Downtown Parking Management Plan
ACKNOWLEDGEMENTS

DOWNTOWN PARKING TASK FORCE

Jennifer Anderson
Michael Bisch
Cliff Contreras, ex-officio (UC Davis TAPS)
Robb Davis
Sara Granda
Amanda Kimball, Vice-Chair
Alzada Knickerbocker
Matt Kowta, Chair
Rosalie Paine
Steve Tracy
Johannes Troost
Lynne Yackzan

CITY STAFF

Brian Abbanat, Transportation Planner
Brian Mickelson, Assistant City Engineer (Transportation Manager)
Mike Webb, Director, Community Development & Sustainability Department
Bob Clarke, Director, Public Works Department
Melody Eldridge, Transportation Planning Intern
Jimmy Fong, Active Transportation Specialist
Michele Sharitz, Police Services Specialist
Roxanne Namazi, Senior Civil Engineer

CITY COUNCIL SUBCOMMITTEE TO DOWNTOWN PARKING TASK FORCE

Brett Lee
Lucas Frerichs

SPECIAL THANKS TO

Deb Niemeier, Ph.D., P.E., University of California, Davis
Tracy Heidersbach, University of California, Davis
Naor Deleanu, University of California, Davis
# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>2</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>19</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>21</td>
</tr>
<tr>
<td>DOWNTOWN PARKING SUPPLY</td>
<td>42</td>
</tr>
<tr>
<td>PARKING OCCUPANCY RATES</td>
<td>45</td>
</tr>
<tr>
<td>PARKING PERMITS AND ENFORCEMENT</td>
<td>62</td>
</tr>
<tr>
<td>FRAMEWORK FOR RECOMMENDATIONS</td>
<td>65</td>
</tr>
<tr>
<td>RECOMMENDATIONS</td>
<td>69</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>80</td>
</tr>
<tr>
<td>Case Studies</td>
<td>81</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

Constrained space, high parking demand, and limited parking supply are perfect ingredients for a downtown parking problem. In fact, the downtown parking problem has been one of Davis’ most persistent challenges, dating back decades to the first study conducted in the late 1950s. Over time, various parking management and supply measures were used to improve parking conditions, with varying degrees of success. However, recognizing downtown parking problems continue and over 15 years have passed since the last comprehensive downtown parking management plan was completed, in October 2012 the Davis City Council appointed a Downtown Parking Task Force to develop a parking management plan to provide more effective, enduring improvements to downtown parking. In October 2013, the Task Force completed a 10-month process of studying downtown parking, reviewing national research and best practices, and refining recommendations.

No fewer than eight downtown parking studies have occurred since 1958. While Davis has grown from approximately 7,700 residents to over 65,000, the downtown footprint has remained relatively unchanged. That the downtown has managed to accommodate a nearly ten-fold increase in population during this time period is a testament to community values prioritizing the downtown as a commercial center and resourcefulness in investing in the infrastructure necessary to ensure convenient access by all modes of transportation. For automobiles, this includes several surface parking lots and two parking garages. However, the downtown’s emergence as an arts, entertainment, and food destination over the past ten years has resulted in a growing community sentiment that downtown parking conditions are deteriorating and a comprehensive approach to addressing the problem is needed.

How Does Parking Fit Into Downtown’s Success?

Generally speaking, people tend to shop at the most convenient locations with the most goods and services needed. Over the past 100 years, the downtown’s role in fulfilling a community’s entire shopping needs has evolved. Suburban strip malls, enclosed malls, “big box”-anchored shopping centers, and online retailing have emerged as compelling alternatives for buying everyday goods. As shopping has evolved, so has understanding of its effect on traditional downtowns. Fortunately Davis’ downtown has succeeded despite increased competition from alternative shopping options. While many downtowns were decimated by the proliferation of suburban shopping options, downtown Davis continues to thrive due to supportive community values and policies.

Executive Summary

More importantly, downtown itself has adapted to serve a niche better aligned with its competitive strengths (food, arts, entertainment, and office). A downtown parking problem is a good one to have, considering the circumstances of many downtowns.

Parking is one of many variables influencing the downtown success equation. What downtown Davis offers missing in other commercial settings is a memorable shopping experience. Downtowns provide shopping variety, gathering places for social interaction, and sensory stimulation (architecture, streetscape amenities, ambience), all contributing to a difficult-to-define “sense of place”; critical factors that compel visitors and customers to visit because the experience is unique. Downtown just feels “right”. Whether the ultimate destination is a coffee shop, boutique shop, national or independent retail chain, specialized restaurant, park, museum, music performance, conference, community event, or any combination thereof, the downtown Davis experience cannot be replicated in a suburban shopping setting. While a legitimate question can be raised whether downtown currently has an ideal balance of uses; this topic is best left for separate consideration. Regardless, downtown’s existing strengths are the foundation upon which continued prosperity can be built, and for which changes in parking management and supply can support.

Research in parking psychology reveals that downtowns face real, but surmountable, challenges in attracting new customers. These challenges are a by-product of several generations of auto-centric transportation policy – including parking - resulting in a misunderstanding of the complementary role automobiles play in a downtown setting. Downtowns feel “right” because they are first and foremost walking environments. Yet, because generations of consumers (both local and external) are accustomed to the suburban shopping experience, downtown Davis appears inconvenient, if not chaotic, for driving and, subsequently, parking. Thus, viewing parking through the lens of customers’ actual parking expectations is useful. This should not imply downtown can accommodate the entirety of suburban shoppers’ parking expectations, because downtowns are configured differently and constrained by space. However, insight can be gleaned in the interest of finding solutions that can offer equivalent or superior value as a substitute for the parking variable in the downtown success equation. That is, understanding behaviors and beliefs about common parking expectations can help inform potential parking management and supply revisions.

What Do People Expect From Parking?

Post World War II suburbanization in America has resulted in nearly three generations of drivers conditioned to suburban parking convenience. However, traditional downtowns were not originally designed to store the volumes of automobiles that accompany ubiquitous motoring. Despite this, it is still important to understand drivers’
Executive Summary

parking expectations so that downtown parking recommendations can attempt to accommodate as many as possible and if not, return equal or greater value by other means. Research offers insight into parking psychology: ²

- Visitors expect parking to be free.
- People want to park as close to their destination as possible.
- Drivers like to see their destination from their parked cars.
- People prefer angled to parallel parking.
- People covet surface parking.
- People are unwilling to search very hard for available spaces.
- Even when parking spaces are plentiful, drivers tend to believe there is a shortage.
- Employees and business owners tend to take prime on-street parking spaces.

What Do Davis Residents Think About Downtown Parking?

Within the past year, the City of Davis and Davis Downtown (the organization representing downtown businesses) have independently conducted surveys of Downtown parking perceptions. While neither is scientifically based, each offers insight into the parking expectations of those working and shopping in downtown Davis. The below bullets summarize the responses for improving downtown parking.

- 42% believed that the downtown parking supply should be increased.
- 37% believed that conditions could be improved through better parking management.
- 33% believed that downtown parking needs are adequately met.
- 83% of respondents live in Davis. Respondents were evenly split between living less than or greater than two miles from downtown.
- 72% of respondents stated they visit Downtown daily or multiple times during the week.
- Approximately 60% stay downtown between 1-2 hours; 33% stay for longer than 2 hours.
- Approximately one-third of respondents believe there is an adequate supply of parking. Two-thirds believe parking is inadequate.
- 69% of respondents stated that parking conditions impact their ability to enjoy their visit Downtown.

Executive Summary

- Despite these negative feelings about downtown parking, 99% of people stated they would visit Downtown in the future.

A common theme uniting respondents is most are dissatisfied with the current downtown parking state and believe something should be done. The Downtown Parking Master Plan strives to provide clarity regarding prioritization of this limited resource.

Downtown Parking Supply

Downtown Davis, defined in this project by the area roughly bounded by First Street, B Street Fifth Street, and the railroad tracks, has approximately 2,100 publicly available spaces consisting of on-street block face parking, surface lots, and parking garages. The majority of these spaces are restricted to two-hours or 90-min / X permit (on the western and northern periphery), the latter of which encourages downtown employees to park on the periphery, ensuring parking is available for customers in the downtown core. Longer term parking is available in the E Street Plaza parking lot and parking garages.

Downtown Parking Occupancy Rates

Various metrics can assess downtown parking performance, including parking space turnover rates, average parking duration, circling time, and parking occupancy rates. Parking occupancy rates are the most useful metric as the primary indicator of available parking for downtown customers. This data can be collected accurately and with modest resources.

Parking researchers and practitioners have long known parking operates most efficiently when occupancy rates range between 80% and 90%. That is, when eight or nine out of ten spaces are occupied by cars. When occupancy rates consistently measure below 80%, parking availability is not considered a problem. When occupancy rates consistently exceed 90%, parking management / supply adjustments are needed.
Executive Summary

Several symptoms result when parking occupancy rates exceed 90% in a downtown setting:³

- Vehicles circling to find a parking space can represent 80% to more than 95% of all vehicle traffic in the downtown.
- Parking space search time increases from 1 minute to up to 10 minutes.
- Traffic delays increase.
- Vehicle pollution increases.
- Greenhouse gas emissions increase.
- Accidents increase.
- Conflicts in the travel lane and at crosswalks increase, degrading the bicycle and pedestrian environment.

To understand performance of the Downtown Davis parking supply, occupancy rate data were collected over four days in October 2012, during a “typical” week when UC Davis was in session.

Overall, parking occupancy rates in Davis mirror that in many downtowns: Parking is readily available on weekday mornings, but becomes constrained during the lunch “peak”. Following the lunch “peak”, parking availability improves, though not to the same extent as before. Evening data collection was limited to the 6:30 p.m. – 7:30 p.m. time frame. With the exception of Mondays, the data indicate increasing occupancy rates up to this time. Personal observations from survey respondents and DPTF members support the conclusion that parking occupancy rates continue to increase beyond 7:30 p.m., especially Friday and Saturday nights.

The data shows the average occupancy rate for all publicly available parking spaces across all days and times for which data was collected is 63%. The table and graph below summarize downtown parking conditions.

Downtown Parking Utilization Averages (M, W, F, Sa)

<table>
<thead>
<tr>
<th>Day</th>
<th>9-10 a.m.</th>
<th>12-1 p.m.</th>
<th>3-4 p.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>48%</td>
<td>67%</td>
<td>59%</td>
<td>51%</td>
<td>56%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>53%</td>
<td>63%</td>
<td>59%</td>
<td>68%</td>
<td>61%</td>
</tr>
<tr>
<td>Friday</td>
<td>50%</td>
<td>85%</td>
<td>64%</td>
<td>75%</td>
<td>69%</td>
</tr>
<tr>
<td>Saturday</td>
<td>43%</td>
<td>85%</td>
<td>62%</td>
<td>68%</td>
<td>64%</td>
</tr>
<tr>
<td>Weekday Average (M, W, F)</td>
<td>50%</td>
<td>72%</td>
<td>61%</td>
<td>65%</td>
<td>62%</td>
</tr>
<tr>
<td>Total Average</td>
<td>48%</td>
<td>75%</td>
<td>61%</td>
<td>66%</td>
<td>63%</td>
</tr>
</tbody>
</table>

Occupancy rates for the entire downtown assist in understanding broad parking supply/demand relationships. However, “hot spots” - high demand locations where visitors expect available parking within their willingness to walk – are disguised. Inadequate parking supply where most desired can affect visitors’ overall impression of the downtown parking supply and subsequently, potentially affect return visits. Analyzing downtown parking conditions at the downtown quadrant level yields additional insight. The following figures show parking availability (or absence thereof) at both the block face, lot/garage, and quadrant levels.
Executive Summary

Weekday Utilization: 9 a.m. - 10 a.m. (M, W, F)
Executive Summary

Weekday Utilization: 12 p.m. - 1 p.m. (M, W, F)
Executive Summary

Weekday Utilization: 3 p.m. - 4 p.m. (M, W, F)
Executive Summary

Weekday Utilization: 6:30 p.m. - 7:30 p.m (M, W, F)
Executive Summary

Generally speaking, the most coveted on-street parking can be very difficult to find on most days beginning with the lunch time peak and extending through the evening during the week. On-street parking and off-street parking lots and garages are underutilized. On Saturdays (not displayed), the northwest quadrant reaches capacity in the morning (due to Farmer’s Market), the entire downtown reaches capacity during the lunch peak, and the southeast quadrant reaches capacity at the evening peak. Still, these generalizations disguise context-specific factors reflecting symptoms of the larger parking problem.

Context-Specific Factors

Several context-specific factors affect parking supply and perceptions thereof and warrant additional analysis for understanding recommendations proposed by the Downtown Parking Task Force.

Employee Parking. Parking literature and past studies conducted in Davis confirm downtown employees occupy prime downtown parking spaces. While it is not known what percentage of the downtown parking supply is occupied by commuters throughout the day, the desire to influence employee parking behavior dates back to the 1961 Core Area Plan. If employees can be shifted from prime on-street parking spaces into the underutilized parking supply, the downtown carrying capacity can increase, stimulating economic growth.

The downtown currently has approximately 650 spaces available for downtown commuters between the 90-min / X-permit and D - permit zones, the latter restricted to the First and F parking structure. Both commuter permits are considered “hunting licenses” and downtown employees are not guaranteed an available space. Parking utilization varies considerably between the two permit zones.

X-permit employee parking is underutilized, even during peak hours. However, D-permit employee parking can often be difficult to find, in part due to its location in the employee-dense southeast quadrant.
Executive Summary

Amtrak Parking Lot. The Davis train station is the second busiest along the 168-mile Capitol Corridor service. Parking is currently free for the 106 spaces in the lot for Amtrak riders. Three side effects of managing the lot in this manner are:

1. The lot fills to capacity early in the morning.
2. Out-of-town riders drive to the Davis station for their train departure.
3. Parking is unavailable other riders or users for most of the day.

Fourth and G Garage. The Fourth & G garage was built in 1998, accompanying the larger Fifth & G redevelopment project. Of the 425 spaces, 199 are publicly available, with the remainder reserved for tenants during normal business hours. Because of its location and inadequate wayfinding signage, the publicly available spaces are not fully utilized. Occupancy rates range from 10% to 59%.

Big Picture Goals and Desired Outcomes

Four “Big Picture” goals were established by the DPTF to provide broad direction toward a better downtown parking environment:

Goal #1: Improve customer / visitor parking convenience and experience.
Goal #2: Provide adequate parking options for downtown employees.
Goal #3: Ensure adequate parking supply to serve the needs of existing and future development.
Goal #4: Promote alternative access to downtown to reduce parking demand.

Downtown parking Goals were expanded into nine tangible Desired Outcomes, reflecting a more detailed framework for establishing recommendations in fulfillment of the Goals. Though some overlap between Desired Outcomes and Goals occurs, the following common themes emerged from the DPTF process:

Outcome #1: Provide convenient parking for downtown visitors.
Outcome #2: Maximize existing off-street parking resources.
Outcome #3: Provide reasonably convenient employee parking.
Outcome #4: Promote and incentivize downtown parking opportunities and alternative transportation options.
Outcome #5: Effectively enforce parking restrictions and revise parking violation policies.
Outcome #6: Improve pedestrian & bicycling experience downtown.
Executive Summary

Outcome #7: Effectively use emerging technologies.
Outcome #8: Incorporate parking needs associated with future development.
Outcome #9: Support increased downtown economic activity.

Recommendations

Downtown Davis finds itself in similar circumstances experienced by other communities where parking efficiencies have been effectively maximized with existing parking management techniques and parking supply. A coordinated set of management and supply changes are needed to ensure substantive improvement in downtown parking conditions.

The proposed recommendations will significantly change how parking is managed in the downtown. These are based on a deliberate process driven by data, literature review, public input, case studies, and task force members’ acquired understanding of parking principles and best management practices. The Task Force balanced the many interests of downtown users and stakeholders, carefully considering input from the Davis business community. Citizens gave input at meetings, and the Task Force reviewed results of surveys that collected information from local residents relating to downtown parking. The 11 voting Task Force members (and ex-officio member) represented diverse viewpoints, including those of retailers, service providers and office tenants, residents of downtown and adjacent neighborhoods, and property owners, as well as bicycling advocates and concerned Davis residents. All members shop downtown and treasure its success and vitality. The Task Force recommendations follow, accompanied by an illustrative map on page 17:

Recommendation #1: Establish paid parking in Southeast Quadrant.

Recommendation #2: Increase employee parking location options.

Recommendation #3: Increase employee permit fees and streamline employee parking to single “X” permit.

Recommendation #4: Convert Amtrak Lot to paid parking.

Recommendation #5: Restrict delivery vehicle double-parking between 12:00 p.m. – 1:30 p.m. for the area bounded by Second Street, Fourth

4 Refer to the Main Report for further elaboration of Task Force recommendations.
Executive Summary

Street, D Street and G Street (data could be used to refine limitations over time).

Recommendation #6: Eliminate on-street green waste in downtown for the area bounded by First Street, Fifth Street, B Street, and the railroad tracks.

Recommendation #7: Shift parking enforcement hours to 10:00 a.m. – 8:00 p.m., Monday – Saturday.

Recommendation #8: Establish tiered-fine citation system.

Recommendation #9: Upgrade parking enforcement technology.

Recommendation #10: Invest in electronic information systems.

Recommendation #11: Develop transportation and parking alternatives campaign.

