

UCDAVIS

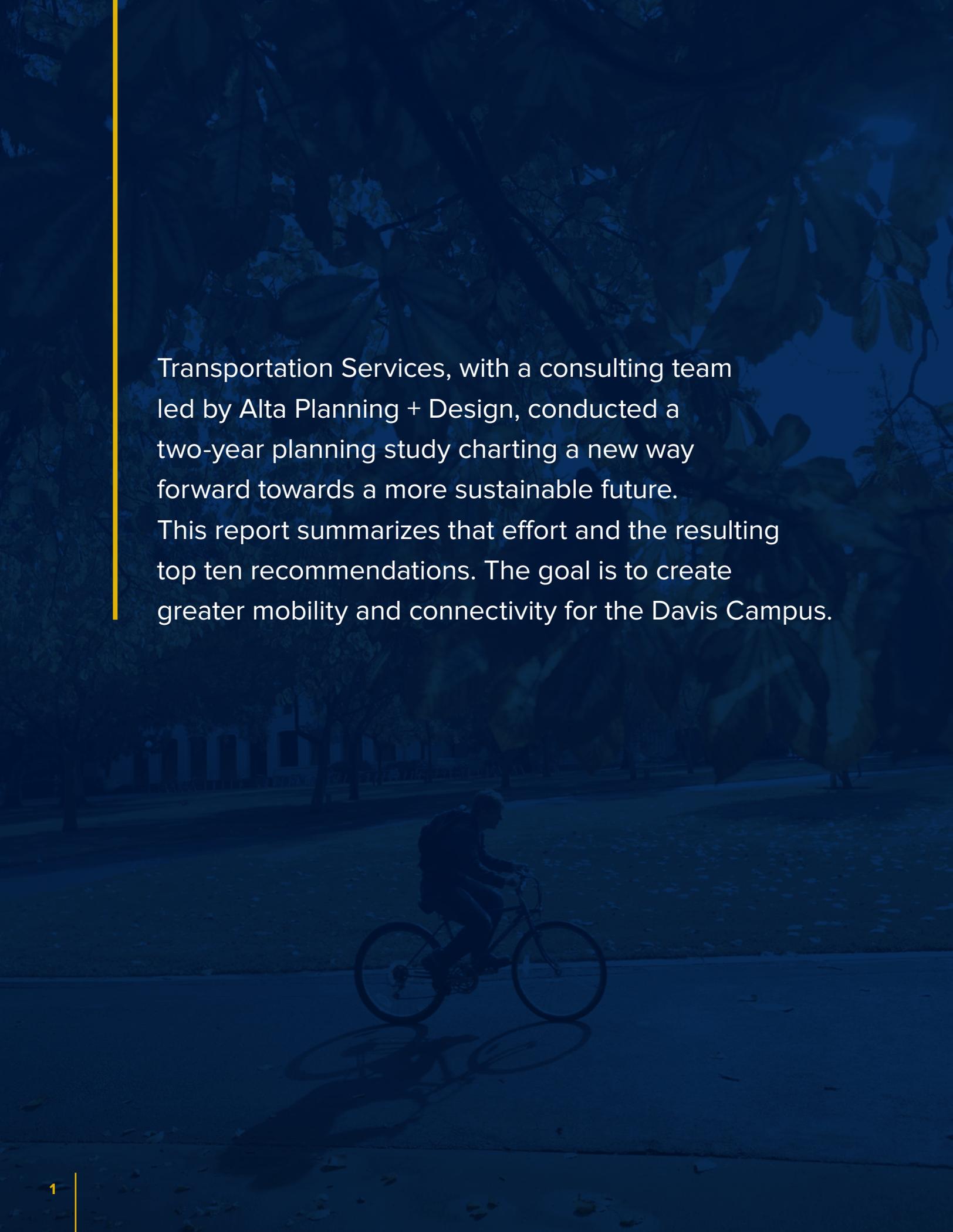
Campus Planning and
Environmental Stewardship

TRANSPORTATION TOMORROW

A Vision of Greater Mobility and Connectivity for the Davis Campus



JUNE | 2019

A person is riding a bicycle on a paved path in a park-like setting. The background shows trees and a building. The scene is dimly lit, suggesting dusk or dawn. The overall color palette is dark blue and black.

Transportation Services, with a consulting team led by Alta Planning + Design, conducted a two-year planning study charting a new way forward towards a more sustainable future. This report summarizes that effort and the resulting top ten recommendations. The goal is to create greater mobility and connectivity for the Davis Campus.

