UMED District – Transportation Demand Management

This memorandum summarizes Kittelson & Associates, Inc.’s assessment of transportation demand management (TDM) strategies for the UMED District Master Plan Update in Anchorage, Alaska. It includes relevant background on TDM and its effectiveness, as well as case studies featuring new emerging transportation practices and TDM strategies from other areas. It concludes with a menu of proposed TDM strategies for consideration at the UMED District.

BACKGROUND

Transportation demand management or travel demand management (both TDM) is the application of effective strategies and policies to reduce travel demand [specifically that of single-occupancy private vehicles (SOV)], or to redistribute this demand in space or in time. TDM efforts are targeted in a way that strives to balance the relationship, in both convenience and cost, between driving alone and using “alternative modes,” which include transit, biking, walking, skiing, car-sharing, and/or telecommuting. The most successful TDM programs are (a) directed toward meeting clear targets or goals for trip choice across all modes and (b) tailored to the unique qualities and factors that distinguish an access area or supply.

There are many reasons for pursuing TDM plans and measures. These include:

- Creating more access options for users;
- Managing congestion;
- Reducing constraints on existing parking supplies/avoiding costly parking expansions;
- Leveraging existing resources (e.g., transit, bike lanes, shuttles, park & ride lots);
- Reducing transportation costs to users;
- Reducing development costs; and/or
- Contributing to and meeting environmental and sustainability goals.

Although TDM programs and measures are often focused on employers, some elements are also applicable to residential developments. Government support (particularly related to zoning, development regulations, and infrastructure provisions) can be influential in maximizing the effectiveness of TDM programs. Many areas have opted to create a transportation management
association (TMA) to develop and support a TDM program. TMAs are associations of public and private entities that work to solve traffic congestion and transportation issues in a specific area. Typically, TMAs help facilitate commuter support strategies for businesses in the area. The TMA may help advocate on behalf of its membership. TMAs can typically provide and manage TDM programs more efficiently than individual organizations.

EFFECTIVENESS

A variety of research has been conducted to assess the effectiveness of TDM strategies. Based on a review of relevant research, the following conclusions were made:

- The trip reduction that can be achieved at a given development is heavily influenced by the environment in which the development is located. Factors like transit service, the pedestrian and bicycle environment, parking availability, density, and mix of uses significantly impact the types of trips generated to and from the development.

- Although a number of employers have conducted employee surveys to track the impact of TDM programs, research has found it difficult to isolate the impact of individual strategies on overall trip reduction. This is due to issues like differences in survey definitions of TDM strategies, lack of specificity regarding level of employer program support (particularly in terms of financial incentives), lack of tracking of individual employee travel patterns over time, and lack of knowledge of environmental conditions at a particular employer (e.g., carpool lane provision, level of transit service, pedestrian environment).

- Research has shown that the effects of individual strategies are not additive: a particular strategy may have a stronger effect when it is the only strategy provided, compared to when it is included as part of a package of strategies.

- The combination of good environment and good TDM can result in significant trip reduction.

RESOURCES

The following resources were reviewed as part of this project and are recommended for further reading on TDM:


The Transit Cooperative Research Program (TCRP) Report 95: Traveler Response to Transportation System Changes Handbook series consists of 19 chapters, which were published as separate volumes over a period of years. The handbook provides information on the travel demand effects of a variety of urban transportation policies, such as transit pricing and fares (Chapter 12), transit-oriented development (Chapter 17), and parking management (Chapter 18). Chapter 19, Employer and
Institutional TDM Strategies, is the most recent comprehensive review available of the relative importance and impacts of TDM strategies.

Chapter 19 of the handbook provides a description of the various TDM strategies, and classifies them in to the following broader types of strategies:

- Employer or Institutional support Actions
- Provision of Transportation Services
- Financial Incentives or Disincentives
- Alternative Work Arrangements

The report compiled the data from four independent studies to amass a sample of 82 TDM programs in order to make assessments about the effectiveness of the different types of TDM strategies. To assess effectiveness, the report uses vehicle trip reduction (VTR), defined as the “incremental reduction achieved in the vehicle trip rate, expressed as a percentage of the starting-point trip rate.” It also discusses employee participation and the cost effectiveness of the types of TDM strategies. Lastly, the report provides five case studies of TDM programs that include marketing and outreach programs, transit programs, staggered work hours and a transportation management association (TMA).

This handbook was primarily used to provide a comprehensive overview of a large variety of TDM strategies and estimate the effectiveness of the strategies recommended for the UMED district. It is available for download online at: www.trb.org/Publications/TCRPRreport95.aspx


Chapter 13 of TCRP Report 95 provides a review of traveler response to the introduction of parking pricing and fees and to changes in parking fees. It discusses a variety of types of parking pricing strategies and the anticipated traveler response. The report concludes that TDM programs based on carefully balanced cost incentive/disincentive actions and offering realistic travel alternatives tend not only to have visibly greater effect on employee vehicle trip rates, but also to sustain those changes over time.”