Recommendation #12: Collect quarterly parking occupancy and turnover data.

Recommendation #13: Explore voluntary private shared-parking district.

Recommendation #14: Provide van-accessible parking upon street resurfacing.

Recommendation #15: Streetscape Improvements.

Recommendation #16: Expand Parking Supply.

Recommendation #17: Provide administrative resources necessary for successful implementation of the Downtown Parking Management Plan.

Recommendation #18: Improve transit options into downtown.

Recommendation #19: Re-examine parking in-lieu parking fee policies and procedures.
Executive Summary

Implementation

Importantly, the recommendations presented in this report should be considered an integrated package, intended for coordinated implementation. Many recommendations have cause-and-effect and push/pull relationships that, if separated from the package, may result in less than optimal results. Additionally, adequate time must be allowed for implementation to occur and for the community and visitors to adjust to the changes. For successful implementation, the City will need to consider organizational changes to the parking management program. Administration changes could include staffing levels, enforcement routes, internal information systems, data security, citation issuance, coin management protocols, and roles and responsibilities. Changes to parking management could include a comprehensive parking management system that integrates citations, permits, meters, and sensors. While the package of recommendations is within the City’s ability to implement, additional human resources will be required to execute, monitor, and maintain. As a result, growing pains may occur as Davis modernizes its approach to parking management, specifically if adequate resources are not allocated.

Conclusion

In October 2013, the Task Force completed an extensive process of studying parking conditions in Downtown Davis, reviewing research and case studies from across the country, and developing and refining a comprehensive set of recommendations for parking improvements in Downtown Davis. The Task Force voted unanimously (with one member absent) to forward the package of recommendations to the City Council.

Not all downtown parking spaces are created equal. Some parking spaces are much better suited to provide easy access for patrons who wish to make relatively quick stops in downtown, and for whom convenience is a key consideration in whether they visit downtown or some other nearby location. Other spaces are more appropriate for business owners or employees, who need a place to park their car and leave it for the entire day, for whom the cost of long-term parking may be a key consideration, rather than convenience. Between these two types of users are others with varying parking needs. The Task Force recommendations, one of which includes expanding paid parking, will create the potential to improve on our current system, by better aligning the different user groups with the characteristics of the parking spaces that they use.

Task Force recommendations will help to ensure convenient spaces are easily accessible for shoppers with short-term parking needs, in the area where the greatest concentration of retail and service businesses who depend on this type of parking access exists. Second, Task Force recommendations will help to direct those for whom cost of parking is a priority to areas that are located more on the periphery of Downtown, where frequent turnover of parking spaces is less critical. A recommendation to improve alternative transportation options for Downtown aims to
**Executive Summary**

help ensure that parking will be available for those who prefer to drive, or for whom driving is the only practical means of reaching downtown.

There are benefits to offering free parking at times when demand for parking space is low. The popular free 20-minute parking spaces found on most blocks will remain. In addition, there will be free parking designated at all times no more than about two blocks from any Downtown destination. Also, the recommendation to modify enforcement hours to free parking until 10:00 a.m., will be a win-win situation. By promoting the availability of free parking during extended morning hours when plentiful parking exists, Downtown can give something back to cost-sensitive shoppers. Implementation of Task Force recommendations will make the parking system easier to understand improve parking space availability; returning in value both convenience and time savings. Lastly, although parking meters in the southeast quadrant of downtown will encourage most drivers to leave their cars for shorter periods of time, the proposal to increase the parking time limit from two hours to four hours in this area will allow those who feel the current time limits are too short to enjoy a relaxed, extended visit to downtown without needing to move their cars.

Even if the most efficient use of the available Downtown parking supply is made, increased demand for parking due to new development in Downtown and elsewhere in the City and UC Davis will create the need for an expansion of the Downtown parking inventory over time. While the Task Force recommended further study of the exact timing and best strategy to address this need, any project substantially increasing the parking supply will require multiple years of planning. Thus, the City should undertake this process as soon as possible in order to be prepared to act when appropriate. Additionally, gathering the funds necessary to undertake such a project will most likely take considerable time; thus, it is important to define the project and its costs, and the appropriate strategy to fund it as soon as possible.

In closing, the Downtown Parking Task Force recommendations can provide a blueprint for City actions that will help to improve the vitality of Downtown Davis, making it a better place for shoppers and other visitors, business owners and employees, residents, and property owners. The Task Force submits the Downtown Parking Management Plan confident that the recommendations herein will achieve the desired results.

**For more background information, parking-related data, and elaboration of recommendations, readers are encouraged to reference the Main Report.**
Draft Downtown Parking Management Plan
INTRODUCTION

“For ten years Davis merchants have talked about their parking problem...”

-Davis Chamber of Commerce, 1958

An Historical Perspective

The phenomena of parking and traffic congestion in urban environments are common in many cities and, interestingly, date back several millennia. Conditions in ancient Rome during the Julius Caesar era were so troublesome that private vehicles were forbidden on city streets from dawn until two hours before dusk; carriages were required instead to be hitched outside the city gates. Fast-forward to the early 20th century, the economic boom of the 1920s combined with assembly line manufacturing made automobiles accessible to the masses; Americans quickly embraced the newfound freedom automobiles offered. While traffic congestion and parking were well known in the densest American cities, small and medium-sized cities largely avoided these because personal mobility was effectively served by electric streetcars, prior to the emergence of automobiles.

World War II was an inflection point in American urban form. Prior to the war, cities were organized around a transportation system based on walking or the streetcar. That is, a grid pattern with short block faces. In what we now often call “downtown” settings this arrangement maximized available street frontage while minimizing distances between origins and destinations, an important factor given transportation options at the time. Residents commonly lived either above merchant shops or in residential areas just outside the commercial core. The first “suburbs” - no more than a mile or two from the

http://www.sciencenews.org/view/generic/id/334681/description/Ancient_Rome_forbade_downtown_traffic_in_day
Introduction

core – were served by privately owned and operated streetcars, made economically viable by peripheral development.

But the automobile changed everything. Automobile ownership grew rapidly after debuting in the late 19th century, and while several decades passed before the critical mass of cars began affecting other transportation modes, by the 1930s streetcar lines were shutting down, supplanted by automobiles as the preferred mode of personal transportation. Yet street network layouts in most cities never anticipated automobiles on the scale eventually known. Thus, the relationship between ubiquitous automobile ownership, traffic congestion, and parking problems became apparent early and continue to modern times.

Why parking problems have existed for so long and why enduring parking solutions in urban environments have been elusive is a mystery. Also a mystery is why Oklahoma City was the first to use technology as a parking management tool as parking circumstances in Oklahoma City were no different than any other city: on-street parking was unrestricted. Like other cities, merchants recognized cars were parked on the street all day without turning over. Customers, unable to find parking spaces, drove by without visiting the stores. Downtown businesses themselves were unintentional culprits, occupying parking spaces at the expense of potential customers. Yet innovation often comes from unexpected places. The local newspaper sponsored a contest to invent a device that would allocate time for users. In 1932 the first mechanical parking meter, the Park-O-Meter, was invented and installed on the streets of Oklahoma City in 1935. Over time, parking regulations emerged in cities such as time restrictions, permit parking, parking garages, and off-street parking requirements. Despite these tools many downtowns, including Davis, struggle to accommodate the desire for large amounts of parking where visitors want them. In the interests of parking, many communities have sacrificed their downtowns’ sense of place – street frontage continuity, density, charm, human activity - that initially made downtown an interesting place to do business, generating the need for parking.

Post-World War II suburbanization has exacerbated challenges facing downtowns today. Auto-oriented suburban shopping opportunities have conditioned nearly three generations of Americans to expect a level of parking availability and convenience which downtowns were not designed to accommodate.
BACKGROUND

Downtown Davis Parking Studies
Urban form, transportation, and parking patterns in Davis follow a similar path to others in America. The downtown and first residential neighborhoods employed the standard grid street pattern of pre-World War II in America. While the war delayed the quickly gathering momentum toward an automobile-based society, immediately thereafter land use and transportation preferences and policies as well as transportation funding itself shifted heavily in favor of automobile travel. Davis weathered this trend better than others by growing in an orderly, compact manner while embracing bicycling. And while Davis has the highest bicycling rate in the country and high transit ridership, the effect of widespread, predominantly low density, single family home development patterns has resulted in the majority of transportation trips occurring by automobile. Considering the original design of downtown Davis did not anticipate a community of 80,000 residents and their cars, (plus visitors), even early in the City’s history complaints about downtown parking was only a matter of time, formally emerging in the 1940s and 1950s.

The more things change, the more they remain the same. Through the 1940s, parking in downtown Davis was unrestricted. In the late 1940s/early 1950s the City implemented two-hour parking restrictions when merchants, like those in Oklahoma City, complained of cars parked on the street all day. However due to resource constraints, the Police Department was unable to enforce the time limits and shortly thereafter, downtown reverted to unrestricted parking. It is at this point where the long and storied history of Davis’ attempts to solve downtown parking problems begins.

1957 Parking Study
In 1957, the population was just over 7,700 people and downtown parking remained a problem. The Chamber of Commerce asked the California State Automobile Association to conduct a parking survey of downtown Davis. As observed in the 1940s, the study concluded that parking spaces were unavailable for customers due to all-day parkers, many of whom were merchants, their employees, or office employees. The survey also found that most shoppers parked for approximately one hour and thus one-hour time restrictions were recommended to increase parking space turnover while meeting the needs of most shoppers.

The Chamber followed up with a survey of its membership to assess the level of support for various parking regulations. True to Davis tradition, support ranged widely for options including metered parking, one-hour time limits, two-hour time limits, and time restriction combinations. Also suggested was a voluntary plan urging that “all persons,
be they businessman, banker, general or professional personnel, government employee, or commuter pledge themselves immediately to cease parking their autos on the streets in the downtown business area while at their particular employment during the hours of 8:00 a.m. and 6:00 p.m.”

Two conclusions can be deduced from the historical record: First, no major changes to on-street parking regulations were adopted. Second, the voluntary pledge (if carried out) was ineffective as the first record of downtown parking policy change is found in 1964 when two-hour time restrictions were established. Also during this era, Special Assessment Districts were established to construct and maintain public parking lots along E, F, and G Streets. Revisions/expansions to the time limited areas occurred over time, including 90-minute zones.

1961 Core Area Report: Present Conditions / Future Prospects

A 1961 report by Livingston and Blayney analyzed downtown parking conditions in response to the Davis Core Area Plan which proposed improving 105 acres to ensure downtown remained the dominant retail business and office center of the Davis area. The study noted the challenges of providing off-street parking for the expected growth of UC Davis and the community, stating that while ample free parking was available downtown nearly all of the time, more than half the spaces were typically occupied by employees’ vehicles. The primary parking recommendations resulting from the study were to smooth traffic flow and provide easy parking for cars and bicycles:

“New stores downtown must have easy access and convenient parking. Customers are used to parking practically in front of the store they wish to visit. New investment will come only with the assurance of adequate parking. Provision of individual parking facilities by each store is inefficient, unsightly, and expensive. Therefore, cooperative group action...is essential. Convenient bicycle parking will be necessary for stores catering to the campus trade.”
Background

1982 Core Area Improvement Plan: Traffic and Parking Study Committee

By 1982 the Davis population had grown to approximately 32,000. The Traffic and Parking Study Committee report for the 1982 Core Area Improvement Plan attempted to resolve many of the conflicts inherent with an active, growing downtown constrained by space. Many traffic circulation and parking-related problems Davis struggles with today were true then, including:

- Lack of parking.
- Traffic congestion.
- Lack of adequate pedestrian space and amenities.
- Transit access.
- Employee parking.
- Pedestrian circulation and linking existing Core open spaces.
- Bicycle circulation and parking.
- Lack of information and orientation in the downtown area.

The report provided 20 recommendations, a subset of which included:

- Increased diagonal parking.
- Addressing employee parking abuse via graduated parking fines, increased enforcement, and maps and information of long-term parking options.
- Development of peripheral “park and walk” locations.
- Increased pedestrian amenities.
- New bike lanes and bicycle parking.
- Increased transit accessibility to the core.

1982 City of Davis Traffic Study

A downtown traffic study completed in 1982 supplemented the work of the Traffic and Parking Committee, focusing exclusively on traffic and parking. The traffic study indicated that average daily occupancy ranged from less than 25% to 85% and less than 25% to 100% during the peak hour. Overall on-street parking occupancy rate was over 61% and public off-street parking was 73%. Average parking duration ranged between 1.0 and 1.5 hours. Like today, the traffic study identified locations of parking deficiencies. Recommended locations for parking structures included:

- First and F Street.
Background

- Block bounded by Second, Third, E, and F Streets (whole block and existing lot options).
- Block bounded by Third, Fourth, E, and F Streets (whole block and existing lot options).

1987 Parking Study

By 1987 the Davis population exceeded 50,000 people and downtown grew to over 800,000 square feet of commercial space. The problem of downtown parking persisted and a study was initiated in part due to Police Department surveys that 37% of core area parking spaces were occupied by downtown businesses and employees. The purpose of the study was to identify 400-500 parking spaces that could be implemented within a 4-5 year timeframe. The study concluded 500-700 parking spaces could be created without generating a parking structure, largely via restriping or converting streets to diagonal parking and distributing new off-street parking supply across several small lots via property acquisition. While many of the prospective off-street parking locations did not materialize, locations for new major development and larger parking expansion options were proposed (e.g. Fourth & G, First and F structures), and ultimately, constructed.

1996 Parking Study

As time passed and UC Davis, the community, and the downtown continued to grow, so too did opinions promoting additional downtown parking, resulting in the 1996 Wilbur Smith comprehensive parking study. The study concluded parking occupancy levels were high enough to justify additional capacity, with peak (12:00 p.m. – 1:00 p.m.) occupancy rates of 90% for public off-street, 84% for public on-street, and 63% private off-street. Consistent with the 1957 study, average on-street parking duration in the center of downtown was just over one hour, with an average of 90 minutes near the First & F structure and 3/4/E/F lot. Parking durations in the structure itself were estimated at five hours, likely downtown employees and longer term visitors.
Background

By 2010, an estimated 1,000 spaces were needed should expected downtown growth occur. The greatest existing deficiencies were found in the southeast quadrant of downtown while shortages were predicted for the northeast quadrant due to expected redevelopment, which ultimately occurred. Suggested locations for parking expansion included the Fifth & G redevelopment project, the Multimodal Center at the train depot, and satellite parking on Olive Drive.

The period between 1987 and 2007 was characterized by considerable community growth. UC Davis grew from 19,000 students to approximately 30,000. The Davis population grew from 50,000 to 66,000. Downtown also grew through both private and public redevelopment projects increasing in total square footage from 800,000 to 1.1 million. Over this time and informed by parking studies, Davis responded with several parking improvement projects. The First and F parking structure was built in 1989 with a combination of redevelopment funds and a special assessment district. The Boy Scout lot was improved and made available for parking in 1995, and the Central Park expansion converted angled and parallel parking on C Street to perpendicular parking. The Fifth & G redevelopment project added 425 spaces to the downtown parking supply. Directional signs were installed. The Multimodal Center was improved resulting in nearly 200 total spaces. Overall, the downtown parking supply increased from over 1,700 public parking spaces to over 2,500 public spaces between 1996 and 2012. Much was accomplished. Yet, the more things changed, the more they remained the same.

2007 Parking Occupancy Rates and 2009 Council Presentation

Like death and taxes, dissatisfaction with downtown parking is a near certainty. By 2007, ten years passed and it was an appropriate time to assess downtown parking conditions, recent changes to the parking supply, evolution of parking management/enforcement approaches, and upcoming changes to parking. Predictably, high occupancy rates were measured during the lunch and evening peaks in the commercial core (roughly bounded by First Street, Third Street, E Street, and the railroad tracks). The significant change
Background

proposed was the City’s first metered parking at the E Street Plaza parking lot, which was later installed. Another change immediately preceding the 2009 City Council update was prohibiting re-parking on the same block face after two hours.

2012 Downtown Parking Task Force

The nationwide economic collapse in 2007 closed the window on community growth, but the downtown continued to evolve. An emerging trend was the downtown’s transition from a full service retail/office district into a food/arts/entertainment/office district. The conversion of over 51,000 square feet of merchandise storefronts into restaurants is suspected of intensifying parking peaks due to higher customer and employee densities. Recognizing this as well as the City’s absence of a master plan to address existing parking problems and future parking needs, the City Council appointed a Downtown Parking Task Force (DPTF) in Fall 2012 to identify issues and solutions for downtown parking. This report summarizes the process, data, and recommendations resulting from the DPTF’s efforts.

Community Growth and Downtown Parking

Davis has changed significantly since parking downtown was first recognized as a problem over 60 years ago. Since 1950, population has grown from just over 7,700 residents to over 65,000 in 2013; nearing 80,000 including adjacent unincorporated neighborhoods and UC Davis campus residents. UC Davis itself has grown from less than 2,200 students in Fall of 1956 to over 33,000 students in Fall of 2012.

