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1 EXECUTIVE SUMMARY

INTRODUCTION

This Parking & Transportation Demand Management Report is intended to provide guidance on the implementation of Berkeley’s Downtown Area Plan (DAP), which was developed through six years of effort with the extensive participation of Berkeley’s citizens and the cooperation and support of the University of California, Berkeley. This report was funded in large part by a Station Area Planning Grant awarded to Berkeley by the Metropolitan Transportation Commission and the Association of Bay Area Governments. A companion document, Existing Parking & Transportation Demand Management Programs, Conditions & Practices Technical Memorandum, was completed in May 2010, and is attached as Appendix A.

This report recommends policies and actions that will enable the City to comply fully with the Access Chapter of the DAP, which sets forth a vision for sustainable transportation in Downtown Berkeley. The DAP Strategic Statement emphasizes that the transportation management strategies set forth in the DAP are intended to give priority to transit, pedestrian, and bicyclists, while reducing automobile use, especially by commuters. The Strategic Statement also describes the alternative modes of transportation (transit, walking, bicycling, ridesharing, etc.) that serve Downtown and ways to shift demand from driving alone to alternative modes.

The Strategic Statement also sets forth the importance of parking management as a transportation demand management tool, partially by recognizing that parking serves diverse users and needs, including:

- All-day parking (mostly commuters)
- Short-term parking (mostly commercial patrons)
- Events (entertainment)
- Residents and their visitors

The Strategic Statement discusses how parking supply and demand can be addressed through different strategies that address each type of parking in the downtown:

- On-street parking
- Publicly-accessible off-street parking
- Private Parking

GOALS

This report does not propose new goals or policies. Instead, it aims to provide specific recommendations on ways to implement the goals, policies and implementing actions of the Downtown Area Plan. The recommendations are intended to advance goals described in several
different chapters of the DAP.\(^1\) For brevity's sake, however, only the goals of the DAP’s Access Chapter are repeated below:

**The Downtown Area Plan’s Access Goals:**

- **Goal AC-1:** Improve options that increase access to Downtown on foot, by bicycle, and via transit. Make living, working, and visiting Downtown as car-free as possible.
- **Goal AC-2:** Give pedestrians priority in Downtown, and make walking Downtown safe, attractive, easy and convenient for people of all ages and abilities.
- **Goal AC-3:** Provide parking to meet the needs of Downtown, while discouraging commuter parking and encouraging motorists to park their cars and experience Downtown as a pedestrian.
- **Goal AC-4:** Promote transit as an efficient, attractive choice and as a primary mode of motor-vehicle travel.
- **Goal AC-5:** Maintain and enhance safe, attractive and convenient bicycle circulation within Downtown, and to and from surrounding areas, for people of all ages and abilities. Promote bicycling Downtown.

How do parking and transportation demand management initiatives advance these broad goals? In a nutshell, appropriate parking and transportation demand management programs encourage transit and other alternatives to the car as well as more effective use of parking. Appropriate parking pricing can make parking more available for retail patrons and other short-term visitors, while discouraging its use by all-day commuters who have other travel options.

However, there are clearly tensions between these goals: for example, between the goal of making living, working, and visiting Downtown as car-free as possible, and the goal of providing parking to meet the needs of Downtown. This plan aims to resolve these tensions as much as possible.

Fortunately, there are many cost-effective opportunities available to improve the attractiveness of bicycling, walking, carpooling, carsharing, and taking transit. By attracting more commuters, residents and visitors to these modes, the City can reduce the need to provide expensive new parking garages. Similarly, by improving parking pricing, Berkeley can make downtown curb parking readily available and easy to find, reducing the number of motorists who circle downtown blocks in search of open parking spaces. This will allow individual drivers to save time and gas, while reducing pollution, congestion and delays for transit riders and other users of downtown streets.

\(^1\) For example, the first goal of the Environmental Sustainability Chapter of the DAP is to, "Integrate environmentally sustainable development and practices in downtown, and in every aspect of the Downtown Area Plan." The Chapter further explains that voters overwhelmingly approved Berkeley’s Measure G, which sets a target of reducing greenhouse gas emissions 80% by the year 2050, and that transportation is the single largest contributor to Berkeley’s greenhouse gas emissions, accounting for roughly half of emissions. Accordingly, this Parking & Transportation Demand Management Report aims to help the City substantially reduce transportation-related greenhouse gas emissions – while simultaneously helping to achieve the DAP’s goals in other areas, such as providing needed housing and helping the downtown economy thrive.
RECOMMENDATIONS

The recommendations in this report focus on creating an implementation strategy for the DAP goals and policies. Each chapter lists the specific DAP goals and policies on which it focuses. Following is a summary of the recommendations made in each chapter of this report.

Chapter 3: Managing the Existing Parking Supply

1. **Collect detailed information on existing parking supply and demand and parking regulations and pricing.** Since you can’t manage what you don’t measure, having accurate and up-to-date information on Downtown’s existing parking supply (both on- and off-street) is a critical first step. Parking occupancies should be measured during meter hours as well as on evenings and weekends.

2. **Establish policies and guidelines for managing parking Downtown.**
   a. *Set targets for parking occupancy.* Current best practice recommends a target occupancy rate of approximately 80-85% at even the busiest hour, a rate which leaves about 15-20% or one to two out of every eight spaces available, or about one or two empty spaces on each block face. This provides enough vacancies that visitors can easily find a spot near their destination when they first arrive.
   b. *Establish an initial rate and time structure to achieve the desired occupancy targets.* For each block, the right price is the price that will achieve the established occupancy target. This means that pricing should not be uniform: the most desirable blocks need higher prices, while less convenient block faces are cheaper. Prices should also vary by time of day and day of week according to parking demand.
   c. *Operate meters on days and at hours when demand is high enough to cause parking occupancy to exceed 80-85%.* A 2007 parking study recommended extending Downtown parking meter hours of operation from 6 PM to 10 PM, based upon parking occupancy counts conducted in the core blocks of Downtown. As shown by the fall 2007 evening parking occupancy maps, parking occupancy during the evening hours exceeded 95% on many blocks in Downtown. Our own recent field observations found that despite the recession, evening parking occupancy remains very high in the Downtown core. In order to achieve the goal of making parking convenient and available for customers, we believe that the concept of extending meter hours of operation into the evening hours remains sound. Additionally, our Sunday afternoon site visits found most curb parking full.

Extending meter hours will result in additional operating and enforcement costs, as well as additional meter and parking ticket revenues. A full cost-benefit analysis of extending meter hours is beyond the scope of this report. However, once a rate and time structure is proposed, it can be analyzed for its potential impacts on operating costs as well as revenues.

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d. **Use price rather than time limits to achieve curb parking availability.** Time limits should be significantly lengthened or eliminated and pricing should be used to create available curb parking. Develop a policy for parking at broken or inoperable meters that either limits parking time or prohibits parking.

e. **Coordinate municipal garage rates with on-street parking rates** to provide longer-term parkers with an incentive to park in garages.

f. **Consider eliminating monthly parking permits** in municipal garages to maximize parking available for customers and visitors.

3. **Enact enabling policies and ordinances.** Currently, the City Council must adopt an ordinance amendment any time parking prices or meter hours are modified. To enable more flexible and dynamic management of metered parking Downtown, it will be necessary to adopt an ordinance that enables adjustment of rates, time limits and hours of operation within certain established guidelines. By ordinance, Council should establish that the primary goal in setting parking meter rates and hours for each block is to achieve a certain occupancy rate (generally in the range of 80-85%). Additionally, the ordinance should both require and authorize City staff to raise or lower parking prices to meet this goal, without requiring further action by the Council. Appendix B, the adopted Redwood City and Ventura downtown parking ordinances and the SFpark enabling legislation, provide three examples of the recommended approach.

4. **Monitor parking occupancy on a regular basis and adjust parking rates to maintain established occupancy targets.** Rates should be adjusted in predetermined, incremental amounts based on observed occupancy and should be adjusted no more frequently than once a month. Regular occupancy counts should be conducted, including counts before and after each rate adjustment. Currently, the City does not conduct regular occupancy counts for its parking facilities (either on-street or off-street), so monitoring occupancy will represent a significant change in current operations. It will require staff time, time from the City’s parking contractors, and/or hiring an outside firm to accomplish this task, and this will be a new expense. However, monitoring parking occupancy regularly is clearly essential for any city that wishes to adjust curb parking prices to achieve an occupancy goal. Conducting regular occupancy counts is also an essential prerequisite for making informed decisions about whether and when to add new parking facilities. Conducting occupancy counts is a fundamental step in conducting financial feasibility studies for new and/or replacement parking facilities: without good information about customer demand, cities cannot make good decisions about how large to make a new or replacement parking facility and cannot accurately project future parking demand or future parking revenues.

We recommend that the expense of conducting occupancy counts be covered by meter revenues. However, there may be less expensive options for monitoring parking occupancy than more traditional, labor intensive occupancy counts. The SFpark project is investigating the use of payment data (collected from meters) to infer parking occupancy. Additionally, the City’s Berkeley Transportation Action Plan pilot program will provide Berkeley with the funding needed to equip some parking enforcement

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vehicles with license plate recognition systems. Other cities, such as Washington DC, have been able to use these camera systems to automate the process of conducting occupancy studies, greatly reducing the cost of monitoring occupancy. Therefore, while initial parking occupancy surveys may still need to be conducted using old-fashioned paper and clipboard methods, in future years, monitoring occupancy can be expected to become substantially easier and less labor-intensive.

5. **Adjust on- and off-street parking rates on a regular basis to maintain the desired occupancy targets.** Armed with good information on recent parking occupancy rates, the Parking Services Manager should adjust the rates (and hours of operation) up or down on each block to achieve the policy goal set by City Council. To avoid confusion and backlash, consider ways to bring merchants and other stakeholders along during the process, such as making them aware of high occupancy rates and planned rate increases before they go into effect.

6. **Provide clear information about parking rates and availability/occupancy to the public via the web.** Rate structures and parking operations should be as easy to understand and as straightforward as possible, in order to minimize frustration on the part of users and reduce the likelihood of violations (which is far more upsetting and expensive to visitors than paying for parking).

**Chapter 4: Reducing the Demand for Parking**

1. **Create a Downtown Berkeley transportation management organization or association to implement and manage TDM programs for Downtown employees, visitors and residents.** One of the challenges associated with implementing the DAP policies is the large number of small businesses located in Downtown. Many of these businesses are too small to participate individually in AC Transit’s EasyPass program, which requires a minimum of 100 participants. If businesses were members of a TMA, the TMA could contract with AC Transit on behalf of its members, enabling even the smallest business to participate in the program. Additionally, businesses could share administrative expenses for TDM programs, greatly reducing the costs to any individual business.

2. **Provide deep-discount group transit passes.** We recommend that the City develop a funding mechanism to establish a deep-discount group pass program as described more fully below. In recent years, growing numbers of transit agencies, including the Alameda/Contra Costa Transit District (AC Transit), have teamed with universities, employers, districts and residential neighborhoods to establish deep-discount group transit pass programs. These programs provide all of the members of a group with unlimited-use transit passes, at a per-person rate which is deeply discounted from the ordinary retail price that an individual would pay for a monthly transit pass.

Given the ultimate goal of providing universal coverage for all employees and residents, implementation of this program may require phasing in over time as new development projects go forward and transportation revenues permit.

- **For existing** residents and employees, on-going funding for a transit pass program could be provided through a combination of fees and new assessment district revenues as well as other federal, state and local transportation funding. In the longer term, parking revenues may also be a source of funding.
• *New developments* can be required to provide all residents and employees within the development with transit passes, as a condition of development approval. The proposed new zoning provisions for Downtown developments (see Appendix D) would implement this requirement.

In implementing a deep-discount group pass program, Berkeley should emphasize:

• Universal coverage for all residents and employees, which allows lower per rider costs and allows a deeper discount to be offered.

• Automatic opt-in, which lowers sign-up barriers and encourages greater participation and ridership gains.

• Plan for targeted service improvements to further encourage usage of the deep-discount group pass and/or to respond to increased ridership after the program is launched. (In the short-term, this is unlikely, but in the long-term, after the economy and transit revenues recover, this step may be more feasible).

Considering both pros and cons, we recommend that the City work with AC Transit to establish a district-wide EasyPass program for Downtown. As a future step, the City should work with BART and other Berkeley-serving transit agencies to establish similar deep-discount group pass programs, and should further explore the option of developing the City’s own shuttle system to supplement AC Transit’s existing service. (BART does not currently offer a comparable deep-discount group pass program outside of the City of San Francisco. However, recent agency staff reports have suggested the concept to the BART Board for consideration.4)

### Chapter 5: Managing Parking Demand from New Development

1. **Require unbundled parking** – rent parking separately from dwelling units and commercial space so that its real cost can be factored into consumer decisions.

2. **Facilitate carsharing** – make carsharing easy so that occasionally car trips can be made without owning or parking a vehicle. Adopt an ordinance requiring developers of large residential projects to offer carsharing services the right of first refusal for a limited number of parking spaces and require that those spaces be provided to the car-sharing services free of charge.

3. **Enact low minimum parking requirements with options to reduce parking even further** – match parking requirements with actual demand by extending already low parking minimums across a larger area, and further reduce demand through payment of in-lieu fees and TDM options to further support alternative modes. Maintain minimum parking requirements for new buildings in the C-2 area and apply those low C-2 minimums throughout mixed-use portions of Downtown. The C-2 parking standards are more appropriate than higher existing C-1 and C-SA because of Downtown is an urban transit hub with diverse, “walk-to” conveniences.

4. **Allow additional reductions in parking requirements when TDM measures in excess of the City’s requirements are implemented** – establish administrative standards for TDM measures that are likely to reduce car use more than would be typical under standard requirements. TDM measures that might justify parking reductions

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include: providing showers and clothes lockers for bicycle commuters; covering the cost of residents’/employees’ carshare memberships; providing a cash benefit to employees who do not use a car to commute; and/or provide transit passes to beyond what would be normally required (i.e. to each resident rather than to each household). Except for showers and lockers, TDM-based parking reductions are for programs that rely on ongoing actions by property owners and managers. Compliance should be promoted by: annual reporting requirements; periodic review of reports and TDM activities by staff; investigation of complaints from residents/employees; and fines for non-compliance.

5. **For renovations and modest additions to existing buildings, remove minimum parking requirements.**

6. **Better utilize parking that is available Downtown by sharing parking more effectively.** Maintain existing “joint use parking” provisions that allow developers to meet minimum parking requirements by entering into a long-term agreement to lease available parking spaces in the vicinity. Shared parking opportunities might be provided in existing parking facilities or by construction of parking facilities off-site. Existing zoning language adequately addresses a need for shared parking to be proximate (i.e. within 800 feet), free from conflict with other users, and not otherwise committed. Ideally, evidence of a binding long-term agreement among parties involved should be provided before project entitlements are granted.

Shared parking should also be promoted by requiring projects above a certain size to install dynamic signage at the entrance of the project’s garage, to indicate whether the garage is full or has vacant parking spaces. In addition, these projects should have vehicle detection capabilities to help provide information on the number of vacant parking spaces. Such information technology should be compatible with and made available to the Bay Area’s 511 Travel Information System. The City and/or the Downtown Berkeley Association should consider ways to make information on the location of vacant spaces available, such as via the internet or by the use of dynamic signage that would help direct motorists as they enter Downtown.

7. **Do not provide on-street residential parking permits for new residents** – avoid negative impacts of “spill over” parking from new development into surrounding residential neighborhoods which could result from unbundling parking and low minimum parking requirements.

8. **Subsidize transit passes and support alternatives to the car** as discussed in Chapter 4.

**Chapter 6: New Publicly Accessible Parking**

**Reduce Commuter Parking Demand**

Reducing the number of monthly permit holders in City garages (by attracting them to other transportation options, accommodated in private garages, or parked in a nearby Residential Parking Benefit Area) may make it feasible to demolish and rebuild the Center Street Garage with minimal disruption to customers. This would also minimize revenue losses for the City’s parking system.

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5 About 300 parkers would need to be moved to other parking and transportation options. The Center Street Garage has 421 spaces and never reaches greater than about 70% occupancy, so it currently houses approximately 300 vehicles at peak hour.
Therefore, we recommend taking action to implement the following DAP Policies and Implementation Actions before demolishing and rebuilding the Center Street Garage, and before expanding the downtown parking supply:

- **Policy AC-1.2:** Single-Occupant Vehicles. Discourage the use of single-occupant vehicles (SOVs) by commuters to Downtown and encourage commuting with transit, ridesharing, bicycles, and on foot.

- **Implementation Action AC-1.2 (c):** Strengthen parking policies that discourage all-day SOV parking while encouraging alternative modes.

- **Implementation Action AC-3.1 (c):** Use pricing strategies that increase the availability of on-street and short-term parking for retail and cultural uses -- while simultaneously discouraging all-day parking by commuters.

**Reserve Opportunity Sites and Conduct Additional Market Analysis**

In the future, Downtown may need additional parking capacity. To prepare for this potential future need, we recommend reserving opportunity sites for future public parking facilities, and conducting additional market analysis.

In Downtown Berkeley a market-oriented approach to the development of new parking facilities is preferable. By market-oriented, we mean that the City should conduct a market analysis to identify specific new customers who would be willing to pay for parking in (a) the excess capacity that exists in existing City parking garages, such as the Center Street and Oxford Garages; and (b) in future new public parking garages. This approach should include:

1. **Interviewing all developers (for-profit and nonprofit) and others with projects in the planning pipeline or on the horizon.** What interest would they have in renting or purchasing parking spaces in a future public parking facility? Would they be interested in renting or leasing spaces in existing underutilized facilities? Would they be willing to pay enough for a future garage to break even? Would they (or their future tenants) prefer month-to-month parking, long-term leases, or parking condominiums?

2. **Forming an interest list for public parking garage spaces.** Just as condominium developers often form interest lists for projects that are in design and development, the City should establish an interest list of those developers, employers, and other institutions that are actively interested in purchasing or leasing additional public parking spaces.

3. **Improving the City’s ability to monitor parking occupancy in its current parking system (both curb parking and off-street facilities).** The City is already actively working on this last step, which is essential for understanding the ability of the existing parking system to be more efficiently utilized and to accommodate more customers before additional parking capacity is needed. In addition, more actively monitoring parking occupancy is a critical part of assessing the ability of the City to raise its garage rates to a level that would support the replacement of the Center Street Garage.

The following four opportunity sites are viable sites for new and/or enlarged public parking facilities. They are significant because they are all (a) large enough to accommodate a reasonably efficient parking structure, and (b) owned by a public entity, so that no land acquisition from a private owner would be required. Additionally, they are well-located to serve multiple major destinations.
Center Street Garage site (City-owned): The 421-space Center Street Garage, which was constructed in the 1950s, has been determined to be seismically unsafe and will need to be replaced. Multiple replacement options have been studied conceptually. The least expensive option (on a per-space basis) would provide a 462-space garage at a cost of approximately $19 million, or about $40,000 per space.

University Hall West site (UC-owned): The University Hall West site is in the block bounded by University, Oxford, Addison, and Shattuck. The University has completed a conceptual design study for a garage on this site, which demonstrated that a new garage on this site is feasible. The least expensive option (on a per-space basis) would provide a 1071-space garage at a cost of approximately $39 million, or about $38,000 per space.

Berkeley High School Lot (owned by Berkeley Unified School District): This lot, in the block bounded by Bancroft, Shattuck, Durant and Milvia, offers a third alternative. The site is large enough to be viable, and in our opinion, it is likely that the per-space cost of developing a garage on this site will be comparable to the costs for the Center Street Garage and University Hall West sites.

Berkeley Way Lot (City-owned) and other potential underground parking sites: DAP Implementing Action ES-2.5(g), which calls for developing affordable housing on the Berkeley Way Lot while simultaneously avoiding a reduction in off-street parking spaces in the area, is likely to preclude the development of additional above-ground parking spaces on this site. It is physically feasible to gain additional public parking spaces by building several levels of underground parking on the site. However, the high cost of underground parking makes this option unattractive. A parking industry rule of thumb is that the capital cost of a parking space on the first level of an underground parking structure can be expected to be 50% higher than the cost for an above-ground structure (or approximately $60,000 per space in Downtown Berkeley) due to the high cost of excavating and constructing underground facilities. The cost of parking spaces on subsequent underground levels will be still higher, and can be expected to be approximately equal to the cost of the level above plus a constant equal to the difference between the cost of an above-ground structured space and the first-level of the underground facility (or approximately $20,000 per space). Thus, a parking space on the second level of underground parking would cost about $80,000 and on the third level underground a parking space would cost $100,000. As these numbers show, while underground parking keeps land free for building projects, it requires a significant premium for each successive level below grade. Operating expenses are also frequently substantially higher, due to the expense of lighting and ventilating subterranean spaces, and the fact that many underground garages require constant dewatering.

We recommend that the City do what it can to reserve the three most viable sites for parking structures, so that new parking capacity can be added if and when it is needed. This should include:

- **The Center Street Garage site:** Maintain this site as public parking.

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• **University Hall West site (UC-owned):** Work with the University to reserve this site for a potential future garage to serve UC and public parking needs.

• **Berkeley High School Lot (owned by Berkeley Unified School District):** Work with Berkeley Unified School District to reserve this lot for a potential future public parking garage.

**Fund Future Parking Facilities with User Fees and Revenue Bonds**

We also recommend that the City continue to finance off-street public parking facilities using its traditional approach:

1. Issue revenue bonds for the construction of garages.
2. Repay the bonds with parking fees from those who park in the facilities.

**Rebuilding the Center Street Garage**

The 421-space Center Street Garage, which was constructed in the 1950s, has been determined to be seismically unsafe and will need to be replaced. Multiple replacement options have been studied conceptually. As noted earlier, a replacement garage with about the same capacity would cost approximately $18.6 million. Using typical assumptions for a City revenue bond of this type (a 6% interest rate) and assuming a bond term matched to the expected lifespan of the facility, paying back an $18.6 million revenue bond would require approximately $1.3 million per year in revenue, every year, for the expected 35-year life span of the replacement garage.

Since revenues for the Off-Street Parking Fund are currently $3 million per year, increasing them by approximately 43% would provide the $1.3 million per year in new revenue required to pay back the $18.6 million revenue bond. At present, with excess parking supply and prices declining in some instances, it does not appear that the City can increase garage revenues by 43% by raising garage rates by 43%.

Any increase in short term rates is likely to result in patrons responding by moving to private garages that offer lower rates, or shifting to alternative modes of transportation. In the future, as the economy recovers and Downtown vacancies decrease, increased parking activity may well support higher rates. Given the current financial situation, several options should be considered:

1. **Take a wait and see approach, committing to a revenue bond only when demand for off-site street parking has recovered to the point that higher rates can be sustained.** This would presumably mean delaying reconstruction of the Center Street Garage. Nearby projects that are currently in the planning pipeline, such as the proposed Berkeley Art Museum/Pacific Film Archive, and the concert venue planned for the UC Theater, may generate demand for additional parking and new revenues within two to four years.

