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1. EXECUTIVE SUMMARY

California State University, Chico (CSU, Chico), under the direction of the Department of Facilities Planning in the Business & Finance Division, conducted a planning effort to explore the applicability and possible implementation of transportation demand management (TDM) strategies for the campus. TDM deals directly with the basic demand for travel by affecting mode, time of day, frequency, and path of travel. TDM includes a broad range of synergistic actions to reduce vehicular travel. These strategies are intended to improve the efficiency of the existing transportation system by encouraging use of alternate travel modes to the single-occupancy vehicle (SOV).

CSU, Chico is a significant economic engine and cultural resource for the northern Sacramento Valley region. The Campus Master Plan, 2005 proposes densification and modernization of campus facilities to satisfy the demands of projected enrollment. The development of this TDM Plan provides a framework to expand the use of alternative modes (e.g., walking, cycling, transit, rideshare, etc.) and decrease vehicle transportation-related impacts.

The Campus Parking Master Plan concluded that the university needed 500 to 750 more parking spaces to support implementation of the Campus Master Plan. The TDM Plan assumes that a parking structure will be constructed south of campus within the 2nd Street corridor. Even with the construction of a new parking structure, CSU, Chico will still have one of the lowest parking ratios in the CSU system compared to other residential campuses. The need for a comprehensive multimodal transportation system is evident.

The overarching goal of the TDM Plan is to promote walking, biking, transit and other forms of alternative transportation as convenient, safe, and practical means for campus trips. The TDM Plan recommends a combination of infrastructure improvements and supporting programs to increase the likelihood of shifting transportation mode split away from single-occupant vehicle trips to campus, thereby reducing the demand for campus parking.
The TDM Plan is the result of a multi-faceted public outreach process and an extensive data collection and research effort including the following significant milestones:

- Conducted targeted research on state-of-the-practice TDM measures applied on campuses similar to CSU, Chico.
- Convened an initial public forum (October 2008) to share information regarding the TDM process and encourage interactive feedback from the campus community.
- Facilitated 15 stakeholder meetings to understand the oftentimes-conflicting issues and interests most important to the campus community.
- Provided a Draft TDM Plan for public review and comment.
- Presented the draft plan at a second public forum on April 1, 2009.
- Refined the final TDM Plan to reflect public sentiment regarding the draft.

TDM measures recommended for CSU, Chico are described in detail in Chapter 7 and are listed in Table E.S. 1 below:

<table>
<thead>
<tr>
<th>TDM Measure</th>
<th>Target Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Preferential Car-Free Housing</td>
<td>Students</td>
</tr>
<tr>
<td>2) Remote Long-Term Parking for Campus Housing</td>
<td>Students</td>
</tr>
<tr>
<td>3) Flexible Work Schedule / Telecommute Policy</td>
<td>Staff</td>
</tr>
<tr>
<td>4) Ridesharing and Preferential Carpool Parking</td>
<td>Primarily Staff</td>
</tr>
<tr>
<td>5) Adjust Class Schedules</td>
<td>Students / Faculty</td>
</tr>
<tr>
<td>6) Pedestrian and Bicycle Circulation Improvements</td>
<td>Entire Community</td>
</tr>
<tr>
<td>7) Bicycle Parking</td>
<td>Entire Community</td>
</tr>
<tr>
<td>8) Bicycle Support Services</td>
<td>All Campus</td>
</tr>
<tr>
<td>9) Campus Transportation Coordinator</td>
<td>All Campus</td>
</tr>
<tr>
<td>10) Transportation Options Marketing</td>
<td>All Campus</td>
</tr>
<tr>
<td>11) Guaranteed Ride Home</td>
<td>Faculty / Staff</td>
</tr>
<tr>
<td>12) Transit Enhancements</td>
<td>Entire Community</td>
</tr>
<tr>
<td>13) Carsharing</td>
<td>Entire Community</td>
</tr>
<tr>
<td>14) Geographic Parking Permit Sales Restriction</td>
<td>Students</td>
</tr>
<tr>
<td>15) Trip Reduction Membership Program</td>
<td>Entire Community</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2009
2. INTRODUCTION

PROJECT OVERVIEW

California State University, Chico (CSU, Chico), under the direction of the Department of Facilities Planning in the Business & Finance Division, conducted a planning effort to explore the applicability and possible implementation of transportation demand management (TDM) strategies for the campus. TDM deals directly with the basic demand for travel by affecting mode, time of day, frequency, and path of travel. TDM includes a broad range of synergistic actions to reduce vehicular travel. These strategies are intended to improve the efficiency of the existing transportation system by encouraging use of alternate travel modes to the single-occupancy vehicle (SOV).

For a TDM program to be truly effective, it needs to be tailored to match local conditions, resources, and values. The purpose of this project was to develop a TDM education, outreach, and support program to expand the knowledge and practice of TDM and sustainable transportation solutions for the CSU, Chico campus.

CAMPUS SETTING

CSU, Chico encompasses approximately 120 acres within the City of Chico. The campus is generally bound by Sacramento Avenue, Chico Senior High School, and the Mansion Park neighborhood on the north; Esplanade on the east; 2nd Street and downtown Chico on the south; and the Union Pacific railroad tracks on the west. Big Chico Creek traverses east-west through the center of campus, which limits north-south vehicle traffic to Nord Avenue, Warner Street, and Esplanade; however, pedestrian access across the riparian corridor is provided by a series of bridges. Figure 1: Campus Overview illustrates the relationship of the relatively compact campus to the surrounding community.

CSU, Chico is a significant economic engine and cultural resource for the northern Sacramento Valley region. The campus employs approximately 2,050 faculty and staff. Student enrollment has steadily increased over the past decade with over 17,000 enrolled in Fall 2008, an equivalent of 15,820 full time students (FTEs). The Campus Master Plan, 2005 proposes densification and modernization of campus facilities to satisfy the demands of projected enrollment. The Master Plan also recognizes the need for a supporting multi-modal transportation and parking system. The development of this TDM Plan provides a framework to expand the use of alternative modes (e.g., walking, cycling, transit, rideshare, etc.) and decrease vehicle transportation-related impacts.
TDM PLAN GOALS AND OBJECTIVES

The overarching goal of the TDM Plan is to promote walking, biking, transit and other forms of alternative transportation as convenient, safe, and practical means for campus trips. The TDM Plan recommends a combination of infrastructure improvements and supporting programs to increase the likelihood of shifting transportation mode split away from single-occupant vehicle trips to campus, thereby reducing the demand for campus parking.

The following key objectives were established to guide the development of the TDM Plan:

- Enhance campus safety for vehicles, bicyclists, and pedestrians.
- Reduce campus-related parking demand.
- Maximize the functionality of current and future parking supply.
- Fulfill commitments associated with the abandonment of Orange Street for construction of the Wildcat Recreation Center.
- Assist with the determination of “fair share” expenditures with the City of Chico.
- Support campus-wide sustainability practices.
- Reduce greenhouse gas emissions and become “climate neutral.” CSU, Chico is one of the first campuses in the nation to sign a long-range commitment, American College & University Presidents Climate Commitment (ACUPCC), which requires implementation of sustainability practices.
- Address campus transportation impacts in adjacent neighborhoods.
- Facilitate a coordinated transportation approach with the City of Chico, specifically downtown.

PROJECT PROCESS

The TDM Plan is the result of a multi-faceted public outreach process and an extensive data collection and research effort including the following significant milestones:

- Conducted targeted research on state-of-the-practice TDM measures applied on campuses similar to CSU, Chico.
- Convened an initial public forum (October 2008) to share information regarding the TDM process and encourage interactive feedback from the campus community.
- Facilitated 15 stakeholder meetings to understand the oftentimes-conflicting issues and interests most important to the campus community.
- Provided a Draft TDM Plan for public review and comment.
- Presented the draft plan at a second public forum on April 1, 2009.
- Refined the final TDM Plan to reflect public sentiment regarding the draft.
TDM PLAN IMPLEMENTATION

The combined efforts of multiple campus entities and local agency partners are required to execute the comprehensive program suggested in the TDM Plan. At this time, no specific funding commitments or programmatic agreements are in place. As resources become available, the TDM Plan will have provided an implementation framework to guide the campus community towards a more sustainable transportation system.

DOCUMENT ORGANIZATION

The remainder of the TDM Plan document is organized into the following sections:

Chapter 3: Background Information – Contextual information regarding demographics, transportation mode choice, and current roles and responsibilities.

Chapter 4: Existing Transportation System – Overview of the existing parking system and alternative transportation offerings.

Chapter 5: Public Outreach – Summary of the comments received during the public outreach process.

Chapter 6: Campus TDM Best Practices – Highlights from research conducted on five “peer” campuses and best practices around the nation.

Chapter 7: TDM Plan Elements – Description of proposed TDM Plan measures for CSU, Chico.
3. BACKGROUND INFORMATION

CAMPUS ENROLLMENT TRENDS

CSU, Chico total enrollment has steadily increased over the last decade. The total Fall 2007 student population was over 17,000, with the following distribution:

- 25% Freshman (4,306); 2,771 first-time, 1,535 transfer or continuing
- 15% Sophomores (2,488)
- 22% Juniors (3,715)
- 30% Seniors (5,018)
- 9% Graduate (1,507)

CSU, Chico has a diverse student population, which includes a high percentage of disabled and mobility-challenged individuals.

On-campus residence halls provide housing for approximately 1,230 students. The Campus Master Plan indicates doubling on-campus housing by 2020. CSU, Chico also owns and operates University Village, which is located one mile north of campus and contains approximately 230 apartments.

CLASSROOM UTILIZATION IMPACTS

CSU, Chico prepares classroom utilization analysis reports each semester. The resulting charts indicate that the most popular scheduling times are Tuesday and Thursday from 9:30 AM to 4:45 PM. The second most popular time is Monday, Wednesday and Friday from 9:00 AM to 2:00 PM. As expected, Friday course offerings are the lowest. A determination was made by others that the “opportunity cost” for a student to take any course during the peak times mentioned above is excessive, meaning that competition for class enrollment is high. The analysis also states that spreading out course offerings over the entire day and the entire week would greatly improve students’ abilities to schedule required courses. CSU, Chico has an opportunity to influence parking demand and congestion through class scheduling. Refer to Chapter 7, Recommended TDM Measure #5: Adjust Class Schedules for more information.

STUDENT PLACE OF RESIDENCE DISTRIBUTION

According to information supplied by the CSU, Chico Admissions Office, nearly 80 percent of the students enrolled in the Fall 2004 semester lived within two miles of campus. Approximately 50 percent lived within one mile of campus. Figure 2 shows the student origins and distance from the center of campus. As a frame of reference, a one-mile walk takes around 22 to 30 minutes, assuming an average walking speed of 2 to 2.7 miles/hour or 3 to 4 feet/second. A two-mile cycling trip requires about 12 minutes, assuming an average speed of 10 miles/hour. Although distance is not the only factor when deciding mode choice, the relatively short distance between home and school makes walking and biking practical for many. Refer to Chapter 7, Recommended TDM Measure #14: Geographic Parking Permit Sale Restriction for more information. Similar geo-coded data for faculty

---

1. The Division of Student Affairs is currently updating residence distribution graphics.
and all other CSU, Chico staff was not available for inclusion in this report. Refer to Chapter 7: Recommended TDM Measure #9: Campus Transportation Coordinator for more information regarding suggested data collection efforts.
LEGEND

- Campus Center
- Student Origin
- Campus Core

Radial Distance from Campus Center (Miles)

- 0.5
- 1
- 2

Distance from Campus Center Along Roadway Network (Miles)

- 0.5
- 1
- 2

Source: Fall 2004 Enrollment, Office of Admissions

Percent of Students and Miles from Campus Center

<table>
<thead>
<tr>
<th>Radial Miles</th>
<th>Network Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miles</td>
<td>Percent</td>
</tr>
<tr>
<td>0.5</td>
<td>28%</td>
</tr>
<tr>
<td>1</td>
<td>68%</td>
</tr>
<tr>
<td>2</td>
<td>83%</td>
</tr>
<tr>
<td>5</td>
<td>99%</td>
</tr>
</tbody>
</table>

STUDENT ORIGINS AND DISTANCE FROM CAMPUS CENTER

FIGURE 2
TRANSPORTATION MODE SPLIT

Every few years, CSU, Chico conducts a parking survey to determine the transportation mode choice for campus trips. The majority of campus trips are made by driving alone, followed by walking, cycling, or skating. The data set is limited to those in the campus community that chose to respond to a survey administered to parking customers, which includes students, faculty and all other CSU, Chico staff. The Spring 2008 survey indicated that transit use has increased and carpool activity remained fairly consistent compared to Spring 2006 survey results. Exhibit 1 provides historical mode split information. The majority (57 percent) of trips made to campus are by single-occupant vehicles. The use of alternative modes appears to be on the rise.