Downtown has grown as well. Retail square footage has increased from 73,000 square feet to over 404,000 square feet between 1961 and 2013. Commercial acreage has grown from 20 acres citywide (most located in the downtown area) to 166 acres in 2013. Yet the downtown street layout has not changed substantially since the City’s first zoning map was produced in 1925. Thus, while the intensity of uses downtown has increased, the total curbside available for parking vehicles has not changed significantly since then. It is astounding that downtown managed to meet parking needs considering a nearly eightfold increase in community growth. This has been accomplished through parking regulations, strategic expansion of the parking supply, as well as embracing alternative transportation options. Looking toward the future, growth should be anticipated rather than reacted to, and leveraged to benefit the downtown. While Davis is a largely built out, “mature” community, short-, medium-, and long-term factors may influence overall growth and ultimately, parking conditions in the downtown.
Background

Short Term
Historically as UC Davis has grown, so too has the Davis community. As the largest campus in the UC system and one of few with land available to grow, UC Davis has grown over 12 percent from approximately 36,400 students and staff on campus in 2002 to almost 40,900 in 2012. The recently completed “2020 Initiative” establishes a goal to increase undergraduate enrollment by 5,000 and increase faculty and staff by 300 by year 2020; a 13% increase. Finally, buildout of the University’s West Village development will result in an additional 500 people by project completion.

The surrounding community may grow as well. A development application for the property at 1111 E. Covell Blvd is in process that would rezone approximately 100 acres of vacant land from Industrial use to a primarily residential mixed-use neighborhood. Approximately 550 residential units and 170,000 square feet of commercial space are proposed, with an estimated increase of over 1,400 people and 850 jobs, respectively.

Between expected UC Davis growth and potentially the Cannery development project coming online within 5-7 years, population and jobs may grow by approximately 6,900 and 1,100, respectively. Downtown parking needs, even in the short term, should be viewed with this in mind.

Medium Term
Citywide voter approval is required to permit development beyond the current City boundary. As a result, short term growth is likely limited to the aforementioned initiatives. However, a potential growth factor in the medium term is the development of an “Innovation Park”.

The Business Park Land Strategy completed in 2010 concluded that Davis was quickly exhausting land available to support continued economic development, particularly in knowledge-based industries. An Innovation Park Task Force (IPTF) was established by the City Council in October 2010 to explore peripheral sites for future business park development to accommodate medium-scale businesses. The October 2012 report concluded that the existing internal land supply is inadequate to meet the emerging market needs for an innovation center. The IPTF identified a handful of potential sites adjacent to the existing city boundary appropriate for a new business park.

_________________________

7 Per correspondence with UC Davis staff: 6/10/2013.
Background

Development potential of the sites ranged from 453,000 square feet to 2.1 million with an estimated 1,700 to 8,200 additional jobs, depending on the site.\(^9\)

**Long Term**

Long term, growth could occur through intensifying development on existing parcels or through annexation of land on the City’s periphery (subject to voter approval). Measures J and R have proven a significant barrier to peripheral residential development with two unsuccessful attempts. Therefore, long term population growth is likely limited, occurring via incremental peripheral expansion, if any, and infill development.

**Downtown Growth**

Downtown Davis is an active, dynamic place functioning as the cultural and commercial heart of the community. Comprised of wide ranging businesses, arts and entertainment venues, public spaces, and residential neighborhoods, the Downtown’s economic health is a community priority as reflected in local land use and economic development policies. Promotion of Downtown’s role in Davis’ future economy has advanced recently as an expanded employment center, particularly for office-related, knowledge-based industries, which would be accompanied by, naturally, parking implications.

It is reasonable to assume Downtown redevelopment will occur, increasing the supply of office and retail space. The City’s Business Park Land Strategy analyzed the role of Downtown in a future economy context, concluding that over the long term Downtown core area sites will likely redevelop, providing more office and commercial space and increased employment, drawn by the greater amenities, transit opportunities and proximity to UC Davis. The Innovation Park Task Force Report followed, recommending the City Council pursue a Downtown Research & University Innovation District in the near term (i.e. Downtown plus the Nishi property) as the best close/in location due to the proximity to University and property owner and University interest, and should be pursued as the City’s top innovation center priority.

**Summary**

Communities are dynamic environments and growth in Davis has historically been influenced by UC Davis growth and other secondary factors. Several short-term factors including the UC Davis 2020 initiative, build-out of the West Village development, and

Background

the potential Cannery project may converge to strain the downtown parking supply. The establishment of a Downtown Research & University Innovation District will intensify the concentration of downtown visitors. Collectively, these can increase demand for downtown parking, which can be leveraged to community advantage or a missed opportunity, exacerbating existing downtown parking conditions. The Downtown Parking Management Plan charts a course to support continued prosperity in the downtown.

Relationship to Other Plans

Several existing documents offer policy guidance and background context in interpreting parking-related data, establishing priorities, and informing recommendations from the DPTF. These range from short term City Council goals to long-range planning and policy documents. Because downtown parking policies are adequately addressed in existing policy documents, the Downtown Parking Management Plan does not propose new formal policies for adoption into the Core Area Specific Plan or the General Plan, but rather focuses on tangible actions to improve parking conditions and prepare for the future.

2010 – 2012 City Council Goals

City Council goals are approved biennially during a summer immediately following an election a retreat to establish the highest priority projects. City Council priorities directly related to downtown parking for which the DPTF process supports include:

Economic Development: Action

- ED 7. Consider development of a multi-modal transit center and parking facility on Olive Drive or at Depot. *No consensus by Council at retreat on wording of this existing action item.

Downtown Davis: Guiding Principles

- Advance the redevelopment of the downtown to provide mixed use residential, retail and service, along with significant addition to parking.

Downtown Davis: Action

- DD3. Explore reconfiguration of parking and streets, maximizing utilization and convenience for customers.

General Plan

The 2001 General Plan guided community growth to 2010. While the planning horizon of the General Plan has expired, updates to specific elements are in process, including the Mobility Element. Until the updated Mobility Element (to be retitled Transportation Element) is adopted, existing policies related to parking apply:
Background

Parking: Goal
- MOB 2. Balance the needs to provide adequate parking in residential and commercial developments with the desire to limit automobile travel.

Parking: Policy
- MOB 2.1. Use parking as a transportation system management technique.

Core Area Specific Plan
Adopted in 1996, the Core Area Specific Plan (CASP) provides a comprehensive set of policies, guidelines and implementation strategies for promoting, guiding and regulating growth in the Core Area. Throughout the process, the DPTF was mindful of CASP policies, particularly those relating parking, including:

Policy: Avoid creating public parking structures as long as viable alternatives exist.
Policy: Future large-scale parking structures shall be located at the periphery of the Downtown Core (Retail Stores) area and designed, whenever possible, to provide retail frontage along sidewalks.
Policy: Increase the availability of on-street parking spaces for short-term visitors to the Core Area.
Policy: Improve signage for existing off-street parking spaces.
Policy: Surface parking spaces removed to provide a public plaza shall be replaced at or near the plaza site.
Policy: Use parking fines to restrict long-term use of on-street parking in the Core Area.
Policy: In-lieu fees for parking shall be set at a level that reflects the true cost of providing substitute underground or structure parking. In-lieu fees should be spent within ten years of collection.
Policy: Fully utilize curbside parking potential in the Core Area.

Core Area Strategy Report and Five-Year Action Plan
Completed in early 2000, the Core Area Strategy Report consolidated the community’s vision for the development, enhancement and preservation of the Downtown Core Area into a single reader-friendly document accessible to citizens, city staff, merchants, other business owners, property owners, and prospective downtown developers. The Parking subsection of the Transportation, Circulation, and Parking section reiterated existing downtown parking policies including:
Background

- Locating large-scale parking structures on the periphery of the downtown Core Area with retail frontage along sidewalks.
- Excluding additional large parking areas unless they are related to a specific development project and there is no viable alternative for new parking.
- Develop a comprehensive parking plan/program that equitably accommodates long-term parking needs for the expanding downtown.

The following necessary actions were identified, some of which have been accomplished:

- Long-term parking. Increase the marketing and number of long term parking spaces for employees, mid-week shoppers, diners, movie-goers and daily visitors to downtown.
- Saturday enforcement: Analyze effectiveness of Saturday enforcement in freeing up parking for customers.
- Additional 20-minute parking on-street in the Downtown.
- Education. Educate employers and employees about appropriate long-term parking locations for Downtown employees.
- Employee parking. Analyze employee parking as a whole and identify new sites to designate for employee parking. Determine the feasibility of making both levels of the parking structure located at First and F streets free long-term parking directed at downtown employees.
- Regal Station Site. Consider permanently paving the former Regal Station site and designate the parking for commuter and employee parking.

Davis Downtown and Traditional Residential Neighborhoods Design Guidelines
In response to rapid growth, in 2001 downtown design guidelines were approved to ensure the character of mature neighborhoods with distinctive, traditional building stock are retained while also accommodating additional development. The design guidelines recognized the relationship between parking availability and overall downtown economic health and envisioned additional parking facilities located at the City’s surface lot bounded by Third, Fourth, E, and F Streets; the City’s vacant lot at the north west corner of Richards and Olive Drive; and the City’s vacant lot on Olive Drive, immediately east of the Richards Blvd tunnel.

Redevelopment Area Implementation Plan (2008 – 2013)
The City’s Redevelopment Agency (RDA) dissolved in October 2011 pursuant to AB 26. However, the RDA five-year development plan identified several parking-related projects:

Third Downtown Parking Structure (3/4/E/F) (CIP 8176). The purpose of this project
Background

was to provide additional parking downtown to support existing business, provide capacity for new development to occur, and consolidate existing surface parking into a parking structure.

Parking Study-Core Area and surrounding neighborhoods (CIP8137). Analyze parking needs in the core area and surrounding neighborhoods to assess the effect of various options for providing parking for the different community needs.

Richards Blvd Parking Study/Multi Modal Center Access (Depot) (CIP 8144). In collaboration with the Capital Corridor, initiate alternatives and feasibility analysis for improved parking and access to the Multi-Modal Center. Assess how much additional parking is needed to serve transit users in the vicinity of the Depot and identify locations to provide additional parking. Local match required for FTA funds

1st and F Structure Rehabilitation (CIP 8199& 9170). Improve garage safety and visibility. Replace elevator, modify overhang awnings and concrete pads to meet ADA standards.

Parking Psychology

Parking downtown has been a recognized problem for decades, but what specifically is meant by a parking “problem” and how does a community address said problem? Downtown parking dynamics are complex, but fundamentally based on human behavior. And parking behavior is a function of supply and demand. A given parking supply interfaces with demand through economic (value of time, convenience, and budget) and psychological (trip decision-making, parking convenience expectations) variables determined by individual drivers. The internalization of these variables results in unique parking behavior patterns for downtown visitors and employees. Thus, an understanding of parking psychology helps frame the parking problem to assess which parking management / supply options are best suited to solve the problem. That is, what motivates a customer to visit the downtown and what parking expectations accompany their arrival? Fortunately, parking psychology and behavior have been studied extensively, with research offering insight for advancing effective parking measures.
Background

Relationship to Downtown Davis

Generally speaking, people tend to shop at the most convenient locations with the most goods and services needed. Over the past 100 years, the downtown’s role in fulfilling a community’s entire shopping needs has evolved. Suburban strip malls, enclosed malls, “big box”-anchored shopping centers, and online retailing have emerged as compelling alternatives for buying everyday goods. As shopping has evolved, so has understanding of its effect on traditional downtowns. Fortunately Davis’ downtown has succeeded despite competition from alternative shopping options. While many downtowns were decimated by the proliferation of suburban shopping options, downtown Davis continues to thrive due to supportive community values and policies. More importantly, downtown itself has adapted to serve a niche better aligned with its competitive strengths (food, arts, entertainment, and office). A downtown parking problem is a good one to have, considering the circumstances of many downtowns.

Parking is one of many variables influencing the downtown success equation. What downtown Davis offers missing in other commercial settings is a memorable shopping experience. Downtowns provide shopping variety, gathering places for social interaction, and sensory stimulation (architecture, streetscape amenities, ambience), all contributing to a difficult-to-define “sense of place”; critical factors that compel visitors and customers to visit because the experience is unique. Downtown just feels “right”. Whether the ultimate destination is a coffee shop, boutique shop, national or independent retail chain, specialized restaurant, park, museum, music performance, conference, community event, or any combination thereof, the downtown Davis experience cannot be replicated in a suburban shopping setting. While a legitimate question can be raised whether downtown currently has an ideal balance of uses; this topic is best left for separate consideration. Regardless, downtown’s existing strengths are the foundation upon which continued prosperity can be built, and for which changes in parking management and supply can support.

Research in parking psychology reveals that downtowns face real, but surmountable, challenges in attracting new customers. These challenges are a by-product of several generations of auto-centric transportation policy – including parking - resulting in a misunderstanding of the complementary role automobiles play in a downtown setting. Downtowns feel “right” because they are first and foremost walking environments. Yet, because generations of consumers (both local and external) are accustomed to the suburban shopping experience, downtown Davis appears inconvenient, if not chaotic,

Background

for driving and, subsequently, parking. Thus, viewing parking through the lens of customers’ actual parking expectations is useful. This should not imply downtown can accommodate the entirety of suburban shoppers’ parking expectations, because downtowns are configured differently and constrained by space. However, insight can be gleaned in the interest of finding solutions that can offer equivalent or superior value as a substitute for the parking variable in the downtown success equation. That is, understanding behaviors and beliefs about common parking expectations can help inform potential parking management and supply revisions. The following set of behaviors and beliefs about common parking expectations help inform potential parking management and supply revisions.11

Visitors expect parking to be free. While free parking is a convenience for customers and a competitive advantage for suburban shopping options, parking is never really free. Upfront costs, maintenance, and operations are simply integrated into the cost of all purchases, whether one drives or not. But clearly, parking costs are not directly internalized by shoppers.

People want to park as close to their destination as possible. Searching for a prime parking space is a natural human behavior. In suburban settings, few direct externalities are imposed on others as shoppers circle the lot searching for a closer space. However, when occupancy rates in a downtown setting are high, circling degrades the downtown experience through increased traffic congestion, noise, and potential conflicts between bicycles and pedestrians.

Drivers like to see their destination from their parked cars. Suburban shopping centers, particularly “big box” centers, distort perceptions of walking distance versus downtowns due to building height and mass. Customers frequently walk farther than realized. Nonetheless, an element of comfort and safety exists for customers’ ability to see the destination from their car and vice versa. Perceptions of distance in a downtown are often exaggerated when customers cannot see their destination.

People prefer angled to parallel parking. Drivers have grown accustomed to angled and perpendicular parking and are comparatively inexperienced at parallel parking. Yet because of right-of-way constraints, and safety/circulation challenges for bicycles and pedestrians, opportunities for applying angled parking are limited in downtown settings.

Background

People covet surface parking. The suburban parking mindset is more comfortable with surface parking. Parking garages in downtowns can feel unfamiliar and unsafe. Furthermore, drivers are often unaware of the existence of parking garages.

People are unwilling to search very hard for available spaces. Suburban shopping settings have a significant advantage because the total available parking supply is within the driver’s view. In contrast, the downtown parking supply is distributed among block faces on different streets, off-street parking lots and garages, and around corners, leading to...

Even when parking spaces are plentiful, drivers tend to believe there is a shortage. Many potential customers refuse to come downtown because they assume parking is unavailable. Also expected is available parking at the storefront, a convenience not typically expected of suburban shopping centers, perhaps excepting smaller strip malls.

Employees and business owners tend to take prime on-street parking spaces. As evidenced in prior Davis studies, downtown employees occupy prime parking spaces, particularly in smaller communities. This further challenges the downtown parking supply in meeting customer parking expectations. Thus, even when parking is plentiful overall, the driver defines the parking “problem” as not being able to find a space within one’s willingness to walk, which itself is influenced by the preceding expectations.

Community Surveys of Downtown Davis Parking Conditions

Within the past year, the City of Davis and Davis Downtown (the organization representing downtown businesses) have independently conducted surveys of Downtown parking perceptions. While neither is scientifically based, each offers insight into the parking expectations of those working and shopping in downtown Davis.

2012 Transportation Needs Survey. As part of the General Plan Transportation Element Update, the City sponsored an open house and online survey to solicit feedback from residents regarding Davis’ transportation needs. Over 240 responses were submitted. One question asked what is most needed to improve downtown parking. Predictably, opinions were split. The below bullets summarize the responses for improving downtown parking.\(^{12}\)

- 42% believed that the downtown parking supply should be increased.
- 37% believed that conditions could be improved through better parking management.

\(^{12}\) Total exceeds 100% due to overlapping responses.
Background

- 33% believed that downtown parking needs are adequately met.

2013 Davis Downtown Parking Survey. In anticipation of the Downtown Parking Task Force process, in early 2013 Davis Downtown conducted a survey resulting in over 1,000 responses. Some of the key findings include:

- 83% of respondents live in Davis. Respondents were evenly split between living less than or greater than two miles from downtown.
- 72% of respondents stated they visit Downtown daily or multiple times during the week.
- Approximately 60% stay downtown between 1-2 hours; 33% stay for longer than 2 hours.
- Approximately one-third of respondents believe there is an adequate supply of parking. Two-thirds believe parking is inadequate.
- 69% of respondents stated that parking conditions impact their ability to enjoy their visit Downtown.
- Despite these negative feelings about downtown parking, 99% of people stated they would visit Downtown in the future.

