FINAL

Transportation Demand Management Implementation Plan

Prepared for:

California State Polytechnic University, Pomona

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FEHR PEERS

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Introduction

The California State Polytechnic University, Pomona Campus Planning, Transportation & Sustainability Department (Cal Poly Pomona) and Fehr & Peers prepared this Transportation Demand Management (TDM) Plan to develop strategies to provide more Campus transportation options, make active transportation modes more accessible and equitable, and to decrease the Single Occupant Vehicle (SOV) travel and parking demand on Campus. The Plan sets out to shift the Campus commuter culture by reducing reliance on the personal automobile. The overarching goal of The Plan is to promote walking, biking, transit, and other forms of alternative transportation as attractive, convenient, safe, and practical means for Campus trips.

The California State University (CSU) Transportation and Parking Policy seeks to "meet the transportation needs of students, faculty, staff and visitors at its campuses with safe, equitable, and cost-effective options"[1]. The CSU system requires universities to consider TDM strategies as an alternative to providing new parking. It will be critical for Cal Poly Pomona to provide alternatives to driving alone to manage the future parking demand with increased enrollment. An effective TDM program would improve access to campus for people traveling by transit, carpooling, walking, and bicycling. These modes are generally less expensive than driving alone, making them important options for students and employees who may be burdened by the cost of owning and operating a vehicle as well as for those whose disabilities prevent them from driving. By reducing the need to drive to campus while increasing support for alternative modes, the TDM strategies presented in this plan contribute to a more equitable transportation system for Cal Poly Pomona's community. The CSU Sustainability Policy states that all CSU campuses shall develop and maintain a TDM plan to reduce Vehicle Miles Traveled (VMT) and carbon emissions.[2] The TDM plan will be updated every five years and shape the transportation and parking program at each campus.

If a campus were to request a new or improvement to an existing parking facility, the campus would submit a parking feasibility study to the Chancellor's office. The campus must demonstrate that they have developed and invested in TDM strategies before requesting to build a new or improve an existing parking facility. The campus must meet a list of requirements listed in the CSU Transportation Parking Policy (PolicyStat ID 9869842) before the Chancellor's Office approves the request for the construction or improvement of a new or existing parking facility.

The following key goals and objectives were established by the project team to guide the development of The Plan:

- Implement Master Plan Vision
- Advance student success
- Reduce trips to/from Campus
- Reduce VMT and congestion
- Reduce parking demand/right-size parking

[1] https://calstate.policystat.com/policy/9869842/latest/. Accessed 06/28/2022.
[2] https://calstate.policystat.com/policy/11699668/latest/. Accessed 06/28/2022.

- Increase active mode share
- Provide affordable access to education and basic needs
- Foster equity in transportation
- Provide transportation solutions that prioritize sustainability
- Promote public health
- Preserve valuable Campus land

The California State University (CSU) system requires universities to consider TDM strategies as an alternative to providing new parking. It will be critical for Cal Poly Pomona to provide alternatives to driving alone to manage the future parking demand with increased enrollment.

The *California State Polytechnic University, Pomona Campus Master Plan 2020-2040* (to be adopted 2025) outlines a vision for the future development and accommodation of projected enrollment growth for the Campus. Transportation themes were established in the master planning process related to improving commuting to Campus, recognizing that a sustainable and equitable campus provides transportation options for all students, faculty and staff. This plan builds on the themes and ideas presented in the Master Plan and details strategies to achieve the TDM goals.

The Master Plan Environmental Impact Report (EIR) will evaluate potential significant transportation impacts from the implementation of the master plan and the primary mitigation measures recommended will be Transportation Demand Management (TDM) measures outlined in this plan. Consistent with the goals and requirements of Senate Bill 743 (SB 743), TDM strategies should promote multi-modal transportation networks that provide efficient access to destinations and the Vehicle Miles Traveled (VMT) reduction potential will need to be assessed for each TDM strategy.

The Plan is consistent with the CSU Transportation Impact Study Manual, the recommended scope of work provided in the CSU Transportation Services On-Call Request for Proposals for TDM Plans, and the CSU TDM Manual.

How We Got Here

The development of The Plan was initiated in September 2021, as the Master Plan was nearing completion, to facilitate the Master Plan transportation vision and goals. The project kick-off focused on establishing a vision for the project, key goals and objectives, and how to define success. Fehr & Peers, in coordination with the Campus, then developed the following set of deliverables in support of the Plan.

Existing Conditions Report

Fehr & Peers conducted an extensive data collection and inventory to set the existing baseline for the project. Though the Campus already had some TDM strategies in place, this assessment highlighted how they were underutilized and helped identify the needs of the target market available to capture with a new, robust set of strategies. The following elements were included in the comprehensive Existing Conditions Report (included as **Appendix A**):

- Existing Document & Data Inventory
- Background Information (Campus Enrollment, Demographics, Student Success, Residents information)
- Campus Commute Data and Mode Split (Origin-Destination Information, Student Travel, Employee Commute Data, Regional Comparison, Average Vehicle Occupancy Data)
- Existing Transportation System (Roadway Facilities, Transit Services, Pedestrian Network, Bicycle Network)
- Existing Parking (Supply, Demand, Fees, Trends)
- Existing TDM Programs (Train, Bicycle, Walk, Bus, Rideshare, Alternative Transportation Committee)
- Planned Projects (Development Projects, Transportation Infrastructure Projects)

Key Findings

Cal Poly Pomona has traditionally been viewed as a commuter school in a region that typically relies on single-occupancy vehicles. However, most trips to and from campus are shorter than five miles indicating potential for these trips to shift from single-occupancy vehicles to active transportation modes.

Students, faculty, and staff at Cal Poly Pomona exhibit diverse commute behaviors and preferences, necessitating a varied menu of Transportation Demand Management (TDM) strategies to meet their needs. Access to campus is crucial for student success, and providing convenient transportation options for all students can help close equity gaps.

The COVID-19 pandemic has altered historical travel behaviors. Telecommuting and virtual learning have proven effective in reducing trips, though in-person learning remains highly valued. Consequently, universities are still determining the optimal mix of virtual and in-person learning. Additionally, there is

increased hesitation to use commute modes requiring close proximity to others, such as transit or vanpooling.

Providing housing on or near campus is one of the most effective ways to reduce vehicle trips. Students living closer to campus find it easier to use alternative transportation modes for their commutes. The non-single occupant vehicle mode share is significantly higher for students residing on campus. Parking fees serve as a major deterrent to driving for many students and are one of the most effective parking management strategies available to the campus.

Surveys indicate that many students and staff default to driving alone without attempting alternative modes. Increasing resources and education to connect commuters with transportation options can boost alternative mode share. Carpooling and transit use among Cal Poly Pomona commuters align with regional averages, suggesting that commute programs could be more effective. Currently, the Rideshare program is primarily faculty and staff-focused, excluding students.

Developing a campus culture that promotes transit, carpooling, and active transportation is crucial for shifting the mode split and decreasing parking demand. TDM strategies should also target non-commute trips, as many visitors and residents need to travel to retail, restaurants, and other local commercial establishments. Implementing park-once strategies could reduce trips and congestion.

There is currently insufficient dedicated funding for Alternative Transportation Programs for a campus with over 30,000 students, faculty, and staff. Although Cal Poly Pomona offers incentives and alternatives to driving alone, nearly all these programs could be improved or expanded to increase alternative mode share. Future land use and transportation projects, such as the Lanterman Project and Mobility Hub, present significant opportunities to enhance TDM and improve the alternative transportation network.