The report discusses the underlying factors that impact how travels respond to parking pricing strategies. Understanding these factors is important for predicting how successful a parking pricing program will be and maximizing the effectiveness of such a strategy. The factors include:

- **Income**: higher income travelers may be less sensitive to changes in prices for parking.
- **Parking Supply/Management**: parking fee programs are more easily implemented in environments where the parking supply is limited.
- **Land Use and Site Design**: favorable land use characteristics and site design make parking pricing much more likely to be successful.

- **Travel Alternatives**: attractive, available travel alternatives will impact the degree to which parking pricing will be effective.

The report includes four case studies of different parking programs. It is available for download online at: [www.trb.org/Publications/TCRPRreport95.aspx](http://www.trb.org/Publications/TCRPRreport95.aspx)

**Online TDM Encyclopedia**

Todd Litman of the Victoria Transport Policy Institute, based in Victoria, British Columbia, compiles and regularly updates research findings on TDM and publishes them on the web as the *Online TDM Encyclopedia*. The “TDM Strategies” section provides individual pages relating to specific TDM strategies, organized into the following major categories according to how the strategy affects travel:

- Improved Transport Options
- Incentives To Use Alternative Modes and Reduce Driving
- Parking and Land Use Management
- Policy And Institutional Reforms

For each strategy, the encyclopedia provides a description of the strategy, the anticipated travel impacts as given in the literature, benefits and costs, equity impacts, applications, relationships with other TDM strategies, guidance on implementing, best practices, examples, and references for more information. The breadth of strategies covered is very extensive and the encyclopedia serves as a search tool for accessing other relevant research. The encyclopedia is available at: [www.vtpi.org/tdm](http://www.vtpi.org/tdm)

**TCRP Report 107: Analyzing the Effectiveness of Commuter Benefit Programs (2005)**

Transit Cooperative Research Program (TCRP) Report 107 provides research from metropolitan areas across the US that examines the effectiveness of transit benefits programs on employee travel behavior and on transit agency ridership, revenues, and costs. The report is broken in to three chapters, which include:

1. An overview of commuter benefits
2. Guidance on how to evaluate the effectiveness of a transit benefits program, although the guidance can be applied to all types of commuter benefits programs.
3. Research on the effects of transit benefits programs.

The report details the pros and cons of a variety of types of transit pass programs and provides examples. It is available for download online here: [www.trb.org/Publications/Blurbs/156427.aspx](http://www.trb.org/Publications/Blurbs/156427.aspx)
TDM CASE STUDIES

The following case studies feature the application of TDM strategies in developments, cities, and colleges across the country. They provide relevant examples for transportation practices and strategies that may be applicable to the UMED District. Each case is summarized below, with an emphasis on the potential applicability to the UMED District.

Anchorage Downtown Improvement District (Anchorage, Alaska)

The Anchorage Downtown Improvement District (ADID) was established by the Anchorage Assembly with an ordinance in 1998. The purpose of the improvement district is to provide additional municipal services in the 113 square blocks of the downtown Anchorage area. The additional services include downtown ambassadors to provide information and safety/security assistance, cleaning crews for sidewalks, graffiti removal, coordination with Municipal law enforcement, and active promotion of public events in downtown.

The Anchorage Downtown Partnership (ADP) was formed with the mission to “increase cleanliness, occupancy rates, investment values and lease income, to decrease crime, and to generally stimulate economic development and improve the quality of life in downtown Anchorage.” The ADP includes administrative staff, security staff, and a maintenance team. In addition, the Anchorage Community Development Authority (ACDA) works to support public-private partnerships and develop creative parking solutions in the downtown area.

The majority of the funding for the ADIP was established in the ordinance process and consists of additional property assessments administered through the MOA. Additional funds are raised for the ADIP in the form of donations and grants as well as dues paid by the members of ADP.

Potential Applicability to UMED District

The Municipality of Anchorage could consider creating an improvement district for the UMED area to help fund common services like street cleaning, snow removal, and parking facilities. However, the funding of the improvement district would require special assessments or dues as large portions of the property in the UMED District currently have tax exempt status.

Lloyd Center TMA (Portland, Oregon)

Transportation Management Associations (TMAs) within the City of Portland\(^1\) serve as the institutional framework and coordinating entities for TDM programs. The TMAs are non-profit,

\(^1\) Population of 566,143 per the 2009 U.S. Census estimates.
member-controlled organizations that provide transportation services within a defined area such as a commercial district, mall, medical center or industrial park. The Lloyd District TMA is a commonly cited example and represents a partnership between property owners and businesses within the Lloyd District, the City of Portland, and TriMet (public transportation agency).