2. **Improve monitoring of parking system occupancy (of both public and private garages).** This will help the City monitor the capacity the municipal

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11 Approximately $3.6 million in funding is available for parking and TDM needs related to impacts from the construction of the Berkeley City College campus on Center Street. Funds are currently being held in an escrow account.

12 Fewer commuters and/or shoppers in City garages would ease the disruption that will be caused when the Center Street Garage is demolished, but will not help with revenues.
parking system and its competitors have to absorb more customers. This will help answer questions such as “How many customers can competing garage operators absorb before they will want to raise rates?”, and “When will the City be able to gain substantial revenue by raising rates?”

3. **Extend parking meter hours into the evenings and to Sundays, and/or raise daytime rates in high-demand areas, and use a portion of these revenues to help service the debt on the new revenue bond.** There is insufficient information to estimate the revenue potential from these sources, but further study may show that it is sufficient to address a part of the need. On the other hand, as previously discussed, devoting some of this increased revenue to public improvements besides parking is helpful in gaining support for the increases from businesses and residents, thereby reducing the funding available solely for new parking bonds.

4. **Audit existing parking revenues and expenditures in the two parking enterprise funds, to determine whether cost savings can be achieved in current operations.** While this approach is unlikely to provide sufficient revenue alone, instituting new technologies and new approaches may be able to provide significant cost savings and/or enhance revenues. For example, by replacing old coin-only meters, the City has reduced labor expenses for meter repairs. The evidence from other cities suggest that adopting new technologies, such as license plate recognition systems for residential parking permit enforcement, may also allow either (a) additional citation revenues without adding staff; or (b) maintenance of current enforcement levels while reducing staff expenses.

5. **Explore partnerships with UC, private developers, or other organizations.** A number of entities have expressed an interest in partnering with the City to help reconstruct the Center Street Garage, including UC Berkeley, Berkeley City College, the Downtown YMCA, and private developers. The City should continue to explore the potential for these partnerships which could help reduce the public cost of rebuilding the garage.
2 PARKING SUPPLY & MANAGEMENT: EXISTING CONDITIONS, CHALLENGES AND OPPORTUNITIES

THE TWO KEY PARTS OF EVERY PARKING SYSTEM

While keeping overall, long-term goals in mind is important, it is also essential to grapple with the every-day, nuts-and-bolts aspects of the Downtown parking system. Every parking system has two key parts:

1. Quantity (i.e., the number of parking spaces)
2. Management (i.e., policies, regulations, prices)

As shown below, within the Downtown Area Plan boundaries, there are approximately 1,883 curb parking spaces and more than 2,554 off-street parking spaces.1 Figure 1-1 shows the location and capacity of major off-street parking facilities within the Downtown area.

<table>
<thead>
<tr>
<th>Parking inventory within the Downtown Area Plan boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-street</td>
</tr>
<tr>
<td>Off-Street</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

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1 The inventory figure for off-street spaces includes all major parking facilities which are available for use by the general public. Private parking facilities (i.e., ones that are not available to the general public) for residential and commercial buildings are generally not included in this figure.
Figure 2-1  Major Off-Street Parking Facilities

Data Source: UC Berkeley, City of Berkeley
THE CURB PARKING MANAGEMENT CHALLENGE

Although curb parking spaces account for less than half the parking supply in the Downtown Area, they are in many ways the "tail that wags the dog" of parking policy. When new visitors arrive Downtown, it is the curb parking spaces that they see first. If these spaces are entirely full, it is easy for the casual observer to conclude that "there is no parking". When shopkeepers look out their windows and see (or hear from first-time customers) that all of the curb parking is full, it is easy for them to conclude that the Downtown has an overall parking shortage. This situation can arise even when hundreds of parking spaces that are available for public use are simultaneously sitting empty in adjacent garages.

In Nelson/Nygaard’s informal interviews with Downtown shoppers and visitors, review of recent press coverage and letters to the editor, and formal stakeholder interviews with Downtown merchants and property owners conducted as part of this Plan’s development, we quite frequently heard or read that Downtown "has a parking shortage".

Our review of previous studies paints a more nuanced picture: on many downtown blocks, curb parking spaces are often full or nearly full, while adjacent garages are not. For example, a 2007 UC Berkeley study (conducted before the onset of the current severe recession) included comprehensive occupancy surveys. The study found that on weekday evenings, downtown curb parking occupancy averaged 94% during the period from 6:30 PM to 7:30 PM, with curb parking occupancy averaging 91% during the period from 6:30 PM to 9:30 PM. Figure 2-2 illustrates the pattern observed. During the same period, the Center Street Garage was just 29% occupied, the Allston Way Garage was 27% occupied, the Berkeley Way Lot was 50% occupied, the Kittredge Garage was 47% occupied, and the University Hall Garage just 4% occupied. On Saturday evening, very similar conditions prevailed, with curb parking occupancy averaging 91% during the period from 6:30 PM to 9:30 PM, as illustrated in Source: University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick (Fall 2007)

Figure 2-3. The study authors observed that curb parking occupancy increases substantially in the evenings after 6 PM when parking meters are no longer enforced. This can be seen by comparing the average weekday curb parking occupancy during meter operation in Figure 1-4 with the occupancies shown in Figures 1-2 and 1-3.

The study also found that many of Downtown’s publicly-available off-street garages had substantial excess capacity at all times. For example, the City’s Center Street Garage never reached greater than 75% occupancy.

In site visits and a review of recent City garage occupancy data, the study authors observed similar conditions, indicating that generally similar conditions persist today. We also observed a similar parking pattern (i.e., very high curb parking occupancy, but much lower occupancy rates in off-street garages) on Sundays, when the Downtown meters are turned off but many shops, restaurants and theaters are open.

Why would it be that downtown curb parking is frequently full or near full, while simultaneously hundreds of spaces sit empty in adjacent parking garages? Why is this pattern especially strong in the evenings and on Sundays? The answer lies in how parking is priced and managed.

- In the evenings, the standard price to park in downtown garages is a $5 flat-rate fee. After 6 PM, curb parking is free.

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2 The occupancy surveys were carried out on a Tuesday, a Wednesday, and a Saturday. University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick, "Downtown Berkeley Parking Management Study" (Fall 2007), 6-16.

3 Counts were conducted in the six major public and private garages and lots in the Downtown area, including the Center Street Garage, the Allston Street Garage, the Berkeley Way Lot, the Kittredge Street Garage, the Promenade Garage, and the University Hall Garage. Counts were taken at four times of the day, during morning, mid-day, afternoon, and evening hours on both a weekday and a Saturday.
Similarly, on Sundays, there are substantial fees for parking in most off-street lots and garages, but curb parking is free.

Even on weekdays and Saturdays during the hours that meters are enforced (Monday through Saturday, 9 PM to 6 PM), it is often less expensive to park at the curb than to park in an off-street lot or garage.

The curb parking is more visible, easier to reach, closer to destinations, and perceived by many to be safer than parking in a garage -- and it is frequently either free, or less expensive than parking in a garage. Given this combination of incentives, is it any wonder that the curb parking is frequently full while the garages are half-empty?

**Parking Conditions During Evening Hours: Field Observations**

The photographs at right were taken on January 30, 2010, a Saturday evening, between 10 PM and midnight. While taking these pictures, we walked the full length of Shattuck Avenue between University Avenue and Dwight Way (the southern boundary of the Downtown Area Plan). We found every curb space full, including those on the adjacent side street blocks, with the exception of two that were momentarily vacant. Then the traffic light changed, and two drivers who had apparently been circling in search of free curb parking immediately pulled in to occupy the spots. The public parking garages nearby, however, were a different story. In both the publicly-owned Center Street Garage and the privately-owned Allston Way Garage, which sit just half a block from Shattuck, we found that multiple levels of parking were entirely vacant.

The limited hours for some downtown parking garages may be a contributing factor to the evening curb parking shortage. Numerous downtown parking facilities do remain open to the public until 2 AM on Friday and Saturday nights (e.g., the Allston Way and Library Gardens garages). Some remain open until 2 AM every day (e.g., the UC-owned Bancroft-Fulton Lot, Banway Lot and Genetics Garage), and some (e.g., the Milvia Street Lot and the Berkeley Way Lot) are open 24 hours per day. However, the City-owned Center Street and Oxford garages close at midnight. Therefore, some downtown employees, diners, and theatergoers who currently park at the curb may be doing so because they incorrectly believe that all downtown parking facilities close at midnight. Based on past experience in similar downtown situations, however, we believe that the primary cause of Downtown’s current curb parking shortage is its pricing. In other downtowns, instituting sufficiently high curb parking prices in the evening hours quickly

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4 On weekdays after 5:00pm and all day on weekends, the Allston Way Garage charges just $3 to patrons of the Berkeley Repertory Theater and Landmark Theatres. Patrons must show the parking attendant a validation stamp from the theater on their parking ticket stubs.
persuaded many employees where previously parking for free at the curb to switch to less expensive options, such as paying an evening flat-rate charge, buying a monthly permit for an off-street parking garage, or taking transit.

Restaurant and bar employees with whom we spoke explained that under the current rules they often find it convenient to park at the curb for an evening shift. For a shift that starts at 5 PM or 6 PM, it is easy and cheap to drop a few quarters in a meter that will turn off at 6 PM, and then remain all night. Shoppers, diners and theater patrons who arrive later often find the curb parking full.

Commenting on the City’s need to continue metered parking past 6 PM to address the high demand for evening curb parking, Professor Donald Shoup, the UCLA professor and renowned expert in urban parking policy, wrote to a former student and current City of Berkeley staff member in 2010 saying,

*We ate dinner at Beckett’s on Shattuck Avenue last week and, as usual, I asked the waiter where he parked. He told us that he usually arrives around 5 PM and cruises around until he finds a meter space. He pays until 6 PM and then has free parking all evening. That creates congestion just when commuters are driving home and causes cruising all evening as diners hunt for a free curb space. Any city that turns its parking meters off at 6 PM in a bustling downtown hasn’t got its climate change act together.*

*Printed with permission from Prof. Donald Shoup, December 7, 2011.*
Figure 2-2  Average Weekday Occupancy During Evening Hours

Source: University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick (Fall 2007)
Figure 2-3  Average Saturday Occupancy During Evening Hours

Source: University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick (Fall 2007)
Figure 2-4  Average Weekday Occupancy during Meter Hours

Legend

M  All or majority of parking on blockface is mechanically metered
PD  All parking on blockface is pay and display

- 1 - 4 Spaces
- 4 - 10 Spaces
- 10 - 20 Spaces
- 20 + Spaces

- 95 - 100% occupied
- 85 - 95%
- 70 - 85%
- 50 - 70%
- < 50%

Source: University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick (Fall 2007)
THE CURB PARKING MANAGEMENT CHALLENGE
ON NEIGHBORHOOD STREETS

Most of the curb parking near Downtown is within a Residential Permit Parking area. On these RPP blocks, the rules are as follows:

**During hours of enforcement:** During the hours of enforcement for the residential permit parking areas (Monday through Friday, 8 PM to 7 PM in most zones, and Monday through Saturday, 8 PM to 7 PM in others):

- Anyone may park for up to two hours free of charge, on a first-come, first-served basis.
- Vehicles displaying a valid residential parking permit, local business parking permit, neighborhood-service community facility parking permit, senior event parking permit or visitor permit are exempt from this time limit.

**Outside of the hours of enforcement:** In the evenings after the hours of enforcement and on Sundays (and in some cases Saturdays):

- Anyone may park as long as they want, free of charge, on a first-come, first-served basis. (Until, that is, the next morning, when enforcement begins.) Note that under existing rules, a person who parks beginning at 5:01 PM may legally park until 10 AM the following day.

A study conducted in 2007 by a UC Berkeley graduate student class (See Appendix B) found that there were distinct parking patterns on residential blocks within RPP areas in the vicinity of Downtown. To determine the extent of non-residential parking in these areas, the study selected a sample of 24 block faces containing approximately 350 parking spaces in total. Figure 1-5 shows the block faces that were studied. Parking counts were conducted at 1 AM on a Monday, and at 12 PM and 8 PM on a Tuesday and Saturday.  

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5 University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick, "Downtown Berkeley Parking Management Study" (Fall 2007), p. 8.
Figure 2-5  Location of Residential Blocks Sampled in Spillover Study

Source: University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick (Fall 2007)
The 2007 UC Berkeley Study found that occupancies were highest on Tuesday and Saturday evening and Saturday midday, with Saturday midday being the highest of all. Figure 1-6 shows parking occupancy by permit holders versus non-permit holders.

**Figure 2-6  Residential Curb Parking Patterns in the Downtown Vicinity**

![Bar chart showing parking occupancy by permit holders versus non-permit holders.]

Source: University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick, "Downtown Berkeley Parking Management Study" (Fall 2007), p.14.

The observed patterns are consistent with the general perception that Downtown visitors and workers park in adjacent residential neighborhoods where parking is always free and is unlimited after 7 PM. While some evening and weekend non-resident parking may be attributable to residences in the area (i.e., people visiting friends or relatives), the distinct increase in non-resident parking on Tuesday midday and Saturday midday and evening indicate that a significant portion of non-resident parking is likely to be associated with people parking in adjacent residential neighborhoods and then walking to Downtown commercial destinations. Some of these non-resident parkers may also be traveling to UC Berkeley, particularly for those blocks that are adjacent to the campus.

As described earlier, Downtown curb parking spaces often fill up on busy evenings and on Sundays. Employees and visitors are typically then left with three options:

1. Circle the commercial blocks until a curb spot opens up.
2. Pay a $3 to $5 flat rate fee to park in a garage.
3. Search for parking on a nearby neighborhood residential street, park there for free and walk to the Downtown destination.

During the daytime when the parking meters are enforced, the situation on residential permit parking blocks adjacent to metered blocks is often not too different from the evening hours. Curb parking on many blocks near Downtown is frequently full. As indicated by the 2007 UC Berkeley
Study, many nonresidents park in residential permit parking blocks, often evading the spirit of the law by moving their cars every two hours to avoid being cited. This leads to a large number of pollution-emitting motor vehicle cold starts, and parking search vehicle miles traveled, as well as additional noise and traffic danger in residential neighborhoods. The City’s planned use of License Plate Recognition equipment is expected to enhance parking enforcement in RPP areas, and reduce the opportunities for both meter feeding and evading the laws governing parking in RPP areas.

CRUISING IN SEARCH OF FREE PARKING IN AND NEAR DOWNTOWN

Previous studies by traffic researchers in various busy urban areas have found that a surprisingly high proportion of traffic consists of drivers who are circling the block in search of free or underpriced parking. Studies in other cities have estimated that between 8% and 74% of traffic flow consists of drivers searching for cheaper parking.6

A 2007 Cruising Study in Downtown Berkeley7 found that, on average, 13% of all traffic was made up of vehicles cruising for parking, and this figure ranged from 6% to 61% depending on the time of day. Not surprisingly, cruising for parking generally followed the same patterns as parking occupancy: both parking demand and cruising peaked twice during the day, first at around noon, and then in the evening hours just before metered parking became free at 6 PM. The evening parking peak was always larger than the noon peak.

Figure 2-7 Summary of Downtown Berkeley Cruising Study Video Data

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Parking Occurrence</th>
<th>Cars Passing</th>
<th>Cars Passing + Parking</th>
<th>% Cruising</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00AM - 11:30AM</td>
<td>32</td>
<td>484</td>
<td>516</td>
<td>6.20%</td>
</tr>
<tr>
<td>11:30AM - 1:00PM</td>
<td>35</td>
<td>103</td>
<td>138</td>
<td>25.36%</td>
</tr>
<tr>
<td>1:00PM - 2:30PM</td>
<td>44</td>
<td>287</td>
<td>331</td>
<td>13.29%</td>
</tr>
<tr>
<td>2:30PM - 4:00PM</td>
<td>40</td>
<td>317</td>
<td>357</td>
<td>11.20%</td>
</tr>
<tr>
<td>4:00PM - 5:30PM</td>
<td>42</td>
<td>250</td>
<td>292</td>
<td>14.38%</td>
</tr>
<tr>
<td>5:30PM - 7:00PM</td>
<td>30</td>
<td>19</td>
<td>49</td>
<td>61.22%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>223</td>
<td>1,460</td>
<td>1,683</td>
<td>13.25%</td>
</tr>
</tbody>
</table>


CONCLUSIONS REGARDING CURRENT PARKING SUPPLY & MANAGEMENT IN DOWNTOWN

Two key conclusions, based upon both Nelson\Nygaard’s observations in the field and the data from previous studies, are the following:

1. **Downtown Berkeley does not have an overall parking shortage.** Instead, it has spot parking shortages and surpluses, which exist simultaneously: shortages at the curb, especially when the meters are turned off, and surpluses in many garages. There is also significant variation from block to block, with the shortages common in the downtown core while street parking is available on other blocks. However, because the most desirable and most visible parking is commonly at capacity, visitors and merchants may perceive an overall parking shortage.

2. **Inefficient parking pricing and inadequate public information about parking locations and prices are contributing to a poor driver experience, and a misperception of a parking shortage.** Prices that are fit the actual conditions, and provision of useful information, can solve the perceived parking shortage without driving away customers. As described in detail in the following chapter, increasing the price of on-street parking can attain a vacancy rate of about one parking space on each block face, which can make convenient curb parking spots readily available for customers and other short-term users and persuade long-term parkers to make use of the underused garages nearby.

This does not mean that no additional parking will ever be needed in the Downtown. But it is difficult to know how much new parking may be needed when the existing supply is used inefficiently.
3 MANAGING THE EXISTING PARKING SUPPLY

This chapter discusses approaches to parking management and outlines a number of specific implementation recommendations that will enable the City to implement the goals, policies and actions of the Downtown Area Plan (DAP) Access Chapter. The following DAP Access Chapter Goal provides the overarching policy context for the parking management recommendations. More specific DAP Access policies are referenced later in the chapter.

GOAL AC-3: PROVIDE PARKING TO MEET THE NEEDS OF DOWNTOWN, WHILE DISCOURAGING COMMUTER PARKING AND ENCOURAGING MOTORISTS TO PARK THEIR CARS AND EXPERIENCE DOWNTOWN AS A PEDESTRIAN.

MANAGING PARKING THROUGH PRICING

As previous studies have documented and as illustrated in Error! Reference source not found. and Error! Reference source not found. in the previous chapter, at many hours of the day, the curb parking on Downtown’s commercial blocks and on many residential blocks near Downtown is frequently completely or almost completely occupied, and many vehicles are cruising around searching for on-street parking, while simultaneously, the publicly-available parking in nearby off-street facilities has substantial excess capacity. For example, a 2007 UC Berkeley study found that on weekday evenings, downtown curb parking occupancy averaged 94% during the period from 6:30 PM to 7:30 PM. During the same period, the Center Street Garage was just 29% occupied, the Allston Way Garage was 27% occupied, the Berkeley Way Lot was 50% occupied, the Kittredge Garage was 47% occupied, and the University Hall Garage just 4% occupied. The study, conducted before the onset of the recent recession, also found that many of Downtown’s publicly-available off-street garages had substantial excess capacity at all times: for example, the City’s Center Street Garage never reached greater than 75% occupancy.¹

Based on the data from this study and other similar studies, as well as our field observations of current conditions, we conclude that in numerical terms, there is an overall surplus of parking spaces in Downtown Berkeley. However, a new visitor driving on any Downtown street may perceive a parking shortage, even as garages just a half a block away remain underused. Merchants often remark that convenient curb spots are often full, especially after 6 PM, deterring customers who wish to make quick purchases or pick up meals. Meter feeding by employees is also perceived to be common. To solve these curb parking shortages, proper price incentives are essential to steer employees and commuters to long-term spots, and dissuade them from taking the front-door spots.

¹ University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick, "Downtown Berkeley Parking Management Study" (Fall 2007), pp. 6-16.
Available, convenient, on-street customer parking is important for ground-level retail to succeed. To create vacancies and ensure availability of the best, most convenient, front door parking spaces, it is crucial to have price incentives to persuade some drivers to park in the less convenient spaces (on upper garage floors or a block or two away). In other words, higher prices for the best spots and lower prices for the less convenient, currently underutilized spots.

Motorists can be thought of as falling into two primary categories: bargain hunters and convenience seekers. Convenience seekers are more willing to pay for an available front door spot. Many shoppers and diners are convenience seekers. They are typically less sensitive to parking charges because they stay for relatively short periods of time, meaning that they will accumulate less of a fee than an employee or other all-day visitor. By contrast, many longer-stay parkers will find it worthwhile to walk a block to save on parking fees. With proper pricing, the bargain hunters will choose currently underutilized lots and more distant meters, leaving the prime spots free for those convenience seekers who are willing to spend more. For merchants, it is important to make prime spots available for these people: those who are willing to pay a fee to park are also those who are willing to spend money in stores and restaurants.

For some people, of course, the price of transportation is of primary importance. Lower-cost alternatives are available for those who are particularly sensitive to price, such as parking in off-street garages, and lower-cost modes such as transit, ridesharing and bicycling. Recommendations elsewhere in this plan, such as the recommendation to provide all downtown workers and residents with transit passes, are designed to ensure that the overall outcome of the Downtown Area Plan will be to improve equity for lower-income residents and workers.

What are the Alternatives to Charging a Price High Enough to Create Some Vacancies?

The conventional approach to creating vacancies in prime parking spaces is to set time limits and give tickets to violators. The “time limits and tickets” approach, however, brings several disadvantages: enforcement of time limits is labor-intensive and difficult, and employees, who quickly become familiar with enforcement patterns, often become adept at the “90-minute shuffle”, moving their cars regularly or swapping spaces with a coworker during the workday. Even with strictly enforced time limits, prime spaces will likely be unavailable for customers if there is no price incentive to persuade some motorists to seek less convenient or less expensive spots, or to use alternative modes.

For customers, strict enforcement can bring “ticket anxiety”, the fear of getting a ticket if one lingers a minute too long. As Dan Zack, Downtown Development Manager for Redwood City, CA, puts it, “Even if a visitor is quick enough to avoid a ticket, they don’t want to spend the evening watching the clock and moving their car around. If a customer is having a good time in a restaurant, and they are happy to pay the market price for their parking spot, do we want them to wrap up their evening early because their time limit wasn’t long enough? Do we want them to skip dessert or that last cappuccino in order to avoid a ticket?”

