot for application of the technology to private facilities.

Case Study: Pittsburgh, Pennsylvania, ParkPGH

Launched in December 2010, ParkPGH is Pittsburgh's smart parking solution delivering real-time parking availability for 22 garages, containing over 22,000 spaces, in and around downtown Pittsburgh. ParkPGH is a free service provided by the Pittsburgh Cultural Trust, a non-profit organization dedicated to the development and promotion of Pittsburgh's Cultural District. The Trust created ParkPGH with the help of philanthropic and other partners to make parking less stressful for patrons of the Cultural District's theater and arts programs, as well as for business, restaurant, retail, and residential communities in the downtown area. The effort began with development of a unique software platform that communicates with existing equipment across all participating garages. Real-time availability information is communicated via mobile app, web, text message, and a call-in service to enable visitors to plan ahead when heading downtown. Management of garages is still the responsibility of each respective owner/operator and each pays a minimal annual fee to ensure the system stays operational and up-to-date. Regular visitor surveys show that ParkPGH's impacts have successfully changed perceptions about the lack of parking in the Cultural District and requests are made regularly to expand the system to other parts of the city.

Case Study: Seattle, Washington, Seattle e-Park

Seattle's Department of Transportation launched the e-Park system in 2010 in partnership with the Downtown Seattle Association and six initial parking garage owners. The program has since expanded to include 14 garages. The parking guidance system is designed to improve the downtown experience by making it easier for visitors to find off-street parking, in the face of changing dynamics in their on-street parking system. At key entrance points, dynamic and static e-Park signs guide drivers toward participating garages and provide information on availability in each garage. People parking can also plan ahead by using the program website and an interactive citywide Seattle Parking Map. The map displays e-Park space availability, on-street parking information, garage and lot locations, pricing, and hours of operation. The program is funded by the City of Seattle and Washington State Department of Transportation, and is part of a larger strategy that includes working with employers to support employees in walking, biking, riding taking transit, or carpooling.

Case Study: Omaha, Nebraska, Park Omaha

The City of Omaha recently branded the Parking Division of its Public Works Department as “Park Omaha” to signal a commitment to providing coordinated and strategic management of its on- and off-street parking resources. The goals were to maximize efficiency, minimize frustrations, and develop an extensive shared parking network. A key component of the Park Omaha mission was to establish a system for incorporating private parking facilities into a unified network, as a way of increasing supply without building more facilities. The Park Omaha Partners program provides a user-friendly, online process for property owners to offer their unused spaces, at a specified schedule, to the Park Omaha network through a shared parking agreement. Mobile payment is available via the Park Omaha App. Each partner facility receives revenue directly, thereby removing the need for each operator to establish their own system. While the City of Omaha leads the effort, they partner with operators and a parking advisory committee to provide guidance and ensure system optimization.

Create a Designated Employee Parking Program

Employee parking was identified as a need during stakeholder meetings – specifically the need to encourage and incentivize employees to park away from prime retail streets, which should ideally be available for customers. Employee parking programs also support good quality of life for employees and the sustainability of downtown businesses. Currently, many employees move their personal vehicle every two hours to avoid parking citations. This does not open up parking availability, and creates unnecessary trips and parking citations. While employees are typically willing to walk further to their parking space than a customer, they need to know where to park and have an incentive to do so.

Many cities have implemented employee parking programs as a means to move commercial district employees from on-street spaces to off-street facilities. The objective is to reduce long-term on-street parking in commercial districts and alleviate traffic and circling from visitors looking for parking in those areas. For example, Sacramento, CA; Santa Fe, NM; and Santa Rosa, CA, all operate programs allowing employees to purchase discounted parking permits in city facilities. In the case of the Playhouse District, the PDA must play the organizing role, with support from the City, as finding employee parking locations requires private parking operator cooperation.

A Playhouse District Employee Parking Program should:

- Identify locations that could collaborate with the District and City to create an employee parking system. Initial location ideas include 155 N Lake, 35 N Lake, 790 E Colorado, 2 N Lake, and 888 Walnut. In prioritizing private parking arrangements for various constituents (public, employees, valet), the more remote locations should be prioritized for employees and valet, as they tend to be less distance sensitive than customers.
- Set employee parking rates at least slightly below on-street meter rates.
- Include for all employees, and perhaps provide a steeper discount based on wage.

Create a District Valet Program

A district valet program is recommended to help manage existing and future spikes in parking demand. Valet parking is particularly useful for key retail, restaurant, and entertainment locations that generate many vehicular trips such as Roy’s Restaurant, Vroman’s Bookstore, and

the Laemmle Theater. It can increase capacity during peaks and take advantage of underutilized parking facilities that are more remote and only used a few days/times out of the week.

In developing a district valet program, the PDA should consider the following:

- **Implementation:** Given that demand during the holidays is of particular concern, a district valet program can begin as a seasonal pilot. The District can expand the program if the pilot is successful in addressing concerns and as parking demand increases.
- **Loading Zones:** Spread out valet stands every two to three blocks to allow for consistency and coverage for shared use. Loading zones are recommended to be 60 feet in length. The District will likely only need two or three zones since it is highly walkable. Important initial locations include the Urth Café and the Playhouse (on either Colorado Boulevard or Madison Street).
- **Operating Times:** Set valet times to when demand is high and tailor times as needed throughout the program.
 - Plymouth, MI, first established a merchant-driven seasonal pilot from 6pm to midnight on Fridays and Saturdays. The program has since expanded the valet service to operate from noon to midnight on Saturdays.
- **Pricing:** Price competitively to attract use. District valet pricing generally range from \$5 to \$10.
 - Old Town Pasadena and Redwood City charge \$10 per car and provide a discount with validation from participating businesses.
- **Parking Facilities:** Negotiate agreements with sites that have underutilized facilities during valet times. The following garages have a high volume of parking spaces and low parking utilization outside of office hours, making them ideal partners: Converse Alley, 888 Walnut, 155 N Lake, 790 E Colorado, 35 N Lake, and Pasadena Towers.
- **Operations:** Elect either the City, PDA, or another private entity (such as a potential Parking Benefit District) to operate the program as a means to create a comprehensive and centralized program. The responsible party will also need to provide insurance and marketing/promotion materials for the program.
- **Funding:** The District could budget funds, use parking meter funds if the City implements paid parking, or encourage businesses to pool funds for shared use valet.
- **Valet Vendor:** Require vendors to provide detailed information such as where they park cars and agreements associated with private facilities, staffing plans, and event management procedures. The City of Pasadena already had several valet vendors in use and approved by the City in other areas; these City-approved vendors can be used to find options for the Playhouse District.