State of the Commute Report

Fehr & Peers prepared the Campus Commuter Characteristics Report which summarizes the current condition of travel to and from the campus as of 2023. The report also focuses on commuter characteristics, analyzing commute trends and statistics from students, faculty, and staff. The following elements were included in the Campus Commuter Characteristics Report (included as **Appendix B**):

- Introduction
- Background Information (Student Population Trends)
- Campus Enrollment & Student Demographics
- 2022 Student Commute Survey (Summary of Respondent Demographics, Mode Split, Breakdown of Campus Commute Modes, Average Student Commute Time, and Student ZIP Code Commute Distribution)
- Students Class Time Distribution Spring 2022
- Employee Mode Split
- Employee ZIP Code Commute Distribution
- Average Daily Traffic on Campus Gateway Streets

SWOC Assessment

Building on the insights gathered in the Existing Conditions Report, Fehr & Peers prepared a Strengths, Weaknesses, Opportunities and Challenges (SWOC) Assessment. This effort took into consideration the makeup of the Campus, the assets, and the limitations to develop realistic aspirations for the future of the Campus. This review focused on the following modes and strategies:

- Transit
- Bicycle & pedestrian
- Rideshare & carpool
- Parking
- Education on transportation options
- Campus Planning

Public Outreach

The Campus also facilitated the following public outreach to key stakeholders:

- Six (6) presentations to the Campus Alternative Transportation Committee (ATC)
- An online travel behavior survey to students with Foothill Transit, Metro, and the City of Pomona

Draft Recommendations

An initial set of draft TDM policies was developed for review with the Campus and stakeholders. This set of strategies included all feasible strategies worth considering, given the conclusions of the SWOC Assessment. These strategies were evaluated with a ranking system that considered the following criteria:

- Vehicle Miles Traveled (VMT) reduction potential
- Auto trip/parking demand reduction potential
- Cost of implementation
- East of implementation
- Equity considerations
- Commute distances
- Sustainability and health

The ranking system was utilized to filter strategies for the Campus to prioritize. Strategies were also separated into the following categories for timing of implementation:

- Immediate strategies – strategies that can be implemented on day one of plan adoption and are expected to be completed within a year
- Short-term strategies – strategies anticipated to be completed within one to five years
- Long-term strategies – forward thinking strategies to be incorporated in planning for the next five to 20 years

Following the completion of the draft recommendations, this report was prepared to summarize the final recommendations.

Exemplar Campuses

Other campuses, such as Cal Poly San Luis Obispo and CSU Channel Islands, have implemented innovative Transportation Demand Management (TDM) strategies that provide insight into flexible and innovative campus TDM policies. These policies demonstrate how suburban universities can create sustainable, efficient transportation solutions that reduce single-occupant vehicle use while promoting active and shared transportation options. Listed below are some of the TDM strategies adopted by these campuses.

California State Polytechnic University, San Luis Obispo

- Transit Subsidies and Shuttle Services - Free rides on SLO Transit and a 75% discount on SLORTA passes will ease regional commute and connectivity to the campus. The Mustang Shuttle provides on-campus mobility, supporting reduced reliance on single-occupant vehicles.
- Bicycle and Pedestrian Amenities - The university has invested in biking infrastructure, such as bikeways, parking, and repair stations, and is exploring a bikeshare program with the city to encourage active transportation for nearby commuters.
- Parking Management - Parking is managed through permit pricing and carpool priority. and restrictions for first-year students. Cal Poly SLO also has parking restrictions for first-year students and is considering expanding these restrictions to second-year students as well, fostering a more unified use of alternative transportation.
- Carpooling and Ridesharing Programs – Carpool incentives such as reimbursements and fuel subsidies are offered for carpoolers. The iRideshare program helps match riders, supporting a reduction in SOV trips.

California State University, Channel Islands

- Regional Transit Partnerships - CSU Channel Islands collaborates with the Ventura County Transportation Commission (VCTC) to provide shuttle routes connecting the campus to nearby cities such as Camarillo and Oxnard.
- Parking Management – To further reduce vehicle reliance, the campus is exploring transitioning to a "pay-by-day" system for commuter students, and EV charging infrastructure is being expanded to encourage the use of electric vehicles.
- Limited Vehicle Access to Campus Core - CSU Channel Islands is transitioning to restrict vehicle access in the campus core, allowing only emergency, service, and campus shuttle vehicles. This approach encourages walking and cycling by minimizing vehicle-pedestrian conflicts in the core relocating parking facilities away from the campus core.

Implementation Plan

The plan builds on existing Cal Poly Pomona investments in TDM by strengthening and expanding the current options available and advancing active transportation on campus. Twelve priority strategies were identified for implementation by the Campus.

Active TDM Strategies

Cal Poly Pomona offers a range of incentives for students, faculty, and staff to participate in rideshare, transit, or alternative commuting modes. Students get a 25 percent discount on Metrolink tickets, while faculty/staff receive reimbursements. A free hourly Metrolink Connect Shuttle links the San Bernardino Line riders at Pomona North Metrolink Station to campus, though there are no shuttles to other nearby stations.

The campus supports cycling with bike racks, maps, repair kits, and a free 24-hour bike cage. Students benefit from discounted Foothill Transit or Metro bus passes, with the pilot Class Pass program offering free rides on Foothill Transit. The Rideshare office helps with route planning, and the Bronco Express shuttle provides on-campus transit, connecting bus riders to various campus stops.

The Rideshare Office offers ride-matching services for faculty, staff, and students, though formal matching is exclusive to faculty and staff. Incentives include preferential parking for carpoolers, parking reimbursements, guaranteed ride home programs, and pre-tax parking benefits. Vanpool participants can get free fares, parking and mileage reimbursements, and other perks like Bronco Bucks. Rideshare members using Metrolink, Amtrak, or buses receive significant semester reimbursements, and personalized trip planning resources are available through the Rideshare program.

Priority TDM Strategies

The following are the ten priority TDM strategies:

1. Incentives Program
2. Convenient/Accessible Facilities
3. Transit Initiatives
4. Comprehensive App
5. Branded Education and Outreach Program with an On-Campus Resident Program
6. Shared Mobility
7. Transportation Network Improvements
8. Parking Management
9. Telecommuting
10. Campus Planning

This section presents detailed descriptions of the priority TDM strategies including the following information:

- **Description of the measure**
- **Strategies** that support the measure separated by timing of the measure
- **Responsible party or parties**
- **Effectiveness** in reducing vehicle trips to campus as measured by associated reductions in Vehicle Miles Traveled (VMT) according to research in the CAPCOA Handbook[3]. While not all of the recommended TDM measures have quantifiable reduction equations in the CAPCOA Handbook to provide estimates in support of the transportation impact analysis of an EIR, this TDM Plan was designed to have the highest trip/VMT reduction potential with the highest variety of recommended programs that provide the most options and accessibility to the campus, and many of these measures are complementary to increase viability. The effectiveness calculations take into account the existing programs and estimate the net increase in trip/VMT reduction associated with implementation of each recommended program, though, when combining multiple measures together the multiplicative dampening (benefits can't just be "added") would limit the final aggregate trip/VMT reduction potential for the full plan.
- **Limitations** (such as administrative issues, financial constraints, or infrastructure/bureaucratic challenges)
- **Costs and co-benefits** where applicable (e.g. high level cost estimates and factors that contribute to the cost of the implementation, increased productivity, reduction in turnover, reduced tardiness). The high-level cost estimates for each strategy are represented qualitatively as follows, and will expressed as a range for each strategy:
    - $ = $0 - $4,999
    - $$ = $5,000 - $49,999
    - $$$ = $50,000 - $125,000
    - $$$$ = $125,000+

[3] *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (California Air Pollution Control Officers Association (CAPCOA) 2021)

1. Incentives Program

Description

Incentives involve offering a benefit of some kind to encourage a shift from driving alone to utilizing alternative modes. These incentives can apply to multiple populations, which include on-campus residents, commuters that live within walking and biking distance, and commuters that live close to transit.