By using the right prices, with prices that vary by time of day and by location, and by carefully considering which locations can best accommodate this strategy, cities can respond to changing demand patterns in a way that is more flexible and customer-oriented than setting time limits. Later in this chapter, we describe several examples of communities that have decided to rely fully on pricing to attain parking convenience and have eliminated time limits altogether.
A 2006 report for the City of Burlingame, California summarizes the results of a shopper intercept survey conducted in the city’s Burlingame Avenue Commercial District:

> When asked if the cost of parking made parking less pleasant – 36 percent said “very much” and 22 percent said “somewhat.” A larger group, 42 percent said that the ease of getting a parking ticket made parking “very much” less pleasant. The greatest area of concern, however, was the “difficulty finding a space” which was cited by 49 percent of those interviewed as an issue. Thirty-nine percent indicated that not having enough change for the parking meter was very much an issue for them.\(^2\)

This is not an isolated result. Repeatedly, surveys of shoppers have shown that the availability of parking, rather than price, is of prime importance.

It is important to note that increasing parking prices and hours of operation to better manage supply is not the same (and has a very different result) than increasing parking prices and lengthening hours of meter operation simply to raise revenue. When price is used effectively as a management tool that makes it easier to access shopping, dining and cultural destinations, the public, merchants and policymakers generally support parking pricing changes, since the objectives are more closely aligned with their own goals and objectives (i.e., accessing destinations easily, attracting more customers, or achieving economic development goals).

**RECOMMENDATIONS FOR MANAGING METERED PARKING**

The recommendations in this section are intended to implement the following DAP policies:

**AC-3.1: Effective Parking.** Manage parking more effectively to promote Downtown economic vitality while simultaneously discouraging all-day parking. Parking standards should support the continued health of Downtown’s retail and cultural uses.

a) Effective parking management should be encouraged by developing a consolidated parking/Transportation Demand Management (PTDM) program. Employ pay-and-display meters and/or other technology to increase the City’s ability to manage the demand for on-street spaces.

b) Promote efficient use of parking by using technologies that: communicate the location of available parking, such as dynamic and static signage that directs motorists to where garage parking is available. Consider technologies that provide real-time information on parking space availability and location.

c) Use pricing strategies that increase the availability of on-street and short-term parking for retail and cultural uses—while simultaneously discouraging all-day parking by commuters. Increase pricing at on-street meters throughout Downtown until an acceptable vacancy rate is attained (such as a 15% vacancy rate). Authorize the Transportation Division to adjust parking rates whenever necessary to reach and maintain the established vacancy-rate target. Price public garages and encourage private parking vendors to make off-street parking more affordable and convenient relative to on-street parking, and favor short-term (less than 4 hours) over all-day use. Phase out monthly parking permits in City-owned Downtown parking facilities.

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Recommendations

1. **Collect detailed information on existing parking supply and demand and parking regulations and pricing.** Since you can’t manage what you don’t measure, having accurate and up-to-date information on Downtown’s existing parking supply (both on- and off-street) is a critical first step. Parking occupancies should be measured during meter hours as well as on evenings and weekends.

2. **Establish policies and guidelines for managing parking Downtown.**
   
   a. *Set targets for parking occupancy.* Current best practice recommends a target occupancy rate of approximately 80-85% at even the busiest hour, a rate which leaves about 15-20%, or about one or two empty spaces on each block face. This provides enough vacancies that visitors can easily find a spot near their destination when they first arrive.

   b. *Establish an initial rate and time structure to achieve the desired occupancy targets.* For each block, the right price is the price that will achieve the established occupancy target. This means that pricing should not be uniform: the most desirable blocks need higher prices, while less convenient block faces are cheaper. Prices should also vary by time of day and day of week according to parking demand.

   c. *Operate meters on days and at hours when demand is high enough to cause parking occupancy to exceed 80-85%.* A 2007 Metropolitan Transportation Commission parking study recommended extending Downtown parking meter hours of operation from 6 PM to 10 PM, based upon parking occupancy counts conducted in the core blocks of Downtown. As shown by the fall 2007 evening parking occupancy maps (shown in the previous chapter), parking occupancy during the evening hours exceeded 95% on many blocks in Downtown. Our own recent field observations found that despite the recession, evening parking occupancy remains very high in the Downtown core. In order to achieve the goal of making parking convenient and available for customers, we believe that the concept of extending meter hours of operation into the evening hours remains sound. Additionally, our Sunday afternoon site visits found most curb parking full.

   Extending meter hours will result in additional operating and enforcement costs, as well as additional meter and parking ticket revenues. A full cost-benefit analysis of extending meter hours is beyond the scope of this report. However, once a rate and time structure is proposed, it can be analyzed for its potential impacts on operating costs as well as revenues.

   d. *Use price rather than time limits to achieve curb parking availability.* Time limits should be significantly lengthened or eliminated and pricing should be used to create available curb parking. Develop a policy for parking at broken or inoperable meters that either limits parking time or prohibits parking.

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e. **Coordinate municipal garage rates with on-street parking rates** to provide longer-term parkers with an incentive to park in garages.

f. **Consider eliminating monthly parking permits** in municipal garages to maximize parking available for customers and visitors.

3. **Enact enabling policies and ordinances.** Currently, the City Council must adopt an ordinance amendment any time parking prices or meter hours are modified. To enable more flexible and dynamic management of metered parking Downtown, it will be necessary to adopt an ordinance that enables adjustment of rates, time limits and hours of operation within certain established guidelines. By ordinance, Council should establish that the primary goal in setting parking meter rates and hours for each block is to achieve a certain occupancy rate (generally in the range of 80-85%). Additionally, the ordinance should both require and authorize City staff to raise or lower parking prices to meet this goal, without requiring further action by the Council. Appendix C provides three examples of the recommended approach: the adopted Redwood City and Ventura downtown parking ordinances and the SFpark enabling legislation.

4. **Monitor parking occupancy on a regular basis and adjust parking rates to maintain established occupancy targets.** Rates should be adjusted in predetermined, incremental amounts based on observed occupancy and should be adjusted no more frequently than once a month. Regular occupancy counts should be conducted, including counts before and after each rate adjustment. Currently, the City does not conduct regular occupancy counts for its parking facilities (either on-street or off-street), so monitoring occupancy will represent a significant change in current operations. It will require staff time, time from the City’s parking contractors, and/or hiring an outside firm to accomplish this task, and this will be a new expense. However, monitoring parking occupancy regularly is clearly essential for any city that wishes to adjust curb parking prices to achieve an occupancy goal. Conducting regular occupancy counts is also an essential prerequisite for making informed decisions about whether and when to add new parking facilities. Conducting occupancy counts is a fundamental step in conducting financial feasibility studies for new and/or replacement parking facilities: without good information about customer demand, cities cannot make good decisions about how large to make a new or replacement parking facility and cannot accurately project future parking demand or future parking revenues.

We recommend that the expense of conducting occupancy counts be covered by meter revenues. However, there may be less expensive options for monitoring parking occupancy than more traditional, labor intensive occupancy counts. The SFpark project is investigating the use of payment data (collected from meters) to infer parking occupancy. Additionally, the City’s Berkeley Transportation Action Plan pilot program will provide Berkeley with the funding needed to equip some parking enforcement vehicles with license plate recognition systems. Other cities, such as Washington DC, have been able to use these camera systems to automate the process of conducting occupancy studies, greatly reducing the cost of monitoring occupancy. Therefore, while initial parking occupancy surveys may still need to be conducted using old-fashioned paper and

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clipboard methods, in future years, monitoring occupancy can be expected to become substantially easier and less labor-intensive. Parking occupancy sensors are currently used in San Francisco, Los Angeles and several other cities to provide round-the-clock data on curb parking occupancy, and as described later in this chapter, are also proving useful for improving the efficiency of parking enforcement.

5. Adjust on- and off-street parking rates on a regular basis to maintain the desired occupancy targets. Armed with good information on recent parking occupancy rates, the Parking Services Manager should adjust the rates (and hours of operation) up or down on each block to achieve the policy goal set by City Council. To avoid confusion and backlash, consider ways to bring merchants and other stakeholders along during the process, such as making them aware of high occupancy rates and planned rate increases before they go into effect.

6. Provide clear information about parking rates and availability/occupancy to the public via the web. Rate structures and parking operations should be as easy to understand and as straightforward as possible, in order to minimize frustration on the part of users and reduce the likelihood of violations (which is far more upsetting and expensive to visitors than paying for parking).

Discussion

What is the right price for parking?

Ideally, parking occupancy for each block and lot should be monitored carefully, and prices adjusted regularly to keep enough spaces available. In short, prices should ideally be set at market rate, according to demand, so that just enough spaces are always available. Professor Donald Shoup of UCLA advocates setting prices for parking according to the “Goldilocks Principle”:

The price is too high if many spaces are vacant, and too low if no spaces are vacant. Children learn that porridge shouldn’t be too hot or too cold, and that beds shouldn’t be too soft or too firm. Likewise, the price of curb parking shouldn’t be too high or too low. When about 15 percent of curb spaces are vacant, the price is just right. What alternative price could be better?

If this principle is followed, pricing parking should not drive customers away. After all, when the front-door parking spots at the curb are entirely full, under-pricing parking cannot create more curb parking spaces for customers, because it cannot create more spaces. And, if the initial parking meter rate on a block is accidentally set too high, so that there are too many vacancies, then a policy goal of achieving an 80–85% occupancy rate will result in lowering the parking rate until the parking is once again well used.

When extending hours of operation and raising rates, we recommend that the City proceed slowly and deliberately, and begin with examining current rates, hours of meter operation and parking occupancy levels. In San Francisco, the SFpark project established different rate periods for weekdays and weekends based on observed parking demand. Rates were then adjusted gradually.
and periodically based on demand, and rates changed no more often than once per month. Rates are set with the goal of maintaining no more than 80% occupancy on any single block. Following is a description of SFpark's approach to rate adjustments based on observed occupancy:

- When occupancy is 80-100%, the hourly rate is increased by $0.25
- When occupancy is 60-80%, the hourly rate is not changed.
- When occupancy is 30-60%, the hourly rate is lowered by $0.25.
- When occupancy is less than 30%, the hourly rate is lowered by $0.50.

Legal Basis for Setting Fair Market Parking Rates

The California Vehicle Code (CVC Sec. 200258) allows local jurisdictions to set parking meter prices at fair market rates necessary to achieve 85% occupancy. California case law authorizes local jurisdictions to enact parking meter ordinances with fair market rates that "may...justify a fee system intended and calculated to hasten the departure of parked vehicles in congested areas, as well as to defray the cost of installation and supervision." California case law has also recognized that parking meter fees are for the purpose of regulating and mitigating traffic and parking congestion in public streets, and not a tax for revenue purposes.

However, on November 2, 2010, California voters passed Proposition 26. According to the official analysis prepared for the ballot by the State’s Legislative Analyst:

>This measure broadens the definition of a state or local tax to include many payments currently considered to be fees or charges...

As the Legislative Analyst’s analysis explains, increasing any fees that are now defined as taxes would require approval by a vote of the people.

Our initial assessment of Proposition 26’s text is that parking meter fees, when enacted with properly drafted ordinances, will continue to be classified as fees, rather than taxes, and that rates will continue to be able to be adjusted without a citywide election being required. However, as the Legislative Analyst explains:

>...parts of this measure would be subject to future interpretation by the courts.

Why Use Time-of-day Parking Rates and Not “Progressive Pricing”?

The experience from cities that have adjusted parking rates with the aim of ensuring that parking is well-used, but still readily available, shows that to achieve this goal, it is better to use rates that vary by time of day, rather than what is known as "progressive pricing". Progressive pricing charges motorists higher parking rates for longer stays (e.g., $1 for the first hour and $2 for the second hour) with the goal of increasing turnover at curb parking spaces. Turnover, however, is not the key metric that customers care about. Customers care about availability. Customers want

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7 DeAryan v. City of San Diego, 75 CA2d pp 292, 296, 1946.
8 Ibid., p293. For more information, on California Vehicle Code statutes and case law that provide the legal basis for charging market rate parking prices and creating Parking Benefit Districts see Appendix A, Redwood City Ordinance.
to find a space available near their destination when they arrive. As long as a space is available for the customer to use, he or she doesn’t care how long other people on the block may have parked.

To achieve the desired level of availability, particularly at busy hours such as lunchtime and dinnertime, rates that vary by time of day and by location have proven to be more effective than progressive prices. New York City’s PARK Smart program, for example, has set parking meter prices in Greenwich Village at $3.75 per hour from noon to 4 PM, and $2.50 per hour at all other times. This rate structure responds well to observed curb parking demand, helping ensure vacancies when the lunch crowd and afternoon shoppers arrive. By contrast, progressive pricing – with a low rate for the first hour or two – does little to create vacancies during the lunch hour rush.

Progressive pricing would also be a poor approach for managing demand in Downtown Berkeley during the evening hours. As described in the previous chapter, parking surveys show that in the evenings, curb parking occupancy rates are highest during the early evening (just after 6 PM when the meters turn off) and that by late evening, there are often ample vacancies. With this demand pattern, it makes little sense to charge the typical evening customer (e.g., a patron coming downtown for dinner and a movie) a low rate for the first hour, and a very high rate for the last hour that they are parked, later in the evening. Instead, appropriate pricing for the evening hours would be a higher rate during the early evening, and a very low rate or even free parking during the late evening hours.

**Why Eliminate Time Limits?**

Once a policy of market rate pricing is adopted, with the goal of achieving an 80-85% occupancy rate on each block, even at the busiest hours, then time limits can actually be eliminated. With their elimination, much of the worry and “ticket anxiety” for customers disappears. In Redwood City, where this policy was recently adopted, Dan Zack describes the thinking behind the City’s decision in this way:

> Market-rate prices are the only known way to consistently create available parking spaces in popular areas. If we institute market-rate prices, and adequate spaces are made available, then what purpose do time limits serve? None, other than to inconvenience customers. If there is a space or two available on all blocks, then who cares how long each individual car is there? The reality is that it doesn’t matter.

Redwood City eliminated all time limits on its downtown streets in 2007. Previously, there was a one-hour time limit on Broadway, the main drag, and varying time limits on nearby blocks, but the time limits had failed to create a good vacancy rate. The Wall Street Journal reported on how the switch to pricing, rather than time limits, has affected downtown customers:

> "In the past, Cheryl Angeles has had to jump up in the middle of a coloring treatment, foil in her hair and a black-plastic cape around her neck, to pop more quarters into the meter. Twice the self-storage company regional manager got $25 parking tickets when she didn’t make it in time. Now that the time limits have been removed, she can pay once and return when the appointment is over.”

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While customers can stay as long as they like (as long as they pay the going rate), the City’s performance pricing structure has succeeded nonetheless in ensuring vacancies, as employees and bargain hunters have moved to lower-price off-street parking nearby. Similarly, the cities of Ventura and Riverside, CA, have eliminated time limits for many downtown curb parking spaces, and have now switched to a policy of setting parking meter prices to achieve the goal of 85% parking occupancy on each block.

**Signage and Parking Technologies**

The experiences from the early adopters of demand-based parking pricing offer a practical implementation lesson. *Do not post signs, or put printed labels on meters, to indicate parking meter hours of operation or prices.* Within just weeks of setting initial prices and hours of operation, both Redwood City and Ventura had changed those prices and hours of operation. Ventura found itself left with outdated signs as well as a major effort required to alter all of them. Instead do as San Francisco does in its SFpark program areas: rely upon the meters’ electronic displays to inform customers of meter hours of operation and prices, and use posted signs only for rarely-changed information, such as street cleaning hours (as shown in the photos on the following page.) The SFpark program also makes extensive use of its website to provide the public with information on parking locations, availability and rates.
Credit-Card Enabled Meters

Given a primary goal of creating vacancies on the blocks where parking becomes overused, and shifting some parking demand to underused parking lots and garages, meters that accept credit and debit cards should be installed on all Downtown commercial and mixed-use blocks. (Most Downtown blocks already have the necessary meters in place, but some coin-only meters remain.) As part of the Berkeley Transportation Action Plan pilot project, the City anticipates purchasing and installing such meters in 2012.

Pay-and-Display, or Pay-by-Space Meters?

Berkeley’s existing multi-space meters can be configured to function as either pay-and-display meters (the current set-up) or pay-by-space meters. In a pay-by-space system, each curb space is marked with a number. To pay, drivers begin the transaction by entering their stall number at any multi-space meter. The graphic below, from Redwood City, illustrates typical instructions for a pay-by-space system (in this case, a pay-by-space system that also allows users to make initial payments and add time by cell phone). For customers, entering a stall number requires one additional step at the parking meter, but it eliminates the need for drivers to return to their car to place a paper ticket on the dashboard (as is required by Berkeley’s current pay-and-display set-up).

In our experience, pay-and-display enforcement is considerably more labor-intensive than enforcing pay-by-space systems, for several reasons. With a pay-by-space configuration, it is possible for enforcement officers to get a report from the meter stating which spaces have been paid for. The officers then only need to visually inspect the vehicles on the block which are parked in spaces which have not been paid for. By contrast, with pay-and-display, officers have to carefully inspect every windshield of every parked vehicle to see if the vehicle has a ticket displayed, and to see if the time on the ticket has expired.

Furthermore, when pay-by-space systems are paired with parking occupancy sensors (as in San Francisco and Los Angeles’ pilot projects), enforcement officers can use a smartphone application that shows them which spaces in the district are (a) occupied by a vehicle, and (b) not paid for. (These spaces are referred to as “parking exceptions”.) Officers can then target their enforcement efforts on the blocks with the most “parking exceptions”, instead of patrolling on fixed routes. By

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contrast, with a pay-and-display system, it is currently impossible to use better technology to automate the process of spotting vehicles that have parked, but have not paid. Currently, neither parking occupancy sensors nor license plate recognition systems can read paper tickets placed on dashboards. Enforcement can only be done by having humans conduct visual inspections of each windshield. For both of these reasons, pay-and-display enforcement is substantially more labor-intensive.

The potential for reducing enforcement costs by switching to a pay-by-space system is important, because the cost of deploying enforcement officers is significant. The City estimates the average annual cost of employing each full-time parking enforcement officer at $100,000 per year.

Additionally, it is difficult to set up a pay-by-phone option when meters are configured as a pay-and-display system. Pay-by-phone is popular with many customers, since this option allows drivers to receive a text message alerting them that their time is about to expire, and allows them to add time by phone without have to return to their car to add time. Pay-by-phone also allows motorists to pay for parking from the comfort and security of their own vehicles, rather than standing at a meter in inclement weather. With pay-and-display configurations, however, motorists can only use pay-by-phone if the driver rents a special electronic dashboard display box, which shows the motorist’s time remaining on the meter. This piece of equipment takes the place of displaying a paper ticket. By contrast, pay-by-phone systems can easily be established for pay-by-space meters, with no additional equipment required. For example, Redwood City has established a pay-by-phone option for its downtown pay-by-space meters.\(^\text{13}\)

Finally, we should note that modern, wirelessly-networked pay-by-space meters are as resistant to vandals as the City’s current pay-and-display configuration. Wirelessly-networked pay-and-display meters can be set up to allow motorists to legally pay for any space from any meter. This keeps scofflaws from obtaining free parking by jamming a single meter, since the vandals would have to knock out every meter in the system out of operation to make it impossible to pay. Also, since the City’s multi-space meters are wirelessly networked, they can send an alert to parking staff whenever a meter is out of service due to vandalism or for any other reason.

For all of these reasons, we recommend that the City reconfigure its multi-space meters from pay-and-display to pay-by-space.

**PARKING BENEFIT DISTRICTS**

The primary goal of demand-based parking pricing is to better manage Downtown’s parking supply to improve its availability and convenience. However, investing a portion of parking revenues in further enhancing Downtown as an attractive retail and entertainment destination may be an additional benefit that can allay merchant concerns about implementing potentially higher parking rates.

The City of Berkeley has, in effect, already utilized the concept of parking benefit districts to support services and infrastructure in Downtown and other commercial districts. In 2007, the City of Berkeley increased meter rates by $0.25 per hour to fund programs and capital improvements as part of the Public Commons for Everyone Initiative. In 2011, the City Council also authorized increasing meter rates in the “core” of Downtown and using a portion of

\(^{13}\) [http://www.redwoodcity.org/bit/transportation/parking/Phone.htm](http://www.redwoodcity.org/bit/transportation/parking/Phone.htm) (accessed on May 28, 2011).
Downtown parking meter revenues to pay for the City’s membership in the Downtown Property-Based Business Improvement District (PBID).

**Recommendation**

While increasing the cost of parking will improve parking availability and convenience, some Downtown stakeholders may be concerned that increasing prices will drive customers and visitors away. An important way to mitigate such fears is to enhance Downtown as a convenient and attractive destination.

We recommend that the City consider dedicating net new revenues (or a portion of net new revenues) from paid parking in the Downtown Area to fund public improvements and services that benefit the area where the revenue is collected. By "net new revenues" we mean any new parking revenues from increases in fees less any increased parking costs, such as bond payments, operations and maintenance, enforcement, administration, and other costs required to establish and maintain the new parking system.

An accurate estimate of new additional revenues should also be developed. The estimate should account for how pricing may vary by time-of-day and location, and the cost of enforcement should also be considered. Hours of enforcement now correspond with 40-hour shifts, and additional hours might require adding staff or paying overtime. Consideration should also be given to whether parking ticket revenues might decline if time limits are removed in favor of a price-only strategy.

Potential uses for any net increase in downtown parking revenues include:

- Creation and maintenance of landscaping and streetscape improvements, such as those proposed in the Streets & Open Spaces Improvement Plan (SOSIP)
- Implementation and administration of Transportation Demand Management programs to reduce commuter car use and parking demand
- Transit, pedestrian, and bicycle infrastructure and amenities
- Street cleaning, power-washing of sidewalks, and graffiti removal
- Oversight and management of Downtown infrastructure and amenities
- Additional parking construction and/or facility replacement
- Additional police patrols to provide additional security
- Marketing and promotion of local businesses
- Additional programs and projects as recommended by Downtown stakeholders and approved by City Council

A number of different organizational structures could be used to establish a policy of dedicating net downtown parking revenues to fund public improvements and services that benefit Downtown. The approach which we recommend is to establish as City policy that net parking revenues from Downtown should fund public improvements and services that benefit the blocks or zones where the revenue is collected.
Discussion

If parking revenues provide no direct benefits for Downtown, there may be little support for installing more parking meters, or for raising rates when needed to maintain adequate vacancy rates. When local merchants and property owners can clearly see that additional monies collected are being spent for the benefit of their immediate neighborhood, they are more willing to support performance-based pricing.

To attain broad-based support of stakeholders, it will be critical to communicate the benefits of price-based parking: to make parking more convenient; to reduce frustration and vehicle-miles spent on “circling”; and to find revenues to enhance Downtown as a destination. In addition, Downtown’s increment of parking revenues could play a critical role financing the reconstruction of the Center Street Garage and other parking facilities.

Broad-based acceptance cannot be assumed but can be gained by engaging stakeholders and disseminating critical information. Public opposition to price increases occurs when the benefits of improved convenience may be overlooked and the effects of price on behavior exaggerated. In Oakland, none of the new revenues from raised parking rates was devoted to improvements in districts where they were raised, and merchants were not adequately involved. This resulted in vocal objections from merchants and a reversal in this policy by Oakland’s City Council. In contrast, the City of Pasadena engaged business and property owners prior to price increases to consider how new revenues would be spent. As a consequence, Pasadena’s program has received broad support, which is helped further by signs which remind visitors that some of their money spent at the meter has helped fund visible improvements.