Relax Parking Minimums

District revitalization efforts require that parking minimums for new and existing restaurant sites are waived, by amending planning and zoning language. Rather, the District and City will allow participation in valet parking, shared parking, or similar program as an alternative to providing parking. This will make it easier for restaurants to open up in the area, creating the foot traffic, particularly in the evening, to support a more vibrant district. The initiative to pilot passenger-loading zones to encourage ride-hailing use is also another tool to help support easing of parking minimums.

While restaurant parking minimums are the main hurdle to neighborhood revitalization, other parking requirements may also be creating challenges. For example, office parking minimums for different office tenants around the district will obstruct the ability of some private parking supply in the area to be integrated into the shared parking system – even when it sits empty. To avoid this, office parking minimums must be somewhat relaxed or provide exceptions when parking is part of the shared parking network.

Angled Parking

Due to concerns about the loss of parking spaces from redevelopment of a city parking lot (Union/El Molino lot), replacement parking locations were reviewed. That review found that angled parking on both Colorado Boulevard and Green Street could be organized in uniform fashion to support district street design/aesthetic goals as well as increase the public supply of parking in the area.

The following conditions help determine potential locations for angled parking:

- *Angled parking requires at least 30 feet from the curb to striped centerline to accommodate a single traffic lane and angled parking.*
- *The roadway must be able to accommodate the loss of at least one travel lane. Peak traffic volumes for each lane should not exceed 800 vehicles/hour after lane reconfiguration.*
- *Angled parking is not recommended on roadways with major bus stops.*
- *Reverse angled parking is preferred and safer. Drivers exiting spaces can better account for moving traffic, car doors open towards the street – directing passengers towards the sidewalk, and car trunks are adjacent to the sidewalk for safer loading and unloading.¹*

Thus far, the Pasadena Department of Transportation (DOT) has reviewed angled parking for Colorado Boulevard as part of the parklets and road diet proposal between Los Robles and Hudson avenues. The DOT concluded that traffic levels on Colorado Boulevard could support a road diet from five lanes to three lanes with the addition of reverse angled parking and parklets on both sides of the street. The proposal estimated that 30 additional parking spaces could be gained along with two parklets. Given that two angled parking spaces equate to the size of one parklet, reconfiguration of Colorado between Los Robles and Hudson could result in a net gain of 34 spaces without parklets.

Further conversations with the DOT indicate that north-south streets in the Playhouse District are too narrow to accommodate angled parking. Green Street would be the primary east-west candidate for angled parking as it is least likely to have major street design implications. Reconfiguration of Green Street from Los Robles Avenue to Lake Avenue to accommodate reverse angled parking would consist of:

- A road diet from three travel lanes to two lanes.
- Reverse angled parking on the south side.
- Depending on the angle of parking used, the total spaces that can potentially be gained ranges from approximately 35 to 70 spaces.

¹ [Pasadena Complete Streets Design Guide](#)

If the City installed angled parking on both Colorado Boulevard and Green Street, it could gain approximately 69 to 104 spaces. **Thus, there is opportunity to replace lost parking from the Union/El Molino lot by adding angled parking on Colorado Boulevard and Green Street. On-street angled parking may be preferable as it can be relatively easy, inexpensive, and fast to install, and may create other benefits for the District.**

Further analysis of the appropriateness of angled parking on other streets in the District requires a more detailed evaluation of roadway reconfiguration and traffic volumes. There may be aesthetic and access concerns with angled parking, but only when poorly designed or haphazardly applied. Consistency in application of this treatment and inclusion of curb stops can ensure that this effort to increase parking supply also contributes positively to the experience of visiting and walking in the district.

Price On-Street Parking To Create Available Spaces

Paid parking is intended to create available parking spaces in the district, making it easier to find a space and improve the experience of people driving to visit the District. Pricing is the single most effective way to distribute demand across a District. When priced appropriately (not too low, not too high) it serves two important goals: improving vehicle access by opening up more parking spaces, while also encouraging the use other transportation modes. Maintaining a minimum level of parking availability is the core goal of the proposed paid parking program. **On-street parking spaces comprise 77% of all the publicly owned parking supply in the district – the effectiveness of its management is crucial for the functionality of the overall parking ecosystem.**

The objective of paid parking is to efficiently manage demand for parking while accommodating customer, employee, and resident parking needs. Ensuring that curb spaces are well-used but readily available helps put customers first. On-street parking should have a desired occupancy target of about 60-85% full for each blockface, so that there will usually be at least one or two available spaces on every block. The goal is not to maximize revenue but to create available parking spaces, thus the District should aim to charge the lowest rate that achieves this availability target. For example, rates could be initially established at \$0.75 per hour and then be monitored to ensure the rates are set to create some minimum level of available parking spaces. If parking is priced, and demand-responsive adjustments allowed, time limits can be removed. This gets rid of the “time limits and tickets” approach that incentivizes drivers to merely move their vehicles around to avoid a limit, and that limits the amount of time visitors can spend in the District.