INTRODUCTION

Bicycles and Unitrans are integral parts of the UC Davis experience

Pedaling bicycles around campus under the shade of heritage cork oaks has been a part of the UC Davis experience for more than fifty years. So has riding the bus to campus. This progressive transportation culture is a core part of the UC Davis experience, part of the story the UC Davis community tells itself and others. The transportation accomplishments of the past are, justifiably, a central part of the UC Davis identity.

Societal changes in housing patterns and transportation behavior have begun to challenge this legacy, and more challenges await on the horizon. Complacency would be a mistake in the face of these challenges. It is time for us to refresh that legacy, reinvest in our future, and write the next chapter in the history of UC Davis transportation innovation. It is time for us to bolster our support for the health of our community and our environment.

Transportation Tomorrow seeks to address those challenges.

The backdrop for this project is a commitment to bold action in the face of climate change. UC Davis has a history of taking principled positions on sustainability issues. Today, global urgency around the need for climate action is higher than ever. The UC Sustainable Practices Policy declares that all campuses should decrease greenhouse gas emissions by reducing drive-alone commute trips by ten percent by 2025. **UC Davis takes this responsibility seriously and commits to meeting or exceeding the UC Office of the President directive by 2025.**

In 2015 only one-quarter of the UC Davis community drove to the main campus. That fraction equates to about 10,000 people driving about 300,000 miles per day—farther than a trip to the moon. Based upon this transportation pattern, we need 1,000 fewer people, or ten percent of those currently driving to campus each day, to meet our goals.

“It is time for us to bolster our support for the health of our community and our environment.”

“Our goal is to provide mobility services, not just parking.”

If we own the challenge together, we could ask each driver to try an alternative twice a month. When we all pitch in, the challenge becomes manageable.

The path to success must respond to this baseline pattern as well as two additional challenges. Potential growth in the campus population, as well as the significant number of employees expected to retire in the next ten years, present significant challenges to the university in accomplishing our sustainable transportation goals. If UC Davis were to take no steps to decrease driving, but instead build enough parking to meet future demand, the overall costs would exceed \$300 million. That cost would double or triple the cost of a parking permit.

Our goal is to avoid these costs and create a more sustainable future. *Transportation Tomorrow* is the framework to accomplish our goals and create that future.

Transportation Tomorrow will build upon the legacy of sustainable transportation to create a future in which the university provides convenient, flexible, and equitable transportation services for the campus community for a fraction of the cost of

building new parking structures. Our goal is to provide mobility services, not just parking.

The ten recommendations within *Transportation Tomorrow* were developed through two years of community engagement and technical analysis. They are grounded in the four factors that most influence transportation choices: cost, culture, convenience, and the built environment, referred to as 3CBE.

The engagement findings are described in full detail in the Transportation Tomorrow Engagement Summary. The recommendations are described in greater detail in the accompanying Transportation Demand Management Technical Manual, which contains detailed implementation guidance for the institution.

Reducing drive-alone commute trips by over ten percent is a big undertaking. However, the UC Davis community has successfully accomplished audacious goals in the past. This community has the ingredients for success: world-class academic leadership, a campus community that embraces active transportation and transit, and past successes that can be built upon. It's time to get to work.



THE LEGACY

UC Davis is a uniquely multimodal campus. Just one in four (25.3%) UC Davis affiliates drove to campus on a regular basis in 2015. Forward-thinking policies and a culture of sustainability have enabled bicycling and transit to flourish and become symbols of the university. This legacy is marked by sustained efforts throughout much of the history of the institution and a community that supports bicycling and transit.

In general, only
1 out of 4
UC Davis affiliates
drive to campus.



Two watershed moments in the 1960s transformed commute culture and the campus at large. Firstly, Chancellor Emil Mrak closed the core campus to private automobiles and encouraged students to ride a bicycle if they wanted to get to class on time. At the same time, the City of Davis developed the most complete bicycle route network in the nation. As a result, half of all student trips to campus,