First formed in 1994, the Lloyd District TMA developed a comprehensive partnership agreement that was implemented in 1997. The TMA’s recommended package of improvements included efforts to:

- Improve transit service;
- Improve access and amenities for bicycling and walking;
- Set maximum parking ratios for new office and retail development;
- Manage and limit the supply of parking on large surface parking lots;
- Develop a plan for installing parking controls and parking meters in the district to eliminate free on and off-street commuter parking spaces;
- Complete agreements by the private sector to support and implement employee transit subsidy programs;
- Establish a private sector funding program through formation of a Business Improvement District;
- Implement the Lloyd District Partnership Plan and its associated employer based transportation program; and
- Share parking meter revenues (through the Lloyd District TMA) to support transportation and parking services within the Lloyd District.

The TMA partnership approach exemplified by the Lloyd District TMA appears to be a win-win for the City and locals as it helps the City by monitoring the TDM success and failures as well as offering local business and residents an opportunity to participate in efforts to reduce traffic and vehicle trips.

Separate from the TMAs, the City of Portland also offers individualized TDM marketing to all downtown employees through its Smart Trips program.

**Potential Applicability to UMED District**

The TMA approach appears viable and applicable to the UMED District. Due to the number of individual employers and institutions within the district, creating one over-arching organization to develop and administer TDM programs could be most efficient. A TMA can mitigate traffic congestion and transportation issues in a specific area and facilitate commuter support strategies for
participating businesses and institutions. The TMA may help advocate on behalf of its members, help secure discount transit passes, provide car-sharing services, or facilitate Guaranteed Ride Home programs. The TMA may also facilitate discussions and programs related to a District wide shuttle bus system, shared parking, and snow removal. Many employer-based programs and services may be more effectively and efficiently provided through a TMA than by individual businesses.

City of Bend, Oregon

The City of Bend\(^2\) has a TDM option that allows a developer/applicant to reduce their trip generation for traffic study purposes by creating a TDM Program. Chapter 4.7 of the Bend Development Code states “The applicant may choose to develop a TDM program to reduce net new trip generation for a proposed project when trip reductions are necessary to minimize off-site mitigation requirements. Proposed elements of the TDM program will be evaluated to determine trip reduction rates.”

Per Development Code Chapter 4.7, the following trip reduction rates shall be applied if a TDM program with these elements is developed by the applicant:

- Provide employee showers, lockers, and secure bike parking according to requirements of the Bend Development Code - five percent (5%) trip reduction;
- Project is located within ¼ mile of a transit route – five percent (5%) trip reduction;
- Project is located within ¼ mile of a transit route and employer provides free or significantly reduced monthly bus passes to employees - ten percent (10%) trip reduction;
- Project provides free priority parking for carpools/vanpools – five percent (5%) trip reduction;
- Project provides free priority parking for carpools/vanpools but fee non-priority parking for other employees - ten (10%) trip reduction;
- Other TDM elements as approved by the City Engineer;
- Maximum trip reduction for combined TDM program elements - twenty-five (25%) trip reduction.

The Transportation Impact Study is required to show that the proposed trip reductions will be adequate to reduce the development’s trips and bring the transportation system into compliance with the operations criteria. A modification to the original site plan approval must be obtained if TDM program elements change significantly.

\(^2\) Population of 77,289 per the 2009 U.S. Census estimates.
Separate from the developer driven TDM effort, the City of Bend created the TravelSmart program to provide public outreach that encourages people to use alternate modes of transportation and reduce single occupant vehicle trips. The TravelSmart program includes direct contact with individual households to help people evaluate and choose alternate modes as well as encouragement to use mobility options throughout the day for all trips.

While Development Code Chapter 4.7 allows for the reduction of vehicle impacts as part of the entitlement process, it is unclear to what extent this mechanism has been used or how it is enforced beyond the initial land use conditions of approval for off-site mitigation measures.

**Potential Applicability to UMED District**

The Municipality of Anchorage could consider creating an incentive-based program to encourage existing and new developments in the district to develop TDM plans and/or provided TDM programs for the UMED District. An incentive-based program would require modification to the traffic impact analysis process under the direction of the Municipal traffic engineer or an amendment to the Municipality of Anchorage Development Code.

**Alexandria, Virginia**

The City of Alexandria\(^3\) has operated and maintained a TDM program for over 20 years (the implementing ordinance dates to May 1987). The City recently updated their Long-Range TDM plan (called Local Motion) that incorporates goals and objectives and offers ways to achieve them.