The Playhouse District can customize a paid parking approach that reduces “ticket anxiety,” manages parking demand by opening up more parking spaces, and makes it easy to pay and park. While there can be a negative connotation with paid parking, if implemented thoughtfully, it can be a major benefit to the District. Furthermore, returning revenue back to the District can support ongoing transportation goals – detailed below.

Return Meter Revenue to District Improvements

To effectively support and fund improvements, the District should coordinate with the City to specify by law that parking revenue will be prioritized to fund public improvements and services benefiting the Playhouse District. After funding equipment and operations costs, the balance can be used to fund high-priority District improvements and services. The District will need to form

an advisory committee, with representation from Playhouse District property owners and merchants, and give it a significant role in deciding how to spend new curb parking revenues. During outreach for the development of the PDA parking recommendations, a few initial ideas surfaced including improved streetscaping to provide a heightened District identity, and improved station amenities at the Lake Street Gold Line station to make it more pleasant and usable.

Establish a District Transportation Management Association

Parking revenues could also help support better transportation choices for District employers, employees, and residents to help reduce parking demand in a cost-effective way. This could entail establishing a Transportation Management Association or similar entity that is responsible for the management and promotion of transportation programs. The TMA could sit within the PDA or as a separate entity. The organization and its programs would be funded using a combination of parking revenues, or other District or City transportation funds or assessments. The goal of the organization would be to establish and promote a full menu of transportation options and programs for the benefit of all area employers and residents.

A transportation management association (TMA) is typically a nonprofit, member-based organization that provides transportation services in a particular area, formed to address the transportation needs and challenges of a particular destination with a distinct geographic boundary, such as a central business district. TMAs address parking and circulation through employee commute programs, trip planning, information about various travel options, and other tools. A TMA for the District would be an efficient mechanism to deliver the various transportation demand management (TDM) measures that the City and other community organizations may provide. The TMA would also function as a point of coordination for employers and organizations that deploy their own TDM programs, and provide information to residents and visitors looking to learn more about their transportation options.

The TMA would focus on increasing transit ridership and providing incentives for employees and residents to reduce parking demand. The program could support employee's alternative commuter options by providing benefits such as deeply-discounted group transit passes or rideshare matching. Elements should include:

- Commuter Benefits Program
- Employer Checklist of TDM Programs
- Discounted Transit Passes
- Guaranteed Ride Home
- Carpool/Vanpool/Rideshare Matching
- Parking Cash-Out
- Bikeshare Memberships
- Bike Safety Education

The TMA would become the “voice” of mobility options and programs in the District, finding positive ways to increase options, incentives, and utilization to support non-driving trips where feasible.

Case Study: Parking Benefit District in Boulder, Colorado

The City of Boulder’s parking benefit district program incorporates more than 800 on-street metered spaces and nine off-street facilities throughout a 30-block district of downtown Boulder, to maximize use of existing supply and fund improvements within the district through meter revenue. The program initiatives were introduced through the Central Area General Improvement District (CAGID) and was set up by the City Council and the Downtown Management Commission.

Benefits to the district, funded through parking meter revenue, include historic preservation, streetscape improvements, bike parking, bike share, public Wi-Fi, and free universal transit passes for downtown employees (RTD Eco Pass).

In addition to the above, CAGID also funds the operation of a “Transportation Resource Center” in a downtown storefront. The responsibilities of the resource center include:

- Provide personalized advice and information about transit, bike, and pedestrian travel in downtown.
- Provide personalized ride-matching services for downtown employees.
- Marketing of transportation programs and incentives.
- Coordination of transportation events like Bike-to-Work Day.
- Management of downtown bicycle lockers.

All of these programs are funded by a \$325,000 annual budget, funded by \$1 million in meter revenue transferred to CAGID via a parking benefit district mechanism.

In order to ensure the efficacy of the district’s paid parking, CAGID uses sophisticated enforcement strategies such as license plate recognition. Neighborhood permit parking initiatives have been introduced to prevent overspill parking from commuters trying to avoid parking restrictions and charges downtown. In addition, businesses located within the district are eligible for free employee transit passes.

Improve Connections to Gold Line Station

Metro’s Gold Line Station is only 0.6 miles from the heart of the Playhouse District, but has little presence among the District’s mobility options. Increasing the visibility, usability, and amenities of the station can help create a sense of connection to the district and remind people of the option. The station can feel further away than it is partly due to the need to walk down high-speed Lake Street to and from the District and the station. Light rail can be a powerful economic and quality-of-life resource for the district if leveraged effectively. Increasing the use of the station can also help reduce parking demand over time. During outreach for this parking assessment, stakeholders noted they would like to see the station cleaned up, have better lighting and signage, have better crossings, and overall be a great place to be.

Improvements to this station and its path of travel to and from the District should be adopted as an initiative of the PDA – specifically a focus of funding and programming of a newly formed parking benefit district and transportation management association (described in other recommendations).

IMPLEMENTATION

This package of recommendations requires central leadership, with the PDA becoming an active leader in advising on parking fund distribution, ongoing oversight of shared parking and employee programs, creation of TDM programs, and oversight of valet services. The recommendations listed in the previous section are all achievable, but identifying a source of leadership and oversight is key to their success. The City will be an instrumental partner and may be a potential funder of some programs, and should be engaged in implementation and funding discussions as a first step.