Exhibit 1: Historical Transportation Mode Split Data
Source: CSU, Chico Parking Survey, 2008
CURRENT ROLES AND RESPONSIBILITIES

Business & Finance oversees most of the campus’ transportation and parking related services. Although no official alternative transportation program has been developed, Transportation and Parking Services (TAPS) is a “virtual” department of Business & Finance. Four departments within Business & Finance offer actual TAPS services, but TAPS has no official employees. TAPS is an Internet “information portal” that consolidates transportation related services to a central location. Table 1 summarizes key roles and responsibilities for campus transportation and parking related services. External service providers (e.g., Butte Regional Transit) and oversight committees (e.g., Transportation Committee) are included to provide a complete picture of existing transportation-related interagency coordination.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Transportation Roles &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSU, Chico</td>
<td></td>
</tr>
</tbody>
</table>
| University Police       | • Responsible for public safety, law enforcement, parking enforcement, bicycle registration, and public safety education.  
                          | • Provides the Campus Connection Shuttle Service during the evening to faculty, students, staff, and visitors.  
                          | • Coordination of Transportation and Parking Services (TAPS).                                                
                          | • Participates on Transportation Committee.                                                                |
| Facilities Planning     | • Responsible for campus long-range planning.                                                             |
|                         | • Oversight, through the Campus Planning Executive Committee, of campus project development proposals, various policy or procedural items pertaining to the campus and community, and requests from the University Administration.  
                          | • Attends Transportation Committee to provide updates as requested.                                        |
| Facilities Management & | • Maintains and operates University facilities.                                                            |
| Services                | • Provides design services, engineering support, and grounds maintenance.                                 |
|                         | • Attends Transportation Committee to provide updates as requested.                                        |
| University Housing      | • Operation of five on-campus traditional residence halls, Thematic Living Program units, and an off-campus apartment complex. |
| Transportation Committee| • Collaboration of multiple campus entities.                                                              |
|                         | • Evaluates and reports on transportation issues, including alternative modes.                             |
|                         | • Reviews parking demand and supply and recommends enhancements.                                         |
|                         | • Meets monthly (September – May).                                                                         |
| Institute of Sustainable| • Promotes sustainability in campus transportation, parking, and fleet management.                        |
| Development             | • Offers academic courses focused on sustainability in agriculture, business, engineering, natural sciences, behavioral and social sciences, humanities, fine arts, education, and communication. |
| Associated Students (AS)| • Operates student programs, business enterprises (Bookstore and Food Services), Bell Memorial Union (BMU), and student government.  
                          | • Represents student body on various campus committees, including the Transportation Committee.             
                          | • Administers the AS Sustainability Program.                                                               |
### TABLE 1: CAMPUS TRANSPORTATION ROLES AND RESPONSIBILITIES

<table>
<thead>
<tr>
<th>Entity</th>
<th>Transportation Roles &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Financial Services</td>
<td>• Responsible for collecting students’ fees and tuition, disbursement and reporting of financial aid, and sales of on-campus parking permits.</td>
</tr>
<tr>
<td><strong>Other Jurisdictions</strong></td>
<td></td>
</tr>
<tr>
<td>City of Chico</td>
<td>• Responsible for public safety, land use development, roadway systems, parks and recreation, and economic development in the 33-square mile incorporated city.</td>
</tr>
<tr>
<td>Butte County Association of Governments (BCAG)</td>
<td>• Association of all the local governments within Butte County.</td>
</tr>
<tr>
<td></td>
<td>• Responsible for development of federal and state transportation plans and programs that secure transportation funding for the region’s highways, transit, streets and roads, pedestrian and other transportation system improvements.</td>
</tr>
<tr>
<td></td>
<td>• Administrative and policymaking agency for the region’s public transit service.</td>
</tr>
<tr>
<td></td>
<td>• Provides Butte Regional Transit (B-Line), which operates 10 local fixed routes in Chico.</td>
</tr>
<tr>
<td>Butte County</td>
<td>• Responsible for public safety, land use development, roadway systems, parks and recreation, and economic development in the unincorporated areas of Butte County.</td>
</tr>
<tr>
<td>Caltrans</td>
<td>• Maintains State highway system and two Park &amp; Ride lot locations.</td>
</tr>
<tr>
<td>Glenn County</td>
<td>• Provides Glenn Ride, a fixed-route bus service, between Glenn County and Chico.</td>
</tr>
<tr>
<td>Craig Student Living</td>
<td>• Operates shuttle service between privately-run Craig housing. Shuttle service is provided twice per hour on weekdays between Craig and CSU.</td>
</tr>
<tr>
<td>Chico Chamber of Commerce</td>
<td>• Provides ChicoCommute.com, an online commuting information portal.</td>
</tr>
<tr>
<td>AlterNetWays</td>
<td>• Provides free online rideshare service, AlterNetRides, to students, faculty and staff.</td>
</tr>
<tr>
<td>North Valley Shuttle</td>
<td>• Van shuttle service providing four weekday trips and three weekend trips between the City of Chico and the Sacramento International Airport.</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2009
4. EXISTING TRANSPORTATION SYSTEM

PARKING

On-Campus Parking Supply

Parking at CSU, Chico is provided primarily through surface lots and one parking structure, Lot E, located at 1st and Ivy Streets. The campus is served by 0.15 parking spaces per full time equivalent (FTE) student, one of the lowest ratios in the CSU system. Approximately 2,200 parking spaces are available on campus. More than half are designated for general use. Table 2 provides a summary of the parking inventory by type. Parking utilization surveys conducted in 2003 indicated that the campus' parking supply is completely utilized. Parking Lot A, which is currently leased from the Chico Unified School District, will no longer be available beginning fall semester 2009. Lot A currently accommodates 305 on-campus student residents. Dormitory parking is available only through a lottery system.

<table>
<thead>
<tr>
<th>Type</th>
<th>Total Number Spring 2008</th>
<th>Anticipated Total Number Fall 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>General / Students / Faculty / Staff</td>
<td>1,234</td>
<td>1,168</td>
</tr>
<tr>
<td>Disabled</td>
<td>105</td>
<td>112</td>
</tr>
<tr>
<td>Resident Hall</td>
<td>461</td>
<td>156</td>
</tr>
<tr>
<td>Reserved</td>
<td>205</td>
<td>277</td>
</tr>
<tr>
<td>Carpool</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>State Vehicles / Loading</td>
<td>127</td>
<td>119</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>33</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td>2,167</td>
<td>1,880</td>
</tr>
</tbody>
</table>

Source: CSU, Chico University Police Department, 2008; CSU, Chico Facilities Planning, 2009

A Parking Master Plan was completed in 2007 and concluded that 500 to 750 more parking spaces were needed to support implementation of the Campus Master Plan. A new parking structure was recommended on the Stadium East parcel. Recent discussions have focused on locating a garage on 2nd Street between Normal Avenue and Chestnut Avenue. The Campus Master Plan recommends the construction of two parking structures on or near both locations. This study assumes that a parking structure will be constructed south of campus within the 2nd Street corridor. Even with the construction of a new parking structure, CSU, Chico will still have one of the lowest parking ratios in the CSU system compared to other residential campuses.

Parking Pricing

All CSU system parking systems are required to be a self-supporting enterprise, with no reliance on state funding as established in the 1960 Master Plan of Higher Education. Therefore, to construct a parking structure, parking
fee increases are required. Parking rates had not been increased since 2000. Student and reserved rates were increased in August 2008 for the 2008-2009 academic year to both maintain and operate the existing system and finance new parking construction projects. CSU, Chico still has one of the lowest parking rates in the CSU system. Exhibit 2 compares parking rates across the CSU system for students and CSU union employees.

The current CSU, Chico rates are as follows:

- $78.00 per semester for a general-student automobile permit
- $72.00 per semester for a general-faculty/staff automobile permit
- $18.00 per semester for motorcycles/motor scooters/motorized bikes
- $84.00 per semester for an on-campus housing automobile permit
- $1/hour up to $5/day for visitors in any "G" general parking designated lots
- $348 per academic year or $400 per calendar year for a reserved faculty/staff automobile permit

Five permit types are offered:

- General (G) – Designated general use parking lots only; sold at a ratio of 1.5:1 (1.5 permits for every space)
- Faculty/Staff (F/S) – Faculty/staff and general use lots only
- Reserved (R) – Reserved spaces and general use parking lots; sold at a ratio of 1:1
- Motorcycle (M) – Designated motorcycle spaces only
- Resident Hall (A and B) – Designated resident hall parking only, general use lots after 4:00 PM

| TABLE 3: PARKING PERMITS SOLD – BY TYPE (SPRING 2008) |
|-----------------|-----------------|
| Type            | Total Number    |
| General (G)     | 1,810           |
| Faculty/Staff (F/S) | 704          |
| Resident Hall (A and B) | 460        |
| Reserved (R)    | 205             |
| Motorcycle (M)  | 32              |
| Total           | 3,211           |

Source: CSU, University Police Department, 2008.

2. Fehr & Peers, California State University, Chico, Parking Master Plan, August 2007.
Monthly Parking Fees 2007/08

Exhibit 2: CSU System Parking Fee Comparison
Source: CSU, Chico Facilities Planning, 2009
**Preferential Carpool Parking**

CSU, Chico offers formal carpool preferential parking (12 spaces) on the first floor of the campus parking structure. A current CSU parking permit is required (one per carpool), and participants must apply for a carpool placard through the University Police Department. The program is open to faculty, staff, and students living outside of Chico. For the Fall 2008 semester, 25 carpool placards were issued. Refer to Chapter 7, Recommended TDM Measure #4: Ridesharing and Preferential Carpool Parking for more information.

**Off-Campus Parking**

On-street parking is available on most streets surrounding the campus. Some on-street parking is shared by CSU, Chico students, staff, faculty, local residents, and employees and patrons of downtown businesses. Most on-street parking is unrestricted with the exception of preferential parking restrictions (residential permit parking) near Chico High School within the Mansion Park neighborhood. Ten-hour metered parking is located to the south of campus and on select City streets adjacent to the campus. The city also owns and operates a public metered parking lot (Municipal Lot 7) on the south side of 2nd Street between Normal Avenue and Salem Street. The lot, which provides two-hour metered parking, is frequently used for short-term campus parking.

**Park & Ride Lots**

Caltrans maintains two Park & Ride lots in Butte County. Combined, the Chico and Oroville locations provide 103 spaces, eight bicycle lockers and direct access to transit (see Exhibit 3). Information regarding actual usage by the campus community is not available.

Exhibit 3: Caltrans Chico Park & Ride Lot

Source: http://www.dot.ca.gov/dist3/departments/planning/Park-Ride/
RIDESHARE MATCHING

Formal and informal rideshare matching is occurring. AlterNetRides provides a free rideshare matching service (see Exhibit 4). AlterNetRides is promoted on the TAPS Web site and the Associated Students Information Center in the BMU. Craigslist, a popular online community Web site for local classified ads and forums, is also utilized as a rideshare matching resource. Additionally, a rideshare bulletin board is located in the BMU to solicit and post rides. Refer to Chapter 7, Recommended TDM Measure #4: Ridesharing and Preferential Carpool Parking for more information.

Exhibit 4: AlterNetRides Rideshare Web Site Interface
Source: http://alternetrides.com
PEDESTRIAN AND BICYCLE FACILITIES

Overview

Pedestrian access is provided through a mixture of pedestrian pathways, sidewalks, open space, and service roads throughout campus. The Campus Master Plan defines five major types of open space on campus, which in turn are interconnected or traversed by a network of pedestrian paths. CSU, Chico has a diverse student population, which includes a high percentage of disabled and mobility-challenged individuals. Safe access for disabled individuals is a primary concern for the University. Given the compact nature of the campus, pedestrian pathways are densely populated within the campus core. The presence of and interaction with cyclists on campus has been described as a barrier and safety concern by representatives of the disabled campus community.

The Campus Master Plan identifies a “pedestrian spine,” illustrated in Figure 3, which encapsulates high pedestrian activity areas linking major activity centers. Seven bridges, six of which are accessible only to pedestrians, cross over Big Chico Creek. Many of the bridges are narrow to the point where pedestrians are forced to walk single file to accommodate two-way traffic. CSU, Chico is currently conducting an Americans with Disabilities Act (ADA) Study, which will address requirements for accessible walkways.

Although the pedestrian network is fairly comprehensive, some of the facilities themselves are in need of improvement or expansion. Oftentimes pedestrian space is shared with service vehicles, and the width is not wide
enough to accommodate both simultaneously (e.g., path between Plumas Hall and Big Chico Creek). Other pedestrian paths lack lighting, landscaping, signage, and street furniture, which, when present, all add quality to the walking environment. During the public outreach process, the 1st Street / Warner Street intersection and key roadways (e.g., Nord Avenue, 2nd Street, Sacramento Avenue, and Esplanade) were identified as barriers to pedestrian travel.