A common theme uniting respondents is most are dissatisfied with the current downtown parking state and believe something should be done. Factoring existing dissatisfaction with increased parking demand from community growth and economic development aspirations, the timing is appropriate to consider a comprehensive set of changes in parking management, parking supply, and transportation demand management. As a general rule, competition for limited resources (in this case space and parking) usually requires tradeoffs, and parking is no exception. Some users will be better off than others. The Downtown Parking Master Plan strives to provide clarity regarding prioritization of this limited resource.

Capitalizing on Downtown Strengths

How does the downtown reconcile the comparatively inconvenient parking conditions while preserving the characteristics that make it a unique destination experience? Can downtowns meet suburban parking expectations? Downtowns can effectively address many of these issues through improved management of the existing parking supply. In other cases, downtowns should not attempt to compete on suburban terms because it would degrade the experience that draws customers to visit in the first place. This does not imply that parking expansion should be excluded from the menu. However, experts widely agree that leveraging parking management and public investment tools are more
Background

effective in augmenting downtown strengths to attract more visitors, than relying exclusively on increasing parking capacity.\(^{13}\)

**Embellish the downtown’s intrinsic pedestrian-friendly features, making the walk between parked car and destination a more enjoyable experience.** Whether one shops in a suburban or downtown setting, everyone is a pedestrian after parking the car. Successful downtowns capitalize on unique strengths by creating a public realm that is interesting, comfortable, and memorable such as wider sidewalks, street trees, benches, public art, human-scale lighting, planter boxes, outdoor dining, etc.

**Promote and publicize the location of available parking.** Wayfinding and electronic information systems can help overcome challenges associated with finding parking.

**Use pricing to serve downtown parking goals.** Current parking research recommends allowing the market to establish the value of downtown parking.\(^{14}\) This seemingly places downtown businesses at a competitive disadvantage to suburban settings. However, visitors value parking availability and the ability to stay longer more than they oppose paying for parking. Pricing is not a penalty for visiting downtown, but rather, real value is returned through certainty of parking space availability, reduced circling and anxiety, and longer parking durations (compared with free parking with time restrictions). A secondary effect is longer term parkers (e.g. employees), can be redistributed to lower cost options in underutilized areas, effectively increasing parking available for downtown visitors. Thus, when parking is priced only to ensure customers can find a space, by definition, pricing parking does not harm the downtown economy.

**Use shared parking.** The private parking supply in downtown settings is often underutilized on certain days and times. Tapping into this resource can increase the parking supply, leading to economic growth.

**Enhance the desirability of visiting the downtown.** The tension between parking supply and demand is essential to ensure downtown retains the characteristics which inspire people to visit. An oversupply of parking degrades the experience that makes it special; space that could otherwise be used for more economically productive uses. Surface parking, specifically, creates “dead zones” on the block face, deterring pedestrians from fully exploring downtown. While parking is an important variable in a downtown’s prosperity, the strengths upon which downtown is most competitive should be


Background

considered such as improving a sense of place, pedestrian-friendliness, high quality design, public art, visual interest, etc. There likely exists a “sweet spot” where Davis can continue to achieve multiple objectives relating to the downtown, including parking availability.

Charging lower rates at public structures located on the edge of downtown helps steer drivers especially long-term parkers, away from more expensive spots in the center. Downtown parking should be prioritized for customers. Parking policies should ensure that customers are not deterred from visiting downtown due to an absence of available prime parking spaces.

“The Only Thing We Have to Fear is Fear Itself…”

Parking psychology extends beyond customer expectations and to the community-at-large. The Downtown Parking Task Force discovered that understanding how the human psyche anticipates change in general was valuable to consider when deliberating prospective parking management and supply changes.

From an evolutionary standpoint, humans are conditioned to resist change. Yet ironically, fear of change is not an outcome of higher order thought processes, but rather a survival instinct based in the brain stem. Fear manifests itself in surprising ways as humans are hard-wired not to objectively study reality, but to anticipate and overcome danger, protect from pain, and solve problems. But even when physical danger is not imminent, fear clouds thinking. Psychologists have more appropriately coined this thought process the “Negativity Bias.” The Negativity Bias inherent in all retains negative information and experiences while discarding positive experiences. In a parking context, any negative experience such as receiving a traffic citation, the inconvenience of feeding a parking meter, or experiencing “ticket anxiety” for exceeding the time limit will be more memorable than pleasant experiences such as a parking enforcement officer forgiving a parking ticket, quickly finding a parking space because of metered parking, or the relief of evading a citation while violating the two-hour time restriction.

The Futile Pursuit of Happiness contrasts well with the Negativity Bias. Research shows that the human mind inadequately reconciles emotional thought-processes with deliberative thinking. Thus, the anticipation of something new or exciting to achieve happiness in reality is much milder and shorter in duration than anticipated; call it a

Background

“letdown” or “buyer’s remorse”. The reverse applies as well. Consistent with the Negativity Bias, disastrous outcomes anticipated from personal (or in the case of parking, public) decisions in reality has a minimal effect on overall happiness. The antidote to these hard-wired psychological biases is to train the mind to realistically forecast a decision’s effects while suppressing instinctive, emotional reactions, resulting in better personal and public decision-making. Life will march forward and a “new normal” will be established; a mindset much more convincing at the individual than collective level.

The combined effects of the Negativity Bias, the Futile Pursuit of Happiness, and personal experiences can influence perceptions of effects downtown parking system changes will cause. Rationally, all may agree that downtown parking is not all that important in the grand scheme of things. Yet, the topic of downtown parking continues to attract substantial emotion-driven discourse. The Downtown Parking Task Force embarked on their journey aspiring to account for micro-level parking psychology as well as macro-level system management.

Downtown Parking Task Force Process

The Downtown Parking Task Force (DPTF) was comprised of 11 members (plus one ex-officio). Appointed by the City Council in November 2012, the task force was charged to develop a comprehensive parking management plan for improving parking conditions in downtown. The DPTF functioned equivalent to a City commission, holding meetings in accordance with the Brown Act. The DPTF met a total of 10 times between December 2012 and October 2013.

Many downtown topics relate directly, overlap, or are influenced by downtown parking in some way. While the DPTF was given significant discretion regarding downtown parking topics to address, for purposes of productivity within a large group, several topics were eliminated from the DPTF process, including:

- Downtown Zoning
- Development application process
- Downtown economic development
- Downtown access and circulation
- Street design
- Neighborhood parking issues unrelated to downtown parking
- Traffic calming
- Transportation demand management
- Bicycling
- Alternative transportation
**Background**

Excluding downtown topics peripherally related to parking allowed the DPTF to focus on a wider range of topics within the two areas of greatest interest to City Council: parking management and supply. The below table summarizes DPTF meetings, key agenda topics discussed, and actions taken during the process.

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Key Agenda Topics</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meeting #1</strong> (12/13/2012)</td>
<td>• Review and Confirm Guidelines for DPTF</td>
<td>Confirmed Mission and Objectives</td>
</tr>
<tr>
<td></td>
<td>• Discussion of Parking Literature Review</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Appointment of Chair and Vice-chair</td>
<td>Appointment of Chair and Vice-chair</td>
</tr>
<tr>
<td><strong>Meeting #2</strong> (1/1/13)</td>
<td>• Review of Historical and Existing Parking Conditions</td>
<td>None</td>
</tr>
<tr>
<td><strong>Special Meeting</strong> (2/1/13)</td>
<td>• Downtown Walking Tour</td>
<td>None</td>
</tr>
<tr>
<td><strong>Meeting #3</strong> (2/6/13)</td>
<td>• Presentation from Professor Deb Niemeier, Ph.D., of Spring 2012 Civil Engineering Class Downtown Parking Project</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Review of Parking Surveys</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>o Downtown Davis Business Association (2012)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Transportation Needs Open House and Online Survey (2012)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Begin Defining the Downtown Parking Problem</td>
<td>None</td>
</tr>
<tr>
<td><strong>Meeting #4</strong> (3/6/13)</td>
<td>• Discuss Downtown Parking Goals</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Continued Discussion of Defining Downtown Parking “Problem”</td>
<td>None</td>
</tr>
<tr>
<td><strong>Meeting #5</strong> (4/3/13)</td>
<td>• Reviewed Lists of Desired Parking Outcomes, Identified Common Themes</td>
<td>Approval of Downtown Parking Goals</td>
</tr>
<tr>
<td><strong>Meeting #6</strong> (5/1/13)</td>
<td>• Reviewed and Discussed Parking Scenarios</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>o Scenario 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Scenario 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Changes Common to Both</td>
<td></td>
</tr>
<tr>
<td><strong>Meeting #7</strong> (6/5/13)</td>
<td>• Continued Discussion of Parking Scenarios</td>
<td>Recommended Alternative #1 (including Baseline Changes), subject to line-</td>
</tr>
</tbody>
</table>
### Background

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Key Agenda Topics</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o Scenario 3&lt;br&gt;o Baseline Changes (formerly Changes Common to Both)</td>
<td>by-line refinement, plus immediate expansion of Fist and F parking structure via a bridge to the Boy Scout Lot.</td>
</tr>
<tr>
<td><strong>Meeting #8</strong></td>
<td><strong>Begin Discussion and Refinement of Recommendations</strong></td>
<td><strong>Straw poll of Recommendations language.</strong>&lt;br&gt;<strong>Approved Recommendations #5-#7, #9-$12, #14, #17, #18-#19 added.</strong></td>
</tr>
<tr>
<td>(8/7/13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meeting #9</strong></td>
<td><strong>Continue Discussion and Refinement of Recommendations</strong></td>
<td>Approved recommendations #7-#8, #13, #16.</td>
</tr>
<tr>
<td>(9/4/13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meeting #10</strong></td>
<td><strong>Complete Discussion and Refinement of Recommendation</strong></td>
<td><strong>Approved Recommendations #1-#4, #15, #18-#19.</strong>&lt;br&gt;<strong>Approved all Recommendations as a package.</strong></td>
</tr>
<tr>
<td>(10/2/13)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DOWNTOWN PARKING SUPPLY

A thorough understanding of the downtown parking supply is needed prior to substantive discussion of downtown parking solutions. For the purposes of this plan, the study area boundary is consistent with the most recent comprehensive downtown parking study (1996): First Street to the South, B Street to the West, Fifth Street to the north, and the railroad tracks to the east. In some cases, exceptions are made. Figure 1, below, illustrates the boundaries described.

Figure 1: Downtown Parking Management Plan Boundary
Downtown Parking Supply

All downtown parking spaces fit into one of three categories: on-street public, off-street public, and off-street private. This plan did not formally inventory private off-street parking. However, information related to private parking supply can be found in the Parking Occupancy Rates section.

Within the boundaries shown in Figure 1, there are approximately 2,106 publicly available parking spaces on the street and in City lots and garages: 1,118 spaces on-street and 988 off-street. Table 2, below, shows parking space distribution by facility.

<table>
<thead>
<tr>
<th>Parking Type</th>
<th>Parking Sub-Type</th>
<th># of Spaces</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Street</td>
<td>Fourth &amp; G Garage</td>
<td>199</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Boy Scout lot</td>
<td>61</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>Davis Commons Lot</td>
<td>175</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>E Street Plaza Lot</td>
<td>56</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>First &amp; F Garage</td>
<td>182</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>3/4/E/F Lot</td>
<td>104</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>G Street North Lot</td>
<td>36</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>G Street South Lot</td>
<td>41</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>Amtrak Lot</td>
<td>134</td>
<td>6%</td>
</tr>
<tr>
<td>Off-Street Total</td>
<td></td>
<td>988</td>
<td>47%</td>
</tr>
<tr>
<td>On-Street</td>
<td></td>
<td>1,118</td>
<td>53%</td>
</tr>
<tr>
<td>Total Supply</td>
<td></td>
<td>2,106</td>
<td>100%</td>
</tr>
</tbody>
</table>

The City employs a combination of permits and time-restrictions to manage the public parking supply. The current system of designating parking spaces is a logical result of an incremental approach to accommodate the needs of as many users as possible, through maximization of existing parking resources. Table 3 and Figure 2, below, display parking inventory distribution.

<table>
<thead>
<tr>
<th>Space Type</th>
<th>Existing</th>
<th>% of Total</th>
<th>Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-min only</td>
<td>35</td>
<td>2%</td>
<td>H Street (between Second &amp; Third)</td>
</tr>
<tr>
<td>2-hr only</td>
<td>1,012</td>
<td>48%</td>
<td>Most of downtown (street &amp; lots)</td>
</tr>
<tr>
<td>3-hr / Daily</td>
<td>199</td>
<td>9%</td>
<td>Parking structures</td>
</tr>
<tr>
<td>Employee and/or shared (e.g. 90-min / X-permit)</td>
<td>670</td>
<td>32%</td>
<td>Downtown periphery, First &amp; F garage</td>
</tr>
<tr>
<td>Paid</td>
<td>56</td>
<td>3%</td>
<td>E Street Plaza lot</td>
</tr>
<tr>
<td>Amtrak only</td>
<td>134</td>
<td>6%</td>
<td>Amtrak lot</td>
</tr>
<tr>
<td>Total</td>
<td>2,106</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
Downtown Parking Supply

Figure 2: Map of Existing Parking Supply by Permit / Time Restriction Type
PARKING OCCUPANCY RATES

Various metrics help assess downtown parking performance, including parking space turnover rates, average parking duration, circling time, and parking occupancy rates. Parking turnover rates and duration are useful to deduce parking behaviors, but require significant field personnel to measure. Parking circling measurements help decision-makers understand the time required for visitors to find a space, but are based on a comparatively smaller sample and error-prone compared to other metrics. Parking occupancy rates are the most useful metric as they represent the primary indicator of available parking for downtown customers. This data can be collected accurately and with minimal personnel.

Parking researchers and practitioners have long known that parking supplies function most efficiently when occupancy rates range between 80% and 90%. That is, when eight or nine out of ten spaces are occupied by cars. When occupancy rates consistently measure below 80%, parking availability is not considered a problem. When occupancy rates consistently exceed 90%, parking management / supply adjustments are advised. Several symptoms result when parking occupancy rates exceed 90% in a downtown setting:\(^\text{17}\)

- Vehicles circling to find a parking space can represent 80% to more than 95% of all vehicle traffic in the downtown.
- Parking space search time increases from 1 minute to up to 10 minutes.
- Traffic delays increase.
- Vehicle pollution increases.
- Greenhouse gas emissions increase.
- Accidents increase.
- Conflicts in the travel lane and at crosswalks increase, degrading the bicycle and pedestrian environment.

In downtown Davis, over 1.1 million miles are driven annually in search of parking during peak periods, contributing unnecessary carbon dioxide emissions.\(^\text{18}\) Ensuring the downtown parking supply maintains an 85% occupancy rate benefits not only drivers seeking a space, but more importantly, allows downtown circulation to function more efficiently, safely, and sustainably.

Parking Occupancy Rates

To understand downtown conditions, occupancy rate data were collected over four days in October 2012, during a “typical” week when UC Davis was in session, as summarized by Table 4.

Table 4: Parking Occupancy Data Collection

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>10/15/2012</td>
<td>9 a.m. – 10 a.m.</td>
</tr>
<tr>
<td>Wednesday</td>
<td>10/17/2012</td>
<td>12 p.m. – 1 p.m.</td>
</tr>
<tr>
<td>Friday</td>
<td>10/19/2012</td>
<td>3 p.m. – 4 p.m.</td>
</tr>
<tr>
<td>Saturday</td>
<td>10/20/2012</td>
<td>6:30 p.m. – 7:30 p.m.</td>
</tr>
</tbody>
</table>

Opinions of downtown parking conditions are often generalized as “we need more parking” or “parking isn’t a problem”. Unfortunately, such blanket statements offer little insight into parking supply / demand relationships, help in defining the parking problem to be solved, or determine what specific steps should be taken to solve the problem. For example, downtown parking conditions are prone to subjectivity depending on personal experience and geographical and temporal assumptions. That is, the visitor may project the difficulty in finding parking on E Street between Second and Third Street on a Friday night onto the entire downtown across all days and times. Similarly, finding a parking space on C Street north of Third Street mid-day may also be perceived as plentiful parking for the entire downtown. Fortunately, parking occupancy rates eliminate subjectivity, facilitating objective assessment of parking availability (or deficiency), in both time and space.

The Downtown Parking Management Plan separates occupancy rates into three geographical types, each of which reveal insight into downtown parking conditions: District-wide, Quadrant, and Blockface. Location-specific factors also influence interpretation of results in the three geographies.

District-wide Results

Overall, parking occupancy rates in Davis mirror that in many downtowns: Parking is readily available on weekday mornings, but becomes constrained during the lunch “peak”. Following the lunch “peak”, parking availability improves, though not to the same extent as before. Evening data collection was limited to the 6:30 p.m. – 7:30 p.m. time frame. With the exception of Mondays, the data indicates increasing occupancy rates up to this time. Personal observations from survey respondents and DPTF
Parking Occupancy Rates

members support the conclusion that parking occupancy rates continue to increase beyond 7:30 p.m., especially Friday and Saturday nights.

The data shows the average occupancy rate for all publicly available parking spaces across all days and times for which data was collected is 63%. The table and graph below summarize downtown parking conditions.