As part of the TDM program, the City requires developments of a certain minimum size to create a transportation management plan (TMP) prior to the issuance of building permits. These plans must be funded and monitored by the developers/applicants and are enforced closely by staff.

Per the local ordinance requirements, the following land uses must prepare TMPs:

**Table 1:** Land Use Sizes to Prepare TMP

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Minimum Size Triggering TMP</th>
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<tbody>
<tr>
<td>Office</td>
<td>50,000 or more square feet of usable space.</td>
</tr>
<tr>
<td>Retail</td>
<td>40,000 or more square feet of usable retail sales space.</td>
</tr>
<tr>
<td>Industrial</td>
<td>150,000 or more square feet of usable industrial space.</td>
</tr>
<tr>
<td>Residential</td>
<td>250 or more dwelling units.</td>
</tr>
</tbody>
</table>

\(^3\) Population of 150,006 per the 2009 U.S. Census estimates.
Mixed-use | Any combination of space including one or more of the foregoing uses, at the threshold size applicable to that use. If the threshold is satisfied in any of the uses, the TMP must be prepared for all uses present in the project.

The TMPs are conveyed in perpetuity with the land. To ensure the TMP continues, applicant/developer parties are required to prepare appropriate language to inform tenants/owners of the TMP special use permit and conditions therein prior to the signing of any lease/purchase agreements. The City Attorney’s office reviews and approves the language.

To provide flexibility, the Transportation and Environmental Services Department Director (the department administering the TMPs) is allowed to approve modifications to TMP activities if the changes are consistent with the goals of the TMP.

The City conducted an audit in July of 2006 and found that 54 transportation management plans had been prepared to date. Of the 54 plans, 45 were active; 3 were prepared but the projects developed in a manner that did not require a TMP or were not developed, and 6 had been prepared and were in the approval process.

City staff administers a compliance verification program that includes:

- A Semi-annual Fund Report used to record the TMP financial contributions made by a TMP holder to support the transportation activities;
- Residential and commercial surveys used by residents and employees of developments holding a TMP; and
- A TMP Annual Report with a narrative of the TMP activities completed each year, including a summary of the survey and identification of TMP activities are planned for the coming year.

**Potential Applicability to UMED District**

The Municipality of Anchorage could consider creating a requirement for developments of a specified size to develop TDM plans. The requirement for TDM plans would an amendment to the Municipality of Anchorage Development Code.

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4 The respective surveys measure the effectiveness of the transportation strategies carried out by TMP holders (surveys assess single occupant vehicle (SOV), transit, carpool, bicycling, and use other transportation modes).
Portland Community College (PCC)

The Parking & Transportation Department at PCC created its first TDM plan for the community college in 1992. Since then, PCC conducted a transportation study in 2007/2008 to assess transportation needs and options, travel behavior and opinions, and transportation related goals and strategies. The intent of the study was to review progress made through the TDM program and provide recommendations for improvements. PCC updated its TDM plan in 2012 through a process that involved broad outreach and targeted involvement as well as an extensive review of existing transportation facilities at each of the campuses throughout the Portland area.

The recommended parking and access management strategies in the TDM plan are organized by the following categories:

- Policy Actions
- Transit Access
- PCC Shuttle Access
- Single Occupant Vehicle Access
- Rideshare Access
- Organization for Implementation & Monitoring
- Bike/Walk Access
- Technological Access
- Communication/Awareness
- External Partners
- TDM Support

Within each category, strategies are organized in to a “core program” and “support strategies.”

PCC’s TDM plan is available online here: [http://www.pcc.edu/resources/parking/sustainability.html](http://www.pcc.edu/resources/parking/sustainability.html)

**Potential Applicability to UMED District**

Three elements of the PCC TDM plan that may be utilized in the UMED District are as follows:

- Parking Pricing Strategy – development of a parking price structure for the various user groups to encourage non-SOV usage. Parking rates were developed for full-time students, part-time students, faculty and staff, visitors, ride-share, and seniors.

- TDM & Sustainability Program Website – development of an interactive website to provide a general description of the TDM program, assistance with alternative travel mode choices, purchasing of parking permits, and explanation of rules and operations.

- Employee Transportation Options Coordinator – assignment of a transportation options coordinator to assist employees with commuter travel choices.
University of Washington

The University of Washington (UW) is the largest university in the Northwestern United States and one of the oldest universities on the West Coast. The university has three campuses, with its largest campus in the University District of Seattle. UW also has two other campuses located in Tacoma and Bothell. UW has approximately 4,000 instructional faculty and 43,000 students.