Cycling is restricted within the campus core (see Figure 3, Campus Core boundary). Signs erected throughout campus enforce the policy 24 hours a day; seven days a week. Cycling information, including the “No Riding” policy, is readily available through campus Web sites, most notably the TAPS Web site. Based on comments expressed during the public outreach process, the campus itself is often viewed as a barrier to cycling within the City limits.

Bikeways typically fall into three categories, Class I through III, as defined below:

- **Class I (Bike Path)** – Provides a completely separate right-of-way for the exclusive use of bicyclists and pedestrians.
- **Class II (Bike Lane)** – Provides a striped lane for one-way bike travel on a roadway.
- **Class III (Bike Route)** – Provides for shared use with vehicle traffic within a roadway.

CSU, Chico collaborated with the City of Chico, the Butte County Association of Governments and other contributors on the release of the Chico Bike Map. Typically, bicycle facilities are named by classification (Class I – III). The authors of the Chico Bike Map created a fourth category, Class IV, to identify connections between all classes of bikeways. The Bike Map is available through the TAPS Web site. The Chico Bike Map indicates a Class I bike path exists between the Union Pacific Railroad, north of the tennis courts, and adjacent to Yolo Hall and Shurmer Gym; however, this route is not a formal path. Figure 3 indicates existing Class I – III bikeways on and near CSU, Chico based on the Chico Bikeway Map, 2008.

Throughout much of the study area, existing bicycle facilities are substandard and discontinuous. For example, Class II bike lanes are present on portions of Sacramento Avenue and Nord Avenue, both City streets, but terminate short of connecting to other bikeway facilities. Most facilities lack signing and striping, including the Class I bike path adjacent to the Union Pacific railroad, which is also a City of Chico bike path. The need for a logical bicycle network, with intuitive connections, clear delineation, and signage was a consistent comment received during the public outreach process. Refer to Chapter 7, Recommended TDM Measure #6: Bicycle Circulation Improvements for more information.
EXISTING BICYCLE AND PEDESTRIAN FACILITIES

FIGURE 3

LEGEND

- Class I Bike Path (Dashed is Under Construction)
- Class II Bike Lane
- Class III Bike Route
- Auto & Bike & Pedestrian
- Bike & Pedestrian
- Pedestrian Only
- Campus Core
- Pedestrian Spine

* Source: CSU, Chico Master Plan 2005
Figure. 1.19

NOT TO SCALE
Bicycle Parking

CSU, Chico conducts bi-annual bicycle parking utilization surveys. As of April 2008, the campus provided 44 bicycle parking areas with a total of 4,050 bicycle parking stalls. This data indicates that only 37 percent of the total available spaces were utilized; however, individual parking area utilization greatly varied from 2 percent to 100 percent. The 10 most utilized parking areas are near Meriam Library, Bell Memorial Union, and Yolo, Plumas, and Tehama Halls. Collectively, these 10 areas provide 747 stalls (18 percent of the total supply) with 91 percent utilization observed on the survey date. Exhibit 5 contains historical survey data compiled by CSU, Chico since 1980, which indicates a downward trend in bicycle parking in spite of fairly consistent bicycle parking availability. The historical data also indicates that bicycle parking utilization is greater in the fall than in the spring.

Bicycle parking location maps are available electronically on both the TAPS and University Police Department Web sites. Fehr & Peers observed additional bicycle parking areas on the south side of Shasta and Lassen Halls and the Student Services Center that are not indicated on the bicycle parking map. During an August 2008 field review, bicycle parking on the west side of Tehama and Plumas Halls was displaced by construction equipment.

Number of Bikes Parked in Stalls vs. Available Stalls

Exhibit 5: Campus-wide Bicycle Parking Utilization
Source: CSU Chico Facilities Management & Planning Services, 2008
Bicycle rack styles vary across campus. Rack styles should support the bicycle in at least two points above the hubs and provide intuitive securing. Most of the racks on campus are typical “school yard” racks, which provide only a single point of contact, typically at the front wheel. Modern style cruiser bikes and some mountain bikes do not fit the wheel opening and significant wheel damage can occur when bikes fall sideways. Refer to Chapter 7, Recommended TDM Measure #7: Bicycle Parking for more information.

Bicycle Registration

State law requires bicycle registration, which must be renewed after three years. The campus Police Department provides bicycle registration service for an initial registration fee of $10 and a renewal fee of $5. Table 4 provides registration statistics for the past five years. Total registration increased more than 50 percent in the last year. With such a significant increase, a similar trend in bicycle parking utilization seems intuitive; however, parking utilization remained fairly consistent over the same timeframe. Therefore, bicycle registration may not be indicative to actual bicycle use.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Total Number of Bike Registrations (Initial and Renewals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003 – 2004</td>
<td>572</td>
</tr>
<tr>
<td>2004 – 2005</td>
<td>689</td>
</tr>
<tr>
<td>2005 – 2006</td>
<td>550</td>
</tr>
<tr>
<td>2006 – 2007</td>
<td>522</td>
</tr>
<tr>
<td>2007 – 2008</td>
<td>847</td>
</tr>
</tbody>
</table>

Other Bicycling Resources

Associated Students’ Adventure Outings provides Bike Cart, an on-campus bike repair station. Bike Cart is open Monday through Thursday from 12:00 noon to 4:00 PM. The station itself is contained within a canopy tent between the BMU Bookstore and the Performing Arts Center. Adventure Outings hosts an annual bike auction. In September 2008, over 50 bikes were available for auction.

![Bike Cart]

The Chico Velo Cycling Club is an active cycling club with organized rides and events. The $10 annual membership provides a Roadside Assistance Program card, good for one free taxi ride home from any paved road in Butte County should a physical or mechanical emergency occur. An online forum, ChicoBikeRides, is available through the Chico Velo Web page.

Campus faculty and staff are also welcome to join an e-mail list for bicyclists. Contact information is available on the TAPS Web site. The current distribution list contains 125 e-mail addresses.

Eight private bike shops are located on the Chico Bike Map, which offer repair services and sales.

Refer to Chapter 7, Recommended TDM Measure #8: Bicycle Support Services for more information.
TRANSIT

CSU, Chico provides free transit service to all campus faculty, staff, and students with a Wildcat Identification Card. Butte Regional Transit (B-Line) operates two student shuttles (Routes 8 and 9) on weekdays during the academic year. As shown in Figure 4, the following routes directly serve campus:

- Route 3 (Nord/East) operates between the downtown transit center and the North Valley Plaza along 2nd Street, Nord Avenue, and East Avenue.
- Route 8 (Nord) operates on a 30-minute headway between the downtown transit center and the University Village area in a one-way loop along 2nd Street, Nord Avenue, West Sacramento Avenue, and Warner Street.
- Route 9 (Warner/Oak) operates on a 30-minute headway along Warner Street and Ivy Street within the campus, 2nd Street, and Oak Street. It loops around 1st Avenue, Cedar Street, 4th Avenue, and Warner Street north of the campus, and around 5th Street, Hickory Street, 7th Street, Walnut Street, 9th Street, and Oak Street south of campus.

The downtown transit center is located along the south side of 2nd Street between Normal Avenue and Salem Street, adjacent to the City of Chico Municipal Parking Lot 7 and within a half block of campus. Connections to other B-Line routes are available at the transit center.

Approximately 1,000 trips per day are made by a combination of faculty, staff, and students. According to first quarter 2008 (January 1 – March 31, 2008) ridership data, 88 percent of campus-related rides are taken by students and 4 percent are taken by a combination of faculty and staff. During the first quarter, it was determined that approximately 3,550 individual riders made a total of 78,100 trips, averaging 22 trips per rider.

In addition to B-Line, the following entities provide transit service:

- Craig Student Living operates shuttle service between the University and privately-run Craig housing. Shuttle service is provided twice per hour on weekdays between Craig Hall and CSU, Chico.
- Glenn County provides Glenn Ride, a fixed-route bus service, between Glenn County and Chico. Plumas Transit System and Tehema Rural Area Express (TRAX) offer limited fixed route service to Chico.
- North Valley Shuttle provides van shuttle service between the City of Chico and the Sacramento International Airport (four weekday trips and three weekend trips).

Refer to Chapter 7, TDM Plan Recommendation #12: Transit Enhancements for more information on possible transit-related improvement strategies.
RELATED FINDINGS FROM OTHER PLANNING DOCUMENTS

The following recommendations regarding TDM have been published in previous studies. Chapter 7 describes proposed TDM Plan elements and the nexus between prior recommendations suggested in the following documents:

Campus Master Plan, 2005
- Reconfigure and relocate bicycle parking areas in concert with site development and modernization projects
- Incorporate landscaped hedge enclosures and indoor storage areas for bicycle parking
- Convert 1st Street into a more pedestrian friendly promenade
- Close (fully or partially) 1st Street to vehicle traffic from Ivy Street to Orange or Cedar Streets
- Collaborate with the City of Chico on 2nd Street streetscape enhancements

Parking Master Plan, 2007
- Increase parking fees and fines (fees increased in Fall 2008)
- Extend parking enforcement times (introduced in Fall 2008)
- Institute an administrative fee for the parking ticket appeal process
- Increase campus parking supply to provide between 500 to 750 additional spaces
- Provide new, more secure bicycle racks
- Provide secure bicycle storage for a fee and consider an attended bicycle parking area

Chico Downtown Access Planning Charrette, 2006
- Adopt an 85 percent parking occupancy goal downtown by implementing parking pricing strategies based on proximity and length of time versus time limits
- Promote free transit pass
- Provide parking cash out to employees and students who do not drive to work or school
- Increase transit headways
- Explore peripheral parking lots proximate to existing transit routes to reduce parking demand downtown
- Convert 2nd Street to three lanes to provide Class II bicycle lanes
- Develop Big Chico Creek bike path and bike boulevards on 4th Street and 7th Street
- Implement a bike station at the downtown transit station
5. PUBLIC OUTREACH

OUTREACH METHODS OVERVIEW

The development of the TDM Plan integrated a multi-faceted public outreach process, which included public forums, stakeholder meetings and a project Web site.

An initial public forum was held on October 22, 2008, to share information regarding the TDM process and encourage interactive feedback from the campus community. The forum, which was announced through numerous Web sites and mass e-mail, was attended by approximately 60 individuals – a mix of students, faculty, staff, neighbors, and City of Chico representatives. The forum was structured as an open house format with a brief presentation made by consultant staff. Participants were encouraged to identify issues and offer suggestions directly on project maps.

Fehr & Peers facilitated 15 small-group stakeholder meetings to understand the oftentimes-conflicting issues and interests most important to the campus community. Coupled with the public forum, the stakeholder interviews provided beneficial information regarding both existing conditions and future opportunities. The following stakeholder groups were invited to participate:

- Bidwell Mansion
- Chico Chamber of Commerce
- Chico Unified School District
- City of Chico – City Council, Mayor and staff
- City of Chico – Bicycle Advisory Committee
- CSU, Chico Associated Students
- CSU, Chico President and Cabinet
- CSU, Chico Transportation Committee
- CSU, Chico department heads, faculty, staff and students
- Downtown Chico Business Association
- Neighborhood groups – Barber Park, Chico Avenues Neighborhood Association and Mansion Park
A second public forum was held on April 1, 2009 to present the draft plan and encourage feedback.

SUMMARY OF COMMENTS RECEIVED

The following section summarizes the range of comments received during the development of the TDM Plan.