Strategies

Strategies to incentivize students (commuters and on-campus residents) and faculty/staff to walk, bike, ride transit, and carpool include:

Immediate:

- Additional incentives for using transit (i.e. cash incentives, Bronco Bucks, reimbursements, Metro Rideshare Program participation, etc.)
- Incentives for biking over driving/parking (i.e. cash incentives, Bronco Bucks, providing complimentary bike locks, trade-in program to replace vehicle parking permit, coupons for local bike shops)
- Refer-a-friend incentive for rideshare, bike, transit
- Provide new incentives for rideshare for faculty and staff
- Offer pre-tax deductions for active transportation/rideshare programs
- Subsidized or free transit passes

Near-Term:

- Provide additional discounts for Cal Poly Pomona students for Foothill Transit discount bulk pass program (i.e., 31-day pass, monthly pass with unlimited rides)
- Establish/update Rideshare and Clean Air Vehicle preferential parking policies

Synergy With Other Strategies

This strategy should be promoted through the outreach program.

Responsible Parties

- Cal Poly Pomona
- Foothill Transit
- Metro
- City of Pomona

Effectiveness of Measure

Implementation of this measure at a low level, which may include nominal incentives such as Bronco Bucks or limited discounts would have the lowest anticipated effectiveness while providing a high level of implementation of this measure would include cash incentives or other free gifts would result in the

highest effectiveness. CAPCOA strategies estimate that subsidized transit passes could result in up to a 1.03% reduction in VMT at Cal Poly Pomona.

Limitations

Cal Poly Pomona does not have authority over Foothill Transit or Metro transit lines. A strong working relationship between Cal Poly Pomona and Foothill Transit, Metro, and City of Pomona would be critical to improve frequency on Temple Avenue and Kellogg Drive. Cal Poly Pomona will need to coordinate with transit agencies to identify practical incentives for their commuters that use transit.

Incentives for biking to campus may only be attractive to commuters with short-range trips. Commuters that rely on a bike to get to Cal Poly Pomona will have a shorter average trip length when compared to commuters that get to campus by car.

Costs and Co-Benefits

Estimated Costs:

Immediate: $-$$$

Near-Term: $$-$$$$

Immediate:

Factors that contribute to the cost of implementing immediate incentive strategies, such as additional bike, transit, and rideshare incentives, include the following:

- Direct annual expenses on cash incentives, reimbursements, transit passes, complimentary bike equipment, trade-in program, coupons
- Administrative costs to market and distribute the incentives

Near-Term:

Factors that contribute to the cost of implementing near-term incentive strategies, such as additional discounts for transit passes and preferential parking on-campus for electric vehicles (EVs), include the following:

- Direct annual expenses on cash incentives
- Administrative costs to update preferential parking policies to ensure compliance with parking regulations/guidelines

2. Convenient & Accessible Facilities

Description

Improvements to transit, bike, and pedestrian facilities that intend to make alternative modes more convenient and accessible can create a shift in mode choice. Providing accommodations to the TDM program would improve access to campus for people traveling by transit, carpooling, walking, and bicycling. These modes can also be made accessible by being affordable, which lessens the financial burden for students and employees who do not own and operate a personal vehicle, and by equipping the campus with accessible facilities for those with disabilities that cannot drive on their own.

Strategies

Immediate:

- Provide cellular device charging stations and Wi-Fi at bus stations, shuttle stops, and on buses/shuttles
- Implement bike improvements from the Bicycle Friendly University and Berkeley Safe Transportation Research and Education Center (SafeTREC) Complete Streets Safety Assessment (CSSA)
- Improve/expand campus bike shop

Near-Term:

- Implement on-campus bike network expansions/improvements consistent with Master Plan Vision
- Provide additional secure bike parking, showers/lockers, repair stations
- Expand sidewalks and pedestrian malls consistent with Master Plan Vision
- Develop Campus Bike Hub/Coop
- Expand EV Charging Stations
- Designate rideshare parking spaces that are close to campus access points
- Electric bike charging/parking
- Ensure that multi-modal facilities are accessible consistent with Americans with Disabilities Act (ADA) requirements

Synergy With Other Strategies

This strategy should be considered with all transportation infrastructure strategies/projects.

Responsible Parties

- Cal Poly Pomona
- City of Pomona
- Foothill Transit
- Metro
- ChargePoint

Effectiveness of Measure

Although there is no quantified VMT reduction identified by CAPCOA, this measure supports the Campus Master Plan Vision and intends to make all existing facilities more accessible, convenient, and inclusive for the student and faculty/staff population across all transportation modes.

Limitations

Implementing amenities such as Wi-Fi and cellular device charging stations on transit facilities will require coordination with transit agencies. Improvements to the bike network may require coordination with the City of Pomona. When planning for bicycle and pedestrian facilities consistent with the Master Plan vision, it is important to maintain connections and to minimize gaps in the pedestrian network.

Costs and Co-Benefits

Estimated Costs:

Immediate: $-$$

Near-Term: $$$-$$$$

Immediate:

Factors that contribute to the cost of implementing immediate convenient and accessible facilities, such as providing transit facilities with charging stations and Wi-Fi, implementing bike improvements, and improving/expanding the campus bike shop, include the following:

- Design costs
- Construction/improvement direct costs
- Administrative costs of Cal Poly Pomona Staff to facilitate projects
- Annual salary of new bike shop employees

Some of the costs of implementation could be offset with active transportation and sustainability grants.

Near-Term:

Factors that contribute to the cost of implementing near-term convenient and accessible facilities, such as implementing on-campus bike network expansions/improvements, providing additional bike parking, expanding sidewalks and pedestrian malls, developing a campus bike hub/coop, expanding EV and electric bike (e-bike) charging stations, and making multimodal facilities consistent with ADA requirements include the following:

- Design costs
- Construction/improvement direct costs
- Administrative costs of Cal Poly Pomona Staff to facilitate projects

3. Transit Initiatives

Description

Existing transit agencies that service Cal Poly Pomona have already established programs that encourage transit ridership through incentives and discounted fares. Cal Poly Pomona can engage in these programs so students and faculty/staff can benefit from transit they are already using. Cal Poly Pomona has autonomy over incentives offered for transportation modes for on-campus travel, but if there is coordination between the campus and transit agencies to boost participation in these ongoing programs, students, faculty, and staff may be eligible to receive monetary incentives and other benefits. Involvement in these transit programs is best facilitated with expanded network coverage and bus/shuttle stop and shelter upgrades.