While targeted expenditure of parking revenues will likely be critical to gain community support, policy makers should also consider the extent to which new parking revenues should meet other fiscal demands. Recommendations on parking rates and revenues should be accompanied by analysis that provides a broader context for allocating the net increase in parking revenues.

MANAGING PARKING IN RESIDENTIAL AREAS ADJACENT TO DOWNTOWN

As discussed in Chapter 2, residential blocks in the vicinity of Downtown have a significant number of non-resident parkers, particularly on evenings and weekends. Non-resident parking is also relatively high mid-day during the week, indicating that Downtown employees may also be parking in adjacent neighborhoods. Consequently, it is important to include adjacent residential neighborhoods in the overall parking strategy for Downtown. This section recommends strategies for addressing residential parking issues in response to the following DAP policies:

Policy AC-3.6: Residential Parking. In residential neighborhoods near Downtown where parking demand by nonresidents is high, maintain an adequate supply of on-street parking for use by residents and reduce impacts of parking by non-residents.

   a) Establish measures for managing parking demand by nonresidents more effectively, such as: installation of metered parking, the use of residential parking permits or placing residential permit parking on one side of the street with parking meters on the other side.
Recommendations

To implement the policy listed above, we recommend establishing Residential Parking Benefit Areas in residential areas near downtown that experience spillover parking problems and/or curb parking shortages. Residential Parking Benefit Areas are similar to conventional residential permit parking areas, but as recommended here, they differ in several significant ways. Residential Parking Benefit Areas are designed to:

- Manage curb parking to achieve an acceptable vacancy rate for that neighborhood (such as a goal of no more than an 80-85% occupancy rate on each block, even at the busiest hour on a typical day.)
- Allow a limited number of nonresidents to pay to use any surplus on-street parking spaces in these areas that may be available (e.g., during weekday working hours, when many residents may be away) and return the resulting revenues to the neighborhood to fund public improvements.

A good start might be to establish a Residential Parking Benefit Area on a trial basis, in advance of reconstructing the Center Street Garage. Having a Residential Parking Benefit Area in place before demolishing the existing Center Street Garage could be very helpful, since it would help mitigate the loss of the garage’s capacity (421 spaces) during the rebuilding period.

Community Participation

We recommend that as in Berkeley's existing residential permit parking ordinance, Residential Parking Benefit Areas only be implemented if a majority of households in a proposed area supports formation of the Area.

Implementation

The following steps are recommended to implement each Residential Parking Benefit Area.

1) Count the number of available curb parking spaces in the area where the Residential Parking Benefit Area is being considered.

2) Make maps showing the results of the parking inventory.

3) Count the number of residential units on each parcel within the same area.

4) Compare the existing number of residential units in the area to the number of available curb parking spaces in the area. For the entire area, it is important to determine the ratio of curb parking spaces to residential units. (For example, if there are 1000 curb parking spaces and 500 residential units, then the ratio is 2.0 curb parking spaces per unit.)

5) Measure curb parking occupancy in the area during both daytime and evening hours. If the area is currently an existing Residential Parking Permit Area, distinguish between vehicles with and without valid parking permits.

6) Decide, in consultation with local residents, how many curb parking permits to issue to residents and what price to charge for them (within applicable laws which limit RPP fees to no more than administrative costs). Key questions to consider include the following: Should the number be unlimited, which may lead to shortages, or limited to ensure availability of curb spaces? Limited only to those residences with no off-street parking available? Should existing permit holders be grandfathered in, with a waiting list for newcomers? Since moving from a situation of issuing unlimited permits per household to
limited numbers of permits is often controversial, we recommend being flexible in considering acceptable solutions.

7) Resident permits should be priced to balance multiple considerations, including: (a) the need to win acceptance for the program from existing residents (which is often best achieved by "grandfathering in" existing residents by providing them with free or nominally priced permits); (b) the need to fund the program's ongoing administrative costs; (c) the desire of local residents to raise funds for neighborhood improvements; and (d) the need for prices to balance supply and demand for the limited number of curb parking spaces.

8) Rather than entirely prohibit nonresident parking as is done in many conventional residential parking permit districts, the City should sell permits for any surplus parking capacity to nonresident commuters at fair market rates.

9) One approach used recently by the City on the block of Berkeley Way adjacent to the new Trader Joe's market at University Avenue and Martin Luther King is to reserve one side of every block exclusively for residents to help ensure that some curb parking is always available for residents' use. However, this approach may have been unnecessarily restrictive, since parking remains available, even on the side of the street available to non-residents.

10) Finally, the rates for nonresidents’ parking permits should be set at fair market rates (i.e., at the price which maintains an 85% occupancy rate as determined by periodic City surveys), and all net revenues above and beyond the cost of administering the program should be dedicated to pay for public improvements in the neighborhood where the revenue is generated.

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**“Permit-less” Parking (a.k.a. "Virtual Parking Permits")**

The implementation of a “permit-less” parking system could enable the City to eliminate paper residential parking permits, reduce the staff time required to process permits, and increase the efficiency of parking enforcement. The City’s Climate Initiatives Program Grant from the Metropolitan Transportation Commission will provide Berkeley with the funding needed to equip four parking enforcement vehicles with license plate recognition systems, giving the City the equipment needed to test this approach.

License Plate Recognition (LPR) technology can eliminate the need for paper parking permits by utilizing a camera and laptop computer that uses software to read images of license plates and then verify the image against a list of authorized plates. LPR technology can be connected to a database containing the license plates of all vehicles permitted to park in a garage, lot, or neighborhood. This data is then loaded into the LPR system, which is mounted on a parking patrol vehicle. As the patrol vehicle is patrolling through the given area, the system will issue an alert whenever it identifies a vehicle that has no “virtual permit” to park in the area, or that has exceeded the time limit for free parking in the area.

There a number of advantages to using the “permit-less” parking system. Staff time needed to manage paper parking permits is reduced, issues surrounding forged, lost or forgotten permits greatly decrease, unwarranted citations are reduced, and the time needed to verify a vehicle is lessened. Additionally, an online interface can allow permit holders to manage their accounts online.

UC Irvine has introduced a new Parking Management System utilizing LPR technology at two on-campus housing complexes. A web-based application allows residents to manage their parking options online. Citation complaints have decreased by 75%, the number of steps in the permit process has been reduced from 18 to three, staff time devoted to entering license plates has been eliminated since residents now enter their license plate information online, and there has been a significant reduction in the number of citations that were cancelled because vehicle owners forgot to display a permit, due to patrol error, or due to ambiguities in the prior license plate registration system.
11) Implement appropriate technology for charging nonresidents for parking in Residential Parking Benefit Areas in Berkeley. An efficient and low cost approach has been development in the Borough of Westminster in London. In Westminster’s residential parking permit districts, visitors may pay by cell phone for parking (the number to call is posted on the residential parking signs); or by purchasing books of parking cards from local libraries. In Pasadena, CA, pay stations for purchasing visitor parking permits are located at each neighborhood fire station and may also be purchased online and printed out at home. The City is expected to begin using license plate recognition (LPR) equipment for parking enforcement in RPP areas, which should enable the implementation of new payment technologies.

Discussion

Downtown Area Plan policies seek to reduce development pressures on the residential areas surrounding Downtown and to maintain their general character. One significant concern for these areas is excessive “spillover” parking (the phenomena of an excessive number of vehicles filling up the curb parking in a residential area, as drivers seek to avoid higher parking prices at Downtown parking facilities).

In order to reduce spillover parking problems in residential neighborhoods, many cities, including Berkeley, implement residential permit parking areas by issuing parking permits to residents. Cities may assess permit fees to cover costs associated with administering and enforcing the program.

Conventional residential permit parking areas have several limitations. Most notably, cities often issue an unlimited number of permits to residents without regard to the actual number of curb parking spaces available in the area or the amount of off-street parking that may be available to residents on their properties. In high parking-demand areas, this can lead to a situation in which on-street parking is seriously congested, and the permit functions solely as a “hunting license”, simply giving residents the right to hunt for a parking space with no guarantee that they will actual find one. (An extreme example of this is Boston’s Beacon Hill neighborhood, where the City’s Department of Transportation has issued residents 3,933 permits for the 983 available curb spaces in Beacon Hill’s residential parking permit district, a 4-to-1 ratio.)

In addition, many nonresidents park in Berkeley’s residential permit parking areas by taking advantage of the current rules, which allow anyone to park in these areas for free for up to two hours during enforcement hours, and for an unlimited time after hours. Since Berkeley’s current residential parking permit area rules do not limit parking for evening uses Downtown, curb parking on many residential blocks near Downtown is almost completely occupied for weekday and weekend evenings. During the day, nonresident motorists also often park in the residential areas, moving their cars every two hours to avoid being cited. This leads to a large number of pollution-emitting motor vehicle cold starts and parking search vehicle miles traveled, as well as additional noise and traffic danger in residential neighborhoods.

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14 See: http://www.westminster.gov.uk/services/transportandstreets/parking/permits/visitorsparkingfaq/
15 Shoup, Donald. The High Cost of Free Parking. APA Planners Press, 2005, p. 516. This phenomenon may or may not be occurring in Berkeley since data on curb parking supply is not available.
16 University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick, "Downtown Berkeley Parking Management Study" (Fall 2007), pp. 8, 14.
Residential Parking Benefit Areas may present a mutually beneficial solution to both residents and non-residents. This approach can solve many of the problems experienced with conventional residential permit parking areas, where curb parking may be oversubscribed due to an unlimited number of permits being issued to residents without regard to the actual number of curb parking spaces available, or due to nonresidents gaining free parking by moving their cars frequently to evade time limits, or both.

In other situations, conventional residential permit districts actually may have many surplus parking spaces available (especially during the day, when many residents are away), but the permit district prevents any commuters from parking in these spaces, even if demand is high and many motorists would be willing to pay to park in one of the surplus spaces. This misses an important opportunity for neighborhoods to gain funding for desired improvements without having to pay new taxes. In both cases, conventional residential parking permit districts prevent curb parking spaces from being efficiently used (allowing overuse in the former example and underuse in the latter).

**A Significant Staffing Expense, but a Large Potential Benefit**

Planning, implementing, and managing Residential Parking Benefit Areas is likely to require a significant new investment of staff time. New technology, such as license plate recognition systems, can lessen the burden of inventorying curb parking, conducting occupancy surveys and enforcing parking benefit areas. Nonetheless, a significant staff expense is involved.

Despite the costs, we recommend that such a Residential Parking Benefit Area program be developed primarily because the potential benefits are large. In addition to solving existing neighborhood parking problems, a Residential Parking Benefit Area program also has the potential to accommodate hundreds of vehicles that would otherwise take up significant parking capacity in the Downtown.

A Residential Parking Benefit Area can be thought of as a "horizontal parking garage". For example, if just 500 commuters can be accommodated in a Residential Parking Benefit Area, instead of taking up 500 downtown parking garage spaces, this has the potential to save $20 million in parking construction costs. Simultaneously, the Residential Parking Benefit Area would generate new parking revenues which could benefit both the City's general goals and the neighborhood's specific needs. For example, 500 commuters paying $500 per year would generate gross revenues of $250,000 per year.

The substantial staff time required to plan and implement a Residential Parking Benefit Area can be thought of as similar to the significant staff time and expense required to plan, build and operate a new Downtown garage, but with one significant difference. A new Downtown garage would cost approximately $40,000 in capital costs for each new space, plus additional ongoing operations and maintenance costs. By contrast, a Residential Parking Benefit Area’s capital costs

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18 As described in Chapter 4, the cost of constructing new downtown garages has most recently been estimated at approximately $40,000 per space, meaning that a 500-space parking garage would cost approximately $20 million to build. There would also be additional operations and maintenance costs for such a garage. Since the City has no data on the number of curb parking spaces on the streets surrounding Downtown, we do not know how many commuters could reasonably be accommodated on these streets. However, the 35 blocks within Downtown have nearly 1,900 curb parking spaces. We think it is reasonable to assume that the blocks within a five-minute walk of Downtown (a much larger area) have at least as many curb parking spaces. As a preliminary estimate, we think it is likely that at least 500 commuters could be accommodated in a Residential Parking Benefit Area. To make a better estimate, an inventory and occupancy survey of curb parking would be required.
are significantly less, and in our experience, the ongoing operations and maintenance costs for a Residential Parking Benefit Area that accommodates 500 commuters are also likely to be substantially less than the ongoing costs to operate and maintain a 500-space parking garage.

Establishing a Residential Parking Benefit Area program may require at least a half-time project manager in the initial startup phase, which is a significant staffing expense. By comparison, however, the planning and design costs alone for a hypothetical 500-space, $20 million parking structure would typically be at least $2 million.

For these reasons, we recommend that the City work to establish a Residential Parking Benefit Area program, given the potential to solve existing parking problems in the neighborhoods while reducing the large financial burden of constructing new and replacement garages. A good start might be to establish a Residential Parking Benefit Area on a trial basis, in advance of reconstructing the Center Street Garage to help mitigate the loss of the garage’s capacity (421 spaces) during the rebuilding period.

**Benefits of Residential Parking Benefit Areas**

Residential Parking Benefit Areas have been described as “a compromise between free curb parking that leads to overcrowding and [conventional residential] permit districts that lead to underuse...[parking] benefit districts are better for both residents and nonresidents: residents get public services paid for by nonresidents, and nonresidents get to park at a fair-market price rather than not at all.”

Benefits of implementation of Residential Parking Benefit Areas in Berkeley include the following:

- Prevent excessive parking spillover into commercial-adjacent neighborhoods.
- Use scarce curb parking spaces as efficiently as possible.
- Reduce need for construction of additional costly parking structures.
- Increase likelihood that residents will find a convenient parking space at the curb.

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19 Ibid., p. 435.
Examples from other Cities

A new Residential Parking Benefit Area in Eugene, Oregon, provides a good example of the potential for creating mutually beneficial parking relationships between major destinations, such as a downtown, and nearby neighborhoods. The recently established Event Parking District in Eugene allows parking on residential streets during just 22 basketball games each year, but still has the potential to generate gross parking revenue of $88,000 per year or more (see sidebar below). The capital cost of creating this district consisted of nothing more than replacing a few signs, yet the District effectively creates game-day parking for up to 500 vehicles, allowing the University of Oregon to avoid the potential multi-million cost of building and operating a new parking structure.

Eugene, Oregon’s New Event Parking District

Professor Donald Shoup of UCLA writes:

“Eugene, Oregon, has pioneered a particularly ingenious way to return benefits to a neighborhood. The University of Oregon wanted to build a new $227 million basketball arena, but residents of the nearby Fairmont neighborhood were concerned that events at the arena would attract drivers who would occupy all the on-street parking during games. But residents also did not want to pay for a permit district to solve a problem created by the new arena.

In 2010, the City of Eugene and the University of Oregon worked together to create an Event Parking District near the arena. The university can sell 500 event-day parking permits in the district for up to 22 events a year at the arena. Unlike a conventional permit district where residents pay for their permits, residents receive two free residential permits per property in the Event Permit District, and they can buy additional permits at the market price. The university charges ticket holders $8 to $10 for event parking in the permit district on game days and uses the resulting revenue to pay the city the full cost of managing the permit district. If the university does not receive enough revenue from the sale of the event parking permits, it pays the city the difference from its own funds.

The Event Parking District creates substantial benefits for everyone. The University avoids the game-day parking crush without building an expensive parking structure that would be underused much of the year. The adjacent neighborhood gets a residential permit district at no cost to the residents. The City of Eugene gets the revenue necessary to manage the district.

Eugene’s Event Parking District shows the possibility of a symbiotic relationship between residential neighborhoods and nearby traffic generators. Commercial developments with few on-site parking spaces increase demand for something that nearby neighborhoods can sell to nonresidents: curb parking. Other cities also charge nonresidents for parking in residential permit districts, but Eugene’s program demonstrates the benefits of this policy for land uses that cause short, sharp, and infrequent peaks in parking demand.

…[N]eighborhoods should be able to spend their curb parking revenue on their highest priorities. Some people seem to think that parking meter revenue should go neither into the general fund nor back to the neighborhood but instead into a trust fund for motorists—for example, to build off-street parking garages. But if each neighborhood’s parking meter revenue goes into a trust fund for the neighborhood and the money can be spent for the neighborhood’s highest priorities, such as cleaner and safer sidewalks, residents may soon realize that subsidizing cars is not the best use of their trust fund.”

Residential Parking Benefit Areas also have been implemented in various forms in the following jurisdictions:

- Aspen, CO (nonresident permits: $5/day)
- Boulder, CO (resident permits $12/year; nonresident permits $312/year)
- Santa Cruz, CA (resident permits $20/year; nonresident permits $240/year)
- Tucson, AZ (resident permits $2.50/year; nonresident permits $200-$400/year, declining with increased distance from University of Arizona campus)
- West Hollywood, CA (resident permits $9/year; nonresident permits $360/year)
4 REDUCING THE DEMAND FOR PARKING

In conjunction with better managing Downtown Berkeley’s parking supply, transportation demand management (TDM) programs can reduce the demand for parking, especially from workers who commute to downtown and who park for extended periods of time. Every parking space that is not used by a commuter is then available for a Downtown customer or visitor.

A number of goals and policies from the Downtown Area Plan (DAP) emphasize the need to reduce the number of commuters who drive to and park in Downtown. The DAP also prioritizes access to Downtown via non-automotive travel modes, namely, by foot, by bicycle and via transit. The following goals from the DAP Access Chapter provide the policy framework for the recommendations in this chapter:

**GOAL AC-1:** **IMPROVE OPTIONS THAT INCREASE ACCESS TO DOWNTOWN ON FOOT, BY BICYCLE, AND VIA TRANSIT. MAKE LIVING, WORKING, AND VISITING DOWNTOWN AS CAR-FREE AS POSSIBLE.**

**GOAL AC-3:** **PROVIDE PARKING TO MEET THE NEEDS OF DOWNTOWN, WHILE DISCOURAGING COMMUTER PARKING AND ENCOURAGING MOTORISTS TO PARK THEIR CARS AND EXPERIENCE DOWNTOWN AS A PEDESTRIAN.**

**GOAL AC-4:** **PROMOTE TRANSIT AS AN EFFICIENT AND ATTRACTIONAL CHOICE—AND AS A PRIMARY MODE OF MOTOR-VEHICLE TRAVEL.**

**WHY TRANSPORTATION DEMAND MANAGEMENT?**

Commuters and downtown residents who purchase monthly permits for City garages tend to be high cost, low revenue customers. Funding transportation demand management programs can be a cost-effective way of reducing the number of these monthly permit holders in the parking system, which can free up space in the existing system for high-revenue hourly customers and reduce the need for costly new parking capacity.

The cost to construct new parking garages in Downtown can be expected to be in the range of $40,000 per space. This equates to a total cost to build, operate and maintain new spaces of approximately $280 per month per space, every month for the expected 35-year lifetime of the typical garage. These economics for parking garages lead to a simple principle: it can often be cheaper to reduce parking demand than to construct new parking. Any transportation demand
management program that reduces parking demand at a cost of less than $280 per month per space is a better deal than investing in new capacity.\footnote{Perhaps counter-intuitively, investing in cost-effective TDM programs is a good deal for drivers as well as those who use alternative transportation, even if these programs are paid for by parking fees. For those who still need to drive and park downtown, a parking space freed up by helping someone else leave their car at home is just as good as a parking space gained by new construction. If TDM programs free up spaces for less than the cost of building new ones, it translates into lower parking fees needed to make the system work.}

Therefore, we recommend that Berkeley continue to invest in the most cost-effective mix of transportation modes for access to the Downtown, including both parking and transportation demand management strategies. By continuing to invest in demand reduction, Berkeley and other cities have cost-effectively reduced parking demand and the resulting traffic and emissions. Programs such as the City’s AC Transit EasyPass Program (described in more detail later in this chapter), which provides all benefited City employees with free access to AC Transit buses, have demonstrated the effectiveness of these programs in Berkeley’s Downtown.

**RECOMMENDATIONS FOR TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAMS**

The recommendations in this chapter are intended to implement the following DAP policies:

**Policy AC-1.2: Single-Occupant Vehicles.** Discourage the use of single-occupant vehicles (SOVs) by commuters to Downtown and encourage commuting with transit, ridesharing, bicycles, and on foot.

a) Require larger development projects to provide ridesharing parking and support its ongoing operations. Strive to serve subareas where ridesharing locations are not convenient by identifying potential ridesharing locations and working with ridesharing providers.

b) Promote ridesharing to and from Downtown by employers and institutions. In public parking garages, continue to discount parking prices for organized ridesharing, and provide preferential parking locations. Encourage private parking garages to make similar accommodations.

c) Strengthen parking policies that discourage all-day SOV parking while encouraging alternative modes.

d) Consistent with the Urban Environmental Accords endorsed by Berkeley, strive to reduce single occupancy vehicles (SOVs) to be no more than 40% of all commute trips by 2020. Monitor peak period trips to the extent feasible, and adjust measures to meet these targets.

**Policy AC-1.3: Alternative Modes & Transportation Demand Management (TDM).**

New development and on-going programs should reduce Downtown car use, support alternative travel modes, and consolidate publicly-accessible parking facilities and Transportation Demand Management (TDM) programs.

a) A fee requirement should be established to support alternative modes (i.e., transit, walking & bicycling) and Transportation Demand Management programs. Parking requirements for new development may be reduced by paying an in lieu fee into a fund to
enhance transit service, which might be contained within the Street and Open Space Improvement Plan (SOSIP); in lieu payments for parking should be encouraged.

b) Support efforts to reduce Downtown car use, while simultaneously supporting the parking needs of local merchants and cultural/entertainment uses. Consider raising ongoing TDM revenues through the creation of a Downtown Transportation Benefits District.

c) Develop a finance strategy to evaluate potential transportation-related revenues and compare their financial capacity with the costs of potential Downtown improvements, maintenance and services. The finance strategy should set near-term priorities for improvements—based on public input and other considerations.

d) Require that new buildings, substantial renovations and substantial additions support alternative transportation as identified in Policy LU-2.1c. The City should help small businesses and smaller development projects qualify for discounted transit passes, such as by working directly with AC Transit or by encouraging the formation of an association assigned with this mission.

e) Develop a TDM “toolbox” for new development that explains TDM requirements, and encourages other TDM features such as: showers for bike commuters, bicycle sharing kiosks, and plug-in facilities for electric vehicles.

f) Encourage all Downtown businesses to reward customers and employees who arrive by transit, by bicycle, or on foot, or who use off-street garages instead of on-street parking, such as with merchant validation programs and other incentives.