Draft Implementation Steps

Strategy	Timing for Implementation	Roles / Steps	Costing Notes	Staffing Needs
Coordinate shared parking network	Mid-term (begin immediately, create project plan)	<ul style="list-style-type: none"> - Finalize funding approach with City - Negotiate approaches with specific property owners - City leads on office parking minimum reduction/alteration + other relevant Code changes - City contributes tools (e.g., access and payment app) and/or potentially funding - PDA finalizes/implements program design and launches – it is okay to start small, but do keep final program design in mind 	\$\$	PDA should identify point-person to lead implementation and ongoing oversight. Biggest hurdle for shared parking system are ongoing maintenance and cooperation. This could be a 0.25 FTE position as part of TMA, or generally on behalf of PDA
Create designated employee parking program	Short-term	<ul style="list-style-type: none"> - Confirm locations in conjunction with valet and shared parking network locations - Confirm funding options for subsidy to reduce cost - PDA or City leads creation of agreements - PDA and stakeholders lead outreach to employees to advertise program - Key launch components: payment capability, uniform signage and branding 	\$	N/A, but some ongoing oversight/maintenance by PDA or City
Create District valet program	Short-term	<ul style="list-style-type: none"> - Obtain list of vendors from City - Confirm locations in conjunction with employee and shared parking network locations - PDA or City negotiates and confirms agreement - Launch is possible very quickly - Coordinate with relaxing off-street parking requirements for restaurants 	\$	N/A

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Strategy	Timing for Implementation	Roles / Steps	Costing Notes	Staffing Needs
Relax parking minimums	Mid-term implementation, long-term impact	<ul style="list-style-type: none"> - Formalize PDA position - Work with City/Planning to change code - PDA helps conduct outreach to potential new businesses 	N/A	Can be folded into existing PDA roles, however if TMA staff created, they can serve as point of contact in helping incoming businesses tap into District valet and shared parking systems
Add angled parking on Colorado Boulevard and Green Street	TBD, short- to mid-term	<ul style="list-style-type: none"> - City reviews striping plan and traffic impacts, gains approval, implements - PDA: coordinate public outreach among stakeholders along impacted streets 	N/A City likely covers cost	N/A – City leads
Price on-street parking to create available spaces	Short- to mid-term	<ul style="list-style-type: none"> - PDA conduct outreach to stakeholders about parking recommendations package - City implements paid parking 	N/A	N/A – City leads
Return meter revenue to district improvements	Mid-term	<ul style="list-style-type: none"> - Establish program, working with City to finalize details/approach - Identify advisory committee members - Create general funding prioritization structure to guide investments 	N/A	Advisory board creation will need volunteer stakeholder participants; PDA leadership should also serve on board
Establish a district Transportation Management Association (TMA)	Mid-term (initiate immediately, will take one year to fully launch)	<ul style="list-style-type: none"> - Contact City to identify formalization steps - Formalize entity - Select staff or contract services - Create advisory board (can be same as PBD) - Identify funding sources (relate to PBD, regional or local funding) - Finalize work plan and prioritize - Launch TMA 	\$\$	1 FTE to fully launch TMA services (or equivalent in contract services). If successful, may wish to expand to 1.5 to 2 FTE over mid-term

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Strategy	Timing for Implementation	Roles / Steps	Costing Notes	Staffing Needs
Improve connections to Gold Line	Ongoing/long-term investment	<ul style="list-style-type: none"> - PDA: Identify community priorities for station - Approach Metro and City to collaborate (and to move forward on 'quick wins') - Identify funding sources or opportunities (PDA, grant, first/last mile, etc.) - Incorporate improvements into work plan for District TMA 	\$\$\$	N/A, PDA or TMA staff to lead as project, incorporate into ongoing oversight

2 EXISTING & FUTURE PARKING DEMAND

As with many downtown centers, there are concerns that parking in the Playhouse District is a barrier to future potential development and that as surface lots are replaced with new buildings, the resulting reductions in parking supply will make it harder to attract new development. For the private sector, developers are also looking for clarity from the City so that they can plan development projects with the appropriate amount of parking. A critical step in addressing these concerns is to understand the City's future parking needs relative to supply.

The goal is to answer the following kinds of questions:

- Will there be enough parking for current development projects?
- Will there be enough parking for future development?
- As the mix of land uses evolves, how much parking will be necessary to serve the future commercial and residential uses?

This memorandum seeks to answer some of these questions by:

1. Describing the relationship between existing land uses and parking demand;
2. Estimating future parking demand based on several future land use scenarios; and
3. Quantifying the impacts of potential transportation demand management strategies in reducing overall district parking demand

KEY FINDINGS

Existing Supply and Demand

- The Pasadena Playhouse District study area has 9,955 parking spaces, which is **about 3,340 spaces over the modeled existing peak demand** (6,520 spaces).
- Although only 2% of off-street parking is city-owned, **there is a significant amount of private supply that the District can leverage** if future parking demand warrants it. Fifty-four percent of off-street parking is publicly accessible and privately-owned, and 44% is completely private.
- While peak occupancy (12pm weekday) reveals that parking demand at the two City lots may be reaching functional capacity (80%), **there is availability in publicly accessible parking facilities throughout the District, and significant availability in private lots.**

Future Supply and Demand

- **Parking supply is projected to increase from 9,955 spaces to nearly 11,500 spaces due to upcoming development.** About half of this supply will be publicly accessible.
- **While building a new public parking facility will create more supply, it is more cost-effective and beneficial for the District to leverage the existing private supply rather than building more parking.** By implementing shared parking, the future supply (11,465 spaces) can absorb both short and long-term status quo scenarios in parking demand projections (6,681 and 9,370 spaces). Both these parking demand numbers assume no additional investments in transportation demand management (TDM) strategies.
- In the short term, **most of the projected status quo demand (6,681 spaces) can be absorbed by the projected short term publicly-accessible supply (5,787 spaces).** Remaining spaces would need to be leased in private facilities.
- **Phasing in TDM strategies and investments could decrease parking demand** from 5% (conservative TDM) up to 18% (aggressive TDM), compared to the status quo demand. Because shared parking agreements may take longer to implement, TDM can help address some parking concerns sooner.