Table 5: Total Downtown Parking Averages (M, W, F, Sa)

<table>
<thead>
<tr>
<th>Day</th>
<th>9-10 a.m.</th>
<th>12-1 p.m.</th>
<th>3-4 p.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>48%</td>
<td>67%</td>
<td>59%</td>
<td>51%</td>
<td>56%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>53%</td>
<td>63%</td>
<td>59%</td>
<td>68%</td>
<td>61%</td>
</tr>
<tr>
<td>Friday</td>
<td>50%</td>
<td>85%</td>
<td>64%</td>
<td>75%</td>
<td>69%</td>
</tr>
<tr>
<td>Saturday</td>
<td>43%</td>
<td>85%</td>
<td>62%</td>
<td>68%</td>
<td>64%</td>
</tr>
<tr>
<td>Weekday Average (M, W, F)</td>
<td>50%</td>
<td>72%</td>
<td>61%</td>
<td>65%</td>
<td>62%</td>
</tr>
<tr>
<td>Total Average</td>
<td>48%</td>
<td>75%</td>
<td>61%</td>
<td>66%</td>
<td>63%</td>
</tr>
</tbody>
</table>

Figure 3: Total Downtown Parking Averages (M, W, F, Sa)
Parking Occupancy Rates

Peak periods for comparable days and times collected in 2007, in contrast with 2012, are summarized in Table 6.

**Table 6: Occupancy Rates: 2007 vs. 2012**

<table>
<thead>
<tr>
<th>Peak</th>
<th>2007 Occupancy Rate</th>
<th>2012 Occupancy Rate</th>
<th>Change from 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday lunch</td>
<td>68%</td>
<td>67%</td>
<td>-1%</td>
</tr>
<tr>
<td>Monday evening</td>
<td>52%</td>
<td>51%</td>
<td>-1%</td>
</tr>
<tr>
<td>Wednesday lunch</td>
<td>74%</td>
<td>63%</td>
<td>-9%</td>
</tr>
<tr>
<td>Wednesday evening</td>
<td>78%</td>
<td>68%</td>
<td>-10%</td>
</tr>
<tr>
<td>Friday lunch</td>
<td>81%</td>
<td>85%</td>
<td>+4%</td>
</tr>
<tr>
<td>Friday evening</td>
<td>76%</td>
<td>75%</td>
<td>-1%</td>
</tr>
<tr>
<td>Saturday evening</td>
<td>58%</td>
<td>68%</td>
<td>+10%</td>
</tr>
</tbody>
</table>

Overall, parking occupancy rates during the peaks have decreased slightly. However, taken individually, the Friday lunch and Saturday evening peaks have increased.

District-wide parking occupancy rates assist in understanding parking supply /demand relationships over the larger downtown geography. However, “hot spots” - high demand locations where visitors expect available parking within their willingness to walk – are disguised. Inadequate supply where most desired can affect visitors’ overall impression of the downtown parking supply and subsequently, potentially affect return visits. Analyzing downtown parking conditions at the higher resolution quadrant level yields additional insight.

**Quadrant and Block Face Results**

Parking occupancy data begin to resemble survey feedback when looked at from the quadrant and block face level.
Parking Occupancy Rates

Figure 4: DPMP Quadrant Boundaries
Parking Occupancy Rates

*Weekday Occupancy Rates, 9 a.m. - 10 a.m. (M, W, F).*

On a typical weekday morning between 9:00 a.m. and 10:00 a.m., approximately 50% of parking spaces are occupied. Parking conditions are characterized by the Amtrak parking lot quickly filling as commuters to the Bay Area and Sacramento drive to the station to ride the train. Parking is unavailable for other riders most of the day. The Southwest Quadrant starts to fill, accommodating downtown employees with “X” permits (C Street). The most desirable “X”-permit parking in the Northwest Quadrant also begins to fill (D Street north of Third). The First and F Structure in the Southeast Quadrant begins to fill with “D”-permit holders. Parking is relatively plentiful elsewhere in the downtown (see Figure 5).

*Figure 5: Weekdays, 9 a.m. - 10 a.m. (M, W, F)*
Parking Occupancy Rates

*Weekday Occupancy Rates, 12 p.m. - 1 p.m. (M, W, F).*

The weekday lunch peak reveals the arrival of more downtown employees and visitors. Overall downtown parking occupancy rate is approximately 72% (Figure 6). The Southwest Quadrant reaches practical capacity resulting from employee parking, neighborhood residents, and customers in the area. In the Northwest quadrant, “X”-permit parking on D Street is at capacity, while excess capacity can be found on C Street. The Northeast quadrant has the most parking available both on-street and off-street, particularly the Fourth & G garage. The Southeast quadrant experiences location-specific capacity constraints: prime, on-street parking between E Street, F Street, Second Street, and Third Street are heavily impacted. The First and F structure and Amtrak lot have reached capacity. The lesser known parking supply on H Street remains underutilized. The E Street plaza paid lot generally functions as it should at this time with both adequate usage and available supply.

Figure 6: Weekdays, 12 p.m. - 1 p.m. (M, W, F)
Parking Occupancy Rates

*Weekday Occupancy Rates, 3 pm - 4 pm (M, W, F).*

Downtown exhales between the lunch and evening peaks and parking occupancy rates fall to a 61% average overall. The Northwest quadrant returns to early morning parking conditions while the parking supply in the Northeast quadrant remains underutilized for both on-street and off-street parking. Parking occupancies in the Southwest and Southeast quadrants remain higher than in the north, with the Southeast explained by high demand for prime on-street retail parking as well as high occupancy rates in the Amtrak plaza. See Figure 7 for more detail.

Figure 7: Weekdays, 3 p.m. - 4 p.m. (M, W, F)
Parking Occupancy Rates

**Weekday Occupancy Rates, 6:30 p.m. – 7:30 p.m. (M, W, F).**

Weekday evenings are a popular time for residents and visitors to visit downtown for food, art, and entertainment. The weekday occupancy rate ranges from 51% to 75% between Monday and Friday, with an overall average of approximately 65%. Prime on-street parking between First Street, Fourth Street, D Street and F Street is heavily impacted, including the E Street Plaza lot. However, nearly all off-street parking lots are either heavily underutilized or have excess capacity to accommodate more vehicles. See Figure 8 for details.

Figure 8: Weekdays 6:30 p.m. - 7:30 p.m (M, W, F)
Parking Occupancy Rates

Monday Occupancy Rates

Overall, Monday has the lowest demand for parking. Average occupancy rate is 56% throughout the day. The highest occupancy is 80% in the Southwest quadrant during the lunch peak. The lowest occupancy rate is in the Northeast quadrant between 9 a.m – 10 a.m. as indicated in Table 9 and Figure 10.

Figure 9: Monday Occupancy Rates

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>9-10 a.m.</th>
<th>12-1 p.m.</th>
<th>3-4 p.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>58%</td>
<td>72%</td>
<td>45%</td>
<td>40%</td>
<td>54%</td>
</tr>
<tr>
<td>Southwest</td>
<td>50%</td>
<td>80%</td>
<td>73%</td>
<td>70%</td>
<td>68%</td>
</tr>
<tr>
<td>Northeast</td>
<td>30%</td>
<td>54%</td>
<td>46%</td>
<td>37%</td>
<td>42%</td>
</tr>
<tr>
<td>Southeast</td>
<td>47%</td>
<td>65%</td>
<td>64%</td>
<td>62%</td>
<td>59%</td>
</tr>
<tr>
<td>Average</td>
<td>46%</td>
<td>68%</td>
<td>57%</td>
<td>52%</td>
<td>56%</td>
</tr>
</tbody>
</table>

Figure 10: Monday Occupancy Rates

9-10 a.m.  
12-1 p.m.  
3-4  
6:30-7:30 p.m.
Parking Occupancy Rates

**Wednesday Occupancy Rates**

Wednesday experiences location-specific block face parking shortages in the Northwest, Southwest, and Southeast during the lunch peak. During the evening peak, the Farmers’ Market creates substantial on-street parking shortages in both the Northwest and Southwest quadrants in addition to the standard on-street parking shortages in the Southeast quadrant. Off street parking lots and garages are largely underutilized throughout the day.

**Figure 11: Wednesday Occupancy Rates**

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>9-10 a.m.</th>
<th>12-1 p.m.</th>
<th>3-4 p.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>46%</td>
<td>69%</td>
<td>56%</td>
<td>94%</td>
<td>66%</td>
</tr>
<tr>
<td>Southwest</td>
<td>62%</td>
<td>83%</td>
<td>75%</td>
<td>85%</td>
<td>76%</td>
</tr>
<tr>
<td>Northeast</td>
<td>41%</td>
<td>54%</td>
<td>47%</td>
<td>48%</td>
<td>48%</td>
</tr>
<tr>
<td>Southeast</td>
<td>52%</td>
<td>65%</td>
<td>60%</td>
<td>67%</td>
<td>61%</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>50%</strong></td>
<td><strong>68%</strong></td>
<td><strong>60%</strong></td>
<td><strong>74%</strong></td>
<td><strong>63%</strong></td>
</tr>
</tbody>
</table>

**Figure 12: Wednesday Occupancy Rates**
Parking Occupancy Rates

Friday Occupancy Rates

The Friday lunch peak is one of downtown’s heaviest. Both on- and off-street parking have severe shortages in the Northwest, Southwest, and Southeast quadrants. Symptoms reoccur in the evening peak for the Southeast quadrant, while on-street parking shortages adjacent to the Southeast quadrant are present.

Figure 13: Friday Occupancy Rates

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>9-10 a.m.</th>
<th>12-1 a.m.</th>
<th>3-4 a.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>48%</td>
<td>83%</td>
<td>51%</td>
<td>60%</td>
<td>61%</td>
</tr>
<tr>
<td>Southwest</td>
<td>77%</td>
<td>97%</td>
<td>76%</td>
<td>76%</td>
<td>81%</td>
</tr>
<tr>
<td>Northeast</td>
<td>33%</td>
<td>74%</td>
<td>59%</td>
<td>63%</td>
<td>57%</td>
</tr>
<tr>
<td>Southeast</td>
<td>44%</td>
<td>88%</td>
<td>67%</td>
<td>89%</td>
<td>72%</td>
</tr>
<tr>
<td>Average</td>
<td>50%</td>
<td>85%</td>
<td>63%</td>
<td>72%</td>
<td>68%</td>
</tr>
</tbody>
</table>

Figure 14: Friday Occupancy Rates
Parking Occupancy Rates

**Saturday (all day).**

Saturday parking occupancy rates follow a similar profile to weekdays, but for different factors converge to keep parking occupancy rates relatively high despite not being a typical “work day”. First, the Farmer’s Market operates Saturdays from 8:00 a.m. to 1:00 p.m. Second, Saturdays are important shopping and social days for residents and visitors.

Table 7: Saturday Occupancy Rates

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>9-10 a.m.</th>
<th>12-1 p.m.</th>
<th>3-4 p.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>83%</td>
<td>92%</td>
<td>44%</td>
<td>62%</td>
<td>70%</td>
</tr>
<tr>
<td>Southwest</td>
<td>63%</td>
<td>92%</td>
<td>57%</td>
<td>51%</td>
<td>66%</td>
</tr>
<tr>
<td>Northeast</td>
<td>22%</td>
<td>66%</td>
<td>50%</td>
<td>58%</td>
<td>49%</td>
</tr>
<tr>
<td>Southeast</td>
<td>33%</td>
<td>93%</td>
<td>79%</td>
<td>87%</td>
<td>73%</td>
</tr>
<tr>
<td>Average</td>
<td>50%</td>
<td>86%</td>
<td>58%</td>
<td>64%</td>
<td>64%</td>
</tr>
</tbody>
</table>

Figure 15: Saturday Occupancy Rates
Parking Occupancy Rates

On balance, parking occupancy rates are fairly high. In the morning, the Northwest quadrant is impacted due to the Davis Farmer’s market. By the lunch peak, all surface parking has reached capacity in the Northwest, Southwest, and Southeast quadrants as the Farmer’s Market is still in operation and residents and visitors travel downtown for shopping and food. Some capacity remains in the southeast quadrant. The parking supply clears out by mid-afternoon, excepting the Southeast quadrant where nearly all block-faces have reached capacity. By the evening peak, the Southeast quadrant approaches capacity. Throughout the day, the Fourth & G garage is underutilized.

Context-Specific Factors

Several context-specific factors affect parking supply and perceptions thereof, warranting additional analysis for understanding recommendations proposed by the Downtown Parking Task Force.

Employee Parking.

Parking literature and past studies conducted in Davis confirm downtown employees occupy prime downtown parking spaces. While it is not known what percentage of the downtown parking supply is occupied by commuters throughout the day, the desire to influence employee parking behavior dates back to the 1961 Core Area Plan. If employees can be shifted from prime on-street parking spaces into the underutilized parking supply, the downtown carrying capacity can increase, stimulating economic growth.

The downtown currently has approximately 650 spaces available for downtown commuters between the 90-min / X-permit and D - permit zones, the latter restricted to the First and F parking structure. Both permits are considered “hunting licenses” and downtown employees are not guaranteed an available space. Parking utilization varies considerably between the two permit zones.

As illustrated in Figure 16, on average, X-permit employee parking is underutilized, even during peak hours. However, D-permit employee parking can often be difficult to find, in part due to its location in the employee-dense southeast quadrant (Table 9).
Parking Occupancy Rates

Figure 16: 90-min / X-permit Occupancy Rates

Table 8: First and F Structure Occupancy Rates

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>9-10 a.m.</th>
<th>12-1 p.m.</th>
<th>3-4 p.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>71%</td>
<td>93%</td>
<td>85%</td>
<td>26%</td>
<td>69%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>97%</td>
<td>97%</td>
<td>82%</td>
<td>31%</td>
<td>77%</td>
</tr>
<tr>
<td>Friday</td>
<td>65%</td>
<td>100%</td>
<td>82%</td>
<td>87%</td>
<td>84%</td>
</tr>
<tr>
<td>Saturday</td>
<td>20%</td>
<td>83%</td>
<td>80%</td>
<td>69%</td>
<td>63%</td>
</tr>
<tr>
<td>Weekday Average (M, W, F)</td>
<td>77%</td>
<td>97%</td>
<td>83%</td>
<td>48%</td>
<td>76%</td>
</tr>
<tr>
<td>Total Average</td>
<td>63%</td>
<td>93%</td>
<td>82%</td>
<td>53%</td>
<td>73%</td>
</tr>
</tbody>
</table>

Amtrak Parking Lot.
The Davis train station is the second busiest along the 168-mile Capitol Corridor service. Parking is currently free for the 106 spaces in the lot for Amtrak riders. Three side effects of this policy include:

1. The lot fills to capacity early in the morning.
2. Out-of-town riders drive to the Davis station for their train departure.
3. Parking is unavailable other riders or users for most of the day.

Figure 17, below, illustrates the parking occupancy profile of the Amtrak parking lot.
Amtrak parking lot occupancy rates remain consistent on weekdays as it primarily serves train riders commuting out-of-town. Parking does not become available until after 3:00 p.m. most days. Because Capitol Corridor ridership is lower on Saturdays, more parking is available in the lot.

Fourth and G Garage.
The Fourth & G garage was built in 1998, accompanying the larger Fifth & G redevelopment project. Of the 425 spaces, 199 are publicly available, with the remainder reserved for tenants during normal business hours. Because of its location and inadequate wayfinding signage, the publicly available spaces are not fully utilized. Occupancy rates range from 10% to 59% across the days and times for which data was collected.

E-Street Plaza Lot.
In 2007, the City began metering the E Street Plaza lot. Two multi-space meters – one each facing E Street and F Street, respectively - accept a variety of payment types for the 56 spaces in the lot. The fee for the lot is $1.00/hr from 8:00 a.m. to 6:00 p.m., with no parking duration limits.
Parking Occupancy Rates

Prior to paid parking, the E Street Plaza lot was among the highest demand parking locations downtown, with occupancy rates frequently at 100%. As the City’s first venture into paid parking, the parking lot performs as intended with 66% average utilization on weekdays and 77% on Saturdays, as indicated by Table 11. It should be noted that occupancy rates include the evening peak, beyond the required pay period.

Table 9: E Street Plaza Lot Occupancy Rates

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>9-10 a.m.</th>
<th>12-1 p.m.</th>
<th>3-4 p.m.</th>
<th>6:30-7:30 p.m.</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>32%</td>
<td>43%</td>
<td>100%</td>
<td>100%</td>
<td>69%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>30%</td>
<td>63%</td>
<td>43%</td>
<td>96%</td>
<td>58%</td>
</tr>
<tr>
<td>Friday</td>
<td>16%</td>
<td>100%</td>
<td>70%</td>
<td>100%</td>
<td>71%</td>
</tr>
<tr>
<td>Saturday</td>
<td>27%</td>
<td>100%</td>
<td>82%</td>
<td>100%</td>
<td>77%</td>
</tr>
<tr>
<td>Weekday Average</td>
<td>26%</td>
<td>68%</td>
<td>71%</td>
<td>99%</td>
<td>66%</td>
</tr>
<tr>
<td>Total Average</td>
<td>26%</td>
<td>76%</td>
<td>74%</td>
<td>99%</td>
<td>69%</td>
</tr>
</tbody>
</table>

UC Davis ECI 162 Downtown Parking Project (Prof. Deb Niemeier, Ph.D., PE)

Private parking supply inventory or occupancy rates were not collected as a component of this project, since the City has minimal regulatory control over this resource. However, Professor Deb Niemeier’s Spring 2012 Civil Engineering 162 class conducted a downtown parking study, which included useful metrics such as private parking supply / occupancy rates, parking duration, and parking turnover rates.