General

- Coordination with the City, school district, neighbors, property owners is essential
- Campus TDM goes way beyond the confines of campus
- Class scheduling is highly disproportionate; peak times have about 7,200 students in class at once
- Special event start and end times tend to overlap at multiple venues around campus, adding to parking and circulation issues
- Concern voiced regarding new conference center and Natural History Museum traffic circulation, parking, and delivery access
- Both Barber and Chico Avenues Neighborhood Associations have neighborhood plans at various stages of planning and implementation
- How will enrollment change transportation needs to campus?
- Review structure and composite of the Transportation Committee
- On-campus housing needs to be attractive and more competitively priced to attract students
- More clarity on the intention of the TDM Plan and development of measurable goals was suggested

Infrastructure

- Lighting and safety are seen as barriers to walking
- Union Pacific tracks and rail activity limit connectivity
- Numerous comments regarding specific intersection and roadway issues.
- The existing at-grade trail crossing of Warner Street north of Big Chico Creek (stop-controlled) was mentioned as a high-conflict area
- Pay special attention to high traffic areas where multiple modes converge, such as near the transit center; transition zones are critical

Parking

- Parking occupancy studies have been recently conducted on City streets
- Campus parking on City streets is an issue; however, parking is generally available within a few blocks of campus
• An evaluation of campus parking fines and fees in relation to the City’s should be conducted to address consistency
• Additional City streets south of campus are being evaluated as candidates for diagonal parking, which may trigger a change in bicycle routes
• Pay and Display will replace existing parking meters throughout the City
• Perception that parking is relatively inexpensive
• This is the first year in a long time that not all of the student parking permits have been sold
• Provide designated loading and drop off areas
• Circling for parking adds to traffic circulation issues
• Perception of construction-related parking competing with other parking needs
• Conflicting opinions were expressed on whether or not a new campus parking structure was needed or wanted; more clarity on locations and capacity desired
• City and campus should consider shared-use parking structure on 2nd Street
• Find a way for students/staff/faculty/downtown businesses to park only once at a satellite location; could be a joint City/CSU, Chico initiative
• Consider special permit or preferential parking for electric vehicles; small priority lots could be developed for small electric vehicles
• Research Associated Students referendum, which limits parking permit sales to more than a half mile from campus

Cycling
• Both the high school and CSU, Chico campuses block north-south bicycle connectivity through Chico
• Area bike routes are not natural and lack designation; need for a logical bicycle network
• Explore both an east-west and a north-south route through campus
• The City is evaluating options for 2nd Street to provide on-street bike lanes
• Numerous path alignments were suggested, including a continuation of Memorial Way, north of the tennis courts on campus, along Big Chico Creek, and through Chico Senior High School property
• Bicycle storage is insufficient; bikes are being locked everywhere to everything
• Bicycle impounds and theft are also issues
• Bicycle use appears to be on the rise; the perception was that this year has seen the greatest increase in bicycle usage
• Desire for more pedestrian/bicycle paths with separation or delineation
• Recent Tax Code law allows employers to offer a monthly $20 bicycle commute subsidy
• Bicycle detection at traffic signals needs to be improved
• Consider covered bicycle parking near the PAC, Taylor Hall, and the Engineering Building
• Retain bicycle parking along 1st Street, an established cycling destination
• Numerous areas were identified on campus where more bicycle parking is needed
• Existing bicycle racks are out of date and result in theft and damage
• Vandalized bicycles and racks need to be dealt with in a timely fashion; inaction leads to more vandalism
• The pedestrian-only core has expanded over time and should be reconsidered; do not force cyclists to dismount and walk bikes a considerable distance to available racks
• Insufficient air pumps on campus; few know about their location
• Provide secure bike storage for new dorm complex
• Cyclists are discouraged from riding to campus with the existing pedestrian-only core and fine structure
• Bikes travel the wrong way on Legion Avenue out of necessity
• Trail maintenance is an existing issue
• Bike Cart could be expanded to include bike rentals and expanded service
• More racks are needed near the Creekside Café

Transit
• Consider fixed route shuttle service from key remote lots
• Transit headways need to be reduced
• A student bus committee was recommended to brand and tailor the routes to address student needs and interests
• Current class schedule makes it difficult to catch the bus
• Education and information on how to safely ride a bike and key routes and destinations should be promoted
• Review hours of operation
• Consider shuttle bus between Butte College and CSU, Chico
Other Specific TDM Measures

- Try car-sharing or similar type program
- Consider a paid alternative modes/TDM coordinator position for campus
- Chico Safe Rides could be expanded
- Consider parking permit restrictions within a certain distance from campus
- Allow campus staff to use flexible schedules where practical
- Consider a guaranteed ride home for campus faculty and staff who bike or use alternative modes
- Connections to the train station should be evaluated
- Education on pedestrian and bicycle safety need to be addressed (e.g., biking on sidewalks downtown, bikes and skateboarders traveling against traffic)
- Program marketing will be important to the success of TDM
- Consider priority housing for a car-free pledge
- Provisions for skateboard parking
- Fund an alternative transportation program through a fee increase
- Consider electric vehicle provisions and incentives
6. CAMPUS TDM BEST PRACTICES

CAMPUS CASE STUDY RESEARCH

A detailed review of five “peer” public universities was conducted to ascertain their TDM-supportive policies and programs. The following five campuses were chosen based on partial commonalities with CSU, Chico:

- California Polytechnic State University, San Luis Obispo
- Oregon State University (Corvallis, OR)
- University of California, Davis
- University of California, Santa Barbara
- University of Colorado at Boulder (Boulder, CO)

Fehr & Peers conducted phone interviews and document research for each campus. The research focused specifically on strategies employed to reduce on-campus parking demand and increase transit ridership, walking, and biking. TDM strategies applicable to faculty and staff vehicle trip-reduction were collected in addition to programs targeted towards students. Table 5 summarizes data compiled through the research effort.

The following are some key findings relevant to the development of the CSU, Chico TDM Plan:

- CSU, Chico has the lowest ratio of on-campus housing to number of full-time equivalent students.
- Existing mode split is similar to Oregon State University (OSU); however, Oregon State has about 2.5 times the on-campus parking supply.
- CSU, Chico has the lowest parking ratio (0.15 spaces per FTE). The next closest is the University of Colorado (0.25).
- All peer campuses, except University of California, Davis, provide some (limited) parking for on-campus housing.
- All campuses provide “free” subsidized transit service to students. Most extend the benefit to faculty and staff at no charge or for a discounted rate.
- Similar to CSU, Chico, most of the peer campuses have some type of cycling restriction, limiting use to certain routes or facilities.
- All peer campuses have some shared bicycle/pedestrian paths.
- All peer campuses, except Oregon State, have at least one full-time staff dedicated to promoting and managing an alternative transportation program. The University of Colorado, Boulder has an entire department and UC Davis employs both a bicycle coordinator and an alternative transportation coordinator.
- All of the peer campuses provide emergency ride home services for faculty and staff participating in trip reduction programs.
<table>
<thead>
<tr>
<th>TABLE 5: CAMPUS CASE STUDY RESEARCH – KEY FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chico State</td>
</tr>
<tr>
<td><strong>General Background</strong></td>
</tr>
<tr>
<td>Current Enrollment (full-time equivalent students)</td>
</tr>
<tr>
<td>Housing Capacity (number of beds)</td>
</tr>
<tr>
<td>Faculty and staff working at central campus (full-time equivalent)</td>
</tr>
<tr>
<td><strong>Mode Split</strong></td>
</tr>
<tr>
<td>Main Campus Area (Acreage)</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>Main Campus = 120 acres</td>
</tr>
<tr>
<td>Instructional Core = 155 acres</td>
</tr>
<tr>
<td>Main Campus = 400 acres</td>
</tr>
<tr>
<td>Core Campus = 450 acres</td>
</tr>
<tr>
<td>Main Campus = 900 acres</td>
</tr>
<tr>
<td>Core Campus = 300 acres</td>
</tr>
<tr>
<td><strong>Parking</strong></td>
</tr>
<tr>
<td>Number of parking spaces on campus</td>
</tr>
<tr>
<td>Current parking ratio (number of spaces per FTE students)</td>
</tr>
<tr>
<td>Campus residents allowed to bring car?</td>
</tr>
<tr>
<td>Off-campus parking utilized for campus trips?</td>
</tr>
<tr>
<td>Parking management strategies to reduce demand</td>
</tr>
<tr>
<td>Main challenges regarding parking</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Chico State</th>
<th>Cal Poly</th>
<th>Oregon State</th>
<th>UC Davis</th>
<th>UC Santa Barbara</th>
<th>University of Colorado</th>
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<tbody>
<tr>
<td><strong>Transit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Network</strong></td>
<td>Students, faculty and staff “free” with valid ID (Butte Regional Transit or &quot;B-line&quot;); Additional services provided by unaffiliated Craig Hall and other regional transit providers</td>
<td>Students “free” with PolyCard; SLO Transit from Student Union to downtown; Downtown transfer station to regional transit</td>
<td>Students, faculty and staff “free” with valid ID; Corvallis Transit System (CTS) around perimeter of campus; OSU Shuttle system; Beaver Bus operates after hours; Linn-Benton Loop serves trips between community college and main campus; Plans to double headways, improve bus shelters and build 3 “portal hubs”</td>
<td>Students “free” with valid ID; Faculty, staff and off-campus grad students offered discounted rate; Unitrans run by Associated Students (49 buses, 14 routes); Connections to Yolobus, Fairfield/Suisun Transit and Sacramento Regional Transit</td>
<td>Student “free” with valid ID; Discounted passes for faculty and staff; One local and three long distance transit providers. Amtrak frequent rider fares available with free taxi shuttle between UCSB and train depot for TAP members who meet criteria</td>
</tr>
<tr>
<td><strong>Transit Incentive Programs</strong></td>
<td>Free transit</td>
<td>Free transit; Real-time arrival information at campus stop</td>
<td>Free transit; Emergency ride home</td>
<td>Free transit for undergrad; reduced rate and incentive program, TransitPool (BusProgram) for faculty, staff and grad students to give up parking permit; parking incentives are not offered to on-campus students</td>
<td>Free transit; Limited complimentary parking per quarter for student TAP members; Discounted MTD bus passes for faculty and staff; emergency ride home</td>
</tr>
<tr>
<td><strong>Transit Marketing</strong></td>
<td>BCAG and CSU Chico website; Spare the air week promotion</td>
<td>Sandwich boards around campus; Web site (OPTIONS); ads in campus paper; flyers</td>
<td>NA</td>
<td>NA</td>
<td>E-mail and word of mouth with incentives for spreading the word</td>
</tr>
<tr>
<td>TABLE 5: CAMPUS CASE STUDY RESEARCH – KEY FINDINGS</td>
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<tr>
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<td><strong>Oregon State</strong></td>
<td><strong>UC Davis</strong></td>
<td><strong>UC Santa Barbara</strong></td>
<td><strong>University of Colorado</strong></td>
</tr>
<tr>
<td><strong>Main challenges regarding transit</strong></td>
<td>Funding; bus system serves more than just the campus</td>
<td>30 minute headways too infrequent; Overcrowding during peak times; Students drive closer, park in residential areas and take bus to avoid buying parking permit</td>
<td>Funding; Oregon State is about 45% of CTS ridership and the City looks for substantial cost sharing</td>
<td>Unitrans near capacity; conflicts with vehicles, pedestrians and cyclists</td>
<td>Funding effective initiatives</td>
</tr>
<tr>
<td><strong>Cycling</strong></td>
<td>Combination of Class I, II, III with the City of Chico and campus gateways</td>
<td>Combination of Class I, II, III in SLO; Cal Poly plans to extend Class I and II onto campus; Bike/ped only corridor on campus; Campus currently conducting study</td>
<td>On-street bike lanes and multi-use paths</td>
<td>Extensive system; Core campus streets with primary and secondary bike corridors based on use; Campus currently conducting study</td>
<td>Bicycling is the primary mode of transportation to and around campus. Bike map available on website</td>
</tr>
<tr>
<td><strong>Bikeway Network</strong></td>
<td>Yes – Within campus core</td>
<td>Partial – Due to limited space or heavy pedestrian traffic</td>
<td>No</td>
<td>Partial – A few pedestrian-only paths</td>
<td>Partial – only on designated bikeways or bike lanes</td>
</tr>
<tr>
<td><strong>Cycling Prohibited?</strong></td>
<td>Yes - Limited</td>
<td>Yes – Some restrictions</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes – Limited</td>
</tr>
<tr>
<td><strong>Shared Paths?</strong></td>
<td>4,050 (spring 2008)</td>
<td>2,200 spaces, few storage lockers</td>
<td>1,760 covered racks; 4,386 uncovered; 20 – 30 bike lockers installed this year for annual rental</td>
<td>20,000 bicycle parking spaces, 76 lockers</td>
<td>10,000 bicycle parking spaces</td>
</tr>
<tr>
<td><strong>Bicycle Parking</strong></td>
<td>No</td>
<td>No</td>
<td>Limited besides campus bike maps; Will be part of improvement plan;</td>
<td>Very limited besides campus bike maps</td>
<td>Bike station has maps</td>
</tr>
<tr>
<td>TABLE 5: CAMPUS CASE STUDY RESEARCH – KEY FINDINGS</td>
<td></td>
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<td><strong>UC Santa Barbara</strong></td>
<td><strong>University of Colorado</strong></td>
</tr>
<tr>
<td>Biking Incentive Programs</td>
<td>Flier for new students</td>
<td>Bike auction; Free valet in SLO during Farmer’s Market</td>
<td>Used bike sales; emergency ride home for faculty and staff; Bike to Work Day prizes</td>
<td>Bike Barn rentals and repairs; Bike Cooperative (Davis Bike Church) with access to bike tools; Summer bike storage; Intercity bike commuters may obtain free privilege cards for access to showers and lockers; bike classes; Bike clubs and events; Semi-annual bike auction; Tire air stations</td>
<td>Free transit; Limited complimentary parking per quarter for student TAP members; Discounted MTD bus passes for faculty and staff; Emergency ride home; Chance to win cash prizes</td>
</tr>
<tr>
<td>Bikes allowed on transit?</td>
<td>Yes – Racks on front</td>
<td>Yes – Racks on front</td>
<td>Yes – Racks on front</td>
<td>No</td>
<td>Yes – Racks on front</td>
</tr>
<tr>
<td>Central location for bike repairs or rental?</td>
<td>Yes – BikeCart on campus</td>
<td>No – 5 stores in SLO</td>
<td>Yes – repairs at Recreation Center</td>
<td>Yes – Bike Barn</td>
<td>Yes – bike shop on Campus</td>
</tr>
<tr>
<td>Cycling Marketing</td>
<td>TAPS Web site; BikeCart centralized location</td>
<td>Sandwich boards around campus; Web site (OPTIONS); ads in campus paper; flyers</td>
<td>Bike to Work Day; campus fair booths</td>
<td>Self-marketing; Events; Flyers</td>
<td>Email invitation</td>
</tr>
<tr>
<td>Main challenges regarding cycling</td>
<td>Infrastructure; policy; disproportionate bike parking</td>
<td>Lack of parking near destination; Enforcement on public roadways</td>
<td>Changing behavior; Funding for improvements</td>
<td>Multi-modal integration; Infrastructure</td>
<td>Overtaxing current infrastructure; Inadequate path width</td>
</tr>
<tr>
<td>Walking</td>
<td>Extensive walkways; Central campus car-free</td>
<td>Extensive walkways; Traffic calming improvements planned</td>
<td>Extensive walkways; Central campus car-free</td>
<td>Adjacent sidewalks, shared paths; Central campus car-free</td>
<td>Sidewalks and walkways</td>
</tr>
<tr>
<td>Dedicated pedestrian</td>
<td>Yes – Designated</td>
<td>Yes – Designated</td>
<td>Yes – Designated</td>
<td>Yes – Lack of facilities</td>
<td>Yes – All walkways</td>
</tr>
</tbody>
</table>
### TABLE 5: CAMPUS CASE STUDY RESEARCH – KEY FINDINGS