LAND USE METHODOLOGY

The Institute of Transportation Engineers (ITE) produces a report titled *Parking Generation*, which is the prevailing national standard in determining parking demand for a development. ITE standards are based on parking demand studies submitted to ITE by a variety of parties, including public agencies, developers and consulting firms. ITE parking rates often do not reflect the actual demand profile of mixed use areas. Typically, in mixed-use developments, customers and visitors can visit multiple destinations, though only park once. Moreover, throughout the day, different uses have different peak demands: for example, an office may have a high demand until 5pm, and a restaurant open for dinner may have a high demand only after 5pm.

Nelson\Nygaard's experience indicates that projections using standard ITE parking rates tend to overestimate demand for a mixed-use environment like the Playhouse District. Mixed-use areas offer the opportunity to share parking supply between various uses. This reduces the total number of spaces which would be required by the same land-uses in stand-alone developments. The Playhouse District acts like other mixed-use environments, where each land use may not need its own dedicated supply of parking, yet traditional analysis and zoning are typically based on such assumptions.

To model this type of parking activity, Nelson\Nygaard used an adapted land use model from the Urban Land Institute's (ULI) Shared Parking Manual (2nd Edition, 2005). Besides capturing the "staggered peaks" of demand from various uses by time of day, the model is tailored to include a parking demand reduction from the California Air Pollution Control Officers Association (CAPCOA). CAPCOA has compiled extensive research associated with TDM strategies targeted at changing the way people commute. This research was used to calculate potential trip reductions based on the type of TDM program assumed for the Playhouse District. The model includes a conservative percent reduction to account for the mix of the Playhouse District's development patterns.

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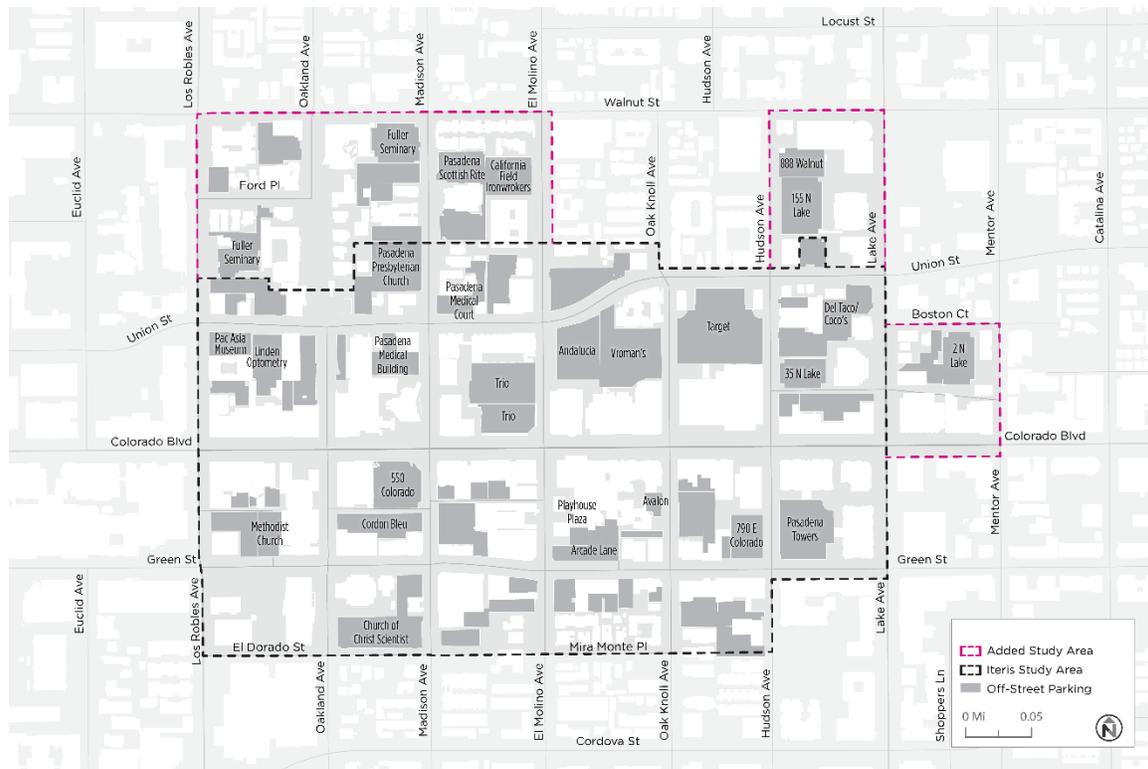
The analysis calculates and compares how much parking is “needed” based on national ITE standards, and compares the modeled supply to the actual and existing parking supply. The land use analysis then models the demand based on a number of factors, such as time of day adjustments and land use mixes, creating the expected actual parking demand throughout the course of an average weekday. Parking utilization survey counts collected within the same area are then overlaid on the existing model, and adjusted based on observed demand patterns.

EXISTING CONDITIONS

Study Area

Figure 1 shows the study area used to conduct the parking demand analysis. The study area was determined by working with the PDA to expand the 2013 Iteris parking study area and include the Fuller Seminary campus as well as three large office building garages. Although the study area is slightly smaller than the Playhouse Business Improvement District boundary, it includes the District’s core land uses and parking facilities that impact parking demand.

Figure 1 Playhouse District Study Area



Existing Land Use

Los Angeles County's 2017 Assessors Database, which includes land use type and gross floor area by building, is the basis for the activity area existing land use analysis. The database includes detailed information ranging from building square footage and units to use type and descriptions for all existing buildings in the study area. Detailed square footages and units by land use are detailed in the Appendix.

Existing Parking Supply

The Playhouse District has 9,955 parking spaces, of which 5,879 (59%) are publicly accessible.