The University of Washington uses a program called the U-Pass. Developed in 1991, the program is so successful that almost 80% of all trips made to UW Seattle are non-SOV. All students are automatically enrolled in the U-Pass program and can only “un-enroll” if they purchase a parking permit for the quarter. As part of the program, UW has secured partnerships with other local businesses to offer discounts to all students, staff, and faculty that use the U-Pass. UW conducts an annual survey to determine the reduction of daily vehicle trips. UW conducts a biennial survey of all U-Pass riders.

The University of Washington is working with King County, the City of Seattle, and their green team to implement a cohesive Climate Action Plan. As part of the plan, UW utilizes the following TDM measures:

- Intercampus shuttle service
- Fee-based parking
- Guaranteed Ride Home
- Carpool matching, vanpool subsidy, and car sharing
- Bicycle parking

Potential Applicability to UMED District

The University of Washington TDM program has been very successful and the five primary elements listed in the previous section may help reduce SOV trips within to the UMED District.

Stanford University

Stanford University (Stanford) is a private research university on an 8,180-acre campus in Palo Alto, CA. It is situated approximately 20 miles northwest of San Jose and 37 miles southeast of San Francisco. Stanford has a student body of approximately 6,900 undergraduate and 8,400 graduate students.

Due to the high cost of housing, Stanford provides an opportunity for faculty members to live within walking or biking distance of campus. The faculty housing is composed of land owned entirely by Stanford. Similar to a condominium, the houses can be bought and sold but the land under the houses is rented on a 99-year lease. The program offers a free 15-route shuttle system that runs on
biodiesel with two diesel-electric hybrid buses. Annual ridership on shuttle buses climbed to over 1.4 million in 2009.

Stanford’s transportation program utilizes the county Eco-Pass. It also has a 7,500 member carpool database, and offers transit discounts for Cal train, VTA, Dumbarton Express and AC Transit’s Line U. The program includes car sharing, commute planning, vanpools, and a bicycle support program.

Stanford has seen a 30% increase in shuttle ridership at the Cal train commuter rail station (30% between 2004 and 2009). In 2010, 52% of employees used alternative transportation to commute compared with 24% in Santa Clara County.

The Stanford TDM program focuses on “no net new commute trips during peak hours” as measured in 2001 for all new development and population growth. The primary TDM measures at Stanford University include:

- Fee based parking
- Go Pass/ECO Pass Program
- Intercampus shuttle
- Car rental subsidy and car sharing
- Bicycle parking

**Potential Applicability to UMED District**

The five primary elements of the successful Stanford TDM program listed above may be tailored to help the UMED District reduce SOV trips.

**University of California – San Francisco**

The University of California at San Francisco (UCSF) is the second-largest employer in San Francisco, with approximately 22,500 paid faculty and staff (including both University and UCSF Medical Center employees). It has approximately 3,000 students enrolled in degree programs, 1,600 residents, and 1,000 postdoctoral scholars. The University has three main locations, including the original campus at Parnassus, the teaching and research campus at Mission Bay, and the Mount Zion campus, which is a hub of specialized medical center clinics and surgery services. All three campuses are located near downtown San Francisco.

UCSF qualified for the Bay Area’s Best Workplaces for Commuters in 2012, which recognizes employers that are committed to “reducing traffic and air pollution and improving quality of life for commuters.” UCSF utilizes a number of TDM strategies at its campuses, including:

- Fee based parking
- Priority parking for “green vehicles”
- Discounted parking for registered carpools
- Shuttle service between campuses, San Francisco general hospital, and BART stations (with front bike racks)
- Bicycle parking, “Bike Access Pass” shower program, and discounted bike rentals
- Vanpool program with 12-passenger vans provided
- Emergency Ride Home service
- Discounted Car Share membership
- Pre-tax transit passes

The University is a partner in the San Francisco County Transportation Authority TDM Partnership Project. The project is intended to advance TDM throughout the city and build partnerships with and among private and institutional actors to more efficiently implement TDM programs.

**Potential Applicability to UMED District**

The elements of UCSF’s TDM plan most applicable to the UMED district include discounted parking for registered carpools, vanpool program, and Emergency Ride Home service.

**University of Minnesota – Minneapolis**

The University of Minnesota, Twin Cities, is a public research university with its flagship campus in Minneapolis. There are about 52,500 students enrolled at the Twin Cities campus. The University has adopted a parking policy that “supports transportation alternatives to the single occupant vehicle.” As a result, the policy states that “fewer parking spaces are needed on campus.” The University’s parking policy is a result of recommendations made by the 1999 Parking and Transportation Task Force. Goals of the policy include reducing vehicular traffic, encouraging the use of park and ride facilities, reaching a split of 50 percent or fewer trips by private automobile (including carpooling), and set an upper limit on parking spaces.