Strategies

Immediate:

- Make Foothill Class Pass Permanent

Near-Term:

- Perform a "Shuttle Restructuring" study
- Participation in Metro Annual Transit Access Pass Program (ATAP)
- Participation in Metrolink Corporate Partnership Program
- Participation in Metro Rideshare Rewards Program
- Participation in Metro U-Pass and Omnitrans student pass programs
- Expand Omnitrans network coverage to serve Cal Poly Pomona
- Bus/shuttle stop improvement program; bus stop and shelter upgrades, mini mobility hubs

Responsible Parties

- Cal Poly Pomona
- Foothill Transit
- Metro
- Metrolink
- Omnitrans
- City of Pomona

Synergy With Other Strategies

This strategy should incorporate incentives and shared mobility-related strategies. The proposed Bronco Mobility Hub would also serve as marketing and outreach as a centralized location for multiple modes to convene and stand out among the campus.

Effectiveness of Measure

Implementing subsidized/discounted transit programs helps achieve a potential VMT reduction of 0.5% to 2.0%. The high-end reduction would be achieved through an associated increase in transit ridership among faculty, staff, and students. Therefore, while highly effective as a standalone service, the transit

initiatives can become a more effective VMT reduction strategy when paired with program marketing discounted or free transit passes.

The effectiveness of a mobility hub is not quantified by the CAPCOA handbook. However, the proposed Mobility Hub could consist of strategies such as providing end-of-trip bicycle facilities, implementing a carshare program, implementing a pedal (non-electric or electric) bikeshare program, and expanding transit network coverage of service hours. Each of those listed strategies have quantifiable VMT reduction calculations in the CAPCOA handbook, but if the proposed Bronco Mobility Hub is constructed, those strategies would have a reduced VMT reduction potential to prevent reductions from being double counted.

Limitations

As mentioned in the Incentives Program section, Cal Poly Pomona does not have authority over Foothill Transit or Metro transit lines. A strong working relationship between Cal Poly Pomona and Foothill Transit, Metro, and City of Pomona is essential to maximize cooperation between the campus population and the transit agencies.

Costs and Co-Benefits

Immediate:

Factors that contribute to the cost of implementing convenient and accessible facilities, such as making Foothill Class Pass permanent, include the following:

- Direct costs for transit passes
- Administrative costs to facilitate programs

Some of the costs of implementation could be offset with grant funding.

Estimated Costs:

Immediate: $-$$

Near-Term: $$-$$$$

Near-Term:

Near-term implementation of additional transit programs, such as ATAP, Metrolink Corporate Partnership, Metro Rideshare Rewards, Metro U-Pass, Omnitrans student pass programs, are estimated to cost in the tens of thousands of dollars annually, while transit infrastructure improvements such as expanding the Omnitrans network coverage to serve Cal Poly Pomona, bus/shuttle stop improvements, and mini mobility hubs are anticipated to cost hundreds of thousands of dollars. Some of the costs of implementation could be offset with grant funding. Factors that contribute to the cost of implementing convenient and accessible facilities include the following:

- Cost to commission a feasibility study
- Administrative costs to facilitate programs
- Infrastructure and construction costs

4. Comprehensive App

Description

Developing an all-in-one comprehensive app provides users with easy access to all transportation options. Rather than using Cal Poly Pomona's transportation website and separate transit apps to learn about all commute and transportation options, there is just one centralized location for users to plan their trips, receive live updates about Bronco Express Shuttles or Foothill Transit/Silver Streak buses, ride-matching and carpooling, and view pedestrian, bicycle, and transit maps/routes.

If a carpool matching program were to be built in with the comprehensive app, users should be able to indicate whether they are interested in being a driver or passenger, input their home location and schedule, and the apps connect drivers and passengers based on route and schedule. Users are also able to filter their rideshare matches based on gender and co-workers/classmates. To ensure the safety and security of all carpool program participants, there should be multiple verification methods such as signing in with an active Cal Poly Pomona user ID and password.

Strategies

Immediate:

- Automate ride-matching progress for the Rideshare program through an app or web application
- Expand one-on-one trip planning resources for commuters

Near-Term:

- Provide a comprehensive app with all TDM options at your fingertips (with maps, trip planning, integrated trip tracking, "Tinder for carpools")
- App-based ride-matching and documentation/logging system
- Gamify TDM – leaderboard/use tracking; points for every time you use carpool/transit

Responsible Parties

- Cal Poly Pomona
- Third-party app developers
    - CommuteTracker
    - Commute with Enterprise
    - Waze

Synergy With Other Strategies

This strategy should be promoted through the outreach program and is anticipated to help facilitate the other strategies outlined in this plan.

Effectiveness of Measure

Although this app as a standalone strategy has no measured effect on VMT reduction, having an easily accessible resource that consolidates transportation options to one location will support and encourage users to utilize all modes of travel on- and off-campus.

Limitations

The app requires users to have access to a cellular device. In addition, some features of the comprehensive app, such as live transit updates and specific trip planning, may require cellular data and geolocation.

With regards to carpool and rideshare matching, carpoolers seek a consistent group to carpool with. Since student schedules change frequently, maintaining consistency among carpoolers is challenging. An app-based service such as Waze can accommodate changing and inconsistent schedules by continually matching drivers and passengers along the same route. However, Waze recommends that passengers book their rides in advance to guarantee a ride. Therefore, carpooling may not be the best option to serve on-demand trips to campus. Instead, carpooling may be more effectively marketed to faculty and staff, who are less likely to experience frequent schedule changes.

Costs and Co-Benefits

Estimated Costs:

Immediate: $-$$

Near-Term: $-$$

Immediate:

Factors that contribute to the cost of immediate implementation of this strategy, such as an automated ride-matching system and one-on-one trip planning resources for commuters, include the following:

- Administrative costs to host the ride-matching program on a website or an app
- Administrative costs to host trip planning resources on a digital platform
- Other additional costs (i.e. licensing fees, marketing and promotion)

Near-Term:

Factors that contribute to the cost of the comprehensive app include the following:

- App integration
- App development
- App hosting (annual cost)
- App maintenance and updates (annually)
- Administrative costs to facilitate and market app
- Other additional costs (i.e. licensing fees, marketing and promotion)

5. Branded Education and Outreach Program

Description

An effective education and outreach program is a key component of any successful TDM program. If the target audience is unaware that alternative transportation options are available, they may resort to driving alone to campus and it will be challenging to yield trip reduction and mode shift goals. Commute education and outreach programs provide students and faculty/staff with resources and opportunities to learn about transportation options available on- and off-campus. These programs create awareness about all transportation options and foster engagement.

On-Campus Resident Program

Providing an on-campus resident transportation program will highlight the transportation modes available to on-campus residents. Currently, the Cal Poly Pomona Transportation Services website shows options for "Commuting to Campus" targeted at commuter students, faculty/staff, and visitors. Based on the campus commute survey conducted during fall 2022, only 21% of students living on-campus drive alone in a car and bring their car to campus. By educating students living on-campus on their transportation options for off-campus travel and incentivizing students to not bring a car to campus, this will reduce the need for students to depend on their personal vehicle.

