

EXECUTIVE SUMMARY

BACKGROUND

The Southside/Downtown Transportation Demand Management Study was jointly commissioned by the City of Berkeley and the University of California, Berkeley. It is intended to articulate the community's vision regarding transportation and to develop transportation management strategies that further that vision. The strategies and findings of the TDM Study are designed to inform other plans, including the City's General Plan, the Southside Plan and UC Berkeley's Long Range Development Plan.

The Study Area is bounded by Hearst Avenue, Martin Luther King Jr. Way, Dwight Way and Prospect Avenue. This area includes the Southside, a high-density student residential and community retail district just south of the UC Campus; the Downtown, which is home to retail, cultural and institutional organizations; and the UC Berkeley campus. Also included in the Study Area are residential neighborhoods touching and enclosed within its boundaries. A map of the Study Area is provided in Figure ES-1.

THE STUDY PROCESS

The TDM Study was guided by a working group with an informal membership that included regular participation from local residents, business owners, students, employees, University faculty and staff, and staff from several agencies that serve or are housed in the Study Area. In addition, the study team conducted over 30 stakeholder interviews to gather input from key community interests. An existing conditions report analyzed trip patterns, travel markets and growth projections to provide a factual foundation for the Study.

FIGURE ES-1
MAP OF STUDY AREA

STUDY AREA TRANSPORTATION GOALS AND OBJECTIVES

Through the public input process, the Study articulated the community's vision for transportation. This vision is summarized in two goals that guided the development of the Study's recommended TDM activities. These are:

- Improve the *livability* of Berkeley's core, including the University, Downtown, Southside and surrounding neighborhoods.
- Improve the *vitality* of Berkeley's core, including its role as a place for living, business, research, teaching, study, worship, shopping, recreation and entertainment.

For each goal, the community developed objectives addressing parking, housing, safety, job development, aesthetics, street scape, traffic, transit, bicycling, walking, carpooling, and economic conditions. There was a high level of agreement among the participating community members surrounding the goals and objectives. The most controversial topic is defining the appropriate amount of parking that should be provided in the Study Area. The goals and objectives are presented in Chapter 1.

SETTING

- About half of the commuter drive alone trips within the Study Area are generated by UC Berkeley students, faculty and staff. The other half are generated by the sum total of other employees in the Study Area as well as non-student residents traveling to their jobs.
- 75% of employees commuting to the Study Area (including UCB employees) live in Berkeley or the adjacent communities of El Cerrito, Albany, Emeryville and Oakland.
- The drive alone rates among the different commuter groups within the Study Area are:
 - UC students: 15% (Source 1997 Student Housing and Transportation Survey)
 - UC faculty and staff: 50% (Source 1996 Faculty and Staff Housing and Transportation Survey)
 - All employees (including UC) working in the Study Area: 46% (Source 1990 Census, Census Tracts that comprise Study Area, including UC campus and hill area behind campus)
- The estimated daily vehicle trips generated by the different commuter groups within the Study Area are:

- UC students: 4,250
 - UC faculty and staff: 5,500
 - Off-campus Study Area employees: 6,200
- The transportation advantages of proximity for UC faculty and staff diminish after three miles. Beyond this distance, over 50% drive alone to campus regardless of how close or far they live. Students living 5 to 10 miles from campus have the highest drive alone rate.
 - There are about 6,300 UC-owned parking spaces available for student, staff and faculty parking within the Study Area. There are about 7,500 non-UC parking spaces located in the Study Area, including restricted and non-restricted private spaces as well as on-street and off-street public spaces.

MAJOR CONCLUSIONS

Some of the major conclusions of the Study include:

Management of Existing Resources Should Continue to be Improved

The Study documents a variety of areas in which access to the Study Area can be improved through better management of existing transportation resources. These efforts can be expanded to include coordinated visitor parking policies, pricing and marketing in order to expand the perceived – and in many cases actual – supply of short-term spaces in the study area. The City, UC and AC Transit have also begun a cooperative venture to improve transit access between the Rockridge BART station and the campus. These efforts should be expanded to include coordinated marketing and more extensive free-fare programs.