The University provides a number of TDM programs, including:

- Fee based parking
- Campus shuttle service
- Discounted bus passes
- Bicycle parking and lockers
- Bicycle sharing program (in partnership with the City of Minneapolis)
- Pedestrian walkways, tunnels, and skyways connecting many buildings on campus
Potential Applicability to UMED District

The campus shuttle service and bicycle sharing program included in the University of Minnesota’s TDM plan are likely most applicable to the UMED district.

TDM for the UMED District

Transportation demand management (TDM) strategies could be effective in the UMED District to:

- Capitalize on the mixed-uses in the area by encouraging non-SOV trips between the different uses and sharing resources (i.e. parking and shuttle service) across the development;
- Facilitate cooperative transportation services and programs among the diverse academic, medical, governmental, residential and commercial uses in the district;
- Utilize existing transit service and bicycle and pedestrian facilities, while strategically planning multimodal facilities for the future;
- Efficiently plan facilities (i.e. parking and roadway improvements) for the future that meet transportation needs;
- Enhance the livability and sustainability of the UMED district by minimizing SOV-trips during peak periods and encouraging alternative modes of travel;
- Proactively guide the future development of the District to encourage multi-modal trips.

The following is a comprehensive menu of TDM strategies that may be applicable to the UMED district. The strategies are organized into employer-based programs and services, parking management, and development-based strategies. A short description of each strategy is provided. The strategies are summarized in Table 2.

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<thead>
<tr>
<th>TDM Strategy</th>
<th>Implementation Time Frame</th>
<th>Effectiveness</th>
<th>Cost</th>
<th>Cost-Effectiveness Ratio</th>
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<td>Short-Term</td>
<td>Mid-Term</td>
<td>Long-Term</td>
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<td>Alternative Work Schedules/Telecommuting</td>
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<td>Shuttle Bus Services</td>
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<td>Ridesharing</td>
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<td>Commuter Support Services</td>
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<td>End of Trip Facilities</td>
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<td><strong>Parking Management</strong></td>
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<td>Parking Supply</td>
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The strategies are summarized in Table 2.
Employer-Based Programs and Services

Employers can set policies or create programs to manage travel demand. These may be individual – such as offering flexible work hours – or collective through a TMA that coordinates TDM programs for all participating employers. A TMA can mitigate traffic congestion and transportation issues in a specific area and facilitate commuter support strategies for participating businesses. The TMA may help advocate on behalf of its members, help secure discount transit passes, provide car-sharing services, or facilitate Guaranteed Ride Home programs. Many employer-based programs and services can be more effectively and efficiently provided through a TMA than by individual businesses.

Because the UMED District features a variety of land uses clustered together, a TMA may be helpful in implementing effective TDM for businesses by working across the different uses to implement these strategies. The employer-based strategies are applicable to the academic, medical, governmental, and commercial uses in the district. Strategies include:

- **Alternative work hours or teleworking**: Alternative work schedules allow employees to work non-traditional hours to avoid traffic or reduce their number of trips to the office. There are several types of alternative work schedules, including flextime, compressed work week, and staggered shifts. Telecommuting programs allow an employee to work at a remote location (such as his or her home) one or more days a week instead of commuting to the work site. All of these strategies are intended to reduce total trips to the office, especially during peak hours.

- **Transit Financial Incentives**: Employers can offer prepaid or discounted transit passes to employees who agree to commute by transit. Fares can be partially or fully subsidized, or employees can be given the option to buy transit passes pre-tax. Employers could develop their own transit incentive programs or work together with the MOA Public Transportation Department to develop a program.

- **Shuttle Bus Services**: A private shuttle service operated by a TMA can supplement vital transit connections where gaps exist. Connections between the nearby transit stations or park-and-ride lots may allow employees to use non-auto commuting modes. In some cases, employers can use these shuttles to provide connections between different office
locations in the area. The Seawolf Shuttle (UAA) and the ANMC Shuttle already operate in the UMED District and the routes may be modified and/or expanded to serve the entire District. Shuttles could meet commuters in a remote lot, thus reducing the SOV trips to the district, not just within it.

- **Ridesharing:** Ridesharing programs encourage carpooling or vanpooling. Carpooling typically uses participants’ own automobiles, while vanpooling usually uses rented vans. Employers may put compatible commuters in touch with one another through simple employee match listings or computerized matching programs. Employers may also use marketing programs, sponsor vanpools, provide preferential parking spaces, or offer financial incentives to encourage ridesharing. Employers could develop their own ridesharing incentive programs or work together with the MOA Public Transportation Department to develop a program.

- **Commuter Support Services:** Employers provide support services and programs that replace employees’ reliance on having a personal vehicle and encourage employees to bike, walk, take transit, or rideshare instead. These programs can be tailored to address employees concerns with commuting by alternative modes, such as traveling to meetings, getting home in an emergency, or working late. Potential services include providing a Guaranteed Ride Home (GRH), the use of company vehicles, a corporate car sharing account, and reimbursement for business travel by transit or bike.