<table>
<thead>
<tr>
<th></th>
<th>Chico State</th>
<th>Cal Poly</th>
<th>Oregon State</th>
<th>UC Davis</th>
<th>UC Santa Barbara</th>
<th>University of Colorado</th>
</tr>
</thead>
<tbody>
<tr>
<td>only zones?</td>
<td>campus core</td>
<td>campus core</td>
<td>campus core; Goal to keep classes within 10 minute walk</td>
<td>results in pedestrians using bicycle-only corridors</td>
<td>prohibit motor vehicle and bike use</td>
<td>accessible by path</td>
</tr>
<tr>
<td>Escort Services</td>
<td>Yes – Campus Connections Shuttle Service (Blue Light Phones)</td>
<td>Yes – Escort Van to destinations within half mile of campus</td>
<td>Yes - Safe Ride</td>
<td>Yes</td>
<td>Yes – CSO Escort Service</td>
<td>Yes – CU Night Ride</td>
</tr>
<tr>
<td>Walking Incentives</td>
<td>None</td>
<td>None</td>
<td>Guaranteed Ride Home for faculty and staff</td>
<td>None</td>
<td>A walk club offered through the Recreation Department</td>
<td>Guaranteed Ride Home for faculty and staff</td>
</tr>
<tr>
<td>Walking Marketing</td>
<td>None</td>
<td>Sandwich boards around campus; Web site (OPTIONS); ads in campus paper; flyers</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Some events are planned to market walking on campus including art mural</td>
</tr>
<tr>
<td>Main challenges regarding walking</td>
<td>Perceived safety, especially walking at night</td>
<td>Perceived safety, especially walking at night</td>
<td>Increasing building density on campus is encroaching into open space</td>
<td>Infrastructure; pedestrian traffic heavy around transit centers since bikes are not allowed on Unitrans</td>
<td>Limited distance folks are willing to walk perhaps 2 miles one way maximum</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff resources dedicated to TDM</td>
<td>Campus Transportation Committee, shared responsibility</td>
<td>1 FTE dedicated to alternative transportation options, paid through Parking Services</td>
<td>Alternative Transportation Committee, shared responsibility</td>
<td>TAPS, Bicycle Coordinator, Alternative Transportation Coordinator and Unitrans staff</td>
<td>1.65 FTE dedicated to alternative transportation options, paid through parking services</td>
<td>Alternative Transportation / Commuter Options Department</td>
</tr>
<tr>
<td>Vanpool Services</td>
<td>None</td>
<td>10 vanpools, 150 riders</td>
<td>External provider – Valley VanPool</td>
<td>TAPS assists in formation; external providers – Enterprise Vanpool and VSPI</td>
<td>UCSB Vanpools serve commuters from 9 cities</td>
<td>Yes – Limited service; RTP passes have largely overtaken vanpool ridership</td>
</tr>
<tr>
<td></td>
<td>Chico State</td>
<td>Cal Poly</td>
<td>Oregon State</td>
<td>UC Davis</td>
<td>UC Santa Barbara</td>
<td>University of Colorado</td>
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</tr>
<tr>
<td><strong>Rideshare Matching</strong></td>
<td>Available to faculty/staff only</td>
<td>Available to faculty/staff only</td>
<td>Available to faculty/staff only</td>
<td>Available to faculty/staff only</td>
<td>Available to faculty/staff only</td>
<td>No</td>
</tr>
<tr>
<td><strong>Special Shuttles</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>UCD Medical Center</td>
<td>No</td>
</tr>
<tr>
<td><strong>Rental Cars for Personal Use</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Car Sharing</strong></td>
<td>No</td>
<td>No, would like to implement</td>
<td>No</td>
<td>No</td>
<td>Zipcar starting in 2008</td>
<td>Three Zipcars</td>
</tr>
<tr>
<td><strong>Annual TDM Events</strong></td>
<td>Bike auction; Bike to Work Week</td>
<td>Advertising at annual open house</td>
<td>Bike to Work Week</td>
<td>Bike auction; Cyclebration; Bike Commute Day; Transportation Fair</td>
<td>NA</td>
<td>Multiple events with local jurisdictions</td>
</tr>
<tr>
<td><strong>Emergency Ride Home</strong></td>
<td>No</td>
<td>Available to faculty/staff only, four rides per year</td>
<td>For faculty and staff participating in trip reduction programs</td>
<td>For faculty and staff participating in trip reduction programs</td>
<td>For eligible TAP members</td>
<td>For EcoPass program participants (faculty and staff)</td>
</tr>
<tr>
<td><strong>Flexible Work Schedules</strong></td>
<td>Nothing formal</td>
<td>NA</td>
<td>Compressed work schedules offered – on-line application</td>
<td>NA</td>
<td>Yes – Formal FlexWork Program</td>
<td>Varies by department. Nothing official campus-wide</td>
</tr>
<tr>
<td><strong>Trip Planning Services</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes – bike trips through GOBikeBoulder</td>
</tr>
<tr>
<td><strong>Telework</strong></td>
<td>Nothing formal</td>
<td>NA</td>
<td>Telework offered – on-line application</td>
<td>NA</td>
<td>Yes – Part of FlexWork Program</td>
<td>Varies by department; Nothing official campus-wide</td>
</tr>
<tr>
<td></td>
<td>Chico State</td>
<td>Cal Poly</td>
<td>Oregon State</td>
<td>UC Davis</td>
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<td>University of Colorado</td>
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</tr>
<tr>
<td>Class Schedule Modification</td>
<td>No</td>
<td>NA</td>
<td>More late evening classes (result of building utilization)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Marketing, Outreach, Education</td>
<td>TAPS Web site, link to other service providers</td>
<td>OPTIONS program Website, ads in campus paper</td>
<td>NA</td>
<td>Current study acknowledges marketing is under-utilized</td>
<td>TAP, Web site links to other resources</td>
<td>Events; regional partners</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>New housing development is providing Unitrans passes and station in lieu of campus parking permits; TrainProgram for Amtrak</td>
<td>Allows motor pool use overnight in case of emergency, available to students, faculty and staff</td>
<td>NA</td>
</tr>
</tbody>
</table>

NA = Not Available
ADDITIONAL CAMPUS TDM RESEARCH

TDM strategies vary greatly depending on the context and needs of the campus community. The Association of Commuter Transportation recently published *TDM Review: University Mobility TDM in Campus Setting (Issue 2, 2008)*, which provides the most recent compilation of best practices from leading university TDM programs. The publication also presents results of a comprehensive survey of TDM and transit survey providers. The following are key findings relevant to CSU, Chico:

- Parking capacity is often the primary catalyst for developing or expanding campus TDM.

- Expectations should be realistic with a recognition that not all or even the majority of campus users (i.e., students, faculty, staff, and visitors) will participate in TDM. Within one year, Cornell University had a third of faculty and staff enrolled in their TDM program. They describe the remaining non-participants as being a part of one of two categories: 1) those that prefer to drive alone regardless of financial sacrifices, and 2) those who might like to participate but face a barrier, whether it is distance from work, schedule, etc. Cornell has chosen to focus on the second group with three main initiatives. ³

- The Center for Urban Transportation Research at the University of South Florida published extensive research in *TDM Review* and concluded the following regarding universities participating in the survey:
  
  o 80 percent of universities have their transit, parking and TDM programs managed by the same department or division.
  
  o Based on responses from 26 campuses, the most common TDM program components available to university employees are (in decreasing order, by % of campuses offering)⁴:

  - Bicycle paths or lanes – 57%
  - Transit pass or discounted transit fare – 54%
  - Park and ride lots with transit/shuttle service to campus – 54%
  - Guaranteed or emergency ride home – 46%
  - Flextime – 40%
  - Telecommuting – 40%
  - Vanpool/carpool matching service – 37%
  - Web site advertising TDM program – 34%
  - Covered bicycle parking – 34%
  - Preferential carpool parking – 31%

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Only 26 percent of 42 universities stated that they had a long range plan for their TDM program.

- Stanford University attributes a comprehensive TDM program to meeting their goal of "no net new peak hour commute trips." Determining TDM program expenses are covered by a combination of parking permit revenue and a special fee levied on schools and departments for increasing their footprint (gross square footage) on campus. In addition to core program components, Stanford has implemented six main categories of TDM measures since 2001. Three of the categories (specific to incentive programs, addressing barriers to commute alternatives and marketing) and their components are listed below:

  o Incentive Programs
    - Commute Club Refer-A-Friend Program – Cash incentive offered to Commute Club members for referrals. Commute Club membership requires employees to surrender parking permits
    - Increased value of Clean Air Cash – Cash payment on a quarterly basis offered to Commute Club members (current value = $234/year)
    - Gifts and prizes
    - Part-time pledge – Commuters who must drive on a regular basis can commit to doing so on a part-time basis and be eligible for cash rewards
    - Increased cost for parking permits
  o Addressing Barriers to Commute Alternatives
    - Free car rental vouchers for Commute Club members
    - Hourly car rental rates
    - Carsharing – Eight Zipcars on campus
    - Peak Hour Trip Reduction Program – Formal program to encourage staff to commute outside of peak hours or use alternative modes
    - New bicycle facilities and educational programs
  o Marketing and Outreach
    - Personal outreach to new employees and peak hour drivers
    - Enhanced marketing efforts
    - Transportation Love Stories – Published Commute Club member testimonials on the benefits of using alternative transportation modes

7. TDM PLAN RECOMMENDATIONS

TRANSPORTATION DEMAND MANAGEMENT (TDM) OVERVIEW

Transportation demand management (TDM) deals directly with the basic demand for travel by affecting mode, time of day, frequency, and path of travel. TDM includes a broad range of synergistic actions to reduce vehicular travel. These strategies are intended to improve the efficiency of the existing transportation system by encouraging use of alternate travel modes to the single-occupancy vehicle (SOV). In general, universities offer a unique set of circumstances: density, high pedestrian traffic, residential proximity, and a centralized campus destination, which have been attributed to TDM trip reduction success.

As described in Chapter 2, the Parking Master Plan concluded that 500 to 750 more parking spaces were needed to support implementation of the Campus Master Plan. To support campus sustainability goals, it’s envisioned that electric vehicle charging stations will be part of the long range parking plan for the campus. The TDM Plan assumes that a parking structure will be constructed south of campus within the 2nd Street corridor. Even with the construction of a new parking structure, CSU, Chico will still have one of the lowest parking ratios in the CSU system compared to other residential campuses. The need for a comprehensive multimodal transportation system developed in collaboration with the City of Chico is evident. In particular, both jurisdictions need to coordinate closely on parking solutions. It has been recommended that the City of Chico implement paid parking adjacent to campus with a parking rate fee structure similar to the campus. In addition, City of Chico should install metered parking along 1st and 2nd Streets adjacent to the New Wildcat Recreation Center.