Strategies

<u>Immediate:</u>

- Promote on-campus Cycling Club
- Develop Campus Commuter Club/Commuter Ambassador Program
- Incorporate campus clubs/co-curricular activities and class projects to promote active transportation
- Create a Bike Ambassador program
- Bike education and safety classes/program
- Marketing campaign to make active transportation and transit use part of campus culture, with a focus on the benefits – save money, maximize leisure & study time, social aspect
- Apply equity into considerations in ways materials are distributed; such as languages or differing access to technology
- New-hire/student orientation packets on transportation options
- Continue/expand Alternative Transportation Committee
- Promote TDM through social media strategies
- Expand Commuter Program Toolkit/Non-motorized user manual
- Promote active transportation through the Health & Wellness Centers
- Implement a focused marketing campaign adapted to on-campus residents
- Move-in orientation packets on transportation options distributed/reinforced by RAs & resident ambassadors

- Provide incentives for residents to not bring a car to campus (i.e. through bike share/car share/Transportation Network Companies (TNCs) discounts)

Near-Term:

- Provide shuttles for on-campus residents for shopping/entertainment

Responsible Parties

- Cal Poly Pomona
    - Faculty/staff to establish active transportation-related projects
    - Alternative Transportation Committee
    - Stakeholders
- TNCs/Carshare companies

Synergy With Other Strategies

This strategy should also highlight the incentives program and be promoted through the comprehensive app.

Effectiveness of Measure

This strategy is minimally effective as a stand-alone strategy. Implementing CAPCOA strategy T-7 commute trip reduction program marketing may reduce VMT by 0.25% to 1.0%. The proposed Bronco Mobility Hub would also serve as marketing and outreach because it will be a physical structure and if implemented at a centralized location that provides multimodal access.

The on-campus resident program is minimally effective as a standalone program. When implemented with transportation infrastructure projects, marketing/education, and incentives, an on-campus resident program may result in reduced on-campus parking demand and a higher transit or carpool/vanpool use. This strategy coupled with connections to nearby improved transit service, discounted or free transit passes, and/or carpooling/vanpooling can help achieve the high-end VMT reduction for those strategies.

Limitations

Some students living on-campus will still bring their personal vehicle to campus to make longer distance or more frequent trips such as going to work or returning to their permanent residences. The potential shuttles that link on-campus residents and other users to nearby destinations may only provide service to destinations within five miles of Cal Poly Pomona.

Costs and Co-Benefits

Estimated Costs:

Immediate: $-$$$

Near-Term: $$$-$$$$

Immediate:

Immediate implementation of branded education and outreach programs includes a Campus Commuter Club/Commuter Ambassador Program, Bike Ambassador Program, bike education and safety classes, marketing campaigns to promote active transportation, new-hire/student orientation packets, and promotion of the TDM program through social media and the Health & Wellness Centers. Factors that contribute to the cost of facilitating education and outreach programs and include the following:

- Brand development
    - Rebranding every few years
- Direct cost: materials, incentives
- Annual marketing and public outreach

Immediate implementation of a focused marketing campaign for on-campus residents includes move-in orientation packets with information on all transportation options and incentives specifically tailored to on-campus resident. Factors that contribute to the cost of facilitating marketing programs include the following:

- Marketing campaign development
- Regular updates to ensure new students or residents are informed about campus transportation options and incentives

Near-Term:

Factors that contribute to the cost of facilitating the expansion of shuttle network coverage for students (primarily on-campus residents to connect to off-campus shopping and entertainment areas), include the following:

- Direct costs to expand transit network services and coverage
- Cost to assess (through survey or feasibility study) on-campus resident travel patterns to identify potential destinations along expanded transit network

6. Shared Mobility

Description

Cal Poly Pomona has existing transportation options that serve as an alternative to vehicle ownership, such as the Faculty/Staff Rideshare program with a Guaranteed Ride Home program and the student ride-matching list. Advancement in transportation technologies has introduced shared mobility options and micromobility options. Instituting and improving shared mobility options, such as carsharing, ridesourcing, and microtransit, along with adding micromobility options such as bike/e-bike/e-scooter share or rental programs, provides student and faculty/staff with a wider range of transportation modes for people who do not own a vehicle. Shared mobility strategies provide first/last mile connections where there are existing gaps in the transportation network and encourage multimodality.

Strategies

Near-Term:

- Create bike/e-bike/e-scooter share/rental program and/or pilot (i.e., SGVCOG Bikeshare participation, Metro Bikeshare, and SPIN)
- Expansion of Rideshare program to students
- Provide built-in safety protocols for Rideshare (especially for Rideshare app)
- Provide new Guaranteed Ride Home program (i.e., provide vouchers for TNCs)
- Coordinate with car-rental agencies to develop a carpool/vanpool program (Enterprise vanpooling, participation in Metro Rideshare Program)
- Offer car-rental discounts
- Provide discounted Zipcar memberships/waive Zipcar application fee for first-time users
- Relocate Rideshare Office to Bronco Student Center
- Provide car share options/parking spaces/subsidies
- Curb-space management
- Conversion of fleet vehicles (shuttles) to clean-fuel fleet

Synergy With Other Strategies

Shared mobility and micromobility strategies can be integrated and accessible through the comprehensive app.

Responsible Parties

- Cal Poly Pomona
- Bike Share Service providers
- SGVCOG
- Metro
- Third-party app developers
- TNCs
- Zipcar

Effectiveness of Measure

The following strategies have quantified VMT reductions identified in CAPCOA:

- CAPCOA strategy T-21A: Implement Conventional Carshare Program – VMT reduction potential up to 0.15%
- CAPCOA strategy T-8: Provide Ridesharing Program – VMT reduction potential up to 4.00%
- CAPCOA strategy T-22A: Implement Pedal (Non-Electric) Bikeshare Program – VMT reduction potential up to 0.01%
- CAPCOA strategy T-22B: Implement Electric Bikeshare Program – VMT reduction potential up to 0.02%
- CAPCOA strategy T-22C: Implement Scootershare Program – VMT reduction potential up to 0.01%

The total effectiveness of the shared mobility strategies is not the combined total VMT reductions due to multiplicative dampening.

Limitations

Majority of the shared mobility strategies require coordination with other agencies such as SGVCOG, Metro, Zipcar or other carshare programs, bike share (traditional pedal and/or electric-bike) providers, and more. There may be specific areas on campus where bikes, e-bikes, or e-scooters are access restricted, and prior to implementation, proper infrastructure needs to be established, such as designated travel lanes and areas bikes and e-scooters can be parked or returned for the rental program. Cal Poly Pomona needs to establish regulations for those who want to participate in the shared mobility programs to address any liability concerns, such as having students sign waivers before renting a bike, providing proof of insurance before participating in the rideshare program, etc. Cal Poly Pomona needs to develop policies pertaining to shared mobility programs to ensure the safety of its users.

Costs and Co-Benefits

Estimated Costs:

Near-Term: $$-$$$$

Near-Term:

Factors that contribute to the cost of implementing and expanding shared mobility programs, such as such as bike/e-bike/e-scooter share programs, expanded rideshare programs, carpool/vanpool programs, car-rental and/or car share discounts, and curb space management, include the following:

- Direct costs: vouchers, memberships
- Pilot program initiation costs
- Annual direct costs for full implementation
- Parking space redesign

7. Transportation Network Improvements

Description

Multimodal transportation network improvements would facilitate easier multimodal travel by making the system more convenient and reliable to choose the alternative to driving. Many of the systemwide improvements identified below are not in the control of Cal Poly Pomona and will require strategic partnerships to implement these recommendations. It is important to continue the existing strong relationships with the City and transit providers to encourage improvements and to lobby for grant funding to implement key projects.