- **End-of-Trip Facilities:** Employers provide bicycle amenities like secure bicycle storage, lockers, showers, and changing facilities to encourage employees to bike or walk to work. A lack of safe, convenient, protected bicycle storage can be a deterrent from biking to work. Some communities have started to create standards for the minimum number of bicycle parking spaces required at buildings and other facilities. In some cases, bicycle parking may be substituted for a portion of automobile parking. Bicycle facilities are also a requirement for LEED Certification and to be eligible to be a “Bicycle Friendly Workplace.”

### Parking Management

Parking management strategies provide incentives to non-single-occupant vehicle travel by eliminating or reducing subsidies for storing vehicles at the destination. Parking strategies should be comprehensive throughout the UMED District. Strategies like unbundled parking, shared parking, and parking pricing may be appropriate for the area. Rather than requiring individual entities to provide their own parking, parking could be provided for the area as a whole, with organizations funding a share of the cost, to the benefit of all.

A parking management program should be pursued along with other TDM strategies to ensure that there are attractive alternative travel choices for UMED District users. It is important to ensure that adequate parking is provided (so as not to create problems like parking spill-over to adjacent uses, driver frustration, or discouraging people from traveling to the district). However, opportunities exist
to pursue strategies to discourage the construction of excess parking and relax once inflexible parking requirements. The parking needs of the UMED District should be closely assessed to ensure that an appropriate amount of parking is provided and that there are opportunities to strategically minimize the parking supply. Potential strategies to be pursued as part of a parking management plan include:

- **Manage Parking Supply:** The supply of parking can be managed to achieve strategic objectives, such as reducing the share of commuters that drive alone to work. If insufficient parking is provided, parking may spillover into adjacent areas or travelers may choose alternate destinations. However, if too much parking is available, resources are wasted and drivers have less incentive to choose other modes of transport. Parking can be managed for an entire development, residential area, employment center, or commercial area. Some jurisdictions are developing parking maximums (as opposed to traditional parking minimums) for land uses and developments.

- **Parking Pricing:** Employers and institutions can impose parking pricing to reduce single occupancy vehicle (SOV) use, pass along the actual cost of parking from the provider to the user, and decrease the supply of parking spaces demanded. Parking pricing programs can be flat (i.e. same for all users) or variable depending on parking duration or vehicle occupancy. Fees can be collected via a parking permit program or meters.

- **Employer-Focused Parking Strategies:** Employers implement parking strategies to discourage employees from driving alone and instead encourage alternative modes of commuting to work. Strategies include:
  - Parking Cash Out: Employers offer employees the option of exchanging their free parking spaces for the cash equivalent. The intent is to encourage employees to use the cash-out to offset the cost of other transportation options, such as walking, biking, or transit.
  - Preferential Parking: Employers set aside reserved parking spaces for employees that carpool or vanpool. Reserved spaces may be located near a building entrance or in a sheltered location.

- **Development-Wide Parking Strategies:** In addition to parking supply and parking pricing, there are several other strategies that can be used to manage parking. A variety of resources exist to help properly manage parking supply to more efficiently use parking spaces. Rather than identifying and constructing parking spaces for each land use in a development, parking can be strategically placed, priced, and managed to limit the amount of parking needed. Other strategies for managing parking include:
  - Share parking: design parking to serve multiple uses at different times of the day (e.g., a restaurant can share parking with an office complex; a school can share parking with a church).
  - Establish parking maximums: place limits on the maximum amount of parking capacity allowed at a site or within an area.
- Improve walkability: improve pedestrian facilities and plan developments so that visitors can easily walk between multiple destinations.
- Unbundle parking: instead of bundling the price of parking with building costs, sell or rent parking separately from building space.
- Increase capacity of parking facilities: design parking facilities to hold the maximum number of vehicles possible by using wasted spaces, angled parking, and appropriately sized spaces.

Development-Based Strategies

The design of transportation infrastructure has a profound impact on mode choice for local travel within and adjacent to the site. A complete street with comfortable, attractive sidewalks and bike lanes is much more likely to encourage employees, residents, and visitors to walk or bicycle to nearby destinations. Likewise, a vibrant street front with diverse land uses, interesting windows, and buildings adjacent to the sidewalk make walking a more desirable option.

As the UMED District continues to develop, opportunities to implement complete street and streetscaping strategies can encourage walking and biking. The UMED District should continue to look for strategies to support year-round walking and biking (i.e. underground pathways to connect uses) as well as opportunities to facilitate cross-country skiing. Dense, mixed-use development throughout the area will help encourage non-auto travel and improve the vibrancy and economy of the development. Connectivity in the development is also critical, as non-auto travel is directly affected by distance, and out-of-direction travel can pose a major deterrent. It is important that plans for key connections and street improvements are identified so development can support these changes, rather than reinforce or inhibit them.