RECOMMENDED TDM MEASURES

The TDM Plan is the result of a multi-faceted public outreach process and an extensive data collection and research effort focused on state-of-the-practice TDM measures applied on campuses similar to CSU, Chico. This section outlines TDM Plan components recommended for CSU, Chico. After a brief description of each measure, both an implementation timeline and the range of effectiveness are given. Table 6 lists each of the TDM measures, their target audience, likely effectiveness, and recommended phasing. Components of the TDM Plan

address vehicle trip reduction through parking management strategies, incentives, marketing, and the provision of a complete pedestrian and bicycle circulation system.

1) Preferential Car-Free Housing

Currently 461 spaces are available for resident hall parking. In Fall 2009, availability will reduce to 156 with the closure of Lot A. All spaces are assigned through a lottery system. The new residence hall, currently under construction, will provide additional capacity of 220 beds beginning in Fall 2010. This recommendation proposes that all students who desire to live in the new complex commit to car-free living. Implementing this measure provides a mechanism to “test” the car-free concept before further expansion.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Fall 2010 – Requires immediate coordination with Housing on schedule and implementation. Suggest reviewing site plans to provide secure and covered bike parking, preferably indoors and accessible only to hall residents.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Increases student housing capacity on campus by 220 beds without increasing parking demand. Dormitory parking tends to be of the lowest turnover rate as vehicles occupy prime space with infrequent use.</td>
</tr>
<tr>
<td>Cost</td>
<td>Low – Program administration and secure bike parking (optional).</td>
</tr>
</tbody>
</table>

2) Remote Long-Term Parking for Campus Housing

Assuming that on-campus resident hall parking will eventually be eliminated except for extenuating circumstances and student hardships on a case-by-case basis, off-site parking options should be explored. Remote parking provides a “safety-net” of having a personal vehicle close by for infrequent trips. Figure 5 identifies six locations to consider. Based on proximity to transit and perceived parking availability, the following three locations are considered as primary candidate locations: North Valley Plaza, Chico Nut Company, and Chico Mall. To date, no discussions have taken place with private property owners regarding interest or availability; however, Enloe Hospital did have an agreement with Chico Nut Company to provide off-site parking during the construction of their parking structure. Most of the lot locations are two to three miles from the center of campus, which is approximately a 10 to 15 minute bike ride. Ideally, all locations have secure bike parking. Candidate locations within a quarter mile of an existing B-line route should be exhausted first. By leasing a location close to transit, B-line can effectively operate as a remote parking lot shuttle. A special permit could be administered for the program at a discounted rate – roughly equivalent to half the going rate of a general-use permit. Expanding the program to include all University faculty and staff could be considered. CSU, Chico could consider offering remote parking options in partnership with the City of Chico and downtown business merchants as an alternative to parking downtown.
**Implementation**

Initiate in Fall 2010 and expand as demand increases. Requires negotiations and commitment from property owners.

**Effectiveness**

This program is not available to preferential car-free housing residents. This measure provides an opportunity to phase out on-campus resident hall parking except for extenuating circumstances and student hardships on a case-by-case basis. Allows the conversion of resident parking (typically low turn-over) to another use. Expanding the program to include all University employees may increase trip reduction potential.

**Cost**

Low – Program administration and secure bike parking (optional). Possible new revenue source to fund other TDM measures.
3) Flexible Work Schedule / Telecommuting Policy

CSU, Chico does not have a formal policy pertaining to flexible work schedules and telecommuting. Both TDM measures directly impact when employees travel. During the stakeholder interview process, the absence of such a policy was noted as a barrier to promoting alternative modes by not allowing flexibility to accommodate transit schedules or cycling outside of typical peak vehicle traffic conditions. Flexible work schedules and telecommuting are not conducive to all positions, individuals, or departments and should be considered on a case-by-case basis.

In general, faculty already tend to have irregular work schedules to accommodate class times and academic commitments. A flexible work schedule policy is primarily geared towards full-time staff. With approximately 1,000 full-time staff (non-faculty), flexible work schedules or telecommuting may be effective in changing travel behavior and reducing peak time congestion associated with a fraction of CSU, Chico employees.

Most of the “peer” campuses reviewed for this study allow for and even promote flexible work schedules. For example, Oregon State University Office of Human Resources provides application forms online for consideration of flexible and irregular work schedules as well as telecommuting. The request considers impacts to the work unit and must be approved in writing by a department supervisor and Human Resources. The University of California, Santa Barbara’s Flexwork Program provides clear procedures for both the employee and supervisor including tools to determine what, if any, portions of an employee’s job can be performed at other times or locations (see Exhibit 6).

Exhibit 6: UCSB Flexwork Program Web site

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Initiate in Fall 2010. Requires immediate coordination with Human Resources and department representatives on implementation. This will likely be a long-term strategy considering previous commitments established in collective bargaining agreements.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>This program is appropriate only for a subset of full-time staff. Benefits staff work-life balance and morale.</td>
</tr>
<tr>
<td>Cost</td>
<td>Low – Program administration.</td>
</tr>
</tbody>
</table>
4) Ridesharing and Preferential Carpool Parking

CSU, Chico offers carpool preferential parking (12 spaces) on the first floor of the campus parking structure. A current CSU, Chico parking permit is required (one per carpool) and participants must apply for a carpool placard (free of charge) through the University Police Department. The program is voluntary and currently open to faculty, staff, and students living outside the City of Chico. The following measures are suggested to promote ridesharing and use of the preferential carpool parking spaces:

- Allow faculty and staff living within the City of Chico to participate in this voluntary program.
- The current carpool program does not provide rideshare matching and is reliant on carpools established through other means (e.g., AlterNetRides.com, bulletin board in the BMU, Craigslist, etc.). A promotional marketing campaign focused on rideshare resources, the benefits of carpooling, and the preferential carpool parking program should be considered. ZimRide™ offers specialized products specifically geared towards university clientele. Both Stanford University and the University of California, Santa Barbara use ZimRide™.
- Increase preferential parking supply commensurate with participation to maintain a ratio of 1:2, one space for every two approved applications. Monitor occupancy regularly and adjust accordingly. Survey participants at least once a semester to determine satisfaction with the program and availability of preferential parking spaces.
- Add incentives to the program such as a guaranteed ride home program, quarterly prize drawings or financial incentives (e.g., cash back for occasional use general parking, gas cards, etc.)
- Ultimately, carpooling could be incorporated into a formal trip reduction membership program (see Recommended TDM Measure #15), whereby faculty and staff commit to rideshare and forego purchasing a F/S permit in lieu of a shared carpool permit and are eligible for other program incentives.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Expand program starting Fall 2010.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>According to parking permit data summarized in Table 3, 34 percent of faculty/staff purchase an F/S permit. Expanding the carpool program to accommodate more faculty and staff should attract more participants. If 10 percent of current F/S permit holders participated in the program, approximately 30 more parking spaces would become available. Considering that there is currently a waitlist for F/S permits, a reduction in actual parking demand may not be realized.</td>
</tr>
<tr>
<td>Cost</td>
<td>Low – Program administration, sign installation, placard production.</td>
</tr>
</tbody>
</table>
5) Adjust Class Schedules

As described in Chapter 3, CSU, Chico prepares classroom utilization analysis reports each semester. The resulting charts indicate that the most popular scheduling times are Tuesday and Thursday from 9:30 AM to 4:45 PM (see Exhibit 7). The second most popular times are Monday, Wednesday, and Friday from 9:00 AM to 2:00 PM. As expected, Friday course offerings are the lowest. By adjusting class schedules to a more even distribution across all five days and later into the afternoon and evening, parking demand and congestion will likely change commensurate with the adjustment.

Exhibit 7: Typical CSU, Chico Classroom Utilization (By Enrollment) Per Hour By Day
### Implementation

Initiate in Fall 2010 and adjust as needed. Requires immediate coordination with multiple departments (e.g., Human Resources, Class Scheduling, labor unions) for implementation.

### Effectiveness

The level of effectiveness depends on the magnitude of the schedule shift. A target goal (e.g., no more than 6,000 students enrolled per hour by day) should be adopted. If the proposed target level is met, Tuesday and Thursday demand would drop to levels more consistent with current travel trends experienced on Monday and Wednesday. This strategy might be perceived as a disbenefit to students and faculty who may have to work or attend class on Fridays or earlier/later than currently.

### Cost

Low – Program administration.

---

### 6) Pedestrian and Bicycle Circulation Improvements

CSU, Chico has a diverse student population, which includes a high percentage of disabled and mobility-challenged individuals. Safe access for disabled individuals is a primary concern for the University. Given the compact nature of the campus, pedestrian pathways are densely populated within the campus core. The presence and interaction with cyclists on campus has been described as a barrier and safety concern by representatives of the disabled campus community. This TDM Plan acknowledges mobility needs of all user types and abilities. Maintaining a finite pedestrian-only campus core is highly desired by the disabled community and is advantageous for all pedestrian traffic.

This measure proposes changes and additions to the bikeway network by providing direct access to primary bicycle parking areas and improving circulation throughout the study area. One of the most frequently cited issues during the project’s public outreach efforts focused on the lack of connectivity through the campus and the surrounding area. The 2007 Chico Urban Area Bicycle Plan identifies improvements on the following roadways that directly serve CSU, Chico: 2nd Street; Main Street; Broadway Street; Citrus Street, and Sol-Wil-le-NO Avenue.

Bikeways typically fall into three categories, Class I through III, as defined below and illustrated in Figure 6:

- **Class I (Bike Path)** – Provides a completely separate right-of-way for the exclusive use of bicyclists and pedestrians. Path widths between 16 and 20 feet are recommended, unless noted otherwise below.

- **Class II (Bike Lane)** – Provides a striped lane for one-way bike travel on a roadway. A minimum width of five feet is recommended, and up to eight feet is desirable.

- **Class III (Bike Route)** – Provides for shared use with vehicle traffic within a roadway.

A fourth category, exclusive bike path, is recommended for application at CSU, Chico. Exclusive bike paths are recommended for routes that have potential to serve a combination of moderate to high bicycle volumes (e.g.,...
one way volumes ranging from 300 to 600 bikes per hour) and moderate pedestrian volumes (e.g., bi-directional volumes greater than 100 pedestrians per hour). The intention of providing an exclusive bike path is to maintain separation between pedestrians and bicycles, thereby reducing the potential for conflict. University of California, Santa Barbara has an exclusive bike path through campus, which provides direct connectivity for up to 700 bikes per hour on a typical day (see Exhibit 8).

Exhibit 8: Example Exclusive Bike Path at University of California, Santa Barbara

Bicycle improvements on campus are targeted towards providing intuitive connections to perimeter bicycle parking locations and preserving a finite pedestrian only campus core. 2nd Street and Warner Street are intended to operate as the main east-west and north-south bikeways serving campus. In partnership with the City of Chico, CSU, Chico is committed to improving 2nd Street to provide Class II bicycle lanes. In addition, Arcadian Avenue, Sol-Wil-le-NO Avenue, the existing bicycle bridge and path through the Children’s Park with proposed enhancements on 1st Street provide continuity along the eastern perimeter of campus.

1st Street between Normal Avenue and Ivy Street should be preserved as a pedestrian-only facility; however, primary bicycle parking areas will remain or be expanded between Meriam Library and the Student Services Center as well as to the east and west of the Performing Arts Center. 1st Street will not be promoted as a through bicycle route; however, access to perimeter parking areas will be allowed. In the future, if CSU, Chico desires to provide an east-west bikeway other than 2nd Street to serve campus, Sol-Wil-le-NO Avenue and the service road connection to Warner Street provide a logical connection adjacent to Big Chico Creek.

The following general improvements could be considered to enhance pedestrian safety:

- Conduct an evaluation of the existing Big Chico Creek bridges serving campus. Consider bridge replacement at high priority locations to provide more travel width.
- Introduce measures to limit pedestrian exposure to vehicle traffic on shared paths (e.g., limit use of service vehicles).
- Provide Americans with Disabilities Act compliant walkways.
- Develop a comprehensive plan to address lighting pedestrian paths.
• Consider installing a pedestrian signal at the intersection of the existing at-grade trail crossing of Warner Street north of Big Chico Creek, which is currently a mid-block stop-controlled intersection.