**Policy AC-4.1: Transit Priority.** Promote transit as the primary mode for commuting to and from Downtown, and give transit priority over personal vehicles. Encourage use of transit by area businesses, institutions, and residents. The City strongly supports improved local and regional transit service to and from Downtown.

a) Require that new development provide bus passes and promotes use of alternative modes.

b) Work collaboratively with Downtown employers, institutions, and organizations (including major employers such as the City of Berkeley, UC Berkeley, Berkeley Unified School District, Berkeley City College, Lawrence Berkeley National Laboratory, and Alta Bates Medical Center) to adopt aggressive TDM programs and facilities that reduce automobile use by staff, faculty and students.

c) Require that Downtown businesses provide bus passes to employees and pre-tax commute-by-transit vouchers. Work with businesses and institutions to expand guaranteed-ride-home programs for employees who use transit. Encourage Downtown employers to provide other subsidies for bicycling, walking and public transit use. Encourage Berkeley Unified School District and Peralta Community College to participate in such programs or to establish
Recommendations

1. **Create a Downtown Berkeley transportation management organization or association to implement and manage TDM programs for Downtown employees, visitors and residents.** One of the challenges associated with implementing the DAP policies is the high number of small businesses located in Downtown. Many of these businesses are too small to participate individually in AC Transit’s EasyPass program, which requires a minimum of 100 participants. If businesses were members of a Transportation Management Association (TMA), the TMA could contract with AC Transit on behalf of its members, enabling even the smallest business to participate in the program. Additionally, businesses could share administrative expenses for TDM programs, greatly reducing the costs to any individual business.

2. **Provide deep-discount group transit passes.** We recommend that the City develop a funding mechanism to establish a deep-discount group pass program as described more fully below. In recent years, growing numbers of transit agencies, including the Alameda/Contra Costa Transit District (AC Transit), have teamed with universities, employers, districts and residential neighborhoods to establish deep-discount group transit pass programs. These programs provide all of the members of a group with unlimited-use transit passes, at a per-person rate which is deeply discounted from the ordinary retail price that an individual would pay for a monthly transit pass.

Given the ultimate goal of providing universal coverage for all employees and residents, implementation of this program may require phasing in over time as new development projects go forward and transportation revenues permit.

- **For existing** residents and employees, on-going funding for a transit pass program could be provided through a combination of fees and new assessment district revenues as well as other federal, state and local transportation funding. In the longer term, parking revenues may also be a source of funding.

- **New developments** can be required to provide all residents and employees within the development with transit passes, as a condition of development approval. The proposed new zoning provisions for Downtown developments (Appendix D) would implement this requirement.

In implementing a deep-discount group pass program, Berkeley should emphasize:

- Universal coverage for all residents and employees, which allows lower per rider costs and allows a deeper discount to be offered.

- Automatic opt-in, which lowers sign-up barriers, reduces marketing costs, and encourages greater participation and ridership gains.

- Plan for targeted service improvements to further encourage usage of the deep-discount group pass and/or to respond to increased ridership after the program is launched. (In the short-term, this is unlikely, but in the long-term, after the economy and transit revenues recover, this step may be more feasible).

Considering both pros and cons, we recommend that the City work with AC Transit to establish a Downtown Berkeley EasyPass Program. As a future step, the City should work with BART and other Berkeley-serving transit agencies to establish similar deep-discount group pass programs, and should further explore the option of developing the City’s own shuttle system to supplement AC Transit’s existing service. (BART does not currently
offer a comparable deep-discount group pass program outside of the City of San Francisco. However, recent agency staff reports have suggested the concept to the BART Board for consideration.²)

3. **Increase compliance with the City’s TRACCC Ordinance and assist businesses with implementation.** The City’s Tax Relief Action to Cut Commuter Carbon (TRACCC) Ordinance requires employers with 10 or more employees to provide either pre-tax commute benefits, an employer-paid commute benefit, or employer-provided transit. The easiest way to comply with the ordinance that results in tax savings for both the employer and employee is for the employer to provide pre-tax commute benefits. This enables employees to elect to exclude from taxable wages and compensation employee commuting costs incurred for transit or vanpool expenses, up to the maximum level allowed by federal tax law. Employers do not pay any payroll taxes on the earnings that are excluded for commuting expenses. A Downtown TMA could provide information to businesses and administrative assistance.

**Discussion**

**Transportation Management Organizations or Associations**

Transportation management associations or organizations (TMA’s) are membership groups that focus on improving access and mobility within and in the vicinity of a defined geographic area. They can be comprised of neighboring property owners, employers, local public agencies, educational institutions, and other businesses or organizations. A Downtown Berkeley TMA could build from an existing institution such as the Downtown Berkeley Association, and could provide transportation services to employees and businesses (and potentially residents as well) in Downtown as well promote transit, bicycle and pedestrian access to Downtown for visitors and residents.

A Downtown Berkeley TMA would *not* simply be a reincarnation of the Berkeley TRiP Commute Store. Previously, the City of Berkeley and UC Berkeley jointly funded the Downtown TRiP Store, which promoted transportation alternatives by providing transit maps, BART tickets, bus passes, commute information, and route planning and services to the general public. In contrast, the Downtown Berkeley TMA would be a broad-based membership organization that would primarily provide transportation services and information to its members.

As one of the first steps in forming a Downtown Berkeley TMA, we recommend that the City prepare a TMA feasibility study that would consider different funding alternatives and sources as well as recommend the best organizational structure. TMA’s are typically non-profit business associations, either 501(c) (6) or 501(c)(4). (Various political education organizations fall under the 501(c)(4) association, whereas 501(c)(6) associations are business league and chamber of commerce organizations.) Some TMA’s are completely free-standing, while others are part of another non-profit business association. Funding comes from member contributions or a combination of membership fees or dues and other government funding.

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Deep-Discount Group Transit Passes

Deep-discount group transit passes provide multiple benefits, as discussed below.

For transit riders:
- Free access to transit (e.g., eliminating the current $2 per ride or $80-$132.50 per month AC Transit pass price)
- Rewards existing riders, attracts new ones
- For employees who drive, making existing transit free can effectively create convenient park-and-ride shuttles to existing underused remote parking areas

For transit operators:
- Provides a stable source of income
- Increases transit ridership, helping to meet agency ridership goals
- Can help improve cost recovery, reduce agency subsidy, and/or fund service improvements

For commercial districts:
- Reduces traffic congestion and increases transit ridership
- Reduces existing parking demand: Santa Clara County’s (CA) ECO Pass program resulted in a 19% reduction in parking demand
- Reduces unmet parking demand: UCLA’s BruinGo! program resulted in 1,300 fewer vehicle trips which resulted 1,331 fewer students on the wait list for parking permits (a 36% reduction)
- Reduces future growth in parking demand: University of Washington’s U-Pass program helped avoid construction of 3,600 new spaces, saving $100 million (since 1983 the university population increased by 8,000 but actually reduced the number of parking spaces)

For developers:
- Deep-discount group pass programs can benefit developers if implemented concurrently with reduced parking requirements, which lower construction costs
- Providing free transit passes at new developments provides an amenity that can help attract renters or home buyers as part of lifestyle marketing campaign appealing to those seeking a “transit-oriented lifestyle”

For employees/employers:
- Reduces demand for parking on-site
- Provides a tax-advantaged transportation benefit that can help recruit and retain employees

In the case of Downtown residents and employees, the cost savings would be considerable. AC Transit’s deep-discount group transit pass program, known as the “EasyPass” program, is available to employers, educational institutions and residential developments for an annual fee of between $41 – $155 per person enrolled, with the fee depending on the size of the group and the

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level of transit service provided within one-quarter mile of the employer’s location. EasyPass holders are entitled to unlimited rides on all AC Transit vehicles, including AC Transit’s Transbay service to San Francisco. By comparison, to get the same level of transit service, an individual purchasing a year’s worth of monthly transit passes at the regular retail price would have to pay $1,590 per year.  

Some of the employee, student and residential community groups currently enrolled in AC Transit’s EasyPass program include:

- **City of Alameda**: all full-time City employees.
- **City of Berkeley**: all fully-benefited City employees.
- **Mills College**: all Mills College undergraduates paying the ASMC student fee.
- **Peralta Community Colleges**: all students who maintain nine or more units, at all four campuses, including Laney and Merritt Colleges, Berkeley City College, and the College of Alameda.
- **UC Berkeley**: all UC Berkeley undergraduate and graduate students.
- **Bridge Housing’s Ironhorse Apartments in Oakland**: Each residential unit is entitled to one free EasyPass for one named individual, and additional passes may be purchased for other verifiable Ironhorse residents in the unit for a $77 annual fee.
- **Fourth & U Apartments in Berkeley**: Each residential unit is entitled to one free EasyPass for one named individual, and additional passes may be purchased for other verifiable Fourth & U residents in the unit for an $89 annual fee.

For Berkeley, some key advantages of partnering with AC Transit to establish a deep-discount group transit pass program for all of the employees and residents in Downtown are:

- **AC Transit is likely to be a willing partner**: Unlike BART and some other transit providers, AC Transit has already established a deep discount group transit pass program and is actively seeking new customers.
- **Established service**: AC Transit already provides significant transit service, with buses running seven days a week, 24 hours a day.
- **Regional reach**: An AC Transit EasyPass would provide residents and employees with fare-free service on all of AC Transit’s 78 local lines and 27 Transbay lines, including destinations as far north as Richmond and San Pablo, as far south as Fremont and Newark, and Transbay service reaching west to San Francisco, Foster City and San Mateo.
- **Leveraging existing investment**: Berkeley residents and employees already pay sales taxes, property taxes and bridge tolls to help support AC Transit. An EasyPass program would help Berkeley residents and employees realize greater benefit from that existing investment.

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5 AC Transit’s regular price for a 31-day Transbay pass is $132.50. The price for a year’s worth of passes would therefore be $1,590. See [http://www.actransit.org/rider-info/bus-fares/](http://www.actransit.org/rider-info/bus-fares/) (accessed April 4, 2011). AC Transit also offers a Local Pass to individuals for $80 per month, which is not valid for Transbay service.


Residential Transit Pass Programs

Transit subsidies can also be used for a wide range of residential developments. Under AC Transit’s Easy Pass program for residential communities, and also in Santa Clara County, CA (under the Valley Transportation Authority’s Eco-Pass program) and Portland, OR, property managers can bulk-purchase transit passes for their residents at deeply discounted rates. In Portland, transit use among residents increased by between 79 percent and 250 percent in two different developments after transit passes were offered there.9

As another example, in the City of Boulder, CO, both residential building managers and entire neighborhoods (even typical single-family areas) can purchase Eco-Passes for their residents. In the latter, neighborhood volunteers collect contributions on an annual basis, and once the minimum financial threshold is met, everyone living in the neighborhood is eligible for the transit pass. Alternatively, a neighborhood can elect to increase property taxes to purchase neighborhood-wide Eco-Passes.

Examples from other Cities

Boulder, Colorado

A significant example of a multi-employer deep-discount group pass program funded by parking meter revenues is the Eco Pass program in downtown Boulder, which provides free transit on Denver’s Regional Transportation District light rail and buses to more than 8,300 employees employed by 1,200 different businesses in downtown Boulder. To fund this program, Boulder’s downtown established a Parking Benefit District, which pays a flat fee for each employee enrolled in the program, regardless of whether the employee actually rides transit. Because every full-time employee in the downtown is enrolled in the program, the Regional Transportation District provides the transit passes at a deep bulk discount. This program is an important model for Downtown Berkeley because it is a multi-employer program: it groups together hundreds of small (and a few large) employers in a way that allows them to benefit their employees, while reducing their downtown’s demand for costly employee parking. The same principle is useful for Downtown Berkeley. On their own, many – perhaps most – Downtown employers are too small to qualify for AC Transit’s deep-discount pass program. The same holds true for many Downtown residential buildings.

Since the baseline figures for downtown Boulder’s program were established, the drive-alone rate has fallen 20 percentage points, from 56% in 1995 to 36% in 2005, while the transit rate has more than doubled from 15% to 34% (see

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Figure 4-1). The resulting ridership is estimated at a parking equivalent of 4,390 spaces. Overall, Boulder has found that it has been cheaper to provide free transit and strong ridesharing programs to all employees than to construct additional parking for them.
Results from other Deep-Discount Group Pass Programs

A review of other deep-discount group pass programs around the nation found that the annual per person fees are between 1% and 17% of the retail price for an equivalent annual transit pass. The principle of deep-discount group transit passes is similar to that of group insurance plans – transit agencies can offer deep bulk discounts when selling passes to a large group, with universal enrollment of all members of the group, on the basis that not all those offered the pass will actually use them regularly.

As the figure below illustrates, free transit passes are usually an extremely effective means to reduce the number of car trips in an area; reductions in car mode share of 4% to 22% have been documented, with an average reduction of 11%. By removing any cost barrier to using transit, people become much more likely to take transit to work or for non-work trips.
Figure 4-2  Mode shifts achieved with free transit passes

<table>
<thead>
<tr>
<th>Location</th>
<th>Drive to work</th>
<th>Transit to work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Santa Clara (VTA)¹⁰</td>
<td>76%</td>
<td>60%</td>
</tr>
<tr>
<td>Bellevue, Washington¹¹</td>
<td>81%</td>
<td>57%</td>
</tr>
<tr>
<td>Ann Arbor, Michigan¹²</td>
<td>N/A</td>
<td>(4%)</td>
</tr>
<tr>
<td>UCLA¹³  (faculty and staff)</td>
<td>46%</td>
<td>42%</td>
</tr>
<tr>
<td>Univ. of Washington, Seattle¹⁴</td>
<td>33%</td>
<td>24%</td>
</tr>
<tr>
<td>Univ. of British Columbia¹⁵</td>
<td>68%</td>
<td>57%</td>
</tr>
<tr>
<td>Univ. of Wisconsin, Milwaukee¹⁶</td>
<td>54%</td>
<td>41%</td>
</tr>
<tr>
<td>Colorado Univ. Boulder  (students)¹⁷</td>
<td>43%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Silicon Valley (CA): Silicon Valley’s Valley Transportation Authority (VTA) EcoPass program charges employers between $7.50 and $120 per year per employee, instead of the usual $990 per year for a transit pass. The result has been a 19% decrease in parking demand at employers participating in the program. Neighborhood EcoPass programs apply the same principle to residential developments.¹⁸

Boulder (CO): In Boulder, the Eco Pass is an annual bus pass purchased by employers for all full-time employees. The annual cost for a normal pass varies between $540 and $1,620 whereas the annual per employee fee for the Eco Pass ranges from $31 to $279.

King County (WA): A King County Metro FlexPass costs $65 per year per employee for employers compared to the normal annual cost of $396-1584. The King County Metro, WA, notes

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¹⁰ Santa Clara Valley Transportation Authority. 1997.
¹¹ 1990 to 2000; [http://www.commuterchallenge.org/cc/newsmar01_flexpass.html](http://www.commuterchallenge.org/cc/newsmar01_flexpass.html).
¹⁴ 1989 to 2002, weighted average of students, faculty, and staff; From Will Toor, et. al. *Transportation and Sustainable Campus Communities*, 2004.
¹⁵ 2002 to 2003, the effect one year after U-Pass implementation; From Wu et. al, “Transportation Demand Management: UBC’s U-Pass – a Case Study”, April 2004.
¹⁷ Six years after program implementation; Francois Poinsatte et. al. “Finding a New Way: Campus Transportation for the 21st Century”, April, 1999.
that in downtown Bellevue, FlexPass is responsible in part for a 24 percent drop in drive alone commutes from 1990 to 2000 (81 percent to 57 percent).\(^{19}\)

**A Cost-Effective Transportation Investment**

Many cities and institutions have found that trying to provide additional parking spaces costs much more than reducing parking demand by providing everyone with a free transit pass. For example, a study of UCLA’s deep-discount group pass found that a new parking space costs more than three times as much as a free transit pass ($223/month versus $71/month).\(^{20}\)

In other settings as well, the cost required to fully subsidize passes has been shown to be less than to construct new parking. At the University of Colorado, implementation of a U-pass program allowed every eligible permanent faculty or staff member to ride local or regional buses by showing their University identification card. This freed up 350 parking spaces, as some employees choose to take transit instead of driving to campus. As illustrated below, it was 2.4 times more expensive to build a new parking space than to eliminate demand for one parking space through funding this transit pass program. The net annual savings to the University was $566,000.\(^{21}\)

**Figure 4-3 Comparative Parking and Transit Pass Costs University of Colorado**

<table>
<thead>
<tr>
<th>Annual Cost of Transit Pass Program</th>
<th>Parking spaces freed up</th>
<th>Annual Cost per reduced space</th>
<th>Annual debt service for one new parking space</th>
<th>Per Space Cost Comparison</th>
<th>Money Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>$93,400</td>
<td>350</td>
<td>$1,124</td>
<td>$2,723</td>
<td>2.4</td>
<td>$559,650</td>
</tr>
</tbody>
</table>

\(^{19}\) Accessed at [http://www.commuterchallenge.org/cc/newsmar01_flexpass.html](http://www.commuterchallenge.org/cc/newsmar01_flexpass.html).


THE CITY OF BERKELEY’S EMPLOYEE TDM PROGRAMS: A MODEL FOR DOWNTOWN

The City of Berkeley has made considerable efforts to establish itself as a model employer with regard to transportation demand management.

The AC Transit EasyPass Program & Other Transit Benefits

The City’s EasyPass program, established in 2002, provides free unlimited rides on all AC Transit buses to all City employees. This program has had a significant effect on employee transportation behavior. The City pays a mere $67 per year per employee for 1,374 passes, or approximately $92,000 per year for the entire program. According to a report by the City’s Transportation Division22, as of 2006:

- 240 employees use their EasyPass each month, taking almost 49,000 bus trips annually;
- 20% of former drive-alone employees now use AC Transit to commute to work.
- 59% of users reported they would reduce or stop riding the bus without the EcoPass.

In addition to the EasyPass program, City employees receive several other benefits including:

- All represented City employees receive $20 monthly in pre-tax transit benefits
- All employees can take additional voluntary payroll deductions on a pre-tax basis to pay for additional transit pass purchases (up to the limit allowed by federal tax law)

Bicycle Programs

To accommodate the bicycle commuters on staff, the City provides two secure bike parking locations at City Hall, and provides shower facilities adjacent to City Hall via a program of deeply discounted YMCA memberships. Like other Downtown employees, City employees are able to take advantage of the City’s network of Bicycle Boulevards, lanes and other facilities. The City also maintains a bicycle fleet, with 10 bikes for City employees to use during the workday.

Carpool, Vanpool & Car-sharing Programs

Employees can also take advantage of a menu of ridesharing programs, including the following:

- Discounted carpool and vanpool parking: carpools & vanpools with three or more riders receive discounted parking at City facilities (paying $45/month per vehicle instead of the usual $150/month) -- a benefit which is available to the general public as well.
- Guaranteed Ride Home program (a free program offered by Alameda County)
- Ridematching service through 511, the regional rideshare service

The City has also implemented a program to replace fleet vehicles with City CarShare vehicles. The carshare vehicles are dedicated to City employee use weekdays from 8 PM to 6 PM, and are available to all car-sharing members on weekday evenings and weekends. Funding for the cars

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22 “Striving to be the Best: Employer TDM Programs That Deliver Results to Employees and Stockholders Netconference” http://www.nctr.usf.edu/clearinghouse/netconference/employers101806/handouts.pdf
comes from the operating budget allocations for vehicle-related expenditures in each of the departments participating in the program.\textsuperscript{23}

**Parking**

In keeping with the General Plan policies of (a) supporting the elimination of subsidies for commuter parking, and (b) requiring all City employees and officials to pay the fair market rate for parking\textsuperscript{24}, the City does not offer employee parking subsidies in any labor contracts. City employees may purchase parking permits for City garages at the same rate as any member of the general public (e.g., $150/month for the Center Street Garage).

**Results Achieved**

According to surveys carried out in 2001 and 2005 (the most recent survey available) by the City’s Transportation Division, motor vehicle use by City employees has declined. Between 2001 and 2005, among City employees:

\begin{itemize}
\item the percentage who drive alone fell from 47.4\% to 36.4\%;
\item the percentage carpooling or vanpooling increased from 7.7\% to 12.8\%;
\item the percentage riding BART increased from 12.9\% to 19.7\%;
\item the percentage taking the bus (AC Transit, etc.) increased from 6.2\% to 13.8\%;
\item the percentage bicycling increased from 4.9\% to 6.8\%; and,
\item the percentage walking to work increased from 4.7\% to 6.5\%.
\end{itemize}

**How much has City employee parking demand declined?**

Overall, the number of private vehicles driven to work per 100 employees declined from 53 to 40, a 25\% decrease in employee parking demand. How many fewer parking spaces are needed for City employees, as a result of this decline in parking demand?

Assuming approximately 1374 employees at present, and that the 2005 transportation behavior still holds, a rough estimate would be that this decline in driving to work by City employees has reduced parking demand by approximately 180 vehicles (0.53 vehicles per employee before * 1374 employees - 0.40 vehicles per employee after * 1374 employees = 179 vehicles).

To put this in perspective, the most current cost estimates received for the rebuilding of the Center Street Garage estimate a project cost of about $40,000 per space for a replacement garage. At $40,000 per space, reducing demand for parking by 180 spaces is a savings of approximately $7.2 million in capital costs. Additionally, substantial savings are achieved on operation and maintenance expenses, which, as a rule of thumb, run in excess of $30/month/parking space.

\textsuperscript{23}TCRP Report 108: Car-Sharing: Where and How It Succeeds

\textsuperscript{24}General Plan Policies T-10 and T-11.
5 MANAGING PARKING DEMAND FROM NEW DEVELOPMENT

The Downtown Area Plan (DAP) includes a number of goals and policies regarding parking and transportation related to new development. The following DAP goals are particularly relevant to this chapter:

GOAL AC-1: IMPROVE OPTIONS THAT INCREASE ACCESS TO DOWNTOWN ON FOOT, BY BICYCLE, AND VIA TRANSIT. MAKE LIVING, WORKING, AND VISITING DOWNTOWN AS CAR-FREE AS POSSIBLE.

GOAL AC-3: PROVIDE PARKING TO MEET THE NEEDS OF DOWNTOWN, WHILE DISCOURAGING COMMUTER PARKING AND ENCOURAGING MOTORISTS TO PARK THEIR CARS AND EXPERIENCE DOWNTOWN AS A PEDESTRIAN.

GOAL AC-4: PROMOTE TRANSIT AS AN EFFICIENT AND ATTRACTIVE CHOICE -- AND AS A PRIMARY MODE OF MOTOR-VEHICLE TRAVEL.

GOAL LU-2: NEW DEVELOPMENT SHALL CONTRIBUTE ITS FAIR SHARE TOWARD DOWNTOWN IMPROVEMENTS. COORDINATE DEVELOPMENT FEES AND OTHER FUNDING OPPORTUNITIES WITH PUBLIC IMPROVEMENTS FOR THE ORDERLY AND ATTRACTIVE TRANSFORMATION OF DOWNTOWN.