About 93% of these parking spaces are in off-street facilities (lots and garages). Figure 2 shows the parking supply in the study area with an additional breakdown provided by parking access, or who parking is "available to". Publicly accessible parking consists of both City and privately owned parking available for public use. Private parking is dedicated to a specific population, such as customers, tenants, or employees of a particular property or use.

Figure 2 Parking Supply

	Count	% of Total
On-street (all public)	704	7%
Off-street	9,251	93%
Public (city-owned)	206	2%
Public (privately owned)	4,969	54%
Private	4,076	44%
Total	9,955	

Future Development

Expected development projects are analyzed to quantify their impact on the parking supply, in relation to existing land uses and parking demand.

Expected future development projects were added to the existing land use models to understand the impact of new development the study area. Although the details of most expected development projects are not finalized, the team used estimates from the PDA to estimate the expected building programs, including new parking supply. The future development estimates account for loss of existing parking and replacement of buildings where necessary, and then adds the new square footage and parking supply. Assumptions and sources for future development scenarios included are documented in the figures below.

Development Scenarios

As detailed in the following parking demand section of this memo, **there is a surplus of parking spaces available during the noon peak mostly in private facilities**, indicating that **the Playhouse District currently has the capacity to absorb new development without building additional parking.**

Two land use scenarios were developed to estimate the impact of future development on existing parking resources over the next ten years:

- Short-term: Planned development over the next five years (detailed in Figure 3). Consists only of known developments in the pipeline.
- Long-term: Projected development over the next five to ten years.

Figure 4 compares existing land use with land use assumptions in the short- and long-term scenarios. The short-term scenario was informed by development projects in the pipeline from

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the PDA. The long-term scenario projections and growth factors were vetted by the PDA as well as other consultant teams on the project. Long-term land use projections were calculated by applying the vetted growth factor to the short-term scenario.

Figure 3 Developments in the Pipeline (< 5 years)²

Project Name	Address	Residential Units	Commercial Sq. Ft.	Other Elements
Kaiser Permanente School of Medicine	94 S Los Robles Ave	-	-	192 students
Oak Knoll 88	88 S Oak Knoll Ave	72	4,000	-
Crown City Medical Plaza	550 E Colorado Blvd	-	22,400	89,600 SF Medical Office
Total Wine & More	725 E Colorado Blvd	-	23,576	-
Olivewood Village	Union/Oakland	141	19,463	-
Union/El Molino (HMRI)	635 E Union St	40	3,265	-
TOTAL		253	72,704	<ul style="list-style-type: none"> ▪ 192 students ▪ 89,600 SF Medical Office

² Due to the uncertainty of how existing developments may be repurposed, the short-term development scenario does not account for adaptive reuse.

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Figure 4 Land Use Assumptions by Scenario

Land Use	Existing	Short-Term ³ (< 5 years)	Long-Term (5-10 years)	
			Projected	Growth Factor ⁴
Recreational (theater)	1,286 seats	1,286 seats	1,929 seats	x1.5
Recreational (other)	55,593 SF	55,593 SF	55,593 SF	No change
Retail (general)	313,734 SF	365,786 SF	457,233 SF	x1.25
Service (restaurant)	124,476 SF	145,128 SF	290,256 SF	x2
Service (other)	179,518 SF	179,518 SF	179,518 SF	No change
Institutional (museum)	47,988 SF	47,988 SF	71,982 SF	x1.5
Institutional (other)	2,998 SF	2,998 SF	2,998 SF	No change
Religious	147,476 SF	102,408 SF	102,408 SF	No Change
Office (general)	2,238,430 SF	2,213,086 SF	2,766,358 SF	x1.25
Office (medical/dental)	138,668 SF	210,519 SF	263,149 SF	x1.25
Educational	1,470 students	712 students	1,068 students	x1.5
Residential (apartments)	615 units	868 units	1,736 units	x2
Hotel	-	-	100 rooms	100 rooms
TOTAL	<ul style="list-style-type: none"> ▪ 3,248,881 SF ▪ 1,286 seats ▪ 1,470 students ▪ 615 units 	<ul style="list-style-type: none"> ▪ 3,323,024 SF ▪ 1,286 seats ▪ 712 students ▪ 868 units 	<ul style="list-style-type: none"> ▪ 4,189,495 SF ▪ 1,929 seats ▪ 1,068 students ▪ 1,736 units ▪ 100 rooms 	

Future Supply

Planned developments in the short-term scenario are projected to add over 1,500 parking spaces to the Playhouse District. As shown in Figure 2, this consists of adding 1,602 private spaces and removing 92 publicly accessible spaces.

Figure 5 Parking Supply (Existing vs. Potential)

	Existing	Potential (Short-Term)	Difference
Total Supply	9,955	11,465	+ 1,510
Publicly Accessible	5,879	5,787	- 92
Private	4,076	5,678	+ 1,602

³ Consists only of projects in the development pipeline.

⁴ The growth factor is applied to land use assumptions in the short-term scenario.

MODEL ADJUSTMENTS

The existing and future land use models are adjusted to best reflect the unique environment in the Playhouse District.

Parking Demand

Parking occupancy counts from the 2013 Iteris parking utilization study formed the basis of determining parking demand for the Playhouse District. The study included on- and off-street counts on the weekday (10am – 10pm) and weekend (11am – 9pm). Due to incomplete inventory and occupancy counts for private lots and a new expanded study area, the team collected supplemental parking counts during the peak hour at noon. These counts were informed by Nearmap aerial services, garage counts from Playhouse District stakeholders, and building vacancy rates where applicable.

Vacancy

The existing analysis accounts for commercial retail, office, and residential vacancies adjustments derived from real estate market reports pulled by the economic consultant team, EPS. Retail and residential vacancies are approximately 5%, whereas office vacancy is 15%. A 7% vacancy rate, as opposed to 15%, was applied to office uses in the long-term scenario to account for the anticipated stabilization of the office market. These vacancy adjustment factors help to modify and calibrate the existing land use model to observed demand patterns within each activity area.