Some Perceived Parking Shortages can be Eliminated through Management

According to the stakeholder interviews and workshops, one of the greatest frustrations visitors and commuters experience in the Study Area is the time it takes to find a parking space. The reliability of finding a parking space can be greatly enhanced through more refined pricing strategies, improved signage and real-time information about parking availability at major lots and garages. In most successful urban areas, parking prices are set so as to ensure that a space can be found in the vicinity at least 90% of the time. In-pavement loop detectors at garage entrances and exits can track the number of vehicles inside and alert motorists when the garage is full. This information can be displayed electronically outside the garage, and it can also be displayed on changeable message signs elsewhere in the community so that approaching motorists will know where parking is available closest to their destinations. Such strategies not only improve the experience of visitors and commuters, but they can significantly reduce “search traffic” of motorists hunting for parking.

Determining the “Right” Amount of Parking is a Values-Based Decision

This Study alone cannot recommend the “right” amount of parking for the Study Area. Instead, it can describe some of the effects of adding to or subtracting from the parking supply total, along with strategies for accommodating access to the Study Area through non-parking-dependent modes.

Growth Can be Accommodated through Mode Shift

Growth in the Study Area will be relatively slow over the next 10 years. Accommodating this growth through mode shift rather than new parking is relatively straightforward. However, such shift would assume that the status quo conditions are acceptable – including the current parking availability in the Study Area and the spillover of parking into surrounding residential neighborhoods.

Eliminating Spillover Parking is a Significant Challenge

The study estimates that well over 2,000 Study Area commuters currently park in surrounding residential neighborhoods and walk in. If the City decides that it wants to eliminate commuter parking from residential streets in Berkeley, accommodating this many commuters would be a significant challenge, particularly if the change happened all at once. It would be extremely difficult to accommodate this sort of mode shift through TDM and parking management strategies. It would be better policy to construct new parking in the Study Area to accommodate a share of motorists displaced from the residential neighborhoods. In any case, the Residential Parking Permit program would need to be significantly revised, with fines for parking without a permit in the RPP increased several-fold.

Negative Effects of Modest New Parking Construction Can be Mitigated

Should the City and/or UC decide to build more parking in the Study Area in addition to implementing improved TDM measures, many of the potential negative effects of the new parking can be mitigated. If real-time information about parking availability and more refined pricing policies were implemented at the same time, it is possible that a new garage could actually decrease some peak-period traffic through the elimination of “search traffic.” Additional urban design problems associated with parking garages have also been successfully mitigated in communities such as Walnut Creek, Santa Barbara, and Boulder, CO, through measures such as wrapping the structure in retail or housing.

OTHER FINDINGS

- A variety of strategies, as outlined in Chapters 3 through 7 of this document, can be employed in the study area to improve livability and vitality. Tools provided in the study, including order of magnitude cost and impact information available

in Chapter 8 and program priorities according to policy objective examined in Chapter 10, can facilitate program development and decision-making.

- A very rough estimate of the number of Study Area parking spaces available for visitor parking on a daily basis is 2,600 to 3,300 spaces. However, this conclusion derives from numerous assumptions.
- There is no parking supply estimation formula that inputs community size, transportation resources, and economic activity and determines the appropriate amount of parking. The amount of parking to be supplied is dependent upon community livability and economic goals.
- Population growth in Berkeley is expected to be about 0.11% per year over the next ten years. Growth projections made by the Association of Bay Area Governments put Berkeley's "fair share" population projection for 2020 between 110,900 and 116,000 people. Population growth will most likely be absorbed within the Study Area.
- The UC Berkeley student population may grow 4% between 1999 and 2010/11. The UC faculty/staff population may grow 10% between 1999 and 2010/11. Study Area employment not affiliated with UC may grow 4% between 2000 and 2010/11.
- If parking were managed to maintain "status quo" mode splits by supplying only enough additional parking to meet campus and employment growth, a total of 915 additional parking spaces would be needed within the Study Area between now and 2010-11. This amount would not address spill over parking.
- The stakeholder interviews revealed two points on which there was 100% agreement:
 - improving public transit is vital to improving access and livability in the Study Area, and
 - the existing parking supply could be better managed and utilized.
- The 30 stakeholder interviews revealed conflicting concerns regarding parking supply and its impact on trip generation, the trade-offs between commuter parking and visitor parking, and the relationship between traffic and economic vitality. The key issues are summarized in Chapter 2.
- A limited parking supply within the Study Area has been successful at encouraging travelers to use modes other than driving to come to the Study Area. At the same time, stakeholder interviews, community input, and the suspected amount of spillover parking, indicate that there is existing demand for additional parking.
- Based on the review of existing conditions, stakeholder input, and an

understanding of travelers to the Study Area, it is the conclusion of this Study that parking supply-side changes *alone* -- either removing existing parking, capping parking supply at its current number, or creating additional parking barriers -- or developing other parking barriers will not achieve the community goal to reduce traffic congestion unless these strategies are combined with investment in the TDM activities outlined in this Study.