RECOMMENDATIONS FOR MANAGING PARKING DEMAND FROM NEW DEVELOPMENT

The following DAP policies are addressed by the recommendations in this section:

Policy AC-1.3: Alternative Modes & Transportation Demand Management (TDM).
New development and on-going programs should reduce Downtown car use, support alternative travel modes, and consolidate publicly-accessible parking facilities and Transportation Demand Management (TDM) programs (see requirements under Policy LU-2.1).

1) A fee requirement should be established to support alternative modes (i.e. transit, walking & bicycling) and Transportation Demand Management programs. Parking requirements for new development may be reduced by paying an in lieu fee into a fund to enhance transit service, which might be contained within the Street and Open Space Improvement Plan (SOSIP); in lieu payments for parking should be encouraged.

d) Require that new buildings, substantial renovations and substantial additions support alternative transportation as identified in Policy LU-2.1c. The City should help small businesses and smaller development projects qualify for discounted transit passes, such as by working directly with AC Transit or by encouraging the formation of an association assigned with this mission.
e) Develop a TDM “toolbox” for new development that explains TDM requirements, and encourages other TDM features such as: showers for bike commuters, bicycle sharing kiosks, and plug-in facilities for electric vehicles.

**Policy AC-3.1: Effective Parking.** Manage parking more effectively to promote Downtown economic vitality while simultaneously discouraging all-day parking. Parking standards should support the continued health of Downtown’s retail and cultural uses.

e) Off-street parking spaces for new housing units shall be leased or sold separately from the residence.

**Policy AC-3.2: New Parking.** Provide sufficient parking for expected growth by evaluating future parking needs, funding parking facilities, and promoting alternatives to the car. Consolidate parking in shared facilities to the extent possible.

b) Allow fees to be paid in lieu of on-site parking, and apply revenues toward transit enhancements (see Policy AC-1.3). Encourage developers to pay fees in lieu of on-site parking, especially commercial projects that bring large numbers of new commuters Downtown.

c) Consider revisions to parking standards and programs to better accomplish policies of the DAP. Analyze such revisions as part of a consolidated Parking/TDM program and as a way to reduce impediments to the preservation and the adaptive reuse of historic buildings.

e) Monitor the amount of on-site parking that new development includes and, if excessive, develop standards for maximum allowable on-site parking.

g) New development should provide effective parking and TDM measures (see Policy LU-2.1 and AC-1.3).

**Policy AC-3.3: Pedestrian Impacts.** Locate and design new parking in ways that minimize negative impacts upon the pedestrian quality of Downtown (see Policy HD-4.1).

a) With new development, discourage parking on-site to increase space available for street-level retail and activity.

**Policy AC-4.1: Transit Priority.** Promote transit as the primary mode for commuting to and from Downtown, and give transit priority over personal vehicles. Encourage use of transit by area businesses, institutions, and residents. The City strongly supports improved local and regional transit service to and from Downtown.

a) Require that new development provides bus passes and promotes use of alternative modes (see Policies LU-2.1 and AC-1.3).

**Policy LU-2.1: Contributions Required of All Development.**

New buildings, substantial renovations and substantial additions, regardless of height, shall provide the following public benefits, except as noted for historic rehabilitations and adaptive re-use of existing buildings.

c) Alternative Transportation (see policies in Access chapter).
   – Provide car sharing opportunities.
   – Provide on-site bike parking.
   – Provide transit passes for project’s residents and/or employees.
- Make pretax transit commuter benefits available to residents and/or employees.
- Parking spaces shall be rented separate from dwelling units.
- Residents in new downtown buildings shall be ineligible for Residential Permit Parking Permits.
- Pay a fee for Downtown SOSIP improvements.
- Provide on-site parking. Required parking may be reduced by paying into a fund to provide enhanced transit services, which may contained within the Street and Open Space Improvement Plan (See Policy AC-3.1).

**Recommendations**

The DAP policies and implementing actions above need to be translated into standards appropriate to Berkeley. Zoning amendments should include:

1. **Require unbundled parking** – rent parking separately from dwelling units and commercial space so that the real cost of parking can be factored into consumer decisions.

2. **Facilitate carsharing** – make carsharing easy so that occasionally car trips can be made without owning or parking a vehicle. Adopt an ordinance requiring developers of large residential projects to offer carsharing agencies the right of first refusal for a limited number of parking spaces and require that those spaces be provided to the carsharing agencies free of charge.

3. **Enact low minimum parking requirements with options to reduce parking even further** – match parking requirements with actual demand by extending already low parking minimums across a larger area, and further reduce demand through payment of in-lieu fees and TDM options to further support alternative modes. Maintain minimum parking requirements for new buildings in the C-2 area and apply those low C-2 minimums throughout mixed-use portions of Downtown. The C-2 parking standards are more appropriate than higher existing C-1 and C-SA because of Downtown is an urban transit hub with diverse, “walk-to” conveniences.

4. **Allow additional reductions in parking requirements when TDM measures in excess of the City’s requirements are implemented** – establish administrative standards for TDM measures that are likely to reduce car use more than would be typical under standard requirements. TDM measures that might justify parking reductions include: providing showers and clothes lockers for bicycle commuters; covering the cost of residents'/employees’ carshare memberships; providing a cash benefit to employees who do not use a car to commute; and/or providing transit passes to beyond what would be normally required (i.e. to each resident rather than to each household). Except for showers and lockers, TDM-based parking reductions are for programs that rely on on-going actions by property owners and managers. Compliance should be promoted by annual reporting requirements, periodic review of reports and TDM activities by staff, investigation of complaints from residents/employees, and fines for non-compliance.

5. **For renovations and modest additions to existing buildings, remove minimum parking requirements.**

6. **Better utilize parking that is available Downtown by sharing parking more effectively.** Maintain existing “joint use parking” provisions that allow developers to
meet minimum parking requirements by entering into a long-term agreement to lease available parking spaces in the vicinity. Shared parking opportunities might be provided in existing parking facilities or by construction of parking facilities off-site. Existing zoning language adequately addresses a need for shared parking to be proximate (i.e. within 800 feet), free from conflict with other users, and not otherwise committed. Evidence of a binding long-term agreement among parties involved should be provided before project entitlements are granted.

Shared parking should also be promoted by requiring projects above a certain size to install dynamic signage at the entrance of the project’s garage to indicate whether the garage is full or has vacant parking spaces. In addition, these projects should have vehicle detection capabilities to help provide information on the number of vacant parking spaces. Such information technology should be compatible with and made available to the Bay Area’s 511 Travel Information System. The City and/or the Downtown Berkeley Association should consider ways to make information on the location of vacant spaces available, such as via the internet or by the use of dynamic signage that would help direct motorists as they enter Downtown.

7. Do not provide on-street residential parking permits for new residents – avoid negative impacts of “spill over” parking from new development into surrounding residential neighborhoods which could result from unbundling parking and low minimum parking requirements.

8. Subsidize transit passes and support alternatives to the car as discussed in Chapter 4.

These provisions and their rationale are described on the following pages, along with case studies from other communities and supporting evidence from the transportation research literature.

Discussion

“Unbundle” Parking Costs

Require developers to “unbundle” the full cost of parking from the cost of housing or commercial space by creating a separate parking charge for employee and residential parking spaces. The cost of providing parking spaces is typically subsumed into the sale or rental price of offices and housing. This obscures the cost of the parking, yet each space in a parking structure can cost upwards of $40,000 to construct, without considering land costs or operations and maintenance. In the past, on a case by case basis, the City has required new Downtown developments, such as the Library Gardens Apartments and the Oxford Plaza, to charge residential and commercial tenants for parking spaces separately from their unit leases, and has required that tenants be allowed to opt out of their parking space leases at any time.¹

Unbundling Parking Costs from Housing Costs

For both rental and for-sale housing, the full cost of parking should be unbundled from the cost of the housing itself by creating a separate parking charge. This provides a financial reward to

¹ The City has also prohibited these and other new developments where a parking charge is required from receiving residential parking permits for neighborhood streets, to ensure that the residents do not avoid the charge by simply parking all of their cars on the street. To enforce this condition, the City maintains a list of the building addresses where residents are prohibited from receiving residential parking permits.
households who decide to dispense with owning vehicles, and helps attract households who wish to live in a transit-oriented neighborhood where it is possible to live with only one car, or no car. Unbundling parking costs changes parking from a required purchase to an optional amenity, so that households can freely choose how many spaces they wish to lease. Among households with below-average vehicle ownership rates (e.g., low income people, singles and single parents, seniors on fixed incomes, and college students), allowing this choice can provide a substantial financial benefit. Unbundling parking costs means that these households no longer have to pay for parking spaces that they may not need or cannot afford.

Bundled residential parking can significantly increase “per-unit housing costs” for individual renters or buyers. Two studies of San Francisco housing found that units with off-street parking bundled with the unit sell for 11% to 12% more than comparable units without included parking. One study of San Francisco housing found the increased affordability of units without off-street parking on-site can make home ownership a reality for more people. In that study, units without off-street parking:

- Sold on average 41 days faster than comparable units with off-street parking
- Allowed 20% more San Francisco households to afford a condominium (compared to units with bundled off-street parking)
- Allowed 24% more San Francisco households to afford a single-family house (compared to units with bundled off-street parking)

Charging separately for parking is also the single most effective strategy to encourage households to own fewer cars, and rely more on walking, cycling and transit. According to one study, unbundling residential parking can significantly reduce household vehicle ownership and parking demand. These effects are presented in the figure below.

**Figure 5-1 Reduced Vehicle Ownership with Unbundled Residential Parking**


It is critical that residents and tenants are made aware that rents, sale prices and lease fees are reduced because parking is charged for separately. Rather than paying “extra” for parking, the

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3 Ibid.
cost is simply separated out – allowing residents and businesses to choose how much they wish to purchase. No tenant or resident should be required to lease any minimum amount of parking.

**San Francisco’s “Unbundling” Ordinance for New Residential Units**

On June 24, 2008, the City and County of San Francisco adopted Ordinance No. 112-08, which requires that parking spaces in new or converted residential buildings of 10 units or more must be leased or sold separately from the housing units themselves, so that renters or buyers are not forced to purchase more parking than they need. This citywide unbundling ordinance provides a model for Berkeley. This language has the advantage of having been reviewed by the City Attorney of a major California jurisdiction, and tested by numerous development projects.

San Francisco’s experience with requiring the unbundling of parking costs from housing costs dates back to approximately 2002, when the Planning Commission began requiring it for large individual projects as a condition of approval.

In 2005, the Rincon Hill plan, the first neighborhood plan to require that all residential spaces be unbundled, was adopted. The Rincon Hill plan was also the first San Francisco neighborhood plan to eliminate minimum parking requirements for all land uses, and the first to require the provision of car-sharing spaces and secure bicycle parking for new residential developments. These provisions formed a mutually supportive package. Eliminating or significantly reducing minimum parking requirements is particularly important when requiring unbundling. Unbundling parking costs ordinarily leads to lower parking demand, and eliminating or significantly reducing minimum parking requirements allows developers to respond by building only as many spaces as will be needed. If the parking supply is or becomes overbuilt, leasing parking separately allows building owners (e.g., condominium owners associations) to rent excess spaces to other occupants or to other nearby buildings – and encourages efficient sharing of parking between buildings. Unbundling reduces housing costs as market-based decisions match supply to demand.

In 2006, the downtown parking reform ordinance extended unbundling requirements and the elimination of all minimum parking requirements to the DTR (Downtown Residential) Districts and C-3 (Downtown Commercial) Districts. Finally, the ordinance adopted on June 24, 2008, took the unbundling language applied to the DTR and C-3 Districts and extended it citywide.

San Francisco planning staffers have informally tracked how the ordinances requiring unbundling are working. Compliance with the unbundling requirement appears to be widely observed, and many condominium and rental apartment buildings which are not subject to the ordinance unbundle parking voluntarily. Some condominium developers have chosen, however, not to make a separate price for parking transparent as they have advertised units with parking for a single (bundled) price, and only explain that the parking space is optional on one of the many

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6 Regarding legal precedence, it is worth noting that there is a long history in California of regulating parking prices. In the Cities of Glendale, Hayward, Novato, and portions of Los Angeles, for example, it has long been illegal to charge any fee for residential parking in certain zones (presumably, to try to deter parking spillover problems on nearby streets). Requiring the unbundling of parking costs similarly regulates parking prices – but in the opposite direction. The fact that some cities prohibit parking fees, to prevent spillover parking problems in nearby curb parking, highlights the reality that effective curb parking management is an important companion to requiring that a development charge for parking.

forms that the buyer signs in the disclosure packet. To avoid this, administrative standards or guidelines might be developed to make the unbundled price for parking more transparent. Buildings owners should also be required to submit an annual report affirming conformance with this and other parking and TDM requirements. (See the section titled “Monitoring and Enforcement” at the end of this chapter for further discussion.)

In San Francisco condominium buildings, parking spaces are sometimes sold to individual unit owners as parking condominiums. However, it is also common for the condominium association to retain ownership of the parking as common property. Parking rental fees (typically $150 to $300 per month) are then charged by the condominium association. The rent from the parking spaces reduces the association fees that residents would otherwise pay to maintain their building. Under this arrangement, each apartment owner typically has the right (but not the obligation) to rent a parking space enshrined in the deed for the apartment. Frequently, any excess spaces are rented to residents desiring additional parking spaces or to occupants of other nearby buildings.

It may seem surprising that some San Francisco condominium purchasers, and in particular some purchasers of luxury condominiums with prices in excess of $500,000, would be interested in purchasing a unit without a parking space. However, a number of common buyer profiles for this niche market have emerged. This includes:

- first-time homebuyers, such as young professionals, who rely on car-sharing, transit, bicycling and walking to meet their transportation needs;
- students (often buying with help from their parents) who anticipate living in the units themselves throughout their educational experience and then keeping the unit as an investment property;
- professionals who own a car, but who buy or lease an off-site parking space nearby, or who leave it parked in the garage of their nearby office building; and
- middle- and working-class buyers who cannot afford both home ownership and car ownership, and who prioritize the former.

Unbundling Parking Costs from Commercial Leases

The proposed zoning provisions also require developers of new office development to unbundle parking costs by identifying parking costs as a separate line item in the lease. A Bellevue, Washington, ordinance requiring this measure was used as the model for the proposed requirement.

Bellevue, Washington, requires downtown office buildings of more than 50,000 square feet to identify the cost of parking as a separate line item in all leases, with the minimum monthly rate per space not less than the price of a two-zone bus pass. For example, since the price of a monthly bus pass was $72 in 2003, the minimum price of a leased parking space was $72 a month. This requirement for "unbundling" parking costs does not increase the overall cost of occupying office space in a building because the payment for the office space itself declines as a result. This innovative policy has several advantages. It makes it easy for employers to "cash-out" parking for employees (that is, to offer employees the value of their parking space as a cash subsidy if they do not drive to work), since employers can save money by leasing fewer spaces

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when fewer employees drive. It also makes it easier for shared parking arrangements to occur, since building owners can more easily lease surplus parking spaces to other users.

**Require Parking for Carsharing Vehicles**

National and Bay Area carsharing operators such as City CarShare and ZipCar, using telephone and Internet-based reservation systems, allow their members an easy way to rent cars by the hour, with members receiving a single bill at the end of the month for all their usage. The shared cars are located at convenient neighborhood “pods”. In the past, the City has required new residential developments to provide parking spaces to car-sharing services at no cost to the car-share organization on a case-by-case basis as a condition of project approval. This has helped to establish and maintain car-sharing vehicles at the Library Gardens Apartments and the Oxford Plaza, among other places.

Academic research demonstrates that car sharing has proven successful in reducing both household vehicle ownership and the percentage of employees who drive alone because of the need to have a car for errands during the workday. As a result, car sharing can be an important tool to reduce parking demand. Recent surveys have shown that more than half of car-share users have sold at least one vehicle since joining the program in the San Francisco Bay Area. Figure 5-2 shows that the average member drove 47% less after joining City CarShare. In contrast, the average member of a control group of non-members drove 73% more.\(^9\)

**Figure 5-2  Effects of Carsharing Membership on Vehicle Travel**

![Diagram showing effects of carsharing membership on vehicle travel.](image)

Source: April 2002 survey by Nelson\Nygaard Consulting Associates for City CarShare.

**San Francisco’s Citywide Carsharing Ordinance**

San Francisco’s citywide car-sharing ordinance provides a model for Berkeley. As with San Francisco’s ordinance requiring the unbundling of parking costs, this language has the advantage...\(^9\)\(^\text{April 2002 survey by Nelson\Nygaard Consulting Associates for City CarShare.}\)

\(^9\) The control group allows changes in vehicle travel due to other factors, such as weather, to be controlled for.
of having been reviewed by the City Attorney of a major California jurisdiction, and tested by numerous development projects. The ordinance has been in effect citywide since 2005, and has generally worked well to help car-sharing services overcome one of the barriers (finding parking) most frequently cited as a significant obstacle by car-sharing organizations.

The Rincon Hill plan adopted in 2005 was the first San Francisco neighborhood plan to require the provision of car-sharing spaces. In 2006, the City and County of San Francisco refined the language of the requirements for car-sharing spaces at residential buildings and extended those requirements citywide. San Francisco’s ordinance requires that newly constructed buildings containing residential uses and existing buildings being converted to residential units provide spaces for car-sharing vehicles at no cost to the car-share organization. The ordinance applies only to buildings which include parking spaces. No car-sharing spaces are required for buildings with fewer than 50 units, one space is required for buildings with 50 to 200 units, and buildings with 201 or more units are required to provide one space, plus one for every 200 dwelling units over 200. In 2010, San Francisco enacted similar carshare requirements which apply to all new nonresidential buildings and stand-alone parking facilities.

Low Minimum Parking Requirements

The result of low parking minimums will be to create a healthy market for parking, where parking spaces are routinely bought, sold, rented and leased, much like other valuable commodities. Low parking minimums will:

- reduce car ownership and vehicle trips for new development;
- make the renovation of existing buildings more feasible;
- lower transportation-related expenses for many households; and
- remove an obstacle to developing more housing and employment in a location with extremely low driving rates.

Zoning should also allow developers to elect to pay a fee in lieu of required on-site parking spaces. As called for by the Downtown Area Plan, these fees would be used for transit enhancements, i.e. any facility that will: improve operations (such as with transit shelters/platforms and lane/signal improvements); or promote use of transit (such as by enhancing pedestrian and bicycle routes to transit).

The City should revisit the effectiveness of extending C-2 parking minimums five to ten years after implementation. By lowering overall parking minimums and monitoring future performance, the City can support practices that will reduce car use while addressing merchant, resident, and other stakeholders who wish to assure adequate parking supply Downtown. If parking demand by residents and employees appears to be less than is required (as indicated by low parking prices and/or higher vacancies), consider whether parking minimums should be eliminated altogether (thereby relying fully on market-based pricing and supply). The City might also establish parking maximums to further limit parking supply, utilize parking more efficiently, and encourage residents and employees to own and operate fewer cars.

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If parking demand by residents and employees appears to have increased on surrounding streets or had other detrimental effects on access, consider stronger measures to enforce the RPP program and/or raising the parking minimum. To allow the City to monitor on-site performance, property owners should be required to submit an annual report on off-street parking pricing and utilization (see “Monitoring and Enforcement”).

**Setting the In-lieu of Parking Fee**

Some cities have set their In-Lieu of Parking Fee at the estimated full cost of providing an on-site parking space within their downtowns. Others set the fee at a portion of the cost of providing a new space. Berkeley should follow the latter course, since the City wishes to see this option used by developers.

It is important to remember that if a developer builds a parking space, he or she gains a durable physical asset: a parking space. By contrast, paying an in-lieu of parking fee does not give the developer a parking space in return. It simply allows a developer to build a building without providing one of the required spaces.

A developer who builds on-site parking can retain the income from selling or renting the spaces (less applicable taxes). Monthly parking rates in downtown Berkeley currently range from $195 per month for a reserved parking space in the Allston Way Garage, down to $125 per month for regular monthly parking permits. In our experience, it is common for private parking garages to bring in per space income that is 30% to 100% higher than the revenue generated by the sale of a regular monthly permit, since parking facility owners usually gain additional revenue by renting spaces to hourly parkers in the evenings and on weekends. Per-space revenues in downtown Berkeley would therefore range from a low of $162 to a high of $340 per month. If developers do not build on-site parking, they must forgo this revenue.

Moreover, the tenants of a new building with no on-site parking must lease parking from either another private operator or the City. If they lease parking from City facilities, this generates new revenue to help support the construction of new spaces. Therefore, we recommend that the In-Lieu of Parking Fee be set at a fraction of the full cost of providing a new space. If the fee is set at full cost of providing a new space, we believe it is unlikely that it will be used. As shown in the sidebar below, cities which have adopted overly high in-lieu of parking fees have seen little use of this option.

**Eliminating Parking Requirements for Renovations and Modest Additions**

Eliminating minimum parking requirements for renovations or modest additions to existing building will help remove barriers to the renovation and re-occupancy of existing buildings. In most instances, retaining existing buildings on small parcels is very difficult. DAP goals that promote the preservation and re-use of existing buildings would also be promoted by eliminating parking requirement for renovations and modest additions.

**MONITORING & ENFORCEMENT**

While some aspects of proposed zoning requirements would result in enduring physical improvements, many aspects rely on on-going PTDM actions by property owners or their representatives. New zoning language should promote compliance with continuing PTDM requirements to the extent practical.
Before a Certificate of Occupancy is issued, the developer/owner should submit and the City should certify that on-going PTDM programs have been readied for implementation. For example, the developer should submit a PTDM Compliance Report citing evidence of providing: separation of parking costs, carsharing operations, and transit passes. PTDM measures associated with reductions in minimum parking standards should also be included in the compliance report, such as evidence that the developer/owner will cover the cost of residents’/employees’ carshare memberships, provide a cash benefit to employees who do not use a car to commute, or provide transit passes to beyond what would be normally required.

Property owners should also be required to submit annual reports verifying compliance with required on-going programs. The developer/owner should swear to the accuracy of required compliance reports, and penalties for non-compliance should be established.

The pre-occupancy and annual compliance reports should be accompanied by requirements to report other information regarding on-site PTDM that will help the City monitor the effectiveness of on-site and area-wide PTDM programs. Critical information would include parking prices, parking vacancy rates, resident/employee participation rates, etc.

Given limited City resources, the burden of reporting should be placed on the property owner. The City should, however, develop a consistent format and methodologies for reporting. In developing the format and methodologies, the City should consider how to best measure compliance with PTDM requirements and the effectiveness of City standards (such as parking minimums).