- **Increasing Connectivity:** Connectivity refers to the density of connections in paths and road networks and the directness of the links. A well-connected road or path network has many short links, numerous intersections, and minimal dead ends. Increasing connectivity decreases travel distances and provides greater route choices – which allows more direct travel between destinations. Full street connections are most desirable, but pedestrian- and bicycle-only connections should be provided where street connections are not feasible.

- **Streetscape Improvements:** Streetscape refers to urban roadway design and conditions that impact street users. Streetscaping considers all roadway users and activities that occur on a street. It seeks to create streets that accommodate all forms of travel, provide access to nearby destinations, function as linear parks, and improve the livability of the community. Streetscape improvements include a variety of strategies, such as:
  - Creating wider sidewalks that accommodate more business and pedestrian activity.
- Adding landscaping, particularly between vehicle travel and other modes.
- Adding bike lanes and pedestrian crossing elements.
- Increasing lighting on streets and at transit stops.

**Area Pedestrian Improvements:** Improving the walkability of an area can encourage travelers to walk between destinations. Walkability is based on a variety of factors, including pedestrian facilities, roadway conditions, connectivity between land uses, and security. There are numerous ways to improve walkability, including:
- Increase the quantity and quality of sidewalks and crosswalks, including bulb-outs and refuge islands
- Provide pedestrian crossing signals.
- Mix land-uses and create connections between common destinations.
- Reduce vehicle speeds and implement traffic calming strategies.
- Design pedestrian facilities to be accessible to all users.
- Add street lighting to improve security.

**Area Bicycle Improvements:** Improving the safety and convenience of biking can help make bicycling an option for more trips. A variety of strategies can be implemented to improve conditions for bicycling, such as:
- Increase the quantity and quality of bike lanes and paths.
- Improve bike parking facilities.
- Increase bicycle connections between common destinations.
- Integrate bicycling with transit.
- Reduce the speed of vehicles through traffic calming

In addition, a bike sharing program can provide convenient bike rentals for short trips within the UMED district and surrounding area to make biking a potential travel option for more people.

**Transit Improvements:** A variety of things can be done to improve transit service and make it a more attractive option for commuters, residents, and other travelers. For example, service can be increased by adding more routes, increasing frequency, and extending operating hours. Lowering fares, creating more convenient fare payment, or increasing the comfort of transit can encourage transit ridership. Giving transit priority on the road with bus lanes, transit priority traffic signals, or grade separation can significantly improve transit service.

- Investigate the possibility of Valley Mover providing direct peak period bus service to the UMED District from Palmer/Wasilla. Also, investigate the possibility of
People Mover providing direct service from Eagle River to the UMED District. This would significantly reduce the existing bus transit travel time by eliminating the need to transfer buses in downtown Anchorage.

- Also discuss park and ride, and UMED shuttle service here [find a parking lot in the valley for commuters to leave their cars and hop in a shared car, van, or shuttle].

Plan Implementation

Marketing, education, enforcement, and use of incentives and disincentives are key components in the application of the TDM measures that the UMED District pursues. A TMA could be useful in promoting TDM programs and providing the necessary support for a TDM program. It is recommended that the UMED district regularly review progress towards its TDM goals and monitor the success of TDM programs. The following strategies are intended to bolster the effectiveness of the TDM strategies outlined above.

- **Adopt clear, quantifiable goals that can be measured for progress**: examples include mode split targets for employees, parking occupancy and utilization (auto, bicycle, other), ratios of bike spaces and transit passes to employees, and shuttle service productivity.

- **Promote programs**: whether through a website, brochures, employer-run sessions, new employee/student orientations, or other marketing strategies, promotion of TDM programs is essential to ensure people are aware of their transportation options.

  - Alternative Transportation Month - Hold an alternative transportation fair to highlight the user benefits and costs of utilizing alternative transportation modes for the day-to-day travel to and from the UMED District. Participants would receive information about public transportation service, bicycle routes, walking, ride-sharing programs. Provide “friendly” competition between organizations to promote alternative transportation travel for a one month period. Provide gift certificates or other incentives for participants.

- **Routinely survey employees/students to determine progress towards desired mode split and other goals**: this will help measure progress and assess the effectiveness of TDM strategies. Seeking employees’/students’ input will also be essential to addressing concerns with TDM programs.

- **Establish TMA to monitor the TDM program**: a TMA is well-suited to both organizing TDM programs as well as monitoring their success.
REFERENCES