The study area for ECI 162 extended beyond the boundaries those for the Downtown Parking Management Plan (into the University / Rice Lane neighborhood to the west). However, within their geography, the study team counted over 900 private parking spaces.

Parking occupancy rate data was collected on one day for the lunch and evening peaks. The overall conclusion presented to the Downtown Parking Task Force at Meeting #4 was that district-wide (including private parking), the parking supply is currently acceptable, even at peak periods, with localized problems. Off-street parking –private, public, and garages – is underutilized. Circling time for most of the downtown averaged 1-2 minutes, with the Southeast quadrant higher, averaging 2-3 minutes. For most of downtown, parking turnover was considered excessively low in the evening (no data was collected during the lunch peak), with most of downtown spaces turning over less than once per hour.
PARKING PERMITS AND ENFORCEMENT

Management of the downtown Davis parking supply has evolved over time into a complicated system of several different time restrictions, re-parking restrictions, permitted parking locations, or combinations thereof as illustrated in Figure 2. Parking regulations often differ from one block to another and on opposing block faces. Other aspects of parking management include issuing permits, issuing citations for parking violations, and personnel and equipment for enforcing parking regulations.

Permits

Downtown businesses and their employees are the engine which makes the downtown run. Either by choice, necessity, or circumstance, large numbers of employees drive to work in the downtown. The City has encouraged employees to park on the periphery of downtown and in other designated locations where excess capacity is available. This improves parking availability for downtown customers.

The City issues two long-term parking permit types for which downtown employees are eligible: “X” permits and “D” permits, which are sold once a year in the Fall. Downtown employees may purchase a parking permit anytime during the year at a pro-rated amount. “X” and “D” permits can both be issued with a hanging placard and stickers are available for “X” permits as an alternative. “D”-permits are valid only in the First and F parking structure, with employee eligibility limited to those in the original Parking Benefit District established to fund the structure. “X”-permits are currently priced at $96/yr while “D”-permits are priced at $30/yr. Both are considered “hunting licenses” with no guarantee of parking availability.

X-permits are currently issued at a nearly 1:1 permit-to-supply ratio while more than twice as many D-permits are issued for the spaces available. The City receives frequent complaints from permit holders that parking is not available. This is supported by the volume of “D”-permits sales as well as occupancy rates in the First & F structure. Because a “D”-permit is only eligible in the structure, when no spaces are available employees often park on the street as their only recourse, occupying a potential customer space.
Parking Permits and Enforcement

Over the past several years, subscription of “X”-permits has declined while “D”-permit declined steadily, however, a small rise occurred for the most recent year. Figure 18 summarizes trends in employee parking permits for the past five years.

Figure 18: Commuter Permits Purchased (2008 - 2012)

![Graph showing trends in employee parking permits from 2008 to 2012.]

The decline of “X”- and “D”- permit sales coincides with the economic recession experienced during the same period. No explanation is posited for the increase in “D”-permit sales in the past year.

Enforcement

The City’s parking enforcement unit is a subsidiary of the Police Department, funded by General Fund revenue with a FY 2012/13 budget of just over $300,000. Supervised by a Police Services Specialist, the field staff includes, two full-time parking enforcement officers who patrol the entire city, including the downtown. The unit is also supported by one full-time parking enforcement staff.

Parking enforcement officers patrol the downtown between 8:00 a.m. and 6:00 p.m., using motorized scooters. In prior years, the scooters were equipped with license plate recognition technology capable of reading license plates and electronically determining parking violations. During this time, the City noticed a substantial drop in parking...
Parking Permits and Enforcement

citations due to its effectiveness. Figure 19 illustrates all citations citywide, though the vast majority are issued downtown. The second decline in 2012 reflects the loss of a parking enforcement officer.

**Figure 19: Parking Citations Issued (2004 - 2012)**

During the recession, the cost associated with a license plate recognition software upgrade resulted in parking officers returning to manually chalking tires to enforce parking violations.

Individual parking citations are $43 per violation with no escalation factor. However, if parking violators have four unpaid parking violations, on the fifth the vehicle receives “the boot”, a vehicle immobilizing device which is only released by the Police Department upon payment of parking citations.
FRAMEWORK FOR RECOMMENDATIONS

Prior to establishing parking management recommendations, the DPTF determined that the existing problem should be clearly defined to ensure revisions can be connected to defined problems. Additionally, the DPTF established “Big Picture” Goals as well as more tangible “Desired Outcomes” from parking management revisions to monitor their effectiveness over time. This was facilitated by front-loading the process with parking literature review, local parking policy, historical parking management and supply practices in Davis, parking psychology, as well as review of data including parking occupancy rates and surveys noted in previous sections of this report.

Defining Existing Parking Problem

Defining the existing parking problem was necessary for the DPTF to understand what potential revisions to parking management and supply would solve. Based on data analysis, review of surveys, and personal experience / observations, the DPTF determined the parking “problem” includes but is not limited to the following symptoms (some of which overlap):

- Lunch peak.
- Evening peak.
- Saturday morning.
- Saturday afternoon / evening.
- First & F garage (difficulty finding spaces).
- Train Depot parking lot (quickly fills, out of town train riders, parking unavailable for other users).
- Delivery vehicles (double-parking, noise, traffic congestion)
- Inadequate employee parking (distribution, total supply).
- Parking signage (inadequate wayfinding).
- Conversion of retail to restaurant uses (intensification of use augments parking peaks).
- Future downtown development (challenged by parking supply).
- Inadequate D-permit parking (see fifth bullet).
- Green waste deposited in parking spaces (reduces parking supply).
- Abuse of time-restricted parking spaces.
- Poor occupancy rates in the 4th and G Street garage.
Framework for Recommendations

Big Picture Goals
Four “Big Picture” goals were established by the DPTF to provide broad direction toward more tangible outcomes:

**Goal #1: Improve customer / visitor parking convenience and experience.**
The primary purpose of downtown is to support customers and visitors with goods and services they need. The parking experience is defined by the location of available parking and the time spent searching for a space. The DPTF believes improvement is needed in this area, particularly during peak hours.

**Goal #2: Provide adequate parking options for downtown employees.**
Downtown business owners and employees are the engine driving the downtown’s success. While prime downtown parking should be prioritized for customers and visitors, employee parking availability is important for employee attraction and retention. Improved employee parking distribution is needed.

**Goal #3: Ensure adequate parking supply to serve the needs of existing and future development.**
The community, including UC Davis will continue to evolve and grow. Economic development in the downtown will gravitate toward intensification of land uses attracting more employees, customers, and visitors, and thus, the need for additional parking. Outside downtown, buildout of the UC Davis West Village, UC Davis’ 2020 Initiative to increase student enrollment by 5,000 in year 2020, and the Cannery development (if approved), will impact the downtown parking supply. These converging factors compel our community to approach downtown parking supply needs from a long-term perspective.

**Goal #4: Promote alternative access to downtown to reduce parking demand.**
Parking can be addressed from not only via supply and management, but also by reducing demand. Reducing overall demand for parking downtown through promotion of alternatives to driving is an important component of a comprehensive parking management plan. Mode shifts can help maximize the existing parking supply while increasing overall economic activity.

Desired Outcomes
Downtown parking Goals were expanded into nine tangible Desired Outcomes, which provide a more detailed framework for establishing recommendations in fulfillment of the Goals. Though some overlap between Desired Outcomes and Goals occurs, the following common themes emerged from the DPTF process:
## Framework for Recommendations

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Description</th>
<th>Supports Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome #1: Provide convenient parking for downtown visitors.</strong></td>
<td>Downtown visitors create economic activity for the downtown and are the highest priority. Visitors should be able to quickly find a parking space near the desired destination for the needed length of time.</td>
<td>#1, #3</td>
</tr>
<tr>
<td><strong>Outcome #2: Maximize existing off-street parking resources.</strong></td>
<td>Parking occupancy rates reveal that even during the heaviest peak hours, parking is available in several off-street parking lots and garages, both private and public. Measures should be taken to better utilize these resources.</td>
<td>#1, #2, #3</td>
</tr>
<tr>
<td><strong>Outcome #3: Provide reasonably convenient employee parking.</strong></td>
<td>Employee parking is important to the economic health of downtown. Though prime parking should be prioritized for visitors, access to employee parking should be reasonably convenient and safe, especially for those who work in the evening.</td>
<td>#2, #3</td>
</tr>
<tr>
<td><strong>Outcome #4: Promote and incentivize downtown parking opportunities and alternative transportation options.</strong></td>
<td>Occupancy rates and survey data imply visitors don’t know where available parking can be found. Assertively promoting this information and motivating drivers to use this resource is an important outcome from this plan.</td>
<td>#1, #4</td>
</tr>
<tr>
<td><strong>Outcome #5: Effectively enforce parking restrictions and revise parking violation policies.</strong></td>
<td>Parking enforcement has been understaffed in recent years due to the City’s budget circumstances. However, the DPTF agrees that parking system changes will only be as effective as the resources dedicated to enforcement. The DPTF also agreed that parking violation policies should be revised to reflect a more customer-friendly environment and to reduce repeat offenders.</td>
<td>#1, #2, #3</td>
</tr>
<tr>
<td><strong>Outcome #6: Improve pedestrian &amp; bicycling experience downtown.</strong></td>
<td>Everyone is a pedestrian once the car is parked, visitors and employees included. The DPTF believes that streetscape upgrades (pedestrian-scale lighting, landscaping, public art, benches, etc.) to improve the walking experience are needed if higher utilization of excess parking</td>
<td>#1, #4</td>
</tr>
</tbody>
</table>
capacity on the periphery is expected. Analogous investments will be needed for bicycling.

**Outcome #7: Effectively use emerging technologies.**

Technology for managing parking has advanced even in the five years since the multi-space meters in the E Street Plaza were installed. License plate recognition technology has improved, parking citations can be automated, back-end software for running reports can be run, and occupancy rates can be collected. The DPTF agreed that an investment in state-of-the-art parking management technology will help improve organizational efficiencies while providing downtown visitors with access to parking availability information.

<table>
<thead>
<tr>
<th>Supports Goals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1, #3</td>
</tr>
</tbody>
</table>

**Outcome #8: Incorporate parking needs associated with future development.**

A City Council Guiding Principle for the downtown is to advance redevelopment of the downtown and a significant addition to parking. At the level of intensification presumed, it is unlikely downtown developers will be able to provide all required parking on site. The DPTF agrees that additional parking capacity will be necessary to catalyze redevelopment of the downtown, in coordination with more efficient management of the existing parking supply.

<table>
<thead>
<tr>
<th>Supports Goals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1, #2, #3</td>
</tr>
</tbody>
</table>

**Outcome #9: Support increased downtown economic activity.**

Parking is an important variable that supports downtown economic health. The DPTF agreed that revisions to parking should be oriented towards customer needs and the ability to support downtown economic growth.

<table>
<thead>
<tr>
<th>Supports Goal:</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
</tr>
</tbody>
</table>
RECOMMENDATIONS
While many communities attempt to revitalize their downtowns, Davis is fortunate to have a downtown parking “problem” as it reflects a thriving downtown environment. Storing cars requires space, and since most downtowns were not designed with ubiquitous automobiles in mind, they simply lack space to store the volume of cars in high demand locations without effective parking management programs to shift parking into underutilized areas. Downtown Davis finds itself in similar circumstances experienced by other communities where parking efficiencies have been effectively maximized with current parking management techniques and parking supply. Proposed recommendations will significantly change parking management in the downtown. Parking management recommendations and supply improvements are based on a deliberate process driven by data, literature review, public input, case studies, and task force members’ acquired understanding of parking principles and best management practices.

Recommendation #1: Establish paid parking in Southeast Quadrant. ¹⁹
Supports Outcomes: #1, #2, #6, & #9
Explanation: Paid parking in the Southeast Quadrant will ensure the most valuable parking spaces are available for the highest priority users: customers. The following assumptions regarding the Southeast Quadrant apply:

- Boundary: Roughly D Street to the west, First Street to the south, Third Street to the north, railroad tracks to the east.
- Meter rates should be set at the lowest price possible to prevent parking shortages (~85% average occupancy rate). Initial recommendation:
  - $1.00/hr peak (11:30 a.m. – 1:30 p.m., 5:00 p.m. – 8:00 p.m.).
  - $.50/hr off-peak (all other times).
  - Adjustments should be made as needed.
- Extend parking durations to 3 or 4 hours.

Other assumptions to on- / off-street parking include:

- Free parking:
  - 90-min on-street parking outside the Southeast Quadrant.
  - 2-hr on surface lots outside the Southeast Quadrant.

¹⁹ See Figure 20 for graphic of changes to on-/off-street parking restrictions.
Recommendations

- 3-hr in parking garages.
  - Daily parking as indicated in Figure 20.
  - Permit parking as indicated in Figure 20.

**Recommendation #2: Increase employee parking location options**

*Supports Outcomes: #2 & #3*

*Explanation:* With paid parking in the Southeast Quadrant, employees will need substitute locations to park. In addition to existing “X” permit parking areas, the following changes should occur to meet downtown employee parking needs:

- Expand “X” permit parking into Fourth & G garage, subject to negotiations with property owner.
- Develop the “Regal Lot” at the northwest corner of Richards Blvd & Olive Drive for “X” permit parking.
- Utilize Old North Davis for lower cost employee parking through a new “O” permit. Proceeds of this permit would accrue toward infrastructure and traffic calming improvements in the Old North Davis neighborhood.
- Consider Old East Davis as opportunity for additional “X” permit parking.
- Actively engage in discussions with UCD on possibility of downtown employees using Lots 5 and 10.
- Evaluate potential to operate evening shuttle for downtown employees parking in peripheral employee permit areas.

**Recommendation #3: Increase employee permit fees and streamline employee parking to single “X” permit.**

*Supports Outcomes: #1, #2, & #3*

*Explanation:* Davis employee parking permits are underpriced, typically costing 1/3 to 1/4 of case study communities. Increasing employee permit fees will assist with implementation of the Downtown Parking Management Plan while consolidating employee permits within the study area to only “X” permits will provide flexibility for employees to park in multiple locations.

---

20 See Figure 20 for employee parking locations.
Recommendations

- Increase “X” permit fees to between a minimum of $10/month ($120/yr) and a maximum of $30/month ($360/yr).
- Align “X” permit sales cycle with downtown business license renewals. Provide downtown commuter parking information with renewal notices.
- A new lower cost “O” permit for Old North Davis which downtown employees could purchase should be priced at $8/month.

Recommendation #4: Convert Amtrak Lot to paid parking.
Supports Outcome: #2

Explanation: The Davis station is the second busiest along the Capitol Corridor behind Sacramento, which charges $9.00/day for parking. Sacramento area train riders are known to drive to the Davis station where parking is free and ticket prices are lower. The lot is full by 7:00 a.m. Charging a daily fee at the Davis Amtrak lot commensurate with its importance on the Capitol Corridor line will reduce the number of out-of-town commuters and ensure parking is available for train riders throughout the day.

Recommendation #5: Restrict delivery vehicle double-parking between 12:00 p.m. – 1:30 p.m. for the area bounded by Second Street, Fourth Street, D Street and G Street (data could be used to refine limitations over time).
Supports Outcomes: #1, #5, #6, & #9

Explanation: Restricting double-parking during the lunch peak will facilitate efficient utilization and turnover of parking spaces while reducing noise and traffic congestion.

Recommendation #6: Eliminate on-street green waste in downtown for the area bounded by First Street, Fifth Street, B Street, and the railroad tracks.
Supports Outcome: #1

Explanation: Green waste left in the street for pickup occupies valuable downtown parking spaces. Containerized green waste bins should be required and an ordinance adopted prohibiting green waste on the street.

Recommendation #7: Shift parking enforcement hours to 10:00 a.m. – 8:00 p.m., Monday – Saturday.
Supports Outcomes: #1, #2, #5, #7, & #9

Explanation: Shifting enforcement to later in the morning better aligns enforcement resources with parking demand. Enforcement shift could also encourage earlier
Recommendations

deliveries. Extending enforcement to later in the evening will reduce the employee migration into the core, freeing spaces for customers.

**Recommendation #8: Establish tiered-fine citation system.**
*Supports Outcomes:* #1 & #5

*Explanation:* Escalating fines for repeat parking violations should reduce the number of repeat offenders who in some circumstances accept the current fines as a cost of doing business downtown. Parking turnover will increase, opening parking for other downtown visitors. Recommended parking citation fines within a fiscal year are:

- $43 for first citation (current fine)
- $86 for second citation
- $129 for third and subsequent citations

**Recommendation #9: Upgrade parking enforcement technology.**
*Supports Outcomes:* #1, #5, #7

*Explanation:* Improvements to parking enforcement technology including identification of violators, citation issuance, data collection, and back-end software support will improve operational efficiency and access to parking data.

**Recommendation #10: Invest in electronic information systems.**
*Supports Outcomes:* #1, #2, #3, #7, & #9

*Explanation:* Current parking meter and occupancy detection technology, combined with web / mobile applications provides end-users access to real-time parking information as well as parking occupancy rate data.

**Recommendation #11: Develop transportation and parking alternatives campaign.**
*Supports Outcomes:* #1, #4, #6, & #9

*Explanation:* Not only do Downtown visitors who arrive by means other than driving make parking available to others, they effectively increase the carrying capacity and economic health of the downtown. Shifting users to alternative transportation makes driving more convenient for those who travel downtown by car.