City should not oblige itself to immediate and extensive review of reports that are submitted, except before issuing a Certificate of Occupancy. Rather, the City should perform spot checks for compliance, and issue warnings and assign fines as needed. Reports would also be carefully examined when complaints are received from residents, employees, transit advocates, or others. It would be in the interest of residents and employees to initiate complaints in most instances, i.e. for non-compliance with transit pass, carsharing, and cash benefits for not commuting by car. The direct personal benefit of having parking spaces rented separately could be less obvious to residents/employees (since the cost of parking would be hidden within an overall rent.) Consequently, the City might need to monitor “unbundling” compliance more actively than other on-going PTDM requirements.

The City should periodically analyze information contained within annual reports and from other sources to evaluate the effectiveness of PTDM requirements and recommend adjustments. Five or ten years should provide enough time and a sufficient number of new projects for meaningful evaluation. The effectiveness of Residential Parking Permit restrictions would be considered as part of this evaluation.
6 NEW PUBLICLY ACCESSIBLE PARKING

This chapter provides an in-depth discussion of the issues involved in managing the existing parking supply more effectively, providing new parking when needed, and replacing the Center Street Garage. It also provides detailed recommendations for implementing the Downtown Area Plan (DAP) goals and policies addressing the provision of new parking. The following DAP goals are particularly relevant to this chapter:

GOAL AC-1: IMPROVE OPTIONS THAT INCREASE ACCESS TO DOWNTOWN ON FOOT, BY BICYCLE, AND VIA TRANSIT. MAKE LIVING, WORKING, AND VISITING DOWNTOWN AS CAR-FREE AS POSSIBLE.

GOAL AC-3: PROVIDE PARKING TO MEET THE NEEDS OF DOWNTOWN, WHILE DISCOURAGING COMMUTER PARKING AND ENCOURAGING MOTORISTS TO PARK THEIR CARS AND EXPERIENCE DOWNTOWN AS A PEDESTRIAN.

PRESENT & FUTURE NEED FOR NEW PUBLIC PARKING

At present, the Downtown parking supply has excess capacity, and so there is no immediate need to enlarge the parking supply. However, the City's Center Street Garage, which has been determined to be seismically unsafe, will need to be replaced in the near future. Options for funding the replacement garage are described in this chapter.

Existing Supply is in Excess of Existing Demand

Both Downtown's public and private garages appear to have significant excess capacity. As discussed in Chapter 2, occupancy counts in 2007 found that many of Downtown's publicly-available off-street garages had substantial excess capacity at all times. More recent occupancy counts for the Center Street Garage (taken in 2010) found that it never reached more than about 70% occupancy. Similarly, the Oxford Garage also was underutilized. In short, the City's publicly-owned garages are not currently filling up. No recent data was collected for Downtown's privately-owned garages, such as the Allston Way Garage, but judging from our field observations, these garages currently have excess capacity as well.

1 University Of California at Berkeley City Planning 218 Studio class, under the direction of Professors Elizabeth Deakin & Karen Frick, "Downtown Berkeley Parking Management Study" (Fall 2007), p. 8.
2 The City is in the process of purchasing and installing new revenue and access control systems for all three of the City's garages. When the new systems are up and running, continuous (24-hour a day, seven-day-a-week) monitoring of garage occupancy should be enabled, greatly improving the City's ability to monitor usage at municipal garages.
One major reason that City-owned garages have excess capacity is that economic activity in the Downtown is down, and there are substantial vacancies in both ground floor retail spaces and in upper-level office space. A second reason is that some competing private garages with excess capacity have lowered their rates to below the City's rates in order to attract more clientele. The Allston Way Garage, for example, is offering validated parking on the evenings and weekends at a $3 flat rate to patrons of the Berkeley Repertory Theatre and the Landmark Theatres, undercutting the City garages’ $5 evening flat rate.

The surplus capacity that currently exists in the Downtown parking supply is not good for parking revenues (since garages have fewer customers now). However, there is a bright side. The surplus capacity also means that Downtown is in a position to absorb substantial amounts of new development and/or re-occupancy of existing vacancies, without needing to construct new supply.

**Downtown Garage Rates can not Cover Replacement Costs**

To help determine whether additional public parking is warranted, we also analyzed the cost of building and operating additional parking, and compared them to the revenues earned by the City’s public garages. This step is essential, because the City’s off-street public parking facilities are an enterprise operation (similar to the City’s Refuse, Marina and Sewer operations). City policy requires that enterprise operations pay for themselves through user fees. The City therefore funds new parking garages by issuing revenue bonds, which are then repaid using parking revenues from the garages. Garage revenues must also cover operations and maintenance costs.

Our analysis finds that current prices for off-street parking have fallen to a level below replacement cost. That is, at current parking rates, it would not be possible for either a for-profit parking operator or even the City’s “non-profit” parking system to build a new parking structure and pay for it with the revenues from people who park in the facility.

As is described in more detail later in this chapter, conceptual design studies have been completed for parking garages on two of the most promising parking development sites in Downtown. One study evaluated multiple options for the replacement of the Center Street Garage. In order to break even on the cost of building, operating and maintaining this replacement garage, the garage would need to generate revenues of approximately $280 per space per month (see Error! Reference source not found.).

However, as shown in Figure 6-1, in FY 2009 the Center Street Garage generated revenues of only $223 per parking space per month. In FY 2010, revenues for the Center Street Garage fell to just $172 per month. In other words, in FY 2009, the Center Street Garage earned enough revenue to cover about 80% of the cost of building, operating and maintaining a replacement garage, and in FY 2010, revenues fell to a level that would cover only about 60% of the cost.

With per-space parking revenues at levels that cover just 60% to 80% of the cost of building, operating and maintaining new parking spaces, it is clear that a new parking facility cannot pay

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3 No data was gathered on vacancy rates for downtown office and retail space. However, it is clear that numerous storefronts are vacant, and several office buildings are currently advertising space for lease.

4 For additional detail on these policies and a brief history, see the section later in this chapter titled “Background: the Development & Finance of Berkeley's Public Parking Facilities.” Note that requiring parking be paid for through direct user fees, rather than subsidies from some other source, also helps to reduce parking demand and motor vehicle trips, which is consistent with Downtown Area Plan goals and policies.
for itself with just the revenues from the motorists who park in it, at current market prices. The same would be true, of course, for a replacement garage for the existing Center Street Garage.

**Figure 6-1 Per Space Revenues, City of Berkeley Parking Facilities**

<table>
<thead>
<tr>
<th>Parking Facility</th>
<th>Annual Revenue (FY 2009)</th>
<th># of Parking Spaces</th>
<th>Annual Revenue per Space (FY 2009)</th>
<th>Monthly Revenue per Space (FY 2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkeley Way Lot</td>
<td>$247,065</td>
<td>111</td>
<td>$2,226</td>
<td>$185</td>
</tr>
<tr>
<td>Center St. Garage</td>
<td>$1,125,926</td>
<td>421</td>
<td>$2,674</td>
<td>$223</td>
</tr>
<tr>
<td>Oxford Garage*</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Telegraph/Channing Garage</td>
<td>$1,213,399</td>
<td>436</td>
<td>$2,783</td>
<td>$232</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,586,390</strong></td>
<td><strong>968</strong></td>
<td><strong>$2,672</strong></td>
<td><strong>$223</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parking Facility</th>
<th>Annual Revenue (FY 2010)</th>
<th># of Parking Spaces</th>
<th>Annual Revenue per Space (FY 2010)</th>
<th>Monthly Revenue per Space (FY 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkeley Way Lot**</td>
<td>$237,160</td>
<td>111</td>
<td>$2,137</td>
<td>$178</td>
</tr>
<tr>
<td>Center St. Garage</td>
<td>$869,535</td>
<td>421</td>
<td>$2,065</td>
<td>$172</td>
</tr>
<tr>
<td>Oxford Garage</td>
<td>$205,787</td>
<td>99</td>
<td>$2,079</td>
<td>$173</td>
</tr>
<tr>
<td>Telegraph/Channing Garage</td>
<td>$811,174</td>
<td>436</td>
<td>$1,860</td>
<td>$155</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,123,656</strong></td>
<td><strong>1067</strong></td>
<td><strong>$1,990</strong></td>
<td><strong>$166</strong></td>
</tr>
</tbody>
</table>

**Notes**

*The Oxford Garage opened for business on or about March 18, 2009, 9 months into FY2009. Therefore, we excluded this partial-year data from our FY 2009 analysis.

**The figure shown is projected revenue for FY2010 as of 04/14/2010.

The Annual Revenue figures shown are for Fiscal Year 2009 (FY2009) and Fiscal Year 2010 (FY2010), the most recent years for which complete data was available.


In many ways, the situation is similar to the housing and commercial property markets in much of California. Currently, many properties are being rented or sold at prices that are below the cost of replacing the properties. The result is that in many cities, construction of many types of real estate (e.g., office and condominium projects) has come to a standstill, and real estate economists predict that in some cities, it may take many years for real estate values to return to their former highs. In this situation, building new parking garages is a money-losing proposition, which can only move forward if supported by major subsidies (e.g., from taxpayers).

With low demand levels and per-space parking revenues too low to cover the cost of building and operating new parking spaces, we do not recommend the construction of additional parking supply at this time. Simply funding the replacement of the Center Street Garage will be a significant challenge. Options for financing that replacement garage are described later in this chapter.

**How Monthly Permit Holders Affect Parking Need, Costs and Revenues**

Monthly permit holders (such as regular commuters and downtown residents) tend to be high cost, low revenue customers. Monthly permit holders are usually high cost because they tend to
have their cars parked in the system at the peak hour (weekdays at noon). The number of cars parked in the system at the peak hour determines the size of the parking system needed. Therefore, a substantial increase in the number of monthly parking permit holders can trigger the need for expensive new parking garage.

Monthly permit holders are usually low revenue customers because they only purchase a single monthly permit, but occupy a space in City garages at the peak hour. A typical monthly permit holder (i.e., a full-time employee with a five-day workweek) parks for approximately 20 weekdays per month and pays $150 per month. By contrast, a space occupied 20 days per month by motorists paying the daily rate will generate $300 per month in revenue (see Figure 6-2, City of Berkeley Parking Facility Rates).5

**Figure 6-2  City of Berkeley Parking Facility Rates**

<table>
<thead>
<tr>
<th>Lot/facility</th>
<th>Monthly Rate</th>
<th>Maximum Daily Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkeley Way Lot</td>
<td>NA</td>
<td>$13 (6 hours maximum stay)</td>
</tr>
<tr>
<td>Center Street Garage (City-Owned)</td>
<td>$150</td>
<td>$15.00</td>
</tr>
<tr>
<td>Oxford Garage (City-Owned)</td>
<td>$150</td>
<td>$15.00</td>
</tr>
<tr>
<td>Telegraph/Channing Garage (City-owned)</td>
<td>$150</td>
<td>$20.00</td>
</tr>
</tbody>
</table>

**Figure 6-3  Private Parking Facility Rates**

<table>
<thead>
<tr>
<th>Lot/facility</th>
<th>Monthly rate</th>
<th>Maximum Daily Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kittredge Garage (Library Gardens) *</td>
<td>$125</td>
<td>$15.00</td>
</tr>
<tr>
<td>Milvia Street Lot</td>
<td>N/A</td>
<td>$12.00</td>
</tr>
<tr>
<td>Promenade Garage*</td>
<td>$145</td>
<td>$11.00</td>
</tr>
<tr>
<td>Golden Bear Garage *</td>
<td>$170</td>
<td>$14.00</td>
</tr>
</tbody>
</table>


This has several implications:

- If the Downtown parking system needs to be expanded just to accommodate more demand for monthly permit spaces, the system will incur large losses. As noted earlier, to break even on the cost of building, operating and maintaining a new garage, the garage

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5 The City’s parking occupancy data for Downtown garages provides information only about the total number of vehicles parked at each hour the day. No data was available to help us to determine the composition of that parking demand. Understanding the composition of peak-hour parking demand by type of customer (i.e., monthly permit holders vs. hourly customers) is extremely helpful for understanding the relationship between revenue gained and parking costs created by each parking “product” sold. For example, the ideal parking product generates high revenue, but creates little or no peak hour demand. It is crucial to understand whether each parking product offered generates a surplus, a loss, or breaks even.
needs to generate revenues of approximately $280 per space per month (see Error! Reference source not found.), but monthly permit holders pay just $150 per month. (Of course, raising monthly permit rates could help solve this problem, but it is unlikely that the market could support an increase from $150 to $280.)

- On the other hand, if a new garage could be filled with motorists paying daily and/or hourly rates, the garage would at least break even and could generate a substantial surplus.

- If the downtown parking system ever reaches capacity, it will make good business sense to discourage low revenue, high cost monthly permit buyers, in order to free up space for high revenue hourly customers.

It is also worth noting that if a substantial number of monthly permit holders could be removed from City garages (e.g., attracted to other transportation options, accommodated in private garages, or parked in a nearby Residential Parking Benefit Area), it might even be feasible to demolish and rebuild the Center Street Garage with minimal disruption to customers. This would also minimize revenue losses for the City's parking system. By contrast, losing hourly and daily customers during the reconstruction period would create much greater revenue losses.

Chapter 4 recommends strategies for improving transit options for Downtown employees and residents. Later sections in this Chapter suggest options for raising commuter parking rates in order to discourage drive-alone commuting, raise the revenues need to rebuild the Center Street Garage (i.e., the revenues needed to continue accommodating these commuters), and fund improved transportation options, which are likely to be a cost-effective way to reduce the need for parking expansion.

Potential Future Demand for Publicly Accessible Parking

While the public parking supply currently has excess capacity, additional parking capacity may eventually be needed. The following section analyzes potential future parking demand. When evaluating future Downtown parking demand, it is useful to consider each of the following sources of parking demand:

- UC Berkeley (which represents a significant source of present and future parking demand Downtown)

- All other parking demand
  - Private sector
  - Non-profit sector (non-UC Berkeley)
  - Public sector (non-UC Berkeley)

In the following paragraphs, we briefly discuss each of these categories of parking demand. Overall, there were few projects in the planning pipeline when this report was being prepared, and the projects which are in the planning pipeline are unlikely to generate significant new demand for the City's parking garages. However, in the long term (i.e., several years from now), when real estate markets have recovered, more public parking may be needed.

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6 About 300 parkers would need to be moved to other parking and transportation options. The Center Street Garage has 421 spaces and never reaches greater than about 70% occupancy, so it currently houses approximately 300 vehicles at peak hour.
UC Berkeley – Potential Future Parking Demand

The relationship between UC Berkeley’s parking and TDM plans and the City’s parking and TDM plans is important because of the shared market for parking in and around Downtown. UC Berkeley, the City, and private, for-profit parking operators all need to use parking revenue to build and operate their parking supplies. Therefore, it is essential that each considers the plans of the other. In the downtown area, all parking garages (whether City of Berkeley, private, or UC Berkeley-owned) are competing for the same limited pool of customers. (The exception to this is UC garages, which presently are limited to UC permit holders during weekdays.) If too much parking capacity is built, then the danger is that none of the garages will attract enough paying customers to meet their revenue projections.

In February 2011, UC Berkeley completed its Parking and Transportation Demand Management Plan. The Plan recommends increased investment in transportation demand management as the University’s primary strategy, instead of constructing new parking. There are several reasons why the University is taking this approach, including the following:

- **The University projects that its campus population will actually decline slightly in the coming years.** As a result, UC Berkeley’s future parking needs are largely limited to accommodating the displacement of some existing lots by new buildings. Under a status-quo scenario (i.e., if the University did nothing to change existing parking prices or improve its TDM programs), the University would have a deficit of about 490 spaces between parking supply and demand if all projects envisioned in the University’s 2020 Long Range Development Plan (LRDP) were completed. This is the projected deficit after all new LRDP projects are complete and reflect no effort at rebalancing parking demand or demand management/reduction. In other words, no new parking, price changes or implementation of new TDM programs.

- **The University's faculty/staff and student transportation surveys show a significant decline in parking demand rates over the past two decades.** As shown in Figure 6-4 and Figure 6-5, drive-alone rates (and per-person parking demand) have fallen steadily. Among faculty and staff, the drive-alone rate has fallen from 60% in 1990 to 43% in 2009. Among students, the drive-alone share fell from 16% in 1997 to 7% in 2008. That is, the faculty staff drive-alone rate has declined by more than a quarter and the student drive-alone rate has declined by more than half. This has substantially reduced campus parking permit sales and parking demand.

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7 UC Systemwide Parking Policies include the following principles: (1) “The cost of capital and operating expenses related to the parking system shall be recovered from the users of the parking system”; and (2) “Employee parking fees shall not be paid for by funds available to the University”. See http://www.ucop.edu/ucophome/coordrev/policy/parking-principles2002.pdf (accessed June 17, 2011).

8 The Plan can be accessed at http://pt.berkeley.edu/about.


10 UC’s Long Range Development Plan (LRDP) projects campus population to decline slightly by 2020 from 51,549 people in 2009 to 51,260 people in 2020.

11 Source: UC Berkeley Housing and Transportation surveys.

12 For example, among commuter students, campus records show that sales of regular ‘S’ (non-carpool student) permits have declined from 2644 in 2001 to 880 in 2009. That is, sales declined by nearly two-thirds.
Tuition increases, rising gasoline prices, the construction of new near-campus housing, and campus TDM programs all appear to have played a significant role in reducing UC drive-alone rates and parking demand rates. In particular, the student Class Pass program, which gives all students fare-free access to all AC Transit buses, appears to have had a profound effect on the campus' mode split: the overall student transit mode share has grown from 14% in 1997 to 27% in 2008.\textsuperscript{13}

\textsuperscript{13} UC Berkeley's Student Housing and Transportation Surveys found that the vast majority of this growth in student transit mode share occurred due to increasing student use of AC Transit, rather than due to changes in BART ridership. 20.0% of UC Berkeley students now commute by AC Transit, according to the most recent (2008) UC Berkeley Student Housing and Transportation Survey. The Class Pass program now serves more than 6,900 student commuters daily. The Class Pass program also provides substantial benefit to many students who do not commute by AC Transit, but who use it for many other non-commute trips: while 6,900 students commute by AC Transit, many more (about 33,000) pick up their Class Pass each year. According to University transportation staff, many students find that the program helps them meet their transportation needs without having to bring a car to campus.
• The cost of constructing additional campus parking is projected to be high. If a new structure is added near or adjacent to the Central Campus, the cost per space is estimated to be between $3,200 and $5,000 per year, every year for the expected 35-year lifespan of the parking structure. At minimum this would mean a cost of about $270 per space per month.

• If the University built a new parking structure (such as a garage on the University Hall West site), the garage could not pay for itself with the revenue generated by permit fees from those who park in it. UC Berkeley currently charges student and employee parking fees that are substantially below the rates charged by the City and by the major private garage operators. The most expensive faculty/staff parking permit is currently $124 per month, compared to the City’s $150 per month fee. Moreover, since the University has ample capacity for the public in its lots near Downtown, a new UC garage cannot be expected to bring the University much if any new revenue from non-University affiliates. The bottom line is that new UC parking structures cannot be supported just by the revenue from those who park in the structure.14

• The University’s existing transportation demand management programs have proven to be a highly cost-effective way to reduce parking demand and free up space in the UC parking system for those commuters who still need to drive. For example, the student Class Pass program accommodates student commuters at a cost of $330 per commuter served per year.15

• The University projects that expanding its transit, bicycle, pedestrian, carpool and vanpool programs will be the least expensive way to balance parking supply and demand, given the high cost of new parking garages.

• Expanding UC’s attended, or valet, parking program is projected to be able to accommodate about 450 vehicles at roughly half the cost of constructing new spaces, according to preliminary estimates by the University. At UC Berkeley, the cost per attended parking space for its existing attended parking program is between $1,300 and $1,400 annually, which compares very favorably with the high cost of constructing new spaces, which is estimated by the University at $3,244 per space per year.16

For all of these reasons, the University’s Parking and Transportation Demand Management Plan aims to use transportation demand management to balance parking supply and parking demand in the coming years. Doing so is expected to be both less costly for the University than building new parking, and also better at achieving the University’s goals for reducing greenhouse gas emissions.

14 Why is UC Berkeley able to charge below-cost parking fees? There are two reasons. First, the development of new and replacement parking structures, such as the Underhill Garage on the Southside, has been subsidized by UC Berkeley’s "Replacement Parking Fee". This fee was assessed against many new building projects, such as new student housing projects. The effect of this fee is that students are charged somewhat higher rents for their student apartments, which then helps to subsidize the provision of below-cost parking. Second, the University has been able to use the surplus generated by drivers who park on the campus’ surface lots to support the losses that are generated by charging below-cost rates to those who actually park in the structures.

15 The Class Pass program is financed by student-approved fees.

16 UC Berkeley currently uses attendant parking at approximately 20 of its garages and lots to increase vehicle storage capacity. For more information, see http://pt.berkeley.edu/park/permit/attendant.
Private Sector – Potential Future Parking Demand

After a prolonged recession, there is only one significant new development proposed in Downtown: Equity Residential’s proposed Acheson Commons mixed-use development in the block bounded by Shattuck Avenue, Berkeley Way, Walnut Street, and University Avenue. Our discussions with the project's planners indicate that they expect to accommodate all of the project's parking demand on-site (parking is being provided at less than current code ratios), and do not need to accommodate their tenant's parking demand with off-site parking. However, the Downtown Area Plan EIR anticipates 2,000 or more units of housing over the next 20 years, and significant growth in office and other development. While the short-term prospects for new parking demand are relatively small, the long term prospects are less clear as existing vacant space fills, and there is ongoing demand for parking for new residential and other uses.

Non-profit sector (non-UC Berkeley) – Potential Future Parking Demand

At present, there are no significant non-profit developments in the planning phase.

Public sector (non-UC Berkeley) – Potential Future Parking Demand

Currently, other (i.e. non-UC Berkeley) public sector institutions in Downtown, such as Berkeley City College, Berkeley High School and the City of Berkeley have no significant expansion plans and no major projects in the planning phase.

Summary of Potential Future Parking Demand

In summary, in the short term, there appear to be no significant projects in the planning pipeline that would be interested in purchasing or leasing parking in an off-site public parking facility. For some real estate types, such as high-rise condominiums and/or new hotels, it may be a few years before new projects are proposed in Downtown Berkeley. However, in the long term, when the Downtown real estate market has recovered, additional parking may be needed. The next sections provide a strategy for addressing this potential long-term need.

RECOMMENDATIONS FOR NEW PUBLICLY ACCESSIBLE PARKING

The following DAP policies guide the recommendations regarding provision of new, publicly accessible parking in Downtown.

Policy AC-1.2: Single-Occupant Vehicles. Discourage the use of single-occupant vehicles (SOVs) by commuters to Downtown and encourage commuting with transit, ridesharing, bicycles, and on foot.

c) Strengthen parking policies that discourage all-day SOV parking while encouraging alternative modes (see policies under Goal AC-3).