• Consider reprogramming the traffic signal at the intersection of 1st Street and Warner Street to provide a pedestrian scramble phase. Additional signs and markings would be necessary. Conflicting pedestrian, bicycle, and vehicle traffic decreases the efficiency of traffic operations. In particular, northbound Warner Street vehicle traffic turning left onto 1st Street is routinely blocked by pedestrian cross traffic.
Exclusive Bike Path

Class I (Shared Use Path)

Class II (On-Street Bike Lane)

Class III (Bike Route)

* In locations where right-of-way is available
Figure 7 illustrates the following proposed bikeway improvements:

- **Stadium Path** – Class I or exclusive bike path from the Class I path adjacent to Union Pacific to Warner Street in concert with the modernization of the College Park area. Although not a formal path, this alignment is currently used by both pedestrians and cyclists.

- **Yolo Hall Path** – Class I or exclusive bike path from the Class I path adjacent to Union Pacific to Warner Street. The alignment would lie to the north of the tennis courts and along the west and south of Yolo Hall. This alignment is presently used by pedestrians and bicyclists although technically portions are within the pedestrian only core. An existing access road could be delineated as a shared use path for portions of the path.

- **Turf Path** – Class I or exclusive bike path from the proposed Yolo Hall Path to the existing Big Chico Creek bridge with connection to Cherry Street. If this alignment is problematic, a viable alternative is to use the creek-side gravel service road alignment. The service road option would require extensive modification to widen, light and pave the trail in order to provide a safe and meaningful connection. Considering the proximity of the creek, environmental impacts may be of particular concern.

- **O’Connell Path** – Class I path between the existing Big Chico Creek bridge at Cherry Street to Warner Street along the south side of the creek. Horizontal clearance between the creek and the O’Connell complex is limited. Considering the proximity of the creek, environmental impacts may be of particular concern. A 10-foot Class I path adjacent to the existing sidewalk is recommended.

- **Esplanade Path** – Class I path along the west side of Esplanade between Memorial Way and Sol-Wil-le-NO Avenue. This bi-directional path would require construction on state property (Bidwell Mansion) coincident to the sidewalk. Cyclists commonly use the Memorial Way signal to cross Esplanade and continue through state property to access campus. This path would serve as an “off-road” connection to Sol-Wil-le-NO Avenue and Holt Hall.

- **1st Street Connections** – Class I or exclusive bike path on 1st Street between Orange Street and Ivy Street when vehicle access is restricted west of Ivy Street as proposed in the Campus Master Plan. Class I or expanded shared use path along the north side of 1st Street between Broadway Street and Salem Avenue to access campus.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Begin project implementation in 2010. Some bikeways require coordination and implementation by other jurisdictions (e.g., City of Chico).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>New bikeways will increase bicycle usage and channelize bicycle traffic to primary routes and destinations.</td>
</tr>
<tr>
<td>Cost</td>
<td>High – Most paths will require new construction.</td>
</tr>
</tbody>
</table>
7) Bicycle Parking

CSU, Chico has an inventory of approximately 4,050 bicycle parking stalls scattered across the campus. Although campus surveys indicate adequate capacity overall, many locations are over-capacity or simply not effective at providing secure storage. Most of the bicycle racks on campus are typical “school yard” racks, which provide only a single point of contact, typically at the front wheel. CSU, Chico does not currently offer any covered bike parking or bike storage lockers.

Bicycle parking should be fully accessible and convenient. Figure 8 identifies ten proposed primary bicycle parking areas where the majority of bicycle parking should be concentrated. The locations are all adjacent to existing or proposed bikeways. The proposed locations will facilitate a seamless transition from bikeway to secure bike parking so riders will not need to dismount and “walk” their bikes. The green areas highlighted in Figure 8 are not intended to imply an exact location or the removal of mature landscaping and open space. Great care should be taken in designing and implementing bicycle parking areas to preserve aesthetics and maintain community values. A limited number of bike racks should also be installed near building entrances within the campus core (e.g., near Selvester’s Café), which will require “walking” bikes to access secondary parking locations. Normal Avenue and Chestnut Street should both be outfitted with extensive bicycle parking to replace 1st Street parking prior to implementing the 1st Street Master Plan.

The following measures are suggested:

- Adopt a standard bicycle rack design for future installations. The “lightning bolt” style rack, which provides three points of contact, is recommended for all future installations (see Exhibit 9). This type of rack is in place outside of Meriam Library and is currently the recommended rack style for University of California, Davis and Stanford University. At a minimum, a favorable bike rack style includes the following: a stable structure and an anchored, permanent foundation; a design that prevents bicycles from being tipped over; a design to accommodate a wide range of bike styles; and space to secure the frame and one or both tires.

- Develop a systematic bicycle rack replacement program to phase out obsolete rack styles. To encourage cyclists to park in the primary bicycle parking areas identified in Figure 8, rack replacement or installation within these areas should be prioritized. Modernization of Sutter Hall and the construction of the Wildcat Recreation Center provide an immediate opportunity to institute new bicycle parking management strategies. With the exception of University of California, Davis and Santa Barbara campuses, CSU, Chico has a similar bicycle parking ratio to “peer” campuses, approximately one bicycle space for every four full time equivalent students. As racks are replaced, resulting demand should be monitored on a bi-annual basis and capacity increased accordingly.

- Introduce secure bicycle parking (e.g., bike cages, bike rooms, etc.) within residence hall buildings and the existing and proposed parking garages. It’s envisioned that residence hall bicycle parking will be provided free of charge to residence hall occupants registered for the service on a first-come-first serve basis or through a lottery. Secure bicycle parking within parking structures will be accessible only to those who have paid for the service, likely on a semester basis. All secure bicycle parking facilities will contain bike racks within a locked perimeter barrier accessible only to participants in the program. The former racquetball court site is proposed as a secure bicycle storage location. It may be possible for CSU, Chico employee bicycle commuters to be reimbursed (up to $20 per month) for storage costs (see IRS Section 132f discussion under Recommended TDM Measure #8).

- Although not a high priority, CSU, Chico should explore innovative ways to provide covered bicycle parking where practical (see Exhibit 10).
Implementation | Initiate Fall 2009 with the completion of Wildcat Recreation Center and Sutter Hall, the new residence hall complex. Racks should be replaced with building modernization and other capital projects. Identified primary bicycle parking areas should be prioritized.

Effectiveness | Encourage bicycle trips by providing enhanced destination parking.

Cost | Moderate – Rack construction and placement.
8) **Bicycle Support Services**

A key goal of this plan is to enhance safety. As the bicycle network expands and the campus community is encouraged to ride more, education and enforcement will become increasingly important. Associated Students (AS), Adventure Outings Bike Cart currently offers bicycle support services to students, faculty, and staff. The following program components are recommended:

- **Education** – Measures taken to increase awareness of the bicycle network, how to safely ride a bike, and how to properly maintain a functioning bike.
  - **Bike Network Awareness** – Increase publication and distribution of the Chico Bike Map; expand information available on the TAPS Web site to include an online form for reporting maintenance issues; increase content and frequency of presentations on the bicycle network and viability as a work/school commute mode.
  - **Safe Cycling** – Offer presentations throughout the semester focused on bicycle safety and offer incentives to encourage attendance; develop marketing campaigns to address common safety concerns or to target specific markets (e.g., incoming freshman, major apartment complexes, etc.).
  - **Bicycle Maintenance** – Support the expansion of low-cost, on-campus bicycle maintenance through Bike Cart, which includes provision of permanent high-visibility location to store equipment and perform repairs; increase advertisement of bike repair workshops (e.g., Bike 101); provide bike tire air stations.

- **Encouragement** – Measures taken to incentivize cycling and promote use.
  - **Promotional Events and Campaigns** – Develop an effective marketing campaign to promote the benefits of cycling; continue to promote Bike Cart bike auctions; increase participation in events with the City of Chico such as Bike Week.
  - **Specific Encouragement Projects** – Establish a bicycle loan or rental service, which would provide bicycles, trailers, helmets, lights, and other equipment for temporary or semester-long use; pursue bicycle infrastructure projects identified in TDM measures #6 and #7; offer a summer storage program for any student who wants to leave a bike on campus until the following fall semester.
  - **Bicycle Incentive Program** – Create a membership program for students that offers discounts for area retailers and monthly prize drawings, etc. Create a similar membership program for faculty and staff who commit to cycling as a primary commute mode and forego purchasing a parking permit or parking close to campus and walking in. To maximize effectiveness, a guaranteed ride home program (see Recommended TDM Measure #11) and financial incentives (e.g., federal transportation fringe benefit to bicycle commuters, Internal Revenue Service, Section 132f) should be offered. IRS Section 132f was amended in 2008 to reimburse bicycle commuter employees up to $20 per month for the purchase of bicycles, accessories, maintenance and storage.

- **Enforcement** – Measures taken to ensure public safety and adherence to California Vehicle Code and campus regulations.
9) Campus Transportation Coordinator

To date, no official alternative transportation program has been developed for CSU, Chico. Transportation and Parking Services (TAPS) is a “virtual” department of Business & Finance. Four departments within Business & Finance and multiple staff offer actual TAPS services, but TAPS has no official employees. All peer campuses reviewed for this project, except Oregon State, have at least one full-time staff dedicated to promoting and managing an alternative transportation program. The University of Colorado, Boulder has an entire department and UC Davis employs both a bicycle coordinator and an alternative transportation coordinator.

CSU, Chico would benefit from employing a full-time staff position to oversee TDM related activities. The position may be shared by Associate Students and the Business & Finance Division. The campus transportation coordinator could provide the following services:

- Promote trip reduction through implementation of the TDM Plan.
- Provide marketing and outreach for all TDM programs including presentations to faculty, staff and students.
- Act as the primary point of contact for members of the entire campus community wanting to travel using an alternative mode.
  - Offer individualized trip planning to faculty, staff, and students. Trip planning is a customer-based service through which the coordinator can suggest and possibly arrange commute options, ranging from a rideshare match to recommending bike routes. Given the close proximity of the train station to campus, trip planning via Amtrak should be considered.
- Conduct annual surveys and provide reports to assess user satisfaction and quantify TDM effectiveness. Typical measures of effectiveness include the following: screenline vehicle, pedestrian and bicycle counts; transit ridership; bicycle parking utilization; and number of public relations events held.
• Coordinate with local agencies on the implementation of the TDM Plan and transportation issues affecting the campus and the surrounding community.

• Coordinate and manage various aspects of the TDM Plan that require periodic updating and monitoring (e.g., guaranteed ride home program, trip reduction membership program, secure bicycle parking assignment, etc.)

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Fund position in 2011.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Difficult to measure effectiveness as a standalone measure, this position is responsible for implementing a comprehensive program. Having dedicated staff will accelerate CSU, Chico’s ability to provide sustainable transportation options. Some strategies, such as individualized trip planning, are not practical to offer without a position dedicated to TDM.</td>
</tr>
<tr>
<td>Cost</td>
<td>Moderate – Fund full-time staff position.</td>
</tr>
</tbody>
</table>

10) Transportation Options Marketing

CSU, Chico uses fairly limited marketing to promote current transportation options. As TDM efforts are stepped up, advertising these programs will be just as important. TDM marketing is generally comprised of four components: determining needs and preference; creating a responsive program; providing accurate information; and promoting TDM use. The following marketing strategies are recommended to advance TDM at CSU, Chico:

• Identify a single point of contact for TDM marketing and outreach. Responsibility is typically held by a campus transportation coordinator or delegated staff (see Recommended TDM Measure #9).

• Periodically survey transportation system users to determine preference and awareness of transportation options and revise TDM measures and outreach accordingly.

• Develop focused marketing campaigns to attract new users. Start by identifying subsets of the campus community considered most willing to consider change and the best means to communicate with them. Promote personal benefits (i.e., “how will this help me?”) and provide appropriate incentives to attract users. This includes events and presentations. Marketing techniques and outreach mechanisms may vary by user type (i.e., faculty and staff outreach will likely be in a format different than that used to attract students).

• Ensure that transportation options information available to the public is relevant and factual. The Internet will continue to be a powerful tool. If the TAPS Web site (www.csuchico.edu/taps) continues as the TDM information portal, every effort needs to be made to maintain the site regularly – preferably daily. All other Internet links providing similar information should provide a direct link to TAPS as opposed to reposting information.