Time of Day

Time of day adjustment factors provide a more accurate depiction of different land use's parking demand profile throughout the course of a day. For example, residential land uses generate greater demand during the early morning and evening peaks when residents are at home, and general office buildings generate greater parking demand during the morning and into the late afternoon periods when people are at work. These adjustments were tailored for each type of land use based off ULI's Shared Parking time of day percentages. These factors help to produce staggered peaks for different land uses and create a more accurate depiction of how parking supply is actually used throughout the course of a day.

Transportation Demand Management

A major parking demand reduction factor included in the analysis is an adjustment for transportation demand management (TDM). These types of programs work collectively to change how, when, where, and why people travel and provide people the options to reduce reliance on the single-occupant vehicle. TDM measures include a range of cycling, walking, transit, and carpooling incentives that can range from simple infrastructure improvements such as bicycle parking, transit shelters, and sidewalk improvements, to comprehensive programs such as discounted or free transit passes for employees and even employee shuttle programs.

CAPCOA

The PDA is considering a number of TDM strategies that have the potential to curb parking demand and shift residents, employees, and visitors away from driving alone. The team used CAPCOA research to determine the potential impact TDM may have on parking demand.

CAPCOA is the most robust data available for trip reduction calculations and provides reduction ranges for each TDM strategy. Parking demand reductions for each TDM package was gleaned from this research to calibrate the model and accurately reflect existing parking demand.

Reduction Strategies

Figure 6 shows TDM strategies that are currently under consideration. Strategies are grouped into five different buckets that reflect categories in CAPCOA – each bucket has different trip reduction ranges and helps quantify TDM impacts to parking demand:

- Parking Policy/Pricing
- Land Use/Location
- Commute Trip Reduction Program
- Neighborhood/Site Enhancements
- Transit System Improvements

In addition, strategies are grouped into existing, short-term, and long-term categories. Short-term scenarios consist of strategies that are likely to be implemented within the next five years, while long-term scenarios are those that may be implemented in the next five to ten years.

Figure 6 Reduction Strategies by Scenario

Strategy	Existing	Short-Term	Long-Term
Parking Policy/Pricing			
Waive parking requirements for certain types of developments		X	X
City/district to lease or buy existing excess parking		X	X
Price on-street parking		X	X
Valet services for off-street parking		X	X
Land Use/Location			
Location efficiency	X	X	X
Commute Trip Reduction Program			
Districtwide TDM	X	X	X
Designated employee parking (non-residential only)		X	X
Neighborhood/Site Enhancements			
Pedestrian network	X	X	X
Traffic calming		X	X
Improved bike routes		X	X
Transit System Improvements			
First/last-mile connections to/from Gold Line Station		X	X

Reduction Scenarios

The team developed the following three scenarios in order to provide a range of potential parking reductions based on how aggressive the PDA will implement TDM strategies:

- **Status Quo:** based on current TDM policies in place, land use context, active transportation network, and connections to transit. This serves as a baseline and assumes that no TDM strategies will be implemented.
- **Conservative TDM:** assumes a conservative approach to TDM.
- **Aggressive TDM:** assumes that strategies will be implemented in a robust and strategic manner to maximize potential reductions

Reduction estimates were based off minimum and maximum reduction ranges listed in CAPCOA and tailored to the study area context. Detailed reductions are shown in the Appendix.

Modeled Demand

Existing Demand

The study area has 9,955 spaces. The shared land use model for the Playhouse District study area estimates a peak demand at 12 pm, with approximately 6,520 spaces. During this timeframe, there is a surplus of approximately 3,440 spaces. The observed and modeled demand show similar trends throughout the course of a week, which indicates that the parking demand estimated by land use is comparable to the area’s observed parking demand.

Expected Future Demand

Projected parking demand for the short- and long-term scenarios were determined by applying trip reduction ranges informed by CAPCOA. As shown in Figure 7, a more aggressive approach to TDM will result in lower parking demand and recommended supply. Recommended parking supply for each land use and reduction scenario is determined by assuming that no more than 90% of the parking supply should be full. This creates a 10% “reserve” of parking spaces that can be used for overflow during events, overlap during peak times, and additional operational reserve.

Figure 7 Modeled Parking Demand by Scenario and TDM Package

TDM Package	Existing	Short-Term		Long-Term	
		Projected Demand	Recommended Supply	Projected Demand	Recommended Supply
Status Quo	6,520	6,681	7,349	9,370	10,307
Conservative TDM	-	6,290	6,919	8,225	9,048
Aggressive TDM	-	6,104	6,714	7,742	8,516

APPENDIX

Parking Analysis and Recommendations
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Figure 8 Existing Land Use in Study Area

Land Use	Existing Quantity
Recreational	
Live Theater	1,286 seats
Recreation Or Community Center	55,593 SF
Retail	
Shopping Center	219,752 SF
Apparel Store	44,223 SF
Furniture/Carpet Store	49,759 SF
Service	
Sit-Down Restaurant (no bar)	39,062 SF
Sit-Down Restaurant (bar)	14,636 SF
High Turnover Restaurant	44,952 SF
Coffee/Donut Shop	25,825 SF
Dry Cleaners	7,108 SF
Auto Service	36,584 SF
Bank	135,826 SF
Institutional	
Museum	47,988 SF
Day Care Center	2,998 SF
Religious	
Church	147,476 SF
Office	
Office	2,238,430 SF
Medical/Dental Office	138,668 SF
Educational	
Junior/Community College	1,470 students
Residential	
Apartment	615 units