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17This proposed 200-unit rental apartment development would sit over ground-floor retail. The residential component of project appears to be aimed primarily at providing workforce housing and student housing, given the size of the apartments, the location, and the tenant mix found in similar apartments built nearby. http://www.berkeleydailyplanet.com/issue/2010-10-05/article/36386?headline=Proposed-Acheson-Commons-Development-Would-Add-200-Units-to-Downtown-Berkeley (accessed October 30, 2010).
d) Consistent with the Urban Environmental Accords endorsed by Berkeley, strive to reduce single occupancy vehicles (SOVs) to be no more than 40% of all commute trips by 2020. Monitor peak period trips to the extent feasible, and adjust measures to meet these targets.

**Policy AC-3.1: Effective Parking.** Manage parking more effectively to promote Downtown economic vitality while simultaneously discouraging all-day parking...

a) Effective parking management should be encouraged by developing a consolidated Parking/Transportation Demand Management (PTDM) program...

c) Use pricing strategies that increase the availability of on-street and short-term parking for retail and cultural uses -- while simultaneously discouraging all-day parking by commuters....Price public garages and encourage private parking vendors to make off-street parking more affordable and convenient relative to on-street parking, and favor short-term (less than 4 hours) over all-day use. Phase out monthly parking permits in City-owned Downtown parking facilities.

**Policy AC-3.2: New Parking.** Provide sufficient parking for expected growth by evaluating future parking needs, funding parking facilities, and promoting alternatives to the car. In addition, replace on-street parking lost to street and other improvements within off-street garages. Consolidate parking in shared facilities to the extent possible.

a) Parking facilities should be planned as part of a Parking/TDM program to address future parking needs, replace on-street parking lost to improvements, and evaluate locations for potential parking garages, and encourage visitors to park once and experience Downtown on foot and/or via low-cost shuttles/transit (see Policy AC-4.5).

c) Consolidate parking to minimize visual and other negative impacts from parking. Enlarge the capacity existing parking garages as feasible, through management practices and/or physical improvements.

**Policy AC-3.4: University Cooperation.** Encourage the University to review existing parking programs, and work with the University in developing comprehensive parking strategies for: planning parking facilities, managing parking more effectively, and making more UC parking available to the public (see Policies AC-3.1).

a) Work with the University to coordinate optimum parking rates and locations, and possible development of shared facilities at: the DHS site, the Berkeley Art Museum and Pacific Film Archive site, the Tang site, University property west of University Hall, and the site at the corner of Oxford and University.

b) Encourage the University to locate replacement parking for parking eliminated on campus to a Downtown site where parking can be shared, but not in excess of what is called for under UC Berkeley’s Long Range Development Plan.

**Policy ES-2.5: Environmental Leadership.** The City of Berkeley should demonstrate leadership in environmental sustainability through its own actions.

g) The City-owned Berkeley Way parking lot should become a “super-green” affordable housing project with zero net energy use (with enough energy generated on-site to cover on-site energy used), while simultaneously avoiding a reduction in off-street parking spaces in the area (see Policy HC-4.2).
Recommendations

Reduce Commuter Parking Demand

Reducing the number of monthly permit holders in City garages (by attracting them to other transportation options, accommodated in private garages, or parked in a nearby Residential Parking Benefit Area) may make it feasible to demolish and rebuild the Center Street Garage with minimal disruption to customers. This would also minimize revenue losses for the City’s parking system.

Therefore, we recommend taking action to implement the following DAP Policies and Implementation Actions before demolishing and rebuilding the Center Street Garage, and before expanding the downtown parking supply:

- **Policy AC-1.2**: Single-Occupant Vehicles. Discourage the use of single-occupant vehicles (SOVs) by commuters to Downtown and encourage commuting with transit, ridesharing, bicycles, and on foot.
- **Implementation Action AC-1.2 (c)**: Strengthen parking policies that discourage all-day SOV parking while encouraging alternative modes.
- **Implementation Action AC-3.1 (c)**: Use pricing strategies that increase the availability of on-street and short-term parking for retail and cultural uses -- while simultaneously discouraging all-day parking by commuters.

Implementing this policy and these two actions appropriately has the potential to create a win-win solution for Downtown creating:

- better transportation options for employees
- fewer low-revenue, high cost all-day commuters in the parking system
- less need to build new high cost garages to accommodate them
- more spaces left to accommodate high revenue hourly customers (such as shoppers, theatergoers and other visitors).

Reserve Opportunity Sites and Conduct Additional Market Analysis

In the future, Downtown may need additional parking capacity. To prepare for this potential future need, we recommend reserving opportunity sites for future public parking facilities, and conducting additional market analysis.

In this highly unusual environment for real estate development, we recommend taking a market-analysis approach to assessing future demand for new public parking. The fundamental idea behind this approach is to clearly identify customers (i.e., developers and/or future tenants who will be willing to pay parking rates that are high enough to pay for a new garage) before issuing bonds to build a new garage.

This approach stands in contrast to the formula-driven approach to assessing future parking demand. The formula-driven approach to assessing parking demand often takes the following form:

1. Calculate the number of residential units and square feet of commercial development allowed under the zoning rules.
2. Establish a set of generic parking demand rates (e.g., one parking space per residential unit, or one parking space per thousand square feet of commercial development).

3. Multiply the quantity of each land use by the parking demand rate to estimate future demand.

As a broad-brush, first-cut approach for estimating potential future parking demand, this technique is fine. It can be used, for example, to estimate the number of spaces that might one day be needed, and to therefore decide how many and which sites to reserve for future parking facilities. This technique also often works well for green-field suburban sites, where all parking has traditionally been provided for free and there is less need to estimate future parking revenues, or for parking facilities to be supported by parking revenues.

In Downtown Berkeley, however, a more market-oriented approach to the development of new parking facilities is preferable. By market-oriented, we mean that the City should conduct a market analysis to identify specific new customers who would be willing to pay for parking in (a) the excess capacity that exists in existing City parking garages, such as the Center Street and Oxford Garages; and (b) in future new public parking garages. This approach should include:

1. **Interviewing all developers (for-profit and nonprofit) and others with projects in the planning pipeline or on the horizon.** What interest would they have in renting or purchasing parking spaces in a future public parking facility? Would they be interested in renting or leasing spaces in existing underutilized facilities? Would they be willing to pay enough for a future garage to break even? Would they (or their future tenants) prefer month-to-month parking, long-term leases, or parking condominiums?

2. **Forming an interest list for public parking garage spaces.** Just as condominium developers often form interest lists for projects that are in design and development, the City should establish an interest list of those developers, employers, and other institutions that are actively interested in purchasing or leasing additional public parking spaces.

3. **Improving the City's ability to monitor parking occupancy in its current parking system (both curb parking and off-street facilities).** The City is already actively working on this last step, which is essential for understanding the ability of the existing parking system to be more efficiently utilized and to accommodate more customers before additional parking capacity is needed. In addition, more actively monitoring parking occupancy is a critical part of assessing the ability of the City to raise its garage rates to a level that would support the replacement of the Center Street Garage.

By taking this more market-driven and less formulaic and suburban approach to assessing future parking demand, the City can avoid overbuilding parking (i.e., avoid building a facility that will fail to attract customers and meet revenue projections). The City can also greatly improve the chances of developing future parking facilities that are appropriately located, scaled, and operated in ways that will meet the Downtown residents, employees, customers, and visitors. Finally, by reserving appropriate sites, the City will ensure that new capacity can be provided when the time is right.

**Reserving Opportunity Sites for New Public Parking**

As shown on the map in
Figure 6-7, there are a limited number of opportunity sites for new and/or enlarged public parking facilities. The following four opportunity sites are viable sites for new and/or enlarged public parking facilities. They are significant because they are all (a) large enough to accommodate a reasonably efficient parking structure, and (b) owned by a public entity, so that no land acquisition from a private owner would be required. Additionally, they are well-located to serve multiple major destinations.

- **Center Street Garage site (City-owned):** The 421-space Center Street Garage, which was constructed in the 1950s, has been determined to be seismically unsafe and will need to be replaced. Multiple replacement options have been studied conceptually. As shown in *Error! Reference source not found.*, the least expensive option (on a per-space basis) would provide a 462-space garage at a cost of approximately $19 million, or about $40,000 per space.

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Figure 6-6 Parking Garage Development Costs & Operating Expenses

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<thead>
<tr>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Expected useful life of structure (years):</td>
</tr>
<tr>
<td>Interest rate on Revenue Bonds:</td>
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<table>
<thead>
<tr>
<th>Capital Costs</th>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Spaces Built</td>
</tr>
<tr>
<td>Spaces Displaced</td>
</tr>
<tr>
<td>Net Spaces Gained (c=a-b)</td>
</tr>
<tr>
<td>Total Capital Costs</td>
</tr>
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<td>Capital Cost per Space</td>
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<table>
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<tr>
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<td>Annual Debt Service</td>
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<td>Annual Debt Service, per Space</td>
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<tr>
<td>Annual Debt Service, per Space</td>
</tr>
<tr>
<td>Annual Operations &amp; Maintenance, per Space</td>
</tr>
<tr>
<td>Total Annual Cost per Space</td>
</tr>
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<table>
<thead>
<tr>
<th>Total Cost per Space per Month</th>
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<td>Total Cost per Space per Month</td>
</tr>
</tbody>
</table>

- **University Hall West site (UC-owned):** The University Hall West site is in the block bounded by University, Oxford, Addison, and Shattuck. The University has completed a conceptual design study for a garage on this site, which demonstrated that a new garage on this site is feasible. As shown in Error! Reference source not found., the least expensive option (on a per-space basis) would provide a 1071-space garage at a cost of approximately $39 million, or about $38,000 per space.20

- **Berkeley High School Lot (owned by Berkeley Unified School District):** This lot, in the block bounded by Bancroft, Shattuck, Durant and Milvia, offers a third alternative. The site is large enough to be viable, and in our opinion, it is likely that the per-space cost of developing a garage on this site will be comparable to the costs for the Center Street Garage and University Hall West sites.

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Note that for the Center Street Replacement Garage, we estimated an annual operations & maintenance cost of $615 per space, based upon the estimated operations & maintenance cost for the University Hall West Parking Garage. We used this estimate because a similar detailed estimate for the Center Street Replacement Garage was not available. Source: Walker Parking Consultants. University Hall West Parking Garage Parking Study, June 2, 2009, 30.

• **Berkeley Way Lot (City-owned) and other potential underground parking sites:** DAP Implementing Action ES-2.5g, which calls for developing affordable housing on the Berkeley Way Lot while simultaneously avoiding a reduction in off-street parking spaces in the area, is likely to preclude the development of additional above-ground parking spaces on this site. It is physically feasible to gain additional public parking spaces by building several levels of underground parking on the site. However, the high cost of underground parking makes this option unattractive. A parking industry rule of thumb is that the capital cost of a parking space on the first level of an underground parking structure can be expected to be 50% higher than the cost for an above-ground structure (or approximately $60,000 per space in Downtown Berkeley) due to the high cost of excavating and constructing underground facilities.\(^2\) The cost of parking spaces on subsequent underground levels will be still higher, and can be expected to be approximately equal to the cost of the level above plus a constant equal to the difference between the cost of an above-ground structured space and the first-level of the underground facility (or approximately $20,000 per space).\(^2\) Thus, a parking space on the second level of underground parking would cost about $80,000 and on the third level underground a parking space would cost $100,000. As these numbers show, while underground parking keeps land free for building projects, it requires a significant premium for each successive level below grade. Operating expenses are also frequently substantially higher, due to the expense of lighting and ventilating subterranean spaces, and the fact that many underground garages require constant dewatering.

We recommend that the City do what it can to reserve the three most viable sites for parking structures, so that new parking capacity can be added if and when it is needed. This should include:

- **The Center Street Garage site:** Maintain this site as public parking.
- **University Hall West site (UC-owned):** Work with the University to reserve this site for a potential future garage to serve UC and public parking needs.
- **Berkeley High School Lot (owned by Berkeley Unified School District):** Work with Berkeley Unified School District to reserve this lot for a potential future public parking garage.

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Figure 6-7  Opportunity Sites for New Public Parking
**Fund Future Parking Facilities with User Fees and Revenue Bonds**

We also recommend that the City continue to finance off-street public parking facilities using its traditional approach:

1. Issue revenue bonds for the construction of garages.
2. Repay the bonds with parking fees from those who park in the facilities.

The City's traditional approach to financing public parking facilities -- issuing revenue bonds and repaying them with parking fees -- is not innovative or groundbreaking. However, it does have many advantages beyond simply being a tried and tested approach to municipal parking finance. The advantages include:

1. **Economic Efficiency:** Paying for parking facilities using direct parking fees helps balance parking supply and demand. When the true cost of parking is made visible through direct fees, employers and residents are able to save on parking by using less of it. Employers, for example, can provide transportation demand management programs to help employees leave their cars at home, and reap the savings by leasing fewer employee parking spaces. Similarly, residents, as discussed in earlier chapters, are able to save substantial amounts of money by owning fewer vehicles and leasing or purchasing fewer parking spaces. The result is that fewer parking spaces need to be built, and less motor vehicle traffic is generated in Downtown. As a result, parking construction costs are substantially lower than if parking is funded in indirect ways, such as through taxes and other fees on Downtown (or citywide) property owners, businesses and residents.

2. **Environmental Sustainability:** Because paying for parking through direct user fees reduces both motor vehicle trips and parking construction, it substantially reduces air and water pollution and greenhouse gas emissions, compared to funding methods that hide the cost of parking in the cost of other goods and services. The principle is similar to the principle of charging for electricity through direct fees: when the cost is revealed, users have an incentive to conserve.

3. **Social Equity:** Paying for parking facilities using fees from those who park in the facilities follows a principle that is widely accepted as fair: that the beneficiaries of the project should pay for the project. Moreover, since higher income households, on average, own more vehicles, drive more often, and park more often, than households of lesser means, the “user pays” approach means that higher income households shoulder a greater share of the burden for parking facilities than if the cost of parking is hidden in the cost of other goods and services.

**Parking Leases and Parking Condominiums**

The most common way of purchasing parking in public garages is through hourly fees or long-term leases. However, selling parking condominiums is another valid approach that is widely used in major areas.

This means that paying for parking through direct user fees does not preclude the development of public parking facilities which include dedicated spaces for residents of nearby buildings. In many urban areas, parking facilities have been developed as parking condominiums. The parking facility itself, or a portion of the facility, is held in a condominium form of ownership. Nearby residents and employees are able to purchase spaces. In the case of projects which are entirely condominiumized, a condominium association is formed, and normally hires a parking operator to manage and maintain the garage.
In the case of a public garage, it is possible to sell a portion of the spaces in the garage, with the City retaining ownership of the remainder. In this way, the City could, for example, sell parking condominiums to a developer of a new Downtown residential building (potentially in advance of actual construction), providing the City with substantial revenue up front for parking development, and providing the developer with assurance that he or she will actually be able to obtain off-site parking for the new building. Once the new building is built and new residents purchase their units, the developer would normally resell the condominium parking spaces to the new residents.

**REBUILDING THE CENTER STREET GARAGE – FINANCING OPTIONS**

The 421-space Center Street Garage, which was constructed in the 1950s, has been determined to be seismically unsafe and will need to be replaced. Multiple replacement options have been studied conceptually. As noted earlier, a replacement garage with about the same capacity would cost approximately $18.6 million.

How can an $18.6 million garage be funded? Consider the City’s traditional method, issuing revenue bonds to raise capital. Using typical assumptions for a City revenue bond of this type (a 6% interest rate) and assuming a bond term matched to the expected lifespan of the facility, paying back an $18.6 million revenue bond would require approximately $1.3 million per year in revenue, every year, for the expected 35-year life span of the replacement garage (see Figure 6-6).

The City Budget provides an overview of the revenues and expenses of the City’s two parking enterprise funds (the Off-Street Parking Fund and the Parking Meter Fund). Currently, projected revenues and expenditures from each of these funds are essentially balanced. That is, all of the revenues coming in are currently committed to covering planned expenditures. These planned expenditures do not include the approximately $1.3 million per year that would be required to pay back a bond for the replacement garage. Therefore, the Off-Street Parking Fund needs new revenues to pay for the garage: City policy requires new programs to pay for themselves.

As of this writing, a detailed breakdown of revenues and expenses for the two parking enterprise funds was not available. However, according to the overview provided in the City Budget, the Off-Street Parking Fund’s revenues are projected to be approximately $3 million for Fiscal Year 2011 (FY 2011). These revenues consist of the revenues collected from the three City garages (the Center Street Garage, the Oxford Garage, and the Telegraph-Channing Garage). Since revenues for the Off-Street Parking Fund are currently $3 million per year, increasing them by approximately 43% would provide the $1.3 million per year in new revenue required to pay back...

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24 Approximately $3.6 million in funding is available for parking and TDM needs related to impacts from the construction of the Berkeley City College campus on Center Street. Funds are currently being held in an escrow account.


26The assumption of a 35-year lifespan is a typical industry standard for parking structures. The existing Center Street Garage, which is seismically inadequate, has now lasted beyond the lifespan expected for a garage of its type.

27 City of Berkeley FY 2010 & FY 2011 Adopted Biennial Budget, 1.
the $18.6 million revenue bond. **At present, with excess parking supply and prices declining in some instances, it does not appear that the City can increase garage revenues by 43% by raising garage rates by 43%.**

Any increase in short term rates is likely to result in patrons responding by moving to private garages that offer lower rates, or shifting to alternative modes of transportation. In the future, as the economy recovers and Downtown vacancies decrease, increased parking activity may well support higher rates. Given the current financial situation, several options should be considered:

1. **Take a wait and see approach, committing to a revenue bond only when demand for off-site street parking has recovered to the point that higher rates can be sustained.** This would presumably mean delaying reconstruction of the Center Street Garage. Nearby projects that are currently in the planning pipeline, such as the proposed Berkeley Art Museum/Pacific Film Archive, and the concert venue planned for the UC Theater, may generate demand for additional parking and new revenues within two to four years.

2. **Improve monitoring of parking system occupancy (of both public and private garages).** This will help the City monitor the capacity the municipal parking system and its competitors have to absorb more customers. This will help answer questions such as “How many customers can competing garage operators absorb, before they will want to raise rates?”, and, “When will the City be able to gain substantial revenue by raising rates?”

3. **Extend parking meter hours into the evenings and to Sundays, and/or raise daytime rates in high-demand areas, and use a portion of these revenues to help service the debt on the new revenue bond.** There is insufficient information to estimate the revenue potential from these sources, but further study may show that it is sufficient to address a part of the need. On the other hand, as previously discussed, devoting some of this increased revenue to public improvements besides parking is helpful in gaining support for the increases from businesses and residents, thereby reducing the funding available solely for new parking bonds.

4. **Audit existing parking revenues and expenditures in the two parking enterprise funds, to determine whether cost savings can be achieved in current operations.** While this approach is unlikely to provide sufficient revenue alone, instituting new technologies and new approaches may be able to provide significant cost savings and/or enhance revenues. For example, by replacing old coin-only meters, the City has reduced labor expenses for meter repairs. The evidence from other cities suggest that adopting new technologies, such as license plate recognition systems for residential parking permit enforcement, may also allow either (a) additional citation revenues without adding staff; or (b) maintenance of current enforcement levels while reducing staff expenses.

5. **Explore partnerships with UC, private developers, or other organizations.** A number of entities have expressed an interest in partnering with the City to help reconstruct the Center Street Garage, including UC Berkeley, Berkeley City College, the Downtown YMCA, and private developers. The City should continue to explore the potential for these partnerships which could help reduce the public cost of rebuilding the garage.

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28 Fewer commuters and/or shoppers in City garages would ease the disruption that will be caused when the Center Street Garage is demolished, but will not help with revenues.
Background: the Development & Finance of Berkeley's Public Parking Facilities

City records indicate that since 1953, the City has financed off-street public parking facilities by issuing revenue bonds for the acquisition of land for parking facilities and the construction of lots and garages, and repaying the bonds with parking fees from those who park in the facilities.

Founding & Growth

Soon after World War II, as Berkeley grew, the City moved to develop a public parking system. Ordinance 3340 was adopted on September 22, 1953, establishing the laws that would govern the future facilities. On August 11, 1954, the Wall Street Journal reported that the City of Berkeley was preparing to issue $1 million in revenue bonds for the development of off-street parking facilities.

By 1955, the City Council had passed an ordinance establishing that parking lot meter revenues would be pledged as security for repayment of revenue bonds, and in that same year, the City signed agreements to use the proceeds of parking revenue bonds to purchase 2121 Kittredge Street (apparently for development of the Oxford-Fulton Parking Lot, now the site of the Brower center and the City's Oxford Garage) and 2016 Berkeley Way (apparently for the development of the Berkeley Way Lot).

In 1969, the City issued revenue bonds to construct the $2.4 million Sather Gate Garage (now the Telegraph/Channing Garage). As with earlier City parking facilities, the revenue bonds for the new garage were to be repaid by fees from those who parked in it. The Off-Street Parking Revenue

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30 This approach to financing public parking is not unusual. As one widely-used parking manual puts it, "Revenues generated by the operation of a facility are a most common source of payment to debt or equity holders." See Michael P. Schaefer, "Financing Parking Facilities," in The Dimensions of Parking, Fourth Edition (Washington, DC: ULI -- the Urban Land Institute, 2000), 119.
31 City of Berkeley Ordinance No. 3340, adopted September 22, 1953.
34 City of Berkeley Ordinance No. 4409, adopted March 25, 1969.
Bond Ordinance of 1976 clarified the procedures to be used by the City when issuing revenue bonds for future off-street parking lots and garages.\textsuperscript{35} From the legislative history, it is also clear that revenue bonds, repaid by parking fees, were also used to build City lots outside of Downtown and Southside. The Elmwood District Lot was funded by the issuance of a $600,000 revenue bond, which funded the acquisition of property and construction of the lot itself.\textsuperscript{36}

Currently, off-street parking revenues are repaying the most recent revenue bonds, which were issued in 1994 and 2005 for the purpose of seismically retrofitting and making other improvements to the Telegraph/Channing and Center Street garages.\textsuperscript{37}

Our scan of City records, which was not comprehensive, did not reveal the financing for every one of Berkeley’s current public parking facilities. However, based upon the record for those facilities for which the funding mechanism is known to us, we believe it is likely that all of the City’s existing parking facilities were funded by issuing revenue bonds, which were then repaid using parking fees from the motorists who used the facilities. (To provide additional security for the purchasers of the City’s parking revenue bonds, City ordinances also have allowed parking meter revenues from on-street meters to be pledged as security for revenue bonds, providing additional assurance that the bonds would be repaid in the event that the fees collected in a new facility were insufficient to cover its costs.) Parking fees have traditionally also been the source of revenue for covering the operations and maintenance costs of off-street parking facilities.

\textsuperscript{35} City of Berkeley Ordinance No. 4952, adopted November 23, 1976.

\textsuperscript{36} City of Berkeley Resolution 52285, Attachment: City of Berkeley Adopted Budget 1984-1985, 111.

\textsuperscript{37} City of Berkeley Fiscal Year 2010 & Fiscal Year 2011 Adopted Biennial Budget, 32.