Strategies

Near-Term:

- Increased transit service routes, decreased headways
- Shuttles from San Bernardino Line and Riverside Line Metrolink stations
- Demand-Response Shuttles
- Lobby for new/improved connections to campus along San Jose Creek, Valley Boulevard, South Campus Drive (requires City of Pomona cooperation)
- Provide better lighting and shading along pedestrian paths

Long-Term:

- Bronco Mobility Hub
- Metrolink Station at Lanterman site
- Advocate/support transit network expansions
- Advocate/support city bike expansions, bike programs

Responsible Parties

- Cal Poly Pomona
- Foothill Transit
- Metrolink
- City of Pomona

Effectiveness of Measure

CAPCOA has only quantified the VMT reduction for extending transit network coverage or hours (strategy T-25), which has a VMT reduction potential up to 2.00%. Although there is no quantified VMT reduction identified by CAPCOA for the other transportation network improvement strategies, this measure supports the Campus Master Plan Vision to improve connectivity and provide access that is safe and convenient by all modes of transportation and be a safe walkable/bikeable campus for students, faculty/staff, and visitors. The effectiveness of the Bronco Mobility Hub and Metrolink Station depends on the transit infrastructure provided and the connections to and from the campus.

Limitations

Expanding transit service routes requires coordination with transit agencies and adjacent jurisdictions, in addition to financial investment in the transit infrastructure, shuttle vehicles, personnel, and operations. Feasibility studies should be conducted to assess transit ridership on the San Bernardino and Riverside Metrolink lines and identify how many campus stakeholders are utilizing these lines to get to and from the Campus. All responsible parties would need to make investments in transit infrastructure such as the shuttles, bus stops, shelters, etc.

The Bronco Mobility Hub and Lanterman Metrolink station require extensive planning to identify site location, what modes the Mobility Hub will accommodate, what amenities will be offered, and how to integrate multiple modes.

Costs and Co-Benefits

Estimated Costs:

Near-Term: $$-$$$

Long-Term: $$$$

Near-Term:

Factors that contribute to the cost of implementing the transportation network improvements include the following:

- Direct costs to expand transit routes, coordination with local transit agencies
- Costs for transit studies to identify where are additional routes needed
- Costs to maintain and operate demand-response shuttles
- Costs to maintain platform to request the shuttles on-demand

Long-Term:

Larger transportation network improvements such as the Bronco Mobility Hub and the Metrolink station at the Lanterman site would cost in the hundreds of thousands of dollars. The only direct costs the Campus would incur from this measure would be administrative costs of the transportation manager and other key campus positions lobbying and supporting key projects.

8. Parking Management

Description

Cal Poly Pomona has 64 parking facilities, including surface lots, overflow lots, on-street parking, and two parking structures and most parking facilities are fully utilized during school peak hours. Implementing parking management strategies will decrease parking demand and parking revenue, reduce parking requirements for future enrollment projections, and optimize efficiency in finding parking and traffic flow.

Two studies from 2016-2017 confirmed high parking demand at Cal Poly Pomona, with facilities nearly fully utilized. The Master Plan Update in Fall 2017 found off-street parking peaked at 92 percent capacity between 1 PM and 2 PM, while on-street parking, reserved for special uses, peaked at 76 percent.

In 2016, Urban and Regional Planning students supervised by Dr. Richard Willson found average parking utilization of 89 percent (students) and 88 percent (faculty) on Mondays and Wednesdays, and 92 percent (students) and 85 percent (faculty) on Tuesdays and Thursdays. Central campus lots were most utilized.

The COVID-19 pandemic reduced parking demand due to remote learning. Post-pandemic demand is expected to stay lower with hybrid models, though decreased use of transit and vanpool may increase parking demand. Semester parking permit prices have remained unchanged for three years, while daily parking fees increased by $1 since 2018-2019.

Data collected at campus parking lots during the Fall 2018 and Spring 2019 semesters using Streetlight (a Big Data vendor) shows student arrival times peaking in the morning, with demand decreasing but steady until after 5:00 PM making it unclear if students make multiple trips in a day. Faculty/staff parking data showed peak utilization in the morning and evening, with usage from 6 AM to 9 PM. After 5:30 PM, some faculty/staff spaces become available for student use, explaining the evening peak. Residential parking data indicates most campus residents leave around lunch and dinner times, with few other trips throughout the day.

Some parking management strategies include:

Strategies

<u>Near-Term:</u>

- Develop a parking payment mechanism that charges students for each use rather than by semester; charge upon entering parking facility
- Increase cost of parking (with equity considerations)
- Limit parking availability by tiered system (i.e., on-campus housing restrictions, proximity to campus restrictions)
- Parking lot/stall design modifications
- Parking guidance systems
- Offer alternative/flexible parking passes (i.e., block schedule only; up to a max number of uses)
- Designate TNC pick-up/drop-off areas

- Increase cost of parking violation fines

Long-Term:

- Invest in TDM instead of providing new parking

Responsible Parties

- Cal Poly Pomona
- TNCs
- Third-party parking payment apps

Effectiveness of Measure

Although there is no quantified VMT reduction identified by CAPCOA for the listed parking management strategies, this measure would lessen the need for additional parking structures and facilities to be built. Parking management strategies that restrict when and where people can park will encourage drivers to plan their commute and potentially consider other transportation options. For example, if block schedule passes allow a student to park on-campus during Tuesdays and Thursdays only but they also have class on Wednesdays, they will need to figure out if they want to pay for a separate day of parking, carpool, take transit, or another mode for Wednesday.

Limitations

Parking demand for students, faculty, and staff for a commuter campus like Cal Poly Pomona can be inelastic until the price for parking hits a specific threshold. Some students, faculty, and staff may continue to pay for parking at Cal Poly Pomona due to convenience or the need to travel elsewhere after leaving the campus, and driving their personal vehicle would be the most efficient and reliable option. If campus parking restrictions, such as on-campus residents and students who live within a 1-2 mile radius, are implemented, students should still be given the option to petition to bring their car on campus should they need to travel to further destinations after leaving the campus or for other reasons.

Parking pricing may place a significant financial burden on students, faculty, and staff if implemented alone and if the increase in parking price is significant. Higher parking prices may disproportionally affect lower-income campus stakeholders, such as students and service staff, who may not be able to cover the cost of increased parking costs. Increase in parking prices should not be the only parking management strategy or other TDM strategies offered. An equity component should be considered as part of future adjustments to parking pricing.

Given the potential to impact the most vulnerable students, faculty, and staff on campus, this strategy should not be implemented in isolation, and should be supported with the other strategies outlined in this plan to provide users with more convenient alternatives to parking on campus.

Campus stakeholders may have difficulty adapting to a pay-per-use or flexible use pass if they need to be on-campus very frequently, so they may not opt to purchase the parking passes.

Costs and Co-Benefits

Near-Term:

Near-term implementation of parking management strategies include new parking payment mechanisms, increased cost of parking (with equity considerations), parking restrictions, parking guidance systems, alternative/flexible parking passes, TNC pick-up/drop-off areas, and increased cost of parking violation fines. It is anticipated that the new program will result in net increase in parking revenue, even with equity considerations, and reductions in parking revenue associated with change in mode share. Factors that contribute to the cost of implementing parking management strategies include the following:

- Design and implementation costs of new parking system
- Ongoing maintenance and enforcement (should be approximately same as current costs)
- Direct costs to modify parking lots, parking guide signage, TNC pick-up/drop-off zoning

9. Telecommuting

Description

The number of trips made by students and employees can be significantly reduced by providing remote learning accommodations and alternative work schedules (alternative work schedules can take the form of staggered starting times, compressed work weeks, or flexible schedules). For approximately two years during the COVID-19 pandemic, most classes at Cal Poly Pomona were hosted virtually and as a result, trips to campus were significantly reduced.