• Develop a consistent “look and feel” or brand to advertise transportation options. A good example is Cal Poly, San Luis Obispo’s OPTIONS (see Exhibit 11). Use sustainable marketing solutions that minimize paper waste and energy consumption. Sandwich boards, television and newsprint advertisements, and sustainable promotional items with program logo are all relevant.
Exhibit 11: Example TDM Program Brand – Cal Poly, San Luis Obispo OPTIONS Program
Source: www.afd.calpoly.edu/options

| Implementation          | Spring 2009 – Update current transportation options advertising and TAPS Web page. 
|                        | Fall 2011 – Brand the program and announce new or expanded TDM measures with unveiling. |
| Effectiveness           | TDM measures are effective only if the campus community is aware of them. 
|                        | Marketing is critical to program success. Transportation options must be robust enough to result in user satisfaction before major promotion with new branding occurs. |
| Cost                    | Moderate – Varies depending on level of investment. |
11) Guaranteed Ride Home

Guaranteed ride home (GRH) programs are currently offered at all five “peer” campuses. GRH programs are typically offered to employees who formally commit, commonly through a trip reduction program, to use alternative modes as the primary means to commute to work. The program is intended to offer security and reliability in case of a personal emergency, which would force the participant to miss transit or their normal carpool. GRH programs provide reassurance that commuters will not be “stranded” when they commit to alternative modes.

As a GRH program provider, it is possible to set a cap on the total number of GRH trips and set a one-way mile restriction (i.e., Cal Poly San Luis Obispo allows a maximum of four GRH trips); however, most providers choose to monitor and respond to utilization issues on a case-by-case basis. Typically, GRH is offered during regular business hours and utilizes a local taxi service. University of California, Santa Barbara utilizes UC fleet vehicles for their Emergency Ride Home Program. As the GRH program expands, it will require staff oversight. This is typically handled by a campus transportation coordinator (see Recommended TDM Measure #9). GRH could be expanded to include students, which would require additional policy and program development.

CSU, Chico students and employees are encouraged to join the Chico Velo Cycling Club, which provides a Roadside Assistance Program card good for two annual free taxi rides home from any paved road in Butte County should a physical or mechanical emergency occur.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Initiate Fall 2010 in concert with the expansion of employee rideshare initiatives. Initially offer to carpool participants only and expand to other modes as the trip reduction program is formalized. GRH could be expanded to include students.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Addresses reluctance to commit to an alternative mode(s) as a primary mode based on the need to have access to a vehicle for an emergency.</td>
</tr>
<tr>
<td>Cost</td>
<td>Moderate – Depends on the level of use.</td>
</tr>
</tbody>
</table>

12) Transit Enhancements

The campus is served by three of the ten B-Line bus routes. Access to other local and regional B-Line routes is provided at the downtown transit center. This provides fairly good transit service for a small transit system; however, comments were received from the public saying the existing system should be expanded to provide shorter headways and better timing of transfers between routes. A common complaint is that if you miss your bus you have to wait 30 minutes for the next bus; therefore, transit is seen as offering no travel time advantage.

CSU, Chico provides free transit service to all campus faculty, staff, and students with a Wildcat Identification Card. Free transit service should continue, with increased focus on expanding services, bus stop improvements, and marketing to encourage more campus community ridership. During the public outreach process, students recommended that a transit ride be part of student orientation. Other programs could be developed to specifically target and recruit riders.

Enhanced transit service has the potential to reduce the demand for parking on campus and surrounding it. To increase service to CSU, Chico, the university should work with Butte County Association of Governments
(BCAG), the transit service provider, to identify the peak times when transit service is needed and arrange bus routing that matches class scheduling. Extending transit service later into the evening should also be considered.

CSU, Chico and Associated Students may have the most leverage to modify student shuttle routes, Routes 8 and 9. The University of Colorado at Boulder is well known for having influenced transit service enhancements through regional partnerships, incentives, and promotion. Boulder area routes are branded with catchy phrases, cater to their customers with comfortable seating and music selection, and operate on 10 to 15 minute headways (see Exhibit 12).

![Image of HOP bus route information](source: www.bouldercolorado.gov)

**Exhibit 12: RTD Boulder, CO HOP bus route information**

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Target transit changes for Fall 2010. Transit service adjustments would require coordination with and implementation from BCAG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Enhanced transit service can reduce the need to drive to campus.</td>
</tr>
<tr>
<td>Cost</td>
<td>High – Increased service is likely to require new buses and associated staff.</td>
</tr>
</tbody>
</table>
13) Carsharing

Carsharing is gaining momentum in the United States, especially in urban areas and near university and college campuses. Four of the “peer” campuses reviewed in this study either have or desire a carsharing program. Carsharing is promoted as an alternative to vehicle ownership and is particularly well suited for occasional use. This strategy is similar to a rental car service and is effective as long as vehicles are reliable and accessible and pick-up locations are convenient. For planning purposes, one vehicle can usually serve 8 to 15 members, and at least two vehicles should be provided to start a program.

Carsharing has the potential to expand as more participants become familiar with the program and understand the benefits. User costs typically consist of an annual membership fee, a nominal hourly rental cost, and a user fee per mile driven. These costs cover all vehicle charges including gas and insurance. Special rates are common for longer distance trips or for extended periods of time. Carsharing is commonly available to licensed drivers 18 years of age or older, whereas traditional car rentals are typically accessible only to clients 21 or 25 years and older.

CSU, Chico can either provide vehicles and start a carsharing program or partner with a non-profit or carsharing organization to implement the program (see Exhibit 13). During the public outreach process, Associate Students (AS) was suggested as a plausible lead entity for this initiative. Cornell University found value in partnering with Ithaca Carshare (ICS), which is a community-based not-for profit organization. ICS serves the entire community instead of just Cornell University. A similar model is practical for CSU, Chico. Cost sharing agreements can be made with area large employers, municipalities, and private housing providers. An effective carsharing program can encourage students to leave their cars at home and use a shared vehicle for shopping and other discretionary trips. Carsharing is also practical for faculty and staff who otherwise may be reluctant to rely on alternative modes of transportation. Having access to a vehicle for unforeseen situations or emergencies may provide enough incentive or a “security blanket” effect to try another mode.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Initiate Fall 2011.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Effective at reducing reliance on personal vehicles. Practical for encouraging students to leave vehicles at home during the academic year.</td>
</tr>
<tr>
<td>Cost</td>
<td>Moderate – Depends on cost sharing agreements and level of subsidy, if any, the campus would offer students and employees.</td>
</tr>
</tbody>
</table>
14) Geographic Parking Permit Sale Restriction

As described in Chapter 2, approximately 50 percent of students (8,500) live within one mile to the center of campus. Approximately 25 percent of students (4,250) live within a half mile of the center of campus. Although distance is not the only factor when deciding mode choice, the relatively short distance between home and school make walking and biking practical for most. Regardless of the increment chosen (e.g., half mile from the perimeter of campus, etc.), restricting campus parking permit sales within a finite boundary could have a profound impact on the demand for parking. The University of California, Santa Barbara enforces a two-mile permit sale boundary. Undergraduate students living within two miles of campus are not allowed to purchase a parking permit.

CSU, Chico, in cooperation with Associated Students, should determine the number of students impacted under multiple boundary scenarios. A review of historical parking permit sales within certain areas must be performed to understand the magnitude of impact and probable effectiveness of this measure. In 2004, Associated Students’ approved a Parking and Alternative Transportation Advisory Measure to encourage the University to restrict permit parking sales to students living more than one mile from campus. For illustrative purposes only: If five percent of students living within one mile of campus (0.05 * 8,500 = 425 students), currently purchase a General (G) parking permit and a one-mile restriction was enforced, then 263 parking spaces could be allocated for a different use assuming a 1:1.6 parking permit sale to parking space ratio.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Fall 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Varies depending on boundary adopted and permit sales affected within the boundary.</td>
</tr>
<tr>
<td>Cost</td>
<td>Low.</td>
</tr>
</tbody>
</table>

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7. Percentage derived from 2004 Admissions Office data. For the purposes of this study, the distribution is assumed to have remained the same.
15) Trip Reduction Membership Program

CSU, Chico has the option to leave TDM elements as standalone initiatives (e.g., free transit pass, carpool program, etc.) or consolidate them to one “umbrella” trip reduction program. Successful examples of a consolidated program include Stanford University’s Commute Club and University of California, Santa Barbara’s Transportation Alternatives Program (TAP). A single trip reduction membership program provides the following benefits:

- Provides consistent branding of the program and streamlined, cost-effective marketing.
- Bundles incentives and provides equitable membership benefits.
- Reduces confusion and redundancy of multiple programs.
- Simplifies TDM evaluation and reporting of performance indicators. It is difficult to isolate the effectiveness of a singular TDM strategy when many are offered. TDM is best viewed as a combination of complementary components.
- Heightens profile of campus commitment to sustainable practices, employee work/life balance, and the quality of the academic environment.

The recommended approach for CSU, Chico involves expanding some existing programs (e.g., carpool program) and initiating others, hiring a campus transportation coordinator and developing a solid marketing strategy prior to the development of a formal trip reduction program. Transportation options marketing (TDM Plan Recommendation #10) is a crucial component of an effective trip reduction program, and resources must be available to sustain the program before initiating it. This program may be administered in partnership with Associated Students.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Fall 2011, in concert with transportation options marketing product branding and staffing a Campus Transportation Coordinator position.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>Highly effective, packages TDM elements into one comprehensive program.</td>
</tr>
<tr>
<td>Cost</td>
<td>Moderate – High.</td>
</tr>
</tbody>
</table>
### TABLE 6: TDM PLAN RECOMMENDATIONS SUMMARY

<table>
<thead>
<tr>
<th>TDM Measure</th>
<th>Target Audience</th>
<th>Timeline (Semester Project Begins)</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Preferential Car-Free Housing</td>
<td>Students</td>
<td>Fall 2010</td>
<td>Eliminates student parking demand associated with new residence hall (220 beds).</td>
</tr>
<tr>
<td>2) Remote Long-Term Parking for Campus Housing</td>
<td>Students</td>
<td>Fall 2010</td>
<td>Reallocates remaining 156 resident hall parking spaces to another use.</td>
</tr>
<tr>
<td>3) Flexible Work Schedule / Telecommute Policy</td>
<td>Staff</td>
<td>Fall 2010</td>
<td>Reduces traffic congestion and demand during peak traffic times; Promotes alternative modes through flexibility and accommodation; If 10% of staff participate, 100 trips would potentially shift out of the peak travel periods.</td>
</tr>
<tr>
<td>4) Ridesharing and Preferential Carpool Parking</td>
<td>Primarily Staff</td>
<td>Fall 2010</td>
<td>If 10% of current F/S permit holders participated in the program, approximately 30 more parking spaces would become available for another use.</td>
</tr>
<tr>
<td>5) Adjust Class Schedules</td>
<td>Students / Faculty</td>
<td>Fall 2010</td>
<td>Reduces traffic congestion and demand during peak traffic times; Better utilization of facilities and parking supply.</td>
</tr>
<tr>
<td>6) Pedestrian and Bicycle Circulation Improvements</td>
<td>Entire Community</td>
<td>Fall 2009</td>
<td>Increases bicycle usage and channelizes bicycle traffic to primary routes and destinations.</td>
</tr>
<tr>
<td>7) Bicycle Parking</td>
<td>Entire Community</td>
<td>Fall 2009</td>
<td>Encourage trips by bike by providing enhanced destination parking.</td>
</tr>
<tr>
<td>8) Bicycle Support Services</td>
<td>All Campus</td>
<td>Fall 2009</td>
<td>Potential for modal shift with education and encouragement measures. If enforcement is too aggressive, it may negate the benefits of cycling.</td>
</tr>
<tr>
<td>9) Campus Transportation Coordinator</td>
<td>All Campus</td>
<td>Fall 2011</td>
<td>Difficult to measure effectiveness as a standalone measure, this position is responsible for implementing a comprehensive program.</td>
</tr>
<tr>
<td>10) Transportation Options Marketing</td>
<td>All Campus</td>
<td>Spring 2009</td>
<td>Marketing is critical to program success. Transportation options must be robust enough to result in user satisfaction before major promotion with new branding occurs.</td>
</tr>
<tr>
<td>11) Guaranteed Ride Home</td>
<td>Faculty / Staff</td>
<td>Fall 2010</td>
<td>Addresses reluctance to commit to an alternative mode(s) as a primary mode based on the need to have access to a vehicle on an emergency basis.</td>
</tr>
<tr>
<td>12) Transit Enhancements</td>
<td>Entire Community</td>
<td>Fall 2010</td>
<td>Enhanced transit service can reduce the need to drive to campus.</td>
</tr>
<tr>
<td>13) Carsharing</td>
<td>Entire Community</td>
<td>Fall 2011</td>
<td>Effective at reducing reliance on personal vehicles. Practical for encouraging students to leave vehicles at home during the academic year.</td>
</tr>
<tr>
<td>14) Geographic Parking Permit Sales Restriction</td>
<td>Students</td>
<td>Fall 2010</td>
<td>Varies depending on boundary adopted and permit sales affected within the boundary.</td>
</tr>
<tr>
<td>15) Trip Reduction Membership Program</td>
<td>Entire Community</td>
<td>Fall 2011</td>
<td>Highly effective, packages TDM elements into one comprehensive program.</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2009