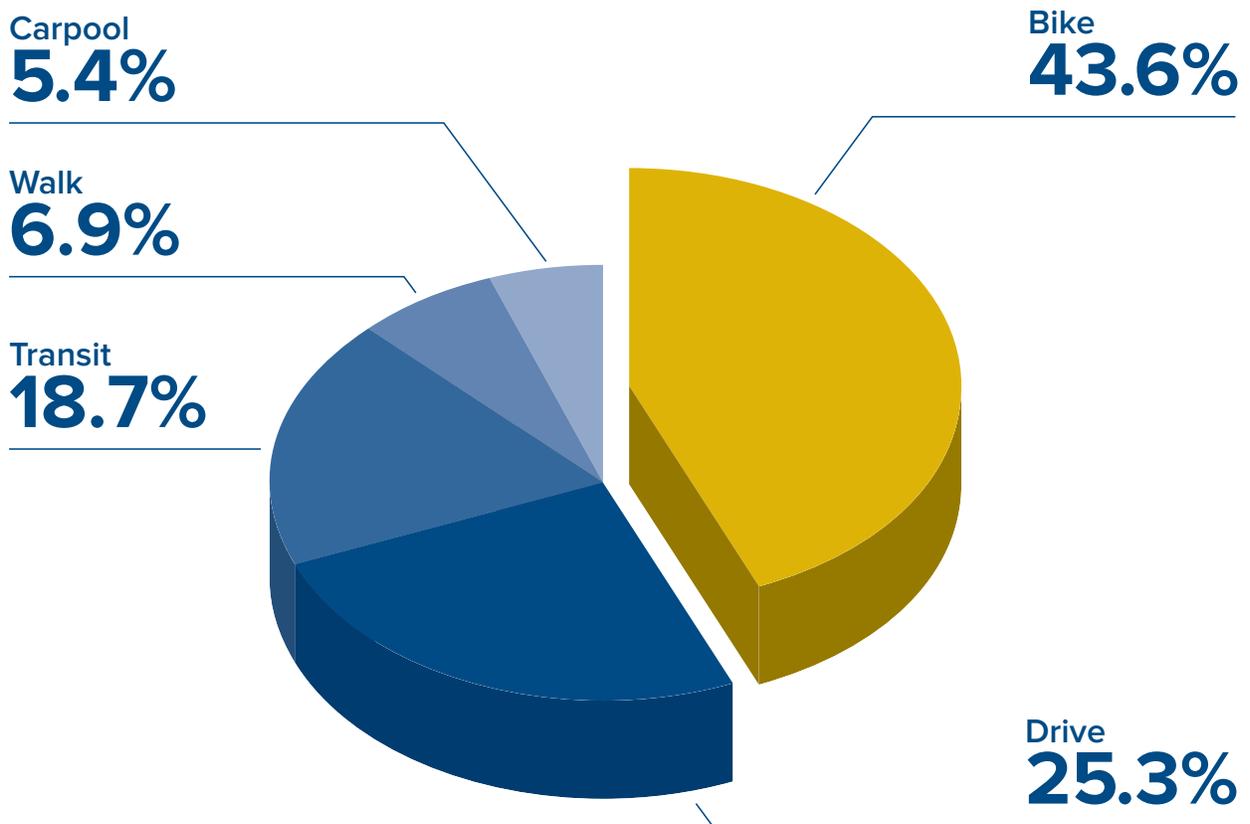
and over forty percent of all affiliate trips, are made by bicycle.

Secondly, student leaders boldly began a student-run transit pilot in 1966 that has become Unitrans, famous for its student drivers, double-decker buses, and high student ridership. Today, transit (which for undergraduates is largely synonymous with Unitrans) carries a quarter of all undergraduates to campus. By some measures, Unitrans is one of the most productive transit systems in California.

The UC Davis community has benefited from these investments in bicycle infrastructure and local transit. If driving was the norm, the campus would look dramatically different and contain many more parking spaces. The cost of parking would be substantially higher, dominating the campus landscape, and making the streets that serve campus more congested and less safe for everyone. The legacy of sustainable transportation at UC Davis is not only a source of pride, but also offers significant costs savings to the institution and campus affiliates.

The visionary commitment to bicycling and transit that began in the 1960s has improved the quality of life, health, affordability, and identity of UC Davis. However, this tradition is challenged by what lies ahead.

HOW UC DAVIS AFFILIATES TRAVEL TO CAMPUS



THE CHALLENGE

There are several challenging factors shaping the future of transportation on campus. The potential growth of the campus population and the significant number of retirements anticipated over the next ten years pose two different challenges for the community.

The first factor pertains to growth, specifically the potential growth in the campus population as characterized in the 2018 UC Davis Long Range Development Plan (LRDP). Quite simply, more people means more trips; more people busing, biking, walking and, yes, driving. That said, the 2018 LRDP outlined the most ambitious student housing campaign in the history of UC Davis: campus housing as projected within the LRDP significantly exceeds potential enrollment growth and almost doubles the number of existing students living on campus from 9,000 in 2016 to 18,000 by 2030.