- Using available data sources, a very rough estimate of the number of vehicles coming to the Study Area who park beyond the Study Area is 2,000 to 5,000. This conclusion derives from numerous assumptions and must be further analyzed. This large amount of spill-over parking, however, leads to the conclusion that TDM activities would not be able to produce the mode split necessary to eliminate spill-over parking (e.g. a 10% drive alone rate among Study Area employees (non-UC).

TRANSPORTATION DEMAND MANAGEMENT ACTIVITY DEVELOPMENT

The TDM activities recommended for the Study Area are organized into four tiers. The four tiers were developed based on the understanding gained from the community input process and the review of existing conditions. Tier One activities are designed to coordinate and better manage the Study Area's rich, existing transportation resources. Tier One activities develop a foundation for all further activity implementation and are considered enabling strategies.

The goal of Tier Two activities is to better manage the Study Area's existing resources to bring them closer to their full potential. Because it is estimated that 75% of commute trips to the Study Area are generated by employees living within five miles, there is great potential to achieve greater non-SOV mode share from the Study Area's existing TDM resources. These resources include an urban form and transportation infrastructure that inherently promotes the use of alternatives to the car. This infrastructure, however, needs to be better managed and cared for in order to attract more people to transit, bicycling and walking.

Once the Study Area's existing resources are maximized, Tier Three activities move to incrementally expand the existing programs. Finally, Tier Four activities include new programs and longer-term options that will help the Study Area become vital and livable as envisioned by the community. Chapter 3 provides an overview of the four tiers of TDM activities.

The activities can be applied differently based on a user's viewpoint or policy objective. Policy-makers can use this document to achieve different trip behavior outcomes and meet specific aspects of the community goals. Not all activities can be implemented and not all activities are complementary. The ultimate decision of how to apply the TDM activities outlined in the four tiers must be based on the values of the community and decision-makers. Chapter 10 describes

how the TDM Study can be used to satisfy five different policy objectives.

TDM ACTIVITIES

The TDM activities that make up each tier are described in detail in Chapters 4 through 7. Each activity description includes an overview of the concept, the reasons why the concept is important, issues that must be addressed to develop the concept, examples of where and how similar activities have been developed in other communities, an outline of steps to make the activity a reality, and a cost estimate.

Enabling Strategies

The enabling Tier One strategies target the areas in which greater coordination is needed to manage and maximize the Study Area's existing resources and to develop additional programs. These area are:

- Parking Supply and Management,
- Transit and Shuttle Resources, and
- TDM Planning and Investment.

Parking

Parking strategies are outlined in Tiers Two and Four. The Tier Two strategies are to improve information about the parking supply, maximize the appropriate and efficient use of the privately-owned and residential-permit parking, make the supply more user-friendly by consolidating areas for long-term and short-term parking, and make the supply reflect community decisions about long-term and short-term needs. Tier Four activities take these concepts a step further by recommending the development of an areawide parking plan that includes parking cash-out requirements, a parking cap, parking maximums and then steps to adjust the supply.

Transit

Transit is the alternative to the automobile that is most emphasized in the Study activities. It is applicable to commuter, student, visitor, and resident travel and can be an effective mode choice for the large market of drive alone commuters living within five miles of the Study Area.

Tier Two transit activities include continued development and support of the existing UC Class Pass program and the AC Transit bus shelter program, comprehensive marketing materials specific to the Study Area, and allowing public access on the privately-provided UC and Lawrence Berkeley National Laboratory shuttles traveling throughout the Study Area. The

intent of this last activity is to develop free, frequent, community-based transit that circulates within the Study Area and to the Berkeley and Rockridge BART stations. This concept is further developed in the Tier Three transit activities to improve frequency and reliability of AC Transit routes and expand private shuttle routes. Frequency and reliability are critical to capturing the vast market of travelers living close by.

Additional Tier Three transit activities include the development of an EcoPass program so that Study Area employers and community members can maximize transit capacity and provide a significant economic incentive to transit. Two additional strategies focus on the transit infrastructure. The first is improve safety, amenities and aesthetics at key transit stops to enhance transit's appeal. The second is to provide a time-saving advantage to transit riders by implementing transit preferential treatments on city streets.