**Recommendation #12: Collect quarterly parking occupancy and turnover data.**
*Supports Outcomes:* #7, & #8

*Explanation:* Regular data collection facilitates analysis of the Parking Management Plan’s effects and provides a data-driven basis for future revisions.
Recommendation #13: Explore voluntary private shared-parking district.
Supports Outcomes: #1, #2, #9

Explanation: Allowing public access to the underutilized private off-street parking supply could increase parking capacity. A voluntary private shared-parking district should be explored to determine if market conditions permit and liability issues can be addressed. The potential benefit is dependent on property owner participation.

Recommendation #14: Provide van-accessible parking upon street resurfacing.
Supports Outcome: #1

Explanation: The Americans with Disabilities Acts requires on-street disabled parking when converting to marked spaces or implementing metered parking. This recommendation reinforces support for van-accessible parking, recognizing a potential loss of on-street parking may result.

Recommendation #15: Streetscape Improvements.
Supports Outcomes: #6 & #9

Explanation: The Downtown Parking Management Plan recognizes that if downtown employees are expected to walk greater distances from their destination, streetscape improvements – both safety and aesthetic – are needed. Such improvements could include wayfinding, landscaping, lighting, decreasing visual clutter, and removal of excessive objects in the sidewalk.

Recommendation #16: Expand Parking Supply.
Supports Outcomes: #1, #2, #3, #8, & #9

Explanation: Downtown parking peaks cause parking shortages in specific geographies, typically the southeast and southwest quadrants. The growth of UC Davis and the community-at-large will put additional pressure on the downtown parking supply. Construction of additional parking will help release this pressure, accommodate additional downtown redevelopment, help downtown host large events, and improve the downtown pedestrian experience (e.g. widening sidewalks). The Downtown Parking Management Plan recommends $150,000 for a feasibility study, design concept, and preliminary engineering of a site-specific parking structure. Locations may include but are not limited to:

- Boy Scout lot
- F Street parking lot (bounded by Third, Fourth, E, and F Streets)
- Amtrak lot
Recommendations

- A to-be-determined location between B, C, First, and Fourth Streets

**Recommendation #17: Provide administrative resources necessary for successful implementation of the Downtown Parking Management Plan.**

*Supports Outcomes: All*

*Explanation:* Due to their complexity and broad-reaching nature, successful implementation of recommendations will likely require resources beyond current staffing levels. The Downtown Parking Management Plan considers paid parking revenue an appropriate funding source for this purpose.

**Recommendation #18: Improve transit options into downtown.**

*Supports Outcomes: #4, & #9*

*Explanation:* Higher transit usage increases the downtown carrying capacity while improving driving conditions, increasing economic activity, and making downtown accessible to those who do not have the option to use a car. Specific measures to improve transit include:

- Improve marketing of all public transit options running into and through the downtown.
- Negotiate with Yolobus to bring the 42 buses into the core by extending service down F Street to 3rd Street, down 3rd to B, up B to 5th and back on its previous route.
- Consider ways to provide “late bird” service using Unitrans or DCT mini-buses to Mace Ranch, South Davis, West Davis and North Davis (4 unique routes) every 30 minutes from 8 PM to midnight on Thursday through Sunday each week.
- Review downtown routes and timing with Unitrans so that downtown coverage is not interrupted/changed with UC Davis breaks or during the summer.
- Encourage downtown merchants to offer small discounts, periodic specials (especially during events that draw large crowds) or less frequent opportunities to win large prizes for those who bike, walk or bus into downtown.

**Recommendation #19: Re-examine parking in-lieu parking fee policies and procedures.**

*Supports Outcomes: #8*

*Explanation:* The City’s current parking in-lieu fee program may exacerbate downtown parking problems, particularly during peaks. Also, the conditions triggering in-lieu fees and the fee amount should be re-examined including new development, conversion of uses, and outdoor dining.
Recommendations

Implementation
While the DPMP stops short of prescribing how, when, and in what sequence the recommendations should be implemented, importantly, they should be considered an integrated package, intended for coordinated implementation. Wide ranging stakeholder needs have been considered and many recommendations have cause-and-effect and push/pull relationships that, if separated from the package, may result in less than optimal results. Additionally, adequate time must be allowed for implementation to occur and for the community and visitors to adjust to the changes. Understandably, due to resource constraints it is unlikely all recommendations will be implemented immediately. A natural next step is for City staff to continue working with stakeholders and the City Council in developing a strategic approach to implementation.

The City will need to consider organizational changes to the parking management program. Administration changes could include staffing levels, enforcement routes, internal information systems, data security, issuance, coin management protocols, and roles and responsibilities. Changes to parking management could include a comprehensive parking management information system that integrates citations, permits, meters, and sensors. Additional human resources will be required to execute, monitor, calibrate, and maintain the parking system to perform as intended. As a result, growing pains may occur as Davis modernizes its approach to parking management, specifically if adequate resources are not allocated.

Conclusion
The Davis City Council charged the Downtown Parking Task Force with developing recommendations to improve parking conditions in Downtown Davis. Meeting monthly since December of 2012, the Task Force accepted the challenge to balance the interests of all of the downtown user groups and stakeholders, carefully considering input from Task Force representatives of the Davis Downtown Business Association (Davis Downtown), and the Davis Chamber of Commerce, who represent major constituencies for downtown parking, including many who experience the realities of downtown parking on a daily basis. Task Force deliberations were conducted as publicly-noticed meetings and received direct input from interested parties who have commented on the Task Force’s work. The Task Force also reviewed the results of different surveys that collected information relevant to downtown parking from local residents. Task Force members learned from the diverse perspectives of individual business owners and citizens who served on the Task Force.

In October 2013, the Task Force completed an extensive process of studying parking conditions in Downtown Davis, reviewing research and case studies from across the
country, and developing and refining a comprehensive set of recommendations for parking improvements in Downtown Davis. The Task Force voted unanimously (with one member absent) to forward the package of recommendations to the City Council. Task Force members indicated unanimous support for the specific details of 14 out of 19 total recommendations. Among the remaining 5 recommendations, all received majority support or better for specific details, and even stronger support for the general concept being recommended to the City Council; again, the package as a whole received unanimous support from the Task Force.

One of the Task Force’s greatest challenges was to gather sufficient information to understand all of the factors that influence Downtown parking behavior and to determine what changes should be made in order to achieve the desired results. The Task Force does not pretend to know all the factors driving current conditions related to downtown parking, and the results from the recommended changes cannot be entirely predicted. However, our community can move forward with the knowledge that the parking management system must be adaptive and, therefore, Task Force recommendations call for regular monitoring of downtown parking utilization, and modification of policies based on findings regarding their effects. What is known is the community is unsatisfied with the current situation. The current set of parking management practices employed in Downtown is limited in its effectiveness, and it is now time to make more substantive changes.

Resources to address downtown parking are limited. With the statewide elimination of Redevelopment agencies, public funding for parking infrastructure is more constrained than ever. The Task Force also understood that the economics of real estate development in Downtown Davis are such that if the City requires developers of new commercial projects in Downtown Davis to pay the full cost of constructing parking spaces to accommodate parking demand, this would be a serious deterrent to the types of new projects that many people hope to see in Downtown Davis, such as expanded retail and entertainment options, more offices, and mixed-use projects that can help Davis accommodate growth while limiting our loss of surrounding open space and farm land. It is most effective to spread the burden of downtown parking costs across a wide base, and this includes downtown property owners, businesses, employees, residents, and, shoppers.

Given the $30,000 to $50,000 per space costs for a new parking structure in Downtown Davis, it is wise to use the existing downtown parking supply as efficiently as possible. Requiring users to pay to occupy prime parking spaces in the southeast quadrant of Downtown will be an effective tool to reduce “wasteful” use of parking spaces by drivers for whom convenient access to retail and services is not their primary reason for parking in Downtown. It should be recognized that not all parking spaces are created equal.
Recommendations

While it was the Task Force’s most controversial recommendation, and the one that required the most deliberation, specific recommendations regarding implementation of paid parking in the southeast quadrant received majority support from the Task Force.

Some parking spaces are much better suited to provide easy access for patrons who wish to make relatively quick stops in downtown, and for whom convenience is a key consideration in whether they visit downtown or some other nearby location. Other spaces are more appropriate for business owners or employees, who need a place to park their car and leave it for the entire day, for whom the cost of long-term parking may be a key consideration, rather than convenience. Between these two types of users are others with varying parking needs. Expanding paid parking will create the potential to improve on our current system, by better aligning the different user groups with the characteristics of the parking spaces that they use. Task Force recommendations will help to ensure convenient spaces are easily accessible for shoppers with short-term parking needs, in the area where the greatest concentration of retail and service businesses who depend on this type of parking access exists.

Second, Task Force recommendations will help to direct those for whom cost of parking is a priority to areas that are located more on the periphery of Downtown, where frequent turnover of parking spaces is less critical. A recommendation to improve alternative transportation options for Downtown aims to help ensure that parking will be available for those who prefer to drive, or for whom driving is the only practical means of reaching downtown.

There are benefits to offering free parking at times when demand for parking space is low. The popular free 20-minute parking spaces found on most blocks will remain. In addition, there will be free parking designated at all times no more than about two blocks from any Downtown destination. Also, the recommendation to modify enforcement hours to allow free parking until 10:00 a.m., will be a win-win situation. By promoting the availability of free parking during extended morning hours when plentiful parking exists, Downtown can give something back to cost-sensitive shoppers, and also create an opportunity for businesses to expand the hours when there is shopper traffic to justify opening their doors. Additionally, implementation of Task Force recommendations will make parking rules easier to understand and help drivers find a suitable parking space; returning in value both convenience and time savings. Lastly, although parking meters in the southeast quadrant of downtown will encourage most drivers to leave their cars for shorter periods of time, the proposal to increase the parking time limit from two hours to four hours in this area will allow those who feel the current time limits are too short to enjoy a relaxed, extended visit to downtown without needing to move their cars.
Recommendations

Even if the most efficient use of the available Downtown parking supply is made, increased demand for parking due to new development in Downtown and elsewhere in the City and UC Davis will create the need for an expansion of the Downtown parking inventory over time. While the Task Force recommended further study of the exact timing and best strategy to address this need, any project substantially increasing the parking supply will require multiple years of planning. Thus, the City should undertake this process as soon as possible in order to be prepared to act when appropriate. Additionally, gathering the funds necessary to undertake such a project will most likely take considerable time; thus, it is important to define the project and its costs, and the appropriate strategy to fund it as soon as possible.

In closing, the Downtown Parking Task Force recommendations can provide a blueprint for City actions that will help to improve the vitality of Downtown Davis, making it a better place for shoppers and other visitors, business owners and employees, residents, and property owners. The Task Force submits the Downtown Parking Management Plan confident that the recommendations herein will net the desired results.
APPENDIX
Case Studies

The nature of parking problems experienced in downtown Davis is common in many cities. Cities up and down California have struggled with how much, where, for whom parking should be supplied. A plethora of parking management tools can be applied to achieve parking performance objectives. During the Downtown Parking Task Force process, a review of case studies was conducted. Cities were not necessarily selected on the basis of whether they resemble downtown Davis or the Davis community in any specific way. Case study cities were selected based on several factors, including whether they had recently undertaken a parking planning/policy or whether something useful could be learned from their experience or approach to parking management. The following case studies were reviewed, which are elaborated in further detail:

- Berkeley, CA
- Bloomington, IN
- Carmel, CA
- Chico, CA
- Corvallis, OR
- Eugene, OR
- Newport Beach, CA (Balboa Island)
- Old Pasadena, CA
- Palo Alto, CA
- Redwood City, CA
- San Luis Obispo, CA
- Santa Cruz, CA
- Springfield, OR
- Walnut Creek, CA
### Summary of Case Studies

<table>
<thead>
<tr>
<th>Location</th>
<th># of spaces</th>
<th>Peak occupancy rates</th>
<th>On-street parking rates (if applicable)</th>
<th>Off-street parking rates</th>
<th>Long-term parking rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkeley, CA</td>
<td>7,500</td>
<td>90-100%</td>
<td>$1.75/hr</td>
<td>$.75/hr</td>
<td>$150/mo</td>
</tr>
<tr>
<td>Bloomington, IN</td>
<td>2,365</td>
<td>76% on-street 68% off-street</td>
<td>$0.50/hr; no fee for first three hours in some lots</td>
<td>$.50/hr; no fee for first three hours in some lots</td>
<td>$25- $76 /mo</td>
</tr>
<tr>
<td>Carmel, CA</td>
<td>2,110</td>
<td>88% on-street 70% off-street</td>
<td>No fee 2-hr time limit</td>
<td>Not specified</td>
<td>No fee</td>
</tr>
<tr>
<td>Chico, CA</td>
<td>2,000</td>
<td>73%</td>
<td>$.50/hr</td>
<td>$.50/hr</td>
<td>$35/month ($420/yr)</td>
</tr>
<tr>
<td>Corvallis, OR</td>
<td>4,555</td>
<td>64% -85%</td>
<td>$.50/hr; Free customer-only zone</td>
<td>NA</td>
<td>$18 - $25.25/month</td>
</tr>
<tr>
<td>Davis, CA</td>
<td>2,206</td>
<td>74% (88% - 93% in core)</td>
<td>No fee, 90-min/2-hr time limits</td>
<td>No fee, 2-hr in lots, 3-hr in garages. 1 paid lot.</td>
<td>$2.50 - $8.00/month</td>
</tr>
<tr>
<td>Eugene, OR</td>
<td>4,000</td>
<td>NA</td>
<td>No fee, 2-hr time limit</td>
<td>$1.00/hr</td>
<td>$40 - $57/month</td>
</tr>
<tr>
<td>Newport Beach, CA (Balboa Island)</td>
<td>1,940</td>
<td>95% - 99%</td>
<td>No fee, no time limit</td>
<td>No off-street parking available</td>
<td>No fee</td>
</tr>
<tr>
<td>Old Pasadena, CA</td>
<td>9,200</td>
<td>NA</td>
<td>$1.00/hr</td>
<td>90-min free, then $2.00/hr</td>
<td>$65 - $90/month</td>
</tr>
<tr>
<td>Palo Alto, CA</td>
<td>Unable to locate.</td>
<td>&gt;85% (estimate)</td>
<td>No-fee, 2-hr time limit</td>
<td>No-fee, 3-hr time limit. Daily permits: $15</td>
<td>$35/month</td>
</tr>
<tr>
<td>Redwood City, CA</td>
<td>6,100</td>
<td>69% (98% on Broadway before market pricing)</td>
<td>$.25 - $.75/hr</td>
<td>No fee, 90-min &amp; 4-hr with validation</td>
<td>$30 - $60/month</td>
</tr>
<tr>
<td>San Luis Obispo, CA</td>
<td>2,600</td>
<td>NA</td>
<td>No fee (60-min with validation), $1.50/hr otherwise</td>
<td>No fee, 1-hr. $.75/hr thereafter</td>
<td>$40 - $75/month</td>
</tr>
<tr>
<td>Santa Cruz, CA</td>
<td>3,000</td>
<td>On-street not available 73% - 99% (off-street)</td>
<td>$.50 - $1.00/hr</td>
<td>No fee, 2-3 hrs in lots ~$.50/hr in garages</td>
<td>$16 - $31/month</td>
</tr>
<tr>
<td>Springfield, OR</td>
<td>1,820</td>
<td>50% on-street overall 70% on-street (peak area) 63% off-street</td>
<td>No fee, 10-min – no time restrictions</td>
<td>No fee</td>
<td>No fee</td>
</tr>
<tr>
<td>Walnut Creek, CA</td>
<td>1,650</td>
<td>80% overall 88% on-street 53% - 100% off street</td>
<td>$1.00/hr</td>
<td>$.50/hr</td>
<td>Unable to locate.</td>
</tr>
</tbody>
</table>
Appendix

Berkeley, CA

Highlights:
- 7,500 non-UC spaces in study area
- 90% - 100% occupancy rate during mid-day peak
- 220 pay stations citywide
- $1.75/hr on-street parking.
- Several garages and lots ranging from $.75/hr for first two hours to $2.50/hr thereafter.
- Monthly permits: $150/month ($1,800/yr)

Background: In 2001, the City of Berkeley and UC Berkeley conducted a Southside/Downtown Transportation Demand Management Study, of which parking was a component. The study made the following major conclusions:
- Management of Existing Resources Should Continue to be Improved
- Some Perceived Parking Shortages can be Eliminated through Management
- Determining the “Right” Amount of Parking is a Values-Based Decision
- Growth Can be Accommodated through Mode Shift
- Eliminating Spillover Parking is a Significant Challenge
- Negative Effects of Modest New Parking Construction Can be Mitigated

Other noteworthy findings include:
- There is no parking supply estimation formula that inputs community size, transportation resources, and economic activity and determines the appropriate amount of parking. The amount of parking to be supplied is dependent upon community livability and economic goals.
- If parking were managed to maintain “status quo” mode splits by supplying only enough additional parking to meet campus and employment growth, a total of 915 additional parking spaces would be needed within the Study Area between now and 2010-11. This amount would not address spill over parking.

The stakeholder interviews revealed two points on which there was 100% agreement:
- Improving public transit is vital to improving access and livability in the Study Area, and
- The existing parking supply could be better managed and utilized.