Figure 9 Reduction Assumptions by Development and Reduction Scenario

Category	#	Associated Strategies	CAPCOA			Existing (Status Quo)	Short-Term		Long-Term				
			Measure	Measure	Range		Conservative	Aggressive	Conservative	Aggressive			
Parking Policy/Pricing	1	Waive parking requirements for certain types of developments	PDT-1	Limit parking supply	5.0-12.5%	0.0%	x	1.0%	1.5%	x	5.0%	7.0%	
	2	City/district to lease or buy existing excess parking					x			x			
	3	Price on-street parking	PDT-3	Implement market price public parking (on-street)	2.8-5.5%	0.0%	x	2.8%	3.2%	x	3.2%	4.0%	
	4	Valet services for off-street parking					x			x			
Land Use/Location	5	Location efficiency	LUT-2	Increase location efficiency	10%	x	10.0%	x	10.0%	x	10.0%	10.0%	
Commute Trip Reduction Program	6	Districtwide TDM	TRT-2	Implement CTRP (required)	4.2-21%	x	6.0%	x	7.0%	8.0%	x	8.0%	9.0%
	7	Designated employee parking	TRT-14	Price workplace parking	0.5-6.8%			x	0.5%	1.0%	x	1.0%	1.5%
Neighborhood/Site Enhancements	8	Pedestrian Network	SDT-1	Provide pedestrian network improvements	0-2%	x	1.0%	x	1.0%	1.0%	x	1.0%	1.0%
	9	Traffic calming	SDT-2	Traffic calming measures	0.25-1.0%		0.3%	x	0.3%	0.3%	x	0.4%	0.5%
	10	Improved bike routes	SDT-5	Incorporate bike lane street design	NA			x	0.1%	0.1%	x	0.5%	1.0%
Transit System Improvements	11	First/last-mile improvements to/from Gold Line Station	TST-3	Expand transit network	0.1-8.2%		2.0%	x	2.5%	3.0%	x	3.0%	4.0%
Totals	Parking Policy/Pricing					0.0%			3.8%	4.7%		8.0%	10.7%
	Land Use/Location					10.0%			10.0%	10.0%		10.0%	10.0%
	Commute Trip Reduction					6.0%			7.5%	8.9%		8.9%	10.4%
	Neighborhood/Site Enhancements					1.0%			1.0%	1.0%		1.5%	2.0%
	Transit System Improvements					2.0%			2.5%	3.0%		3.0%	4.0%
	Total (everything else)					17.9%			22.7%	25.0%		28.0%	32.2%
Total (residential)					17.9%			22.3%	24.2%		27.2%	31.2%	



MEMORANDUM

To: Brian Wallace, Playhouse District Association

From: Nelson\Nygaard

Date: December 18, 2018

Subject: Shared Parking Follow-Up

Of the 4,969 spaces in publicly accessible, privately-owned parking facilities, 875 spaces may be reasonably shared. The process below explains how we determined the best initial candidates for shared parking and calculated the target. The idea was to start with a smaller subset of facilities that are likely to demonstrate successful applications of shared parking.

In order to determine which facilities would realistically be open to shared parking, we discounted facilities that fell under any of the following conditions:

- Less than 100 spaces
- Has peak utilization that exceed 75%
- Located away from a primary street or the center of the district

The justification for the first two conditions is that the larger and less utilized the facility, the more amenable an owner would be to shared parking. For the third condition, we wanted to identify facilities that had a prime location and were easily accessible from a primary street as well as in close proximity to activity in the area. Figure 1 lists the seven facilities that are unlikely candidates for shared parking and thus removed from the analysis.

Figure 1 Unlikely Candidates for Shared Parking

Facility Name	Facility Type	Total Supply	Peak Utilization (WD 12 pm)	Justification for Removal
550 Colorado	Lot	92	100%	Less than 100 spaces
Trio Apartments P1	Garage	88	44%	Less than 100 spaces
Pasadena Medical Building	Lot	70	56%	Less than 100 spaces
Carousel Custom Floors	Lot	36	50%	Less than 100 spaces
Pasadena Towers	Garage	1222	99%	Exceeds 75% utilization
Cordon Bleu	Garage	700	88%	Exceeds 75% utilization
24-Hour Fitness	Garage	199	67%	Far from center of PDA

The result of this screening left five facilities that would be prime candidates for shared parking (see Figure 2). From this subset, we determined the number of available parking spaces by calculating the excess capacity of each facility during peak utilization (weekdays at 12 pm), and included a ten percent contingency based on industry standards. The calculation is as follows:

- $Excess\ Capacity = Total\ Supply - (Peak\ Occupancy * 90\%)$

Shared Parking Follow-Up Memo
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Based on this calculation, the total excess capacity of the five facilities is 1,029 spaces. In order to account for reserved spaces in each facility, we applied an additional 15% reduction. Because we do not have the specific number of reserved spaces by facility, we based the 15% reduction on the average ratio of reserved spaces in Bernard’s three garages. This number can of course be adjusted if detailed counts are available. Given this reduction and prior analysis, a reasonable target for shared parking is 875 spaces. This number, of course, may be slightly higher if any other private facilities are willing to enter shared parking agreements. For example, if the 24-Hour Fitness garage is determined to be a prime candidate, the target would increase to 913 spaces.

Figure 2 Prime Candidates for Shared Parking

Facility Name	Facility Type	Total Supply	Peak Occupancy (WD 12 pm)	Peak Utilization (WD 12 pm)	Highest Possible Occupancy (90%)	Excess Capacity
2 N Lake Ave	Garage	672	380	57%	605	225
155 N Lake	Garage	636	290	46%	572	282
Pasadena Financial Center (35 N Lake)	Garage	481	130	27%	433	303
790 E Colorado	Garage	403	274	68%	363	89
Playhouse Plaza	Garage	370	203	55%	333	130
TOTAL						1,029
w/ 15% reserve						875