Strategies that require large investment in infrastructure are included in Tier Four. These include developing transit-only right-of-ways along the key corridors serving the Study Area; redeveloping the downtown Berkeley BART station into an embracing, mixed-use public space; and BART improvements to provide more direct and later evening service to San Francisco.

Transportation Demand Management (TDM)

For the purposes of the activity descriptions, transportation demand management activities are those that develop comprehensive commute benefit programs. These activities include improving the effectiveness of UC Berkeley's existing TDM program and developing a program to realize the City's goal to become a model employer regarding TDM. This activity description lays out how the City can develop a program for its own employees as well as for all employee benefit.

Bicycling

Bicycling strategies realize the community goals in its ability to serve many trip purposes. Bicycling strategies also target the large market of drive alone commuters living within five miles of the Study Area.

Activities developed in this Study include the implementation of additional bicycle parking and the implementation of the bike plan. A comprehensive bicycle travel-way network increases the safety of bicycling and develops a bicycle culture. Emphasis is placed on eliminating the campus as a natural barrier to bicycle through-traffic.

Housing

All housing activities are included in Tier Four. Two housing strategies relate to parking: A) eliminate the minimum parking requirement to facilitate housing, and B) require that the cost of parking be dis-aggregated from residential or commercial development. This makes parking

cash-out more feasible and reveals the true cost of parking. The Study also recommends increasing the housing supply, developing it in a way that meets the needs of the local job market, and integrating it into a mixed-used transit-oriented development around the downtown Berkeley BART station.

High Occupancy Vehicles

Carpool and vanpool strategies are included within the parking and TDM activity descriptions. These include on-street vanpool and carpool parking, more intensive carpool formation among UC staff members, and programs to provide carpool start-up financial incentives and vanpool empty-seat subsidies.

PARKING SUPPLY ANALYSIS

One of the activities recommended in Tier Four is to develop an area-wide parking plan. It is recommended that the Parking Coordinating Council determine whether a parking cap is called for and then develop parking maximums, reallocate supply, and plan supply to meet the cap.

The TDM Study conducted several analyses using existing parking data to help inform future decisions about parking. These analyses showed:

- Continuing the existing pattern of commuter's mode choices, an additional 915 parking spaces will be needed within the Study Area by 2010/11 to accommodate growth in UC students, UC employees and off-campus Study Area employees while maintaining status-quo mode share. UC Berkeley will need to supply 550 of these spaces if existing parking patterns are maintained.¹
- To accommodate this growth without building parking, the following reductions in the drive alone rates would have to take place by 2010/11:
 - UC Students: from 15% to 14.5 - 14%
 - UC Faculty and Staff: from 50% to 45.0 - 42%
 - Study Area Employees (non-UC): from 46% to 43.5 - 42%²
- Existing data sources are not adequate to accurately determine the amount of Study Area parking supply dedicated to commuters versus visitors or to accurately determine the number of commuters who park beyond the Study Area

¹ As explained in Chapter 9, these projections do not include any increased parking demand from future residents, retail activity, or the arts' district. Data sources are not available to be able to include the potential impact. Given City plans to expand the arts district, it is a logical assumption that additional vehicle trips will be generated by this activity.

² The range is contingent upon the number who switch from driving alone to carpooling versus from driving alone to non-automobile modes such as walking.

boundaries. A list of data needed to be able to accurately perform such an assessment is provided in Chapter 9.

- Using a series of assumptions to make up for the lack of available data produces the conclusions that:
 - there could be 2,000 to 5,000 commuter/student vehicles parking beyond the Study Area boundaries on a daily basis.
 - there could be 2,600 to 3,300 parking spaces available for visitor parking within the Study Area on a daily basis.

USING THE TDM STUDY

The activities developed in the TDM Study would be implemented according to the values of the community. A package of strategies that will reduce the amount of non-residential parking on neighborhood streets will be very different from a package of strategies designed to improve commuter convenience. Instead of developing one recommended approach, Chapter 10 provides five potential policy objectives and explains how the different TDM activities should be implemented to support those objectives. The objectives are:

1. Address neighborhood concerns of on-street non-residential parking in neighborhoods;
2. Improve visitor experience in Berkeley;
3. Improve commuter conditions and employee recruitment and retention;
4. Accept existing conditions and plan to accommodate growth;
5. Reduce the amount of traffic on Berkeley Study Area streets as applied to specific commute markets.

Viewing the TDM Study activities through the veil of different policy-objective screens will ensure that this Study achieves its purpose to inform future plans and remains flexible to inform Study Area decision-makers through the coming decade.

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