This measure proposes that Cal Poly Pomona evaluate the feasibility of remote learning or hybrid options for student and faculty/staff at varying levels of responsibility and establish a program to allow for remote learning/work or an alternative schedule for appropriate staff and faculty.

Estimated Costs:

Near-Term: $$-$$$

Strategies

Near-Term:

- Offer telecommuting flexibility for students, faculty and staff

Responsible Parties

- Cal Poly Pomona

Effectiveness of Measure

The COVID-19 pandemic initiated many studies in remote learning and telecommuting. CAPCOA recognizes that implementing telecommuting and/or alternative work schedule programs reduces

commute-related VMT. Providing alternative methods to engage in school without needing to travel to campus provides equity benefits, reduces trips and parking demand, and provides students with flexibility in times of need, such as family emergencies, when they are ill, or while traveling.

Limitations

Estimated Costs:

Near-Term: $$

Some staff positions may require them to be on campus. The Campus will need to undertake a realistic assessment of which positions can and or should remain on campus in order to provide support for campus operations, safety, and operational service. This will likely require the involvement of the human resources department to communicate any changes to campus policy. Employees may not have adequate technology, equipment, or reliable internet access to facilitate remote work – in which case, the Campus may wish to consider providing those resources directly to employees or reimbursing them for related work from home expenses.

Some classes may offer telecommuting options, while other classes may require in-person attendance such as labs. Remote learning would achieve the most VMT reduction if the classes students could attend virtually coincided on the same day. For example, if only one out of four classes on a Tuesday were remote or asynchronous, the student would still need to commute to the campus to attend the other three classes. Therefore, each hybrid class is not anticipated to result in a 1:1 reduction in trips. In addition, there are many other resources on-campus outside of classes that are available to students that they may choose to utilize even if their classes are offered remote.

Costs and Co-Benefits

Telecommuting and alternative work schedules offer employees a high degree of flexibility in balancing work and home life, reduce the costs associated with commuting, and may lead to increased productivity. Costs to the university may be associated with the purchase of equipment to support remote work, as well as a potential for reducing parking revenues if fewer people are traveling to campus. Factors that contribute to the cost of offering telecommuting options include the following:

- Costs associated with video meeting software, such as Zoom, distributed to students, faculty, and staff and upkeep
- Costs to provide training and support for students, faculty, and staff on how to use telecommuting and remote learning tools effectively
    - Ensure that the infrastructure is accessible and compliant with regulations like ADA
- Implementation of cybersecurity measures

While this measure is specifically targeted at faculty and staff, reductions in VMT and other associated benefits can also be realized by implementing remote learning opportunities for students and should be considered as appropriate.

10. Campus Planning

Description

The Campus engages in future planning projects through updates to the campus master plan and other forward-thinking plans. Cal Poly Pomona is planning for future on-campus land use projects and transportation network improvements with multimodal connections and considerations for transportation innovations and trends that will reduce the demand for single-occupancy vehicle travel.

Strategies

Long-Term:

- Implement Master Plan Transportation Network
- Be flexible with future innovations
- Provide nearby jobs, amenities, shopping, entertainment, and housing; Focus efforts on-campus, Innovation Village, Lanterman

Responsible Parties

- Cal Poly Pomona
- City of Pomona
- Caltrans

Effectiveness of Measure

Providing opportunities for employment, entertainment, and housing in the immediate vicinity of the Campus at Innovation Village and the Lanterman site will reduce longer distance trips and VMT for students, faculty, and staff. The Campus population will not have to travel as far for certain amenities and housing.

Limitations

Implementation of the Master Plan Transportation Network and development of Innovation Village and Lanterman is primarily constrained by funding sources and extended project timelines.

Costs and Co-Benefits

The costs for the long-term campus planning efforts are built into typical operating costs. The revenue generated by Innovation Village and Lanterman can offset some of the operation and maintenance costs in addition to the studies required for site development. Factors that contribute to the cost of facilitating education and outreach programs and include the following:

- Design and construction costs
- General maintenance costs
- Costs for specific plans

Estimated Costs:

Long-Term: $$$$

Alternative Parking Pricing and Management Strategies

The current semester-based parking permit system at Cal Poly Pomona is simple to manage but not the most efficient approach for managing parking demand or supporting TDM goals. By charging a flat fee for unlimited parking access over a fixed term, the system provides no incentive for users to reduce their driving frequency or consider alternative transportation. This structure encourages overuse, as permit holders may feel compelled to drive more frequently to maximize the value of their permit. Additionally, it limits the university's ability to manage demand or respond to changes in parking utilization throughout the day or semester.

With a high commuter population, parking management and pricing strategies are a key component of the Cal Poly Pomona TDM plan. Planned enrollment increases and limited land availability mean that managing parking demand efficiently will be crucial in supporting campus access while minimizing the need for new parking infrastructure. Parking management and pricing strategies can be implemented in conjunction to support each other. With anticipated mode shifts from parking strategies, the university will be able to better accommodate the additional planned enrollment.

Listed below are alternative pricing and management strategies that could be applicable at Cal Poly Pomona:

Pricing Strategies

1. Facility-based pricing
2. Premium/economy pricing
3. Wage-based pricing

Management Strategies

4. Daily choice parking system
5. Lottery parking system
6. Hire/enrollment date parking system
7. Designated parking space system

1. Facility-based Pricing

Description

Implement pricing per parking facility based on parking demand. High-demand parking facilities (i.e facilities closer to classrooms) could have higher prices relative to further parking facilities.

Advantages

Increased pricing encourages users to consider alternatives such as parking in peripheral lots, using transit, or walking, which helps reduce peak demand in high-traffic areas.

Considerations

When used in conjunction monthly/semester permits, oversell rates must be set carefully to avoid overloading high-demand lots.

Examples: Stanford Hospitals, UCI

2. Premium/Economy Pricing

Description

Implement a tiered pricing system with multiple permit types. Premium or "hunter" permits would allow parking at any parking facilities while economy permits are limited to parking at designated facilities.

Advantages

Parking and permit availability can encourage more deliberate decision-making regarding parking on busy days or periods.

Considerations

Even with premium permits, there is no guarantee of a parking space. There are also no deterrents to keep vehicles from reparking multiple times a day between classes.

Examples: Stanford University

3. Wage-based Pricing

Description

Implement a parking rate for employees based on their income range.

Advantages

Can promote equity by spreading pricing sensitivity across all employee levels rather than just affecting the most price-sensitive.

Considerations

Wage-based pricing can be politically challenging to implement due to union concerns. This pricing strategy also requires a new management system to verify income and assign rates accordingly.

Examples: UCLA, Oregon Health & Science University

4. Daily Choice Parking System

Description

Eliminate the semester parking pass and implement a parking system in which parking is paid for daily as needed.

Advantages

The daily choice of paying for parking adds incentives for users to consider alternatives such as using transit or walking, which helps reduce peak demand in high-traffic areas. This strategy is expected to have the greatest effect on the reduction of parking demand.