Bloomington, IN

Highlights:
- 1,475 on-street spaces, 890 off-street public spaces (2,365 total) and 5,865 off-street private spaces as of 2007
- Three public garages and four public lots
- On street and off-street costs $.50/hr
First three hours of parking are free in some garages and lots
Five types of long-term parking permits
On-Street enforcement 8 a.m. to 10 p.m, Monday through Saturday

Background: In 2007, the City of Bloomington (home of Indiana University) hired Walker Parking Consultants to study downtown parking availability. The Walker study’s recommendations with respect to parking garage management reform were undertaken almost immediately, but the recommendation to implement parking meters was not implemented until 2013 due to 1) economic changes and 2) the city wanted to assess whether garage management changes would effectively solve the downtown parking problems. The consultants recommended that the two-hour parking limit for on-street spaces be converted to a $1.00/hr fee. All but one of the seven public garages and lots are also $0.50/hr, with the other lot charging $1/hour. There are five types of parking permits for the garages, including three “fishing” permits and two reserved permits. These are:

- Part-time for Downtown Employees – 30 hours per week for $25/month
- Non Reserved - 24 hours a day, 7 days a week for $67/month
- Non Reserved - 12 hours a day, 5 days a week, and 6 hours on Sat./Sun for $40/month
- Reserved - 24 hours a day, 7 days a week for $76/month
- Reserved - 12 hours a day, 5 days a week for $57/month

Some garages and lots have a “park free for three” policy where the first three hours are free (participants are NOT allowed to receive another three hours free by re-parking in another lot). Additionally, there are special event and delivery parking permits that can be purchased for use in on-street spaces.

Carmel, CA

Highlights:

- 1,284 spaces on-street, 824 off-street (2,108 total).
- Peak occupancy rates: 88% on-street, 70% off-street.
- Free 2-hr curbside parking.
- Free unlimited parking in select areas including residential neighborhoods and city lots.
- Two paid parking lots (cost not specified).

Background: In 2000, Carmel commissioned a parking study with Walker Parking Consultants to evaluate their occupancy rates and recommendations for parking management solutions. Carmel was found to have high peak occupancy rates for on-street and off-street parking at 88% and 70%, respectively. They found existing 90-minute time restrictions did not allow visitors enough time. The consultants recommended installation of multi-space parking meters to accomplish the following goals:
Appendix

- Increase the availability of convenient downtown parking for visitors.
- Allow visitors to park an unlimited time without fear of a citation.
- Provide specific on-street and off-street parking spaces in less convenient areas downtown at a nominal fee ($5.00/month).
- Provide additional income that will allow the City to fund significant deferred building maintenance and special programs to benefit all citizens of Carmel.
- Expected revenue generation was $1.5 million/year.

The City Council ultimately decided against these recommendations and in the meantime expanded time restrictions from 90 minutes to 2-hrs. In 2011, the subject of paid parking was reintroduced with the following proposed benefits:

- Orderly way of managing parking and congestion.
- Increased customer parking opportunities.
- Increased City revenues that can be reinvested into the community.
- Improve parking enforcement.
- Flexibility.

A local blog has been following the issue and the reintroduction of paid parking appeared to have enough opposition that to date Carmel has not taken any action.

Chico, CA

Highlights:

- 1,250 on-street, 750 off street (2000 total).
- 80% are metered, both on-street and in off-street lots.
- Meter rates: $.50/hr.
- Peak hour occupancy rates are ~73% in the core and ~43% south of the core. Off-peak occupancy rates are lower.
- Long-term parking permits (i.e. employee parking) : $35/month ($420/year).

Background: In 2006 Chico conducted a Downtown Access plan that integrated analysis of future downtown development, and transportation. The plan proposed three guiding principles and nine specific recommendations:

- Principle #1: Make storefront parking available on every block.
- Principle #2: Make the best use of existing resources before adding new parking supply.
- Principle #3: Choose the most cost-effective way to improve access.
- Recommendation #1: Adopt a goal of 85% occupancy.
- Recommendation #2: Use pricing, not time limits, to prioritize shoppers.
- Recommendation #3: Return new meter revenue to downtown.
- Recommendation #4: Evening and Saturday meter enforcement.
- Recommendation #5: Use multi-space meters.
- Recommendation #6: Adopt a “park once” strategy.
- Recommendation #7: Loading zones.
Appendix

- Recommendation #8: Adopt a two-pronged test to approve new parking structure
  - Will downtown parking be at least 85% occupied when garage is complete?
  - Is it cheaper to add new parking than invest in alternatives to reduce parking demand, or provide peripheral parking?
- Recommendation #9: Identify preferred site for parking structure.

Corvallis, OR

Highlights:
- 4,555 total spaces
  - 1,503 on-street; 3,052 off-street.
  - 2,067 public, 2,488 private.
- Peak parking utilization (12:15 p.m. – 12:45 p.m.): 64%. Four block faces > 85%.
- Free Customer Parking Zone.
- Parking meter rates: ~$.50/hr.

Background: Corvallis has a free customer parking zone (up to 3-hrs) in the core of the downtown with metered parking on the periphery. Employees, downtown business owners, and residents are prohibited from parking in this area by City ordinance. This is enabled by an ordinance requiring downtown residents and employers to provide the City with the names of all employees as well as their vehicle license plates. Based on the history of amendments to the ordinance, this system appears to have been in place in some form since 1985.

In 2001 the City of Corvallis, Oregon conducted a thorough downtown parking management plan. Policies and recommendations resulting from the plan include:

Policies:
- Apply 85% standard.
- Create parking manager position.
- Adopt guiding principles for parking management into City code.
- Adopt management zones and operating principles (included in the plan).
- Evaluate modifications to the parking requirements for new development in the downtown.

Near Term Management Recommendations:
- Parking space management reassignment.
- Initiate shared parking arrangements.
- Implement “value” pricing of parking.

There were also recommendations for managing peripheral zones and considerations for developing new public parking.
Appendix

Eugene, OR

Highlights:
- 4,000 total spaces: 1,000 on-street, 3,000 off-street
- Two-hour free parking in the Core
- Metered parking outside the Core: $1.00/hr
- Parking garages: $1.00/hr
- Daily parking: $6.00/day
- Long term parking: $40-$57/month ($480 - $684/yr)

Background: Documents relating to a parking study or plan for Eugene, Oregon could not be found. Most information was collected from their website. Eugene uses mobile apps to assist drivers in finding available parking spaces. Like Corvallis, Eugene provides free 2-hr customer parking in the downtown which appears to be facilitated via a voluntary business validation program.

Newport Beach, CA

Highlights:
- 3,000 residents on .2 square miles
- 1,943 spaces (all on street)
- No time restrictions, except on select neighborhood commercial blocks
- 95% - 99% occupancy rate on Saturdays
- 66% - 87% occupancy rate on Thursdays

Background: In 2008, the City of Newport Beach commissioned a study by Walker Parking Consultants to address parking issues on Balboa Island generated by residents, businesses in neighborhood commercial areas, and day visitors coming to the island for fishing or Catalina Island excursions. Peak demand for parking was 99% on the island. The study concluded that while alternative forms or transportation should be encouraged and supported, they believed some form of parking regulation and enforcement plan could be developed for the Island.

Walker recommended against any changes to parking regulations on the island, which is where it remains today:

“During summer weekdays and throughout much of the remainder of the year, parking is still a challenge but it does not choke the Island to the point where it is dysfunctional. Nearly all of the remedies that we have outlined previously have some shortcomings or implementation difficulties that do not necessarily outweigh their likely benefits. While some of these recommendations may elicit a change in behavior for a small group of visitors to the Island it is not likely that they will effectively change the overall behavior enough to significantly alleviate parking difficulty on the Island. Therefore, our final alternative is to not make any wholesale changes to the parking system on Balboa Island.”
Appendix

During our steering committee meeting, the group established that they felt residential parking permits might be overly punitive and administratively burdensome for the current residents and visitors. As a result, we feel that the best solution is to leave the current regulations and restrictions in place. While the current system is imperfect, any alternatives or changes to the current system would come with externalities that are less desirable than the current parking difficulties they are designed to remedy. Further, in some cases the demand for on-street parking is high enough that any improvement in parking availability through increased regulations could potentially be diminished by latent demand for on-street parking from residents and others. As a result, we recommend that parking regulations and restrictions on Balboa Island remain the same.”

Old Pasadena, CA

Highlights:
- 1,200 on-street parking meters enforced seven days a week (number of spaces not specified).
- On-street rates vary, but generally ~$1.00/hr.
- 8,000 off-street parking spaces.
- Off-street rates: 90-min free then $2/hr up to $6 max.

Background 21: The renaissance of Old Pasadena has been widely attributed to a change in parking management beginning in the early 1990s. Prior to 1993, Old Pasadena employed two-hour time restrictions. Employees typically occupied the most convenient curb spaces. Merchants recognized employee behavior but feared that metering parking would drive customers away. The debate continued for several years until it was finally defused with the City’s agreement to spend all revenues for public investment in Old Town Pasadena. Once approved the City immediately borrowed $5 million to finance the "Old Pasadena Streetscape and Alleyways Project," with the meter revenue dedicated to repaying the debt. The bond proceeds paid for street furniture, trees, tree grates, and historic lighting fixtures throughout the area. Dilapidated alleys were turned into safe, functional pedestrian spaces with access to shops and restaurants. The revenue also paid for additional public services and parking enforcement later at night, which serve as official “eyes on the street”.

---

Appendix

Palo Alto, CA

Highlights:
- 2-hour on-street parking, 8:00 a.m. – 5:00 p.m. Monday through Friday.
- On-street: No-reparking by color-coded zone.
- 3-hour off-street parking (garages & lots).
- All-day permits available: $15

Background:
In 2011, the City of Palo Alto initiated a University Avenue and California Avenue Parking Study. The study inventoried existing parking supply, occupancy rates, and explored potential improvements to the parking circumstances in downtown Palo Alto. This was largely a staff-led effort by the City of Palo Alto. A final document could not be located. However, parking occupancy rates other materials can be found at the below URL:


The trail on this effort appears to end here. It also appears that between the study session and today, perhaps as a result of the Downtown Cap Study, which will include a detailed review of existing traffic and parking conditions in and around the Downtown area, as well as projection of future conditions based on existing zoning requirements. Phase I of the study is expected to take around six months to complete.

Redwood City, CA

Highlights:
- Over 6,100 total spaces downtown (on and off-street). 2,850 spaces are city-controlled.
- Peak occupancy rate on Broadway: 98%. On-street all: 69% Garages and Lots: 62%.
- On street metered parking at $.25 - $.50/hr depending on location.
- Off street free parking for 90 minutes and up to 4 hrs with validation.
- Long term parking: $30-$60/month ($360 - $720/yr).

Background\(^{22}\): Redwood City has become widely known for its effective parking management strategy. In 2005 a Downtown Parking Management plan was completed,

the foundation of which is based upon market-based pricing of on-street parking; the guiding principle being that on-street parking would be priced only high enough to ensure spaces are available for customers in accordance with parking performance objectives. It also ensures cost-sensitive users have access to low-cost parking options. Finally, long-term parking validation in off-street garages rounds out the program.

San Luis Obispo, CA

Highlights:

- 1,600 spaces on street and off street lots, 1,000 spaces in off-street garages (2,600 total)
- On street parking: 400 credit card/coin meters.
- On street parking: $1.50 /hr. Monday through Saturday 9:00 a.m. – 6:00 p.m.
- Off street parking: first hour free, then $.75/hr thereafter. Some lots limited to 2-hrs, others up to 10 hrs.

Background: In November 2011 the City Of San Luis Obispo completed an update to their 1997 downtown Access and Parking Management Plan. The goals of the plan were to:

- Support the commercial as a viable economic and cultural center and preserve its historic character.
- Support the goals of the Conceptual Physical Plan for the City’s Center.
- Provide enough parking in the commercial core for visitors and employees.
- Reduce the demand for employee parking through various programs such as carpooling, vanpools, transit subsidies, and bicycle and pedestrian systems development.
- Support the transportation strategy presented in the General Plan Circulation Element.
- Support the residential component of mixed use development downtown as presented in the Land Use Element.
- Carry out actions described in this plan within budget constraints and consistent with
- Financial Plan goals and policies that are updated every two years.

Recommendations resulting from the plan included:

Parking Management:

- Reduce free parking in garages from 90 minutes to 60 minutes
- Increase the in-lieu parking fee charged to new development to better reflect the cost of downtown parking.
- Increase 2-hour parking in the commercial core and limit long-term parking.
- Respond to citizen proposals to establish residential parking districts in neighborhoods adjoining the downtown.
Appendix

- Increase long-term parking at the periphery of the downtown.
- Work with the Downtown Association to establish a program for discouraging habitual violators.

Parking Demand Reduction:

- Increase the maximum charge for garage parking.
- Transit pass subsidies for downtown employees.
- Reduce monthly parking pass costs for high-occupancy vehicles.
- Improve bicycle access to the downtown.
- Establish an advertising program for downtown parking demand reduction (PDR) programs.
- Encourage the county to establish a trip reduction program similar to the City’s program.

Santa Cruz, CA

Highlights:

- 3,000 city operated spaces, 1,600 private spaces (4,600 total).
- 768 downtown meters.
- On-street meter rates: $.50 - $1.00/hr everyday 9:00 a.m. – 8:00 p.m. Time limits vary based on color coded zones.
- Off-street peak occupancy rate: 85%, ranging from 73% to 99% depending on location.
- 2-3 hrs free parking in designated lots.

Background: In 2002 the City of Santa Cruz completed a Master Transportation Study (MTS). Since Santa Cruz was already employing parking meters in many locations, the Paid Parking Policy Analysis chapter evaluated the use of parking pricing strategies as a TDM (Transportation Demand Management) tool in the City of Santa Cruz. Thus, this summary should be viewed through that lens. The ultimate goal of the study was to develop a set of paid parking recommendations that, if implemented along with other MTS policies, would encourage the use of transit and other alternative modes of transportation. The Paid Parking Policy Analysis chapter recommended the following policies for managing the City’s paid parking supply:

- Public parking prices should reflect the cost of providing parking unless other public policy goals can be achieved by discounting prices.
- Parking prices should be uniform for comparable facilities within a given area.
- Parking prices should reflect convenience, facility type, and length of stay.
- Parking prices at municipal facilities should be coordinated with rates at private facilities.
Appendix

- Future increases in parking supply and any associated charges on businesses should take account of potential use of transit and incentives offered by business to use alternative modes of transportation.

Springfield, OR

Highlights:

- 687 public on-street spaces, 283 public off-street spaces, 889 private off-street spaces (1,819 total).
- Time limits range from 10 minutes to no limit
- 40% of on-street spaces offer unlimited parking
- On-street peak occupancy rate for “highest demand area”: 70%. Off-street: 63%
- Overall peak on-street occupancy rate: 50%
- On street turnover: 2.87/day.
- Ideal turnover: 5.00/day

Background: Springfield, Oregon is adjacent to Eugene and has a population of approximately 60,000. In 2010 the City completed the Springfield Downtown Urban Design Plan - Parking Management study. The purpose of the study was to use parking as one of several tools to better serve existing businesses, attract new businesses, and attract newer and denser mixes of uses. The key issues were:

- The downtown parking system is not yet formatted in a way that best serves the area.
- The system is not easy to use, particularly for newcomers to the district.
- While starting with a good foundation, Springfield needs to attract a more diverse mix of “business” that includes retail, office and residential.

This case illustrates the distinctions between parking recommendations proposed for a downtown with a developing parking problem, in contrast with other case studies where the problem is well established. Below are a handful of the recommendations, of which many Davis currently employs:

- Establish three “Parking Management Zones” based on usage and desired economic development.
- Establish a Downtown Parking and Transportation Fund as a mechanism to direct funds derived from parking into a dedicated fund.
- Add parking to the on-street system in the downtown in areas currently designated as no parking areas. This parking will be provided as either 2-hour parking or “2-hour or by permit” (based on location and proximity to downtown core). This would translate to as many as 71 total new stalls.
- Convert all stalls in Zone A to 2-hour parking. Convert Zone B to 2-hr or “by permit”. Requests for any other type of stalls in the future would be coordinated through an exception process.
- Develop an on-street employee parking permit program (i.e., paid permits) that would allow limited use of 2 hour stalls for on-street all day parking in Zone B.
Appendix

- Develop a Residential Parking Permit Zone (RPPZ) policy and program for adoption by the City Council for future implementation in residential areas affected by spillover from commercial parking (i.e., Zone C).

Walnut Creek, CA

Highlights:

- 1,650 publicly owned and operated: 581 on-street, 2113 off-street.
- Over 1,000 parking meters installed.
- On street parking: $1.00 /hr., 2-hr limits, Monday through Saturday 9:00 a.m. – 6:00 p.m.
- Off street parking: Public garages, $.50/hr.
- Long-term parking: Unable to locate.

Background: Walnut Creek has initiated several parking studies in the past decade. In 2006, a study concluded occupancy rates were fairly high at 80% during peak period and on-street parking rates were higher in 2005 than in 2002. The 2006 study established the following goals related to downtown parking:

1. Involve the business community.
2. Put customers first.
3. Focus on parking availability, not supply.
4. Establish a market for parking.
5. Create a “Park Once” environment.
6. Pay attention to Downtown Walnut Creek’s strengths.
7. Invest in all transportation modes.
8. Choose Walnut Creek’s future deliberately.