Considerations

Daily permits are more costly for those that have to be on campus more often. This would require a change in the paring payment system to provide an efficient way for users to pay daily and would require additional monitoring by the campus. Many students will not be able to completely switch from driving alone to campus full time, and some students will need to park on campus a few times a semester and should not be punished for that. This program should consider a type of semester pass that allows for cheaper daily payments while still encouraging them

Examples: Stanford University

5. Lottery Parking System

Description

Restrict parking using a lottery system on a weekly, monthly, or semester basis.

Advantages

The lottery system allows the campus to easily restrict parking as needed to reduce single-occupancy vehicle drivers.

Considerations

A lottery system can be politically challenging to implement due to union concerns. This system also requires a new management system to receive/manage applications and assign permits fairly.

Examples: Stanford Hospitals

6. Hire/Enrollment-Based Parking System

Description

Restrict or allow parking based on seniority (employee hire date or student enrollment date).

Advantages

Seniority-based parking allows the campus to directly manage parking based on eligibility. This system also encourages freshman and sophomore year students to consider alternative modes of transportation early.

Considerations

A seniority-based system can be politically challenging to implement due to union concerns. This system also requires tracking and management tied to human resource or student record systems.

Examples: Stanford Hospitals, University of North Carolina Chapel Hill

7. Designated Parking Space System

Description

Parking is restricted to a specific reserved space.

Advantages

Users are guaranteed a parking space once purchased. Designated parking spaces also deter students from reparking between classes.

Considerations

There is the potential of reduced revenue using this system from lack of oversell. This system also requires a new management and enforcement system for available and reserved spaces.

Examples: Oregon Health & Science University

Parking Revenue Tools

Fehr & Peers developed a tool to evaluate parking pricing policies that is responsive to proposed TDM measures and changes in parking supply. The tool uses parking pricing elasticities to estimate changes in parking demand and associated revenues. This tool was utilized to estimate the effects of the TDM Plan, changes in revenue from parking, and evaluate future parking needs with increased enrollment. Fehr & Peers also developed a separate parking revenue tool which measures the change in daily parking volume, peak parking occupancy, and monthly parking revenue resulting from a change in parking pricing. The tool applies elasticities from a research study entitled "The Price Elasticity of Parking: A Meta-Analysis (Lehner and Peer, Transportation Research Part A Vol. 121, 2019). By applying an elasticity representative of the Cal Poly Pomona student commuter population and updating parking related inputs (such as parking supply, parking demand, and daily parking pricing), the change in total daily parking demand will be reflected depending on the increase or decrease in parking pricing. This tool can be utilized to estimate changes in revenue, parking demand and evaluate future parking needs with the implementation of new management and pricing systems.

Funding

TDM programs at Cal Poly Pomona are currently funded through revenues received from parking (both enforcement and the sale of permits) and student tuition and fees. This is the funding mechanism that is common to most public universities, including those in the California State University system.

The strategies identified as part of this plan are intended to minimize the growth in single occupancy automobile trips to campus as enrollment increases, therefore revenues from parking permits and fines may not grow proportionate to campus growth. This may result in a need to increase user fees or to explore other supplemental funding opportunities. A student fee or subsidized fee program could be an option to provide funding for the strategies outlined in this document. This would be a political process that would require engagement with, and support from, the student governing body.

Grant programs, such as those administered by federal governments like U.S. Department of Transportation, and other state and local agencies like Caltrans, Southern California Association of Governments (SCAG), and the City of Pomona, can provide funding towards bikeways, bicycle parking, rideshare programs, and shuttle bus services. Cal Poly Pomona can pursue grant funding through Metro, Caltrans, SCAG or resources to fund transit initiatives. Most of these grants require partnership with a public agency and would require coordination with the City of Pomona.

The intent of this plan is to offset each new trip associated with the increase in FTE with a mode shift to active transportation. The cost to build new structured parking facilities on campus will likely far exceed the cost of providing robust and ongoing TDM programs, and the investment in these TDM programs will reduce the number of vehicle trips to campus.

Monitoring and Reporting Program

The campus is required to periodically monitor student and staff travel characteristics to measure the effectiveness of the TDM strategies. The monitoring and reporting will verify that the campus is meeting The Campus Master Plan goal of reducing parking demand through demand management and alternative mode infrastructure investments and assess the performance of those investments. The periodic monitoring will also verify the campus is in compliance with the EIR transportation mitigation measures.

The following data should be collected every 1-2 years as part of the TDM monitoring program to assess the effectiveness and performance of the measures, consistent with the requirements stated in the California State University *Transportation Demand Management Manual* (August 2012):

- Annual Campus Travel Survey
    - The campus travel survey solicits information on all of the following travel characteristics:
        - Mode choice
        - Vehicle and person trip generation
        - Travel time periods (daily, hourly)

  - Parking preferences
  - Origin-destination information
  - TDM participation

- Daily, AM and PM peak period vehicle volume to assess changes in trends in campus trip generation and congestion
  - Trip generation should be evaluated at both the absolute value (vehicle volume) and derived rate per FTE student and/or FTE staff
  - 24-hour vehicle counts at the following key campus corridors to assess trends in campus trip generation
    1. Kellogg Drive south of East Campus Drive
    2. South Campus north of Kellogg Drive
    3. Kellogg Drive east of South Campus Drive
    4. Temple Avenue west of University Drive
    5. Temple Avenue east of South Campus Drive
    6. Kellogg Drive west of South Campus Drive
  - Peak period vehicle turning movement counts at the following intersections to assess typical commute congestion at Cal Poly Pomona access intersections
    1. Kellogg Drive and East Campus Drive
    2. South Campus Drive and Kellogg Drive
    3. University Drive and Temple Avenue
    4. South Campus Drive and Temple Avenue

- Current transit service availability characteristics and ridership levels
  - Routes available, headways, fares, and ridership data should be collected for Foothill Transit, and Silver Streak transit routes serving the campus and for the Bronco Express shuttle

- Campus AM and PM peak period mode split
  - Mode split data will be collected using the student commute survey that is distributed every year. To supplement the carpool/vanpool mode split data, 12-hour vehicle occupancy counts could be taken near the parking entrances listed below. Data should include counts of single-occupant vehicles (SOV), high-occupancy vehicles with two persons (HOV2), and high-occupancy vehicles with three, four, five, and more than five occupants:
    1. Parking Structure 1 (Palm Drive north of Kellogg Drive)
    2. Parking Structure 2 (S University Drive north of Temple Avenue)
    3. Parking entrance to student and faculty parking (University Drive north of Kellogg Drive)
    4. Parking Lot C (southern driveway west of Red Gum Lane)

- Parking demand characteristics

- Counts of overall parking occupancy by lot/structure should be collected to ascertain overall parking demand and utilization
- Parking fees for on-campus parking, and any change over time from the previous reporting period, should be documented

- Data for future use in the determination of transit demand elasticities for students and employees
  - In addition to the above, fares and frequencies of transit services (including Foothill Transit, the Campus shuttle, and regional rail services such as Metrolink and Amtrak), average commute time by vehicle from counties with the highest student population, and on-campus parking costs should be documented

For consistency, data collection and reporting should reflect a consistent context. As enrollment and travel to campus is reported to be highest during the fall semester, data collection should be conducted during the fall after class add/drop deadlines are final.