For more information about the 2018 LRDP please visit campusplanning.ucdavis.edu

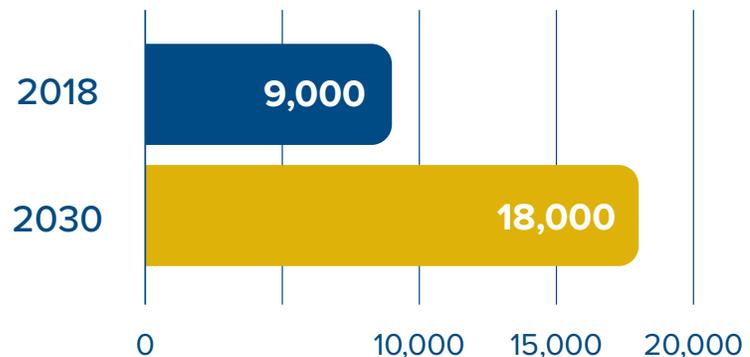
Local housing is one of the most powerful and effective strategies to create a more sustainable future. With more students living on campus, we're certain that more students will be busing, biking and walking. In this regard, what lies ahead is quite exciting. The UC Davis campus will have a much larger residential population, akin to a small town.

The second factor, which is completely independent of campus population growth, is driven by the significant number of staff and faculty projected to retire by 2025. About 1,700 current employees who live locally may retire by 2025. If new campus affiliates choose to live more regionally instead of locally, more people may drive to campus. In 2015 about seventy percent of faculty and thirty percent of staff lived in Davis. New hires will likely not live in Davis at the same rates as previous generations.

These two factors characterize what lies ahead and the challenges we collectively

By 2030

UC Davis plans to almost double the number of students living on campus.



face. Without any direct action, more people will likely drive to campus and expect to find a parking space. If UC Davis built enough parking to meet this expectation, the university would need to add about 2,500 new parking stalls (or two parking structures) by 2025. To make matters even more challenging, the parking structures would be built atop existing parking lots and displace another 1,000 existing stalls. The total construction cost to build 3,500 stalls is \$175 million; however, the total cost over a thirty-year period is closer to \$325 million, when we account for interest, maintenance and operations. Those costs could double or triple the cost of a parking permit.

If autonomous vehicles and ride hailing companies like Lyft and Uber gain larger segments of the transportation marketplace, the demand for parking could be lower in fifteen years. While these and other innovative transportation technologies may significantly alter the need for parking, they also represent new challenges for the campus.

Given the high degree of uncertainty around the need for parking in the future and consumers' potential unwillingness to pay for parking, incurring thirty years of

debt for something that might be obsolete in half that time is not a low-risk decision. Through *Transportation Tomorrow*, UC Davis has identified alternatives to encumbering valuable lands and burdening campus affiliates with hundreds of millions of dollars in debt.

Currently,
3 out of 4
affiliates who live outside
of Davis drive to campus.



Let's challenge ourselves to create a better future that doubles down on the legacy of UC Davis to reach our sustainability goals. Before jumping straight into the problem solving mode, we deeply engaged the campus community to better understand the barriers to driving alternatives.

ENGAGING OUR COMMUNITY

Input from the greater UC Davis community deeply influenced the recommendations in this report. Staff from Campus Planning and Environmental Stewardship and the consultant team spoke with more than 2,500 affiliates through workshops, focus groups, classroom engagement, online surveys, and intercept surveys conducted at Thank Goodness for Staff and Housing Day, and created a website to help educate and increase awareness. Full details on the community engagement are available in the *Transportation Tomorrow* Engagement Summary.

The overall goals of engagement were to:

EDUCATE AND INFORM

Ensure that the UC Davis community is aware of both the planning effort and the reason for the work.

BUILD A NETWORK OF INFORMED SUPPORTERS, CHAMPIONS, AND PARTNERS

This network will help inform, communicate, and advocate for the work, both within the UC Davis community and in the region

INFORM STRATEGIES AND GOALS

Build our transportation system to meet the needs of the users by understanding the community's needs and desires.

Transportation Tomorrow Timeline

January 2017

Project Team Sprint

March 2017

Project Team Sprint and World Café
(60+ participants)

May 2017

Direct Outreach
(TGFS. 300+ participants)

April 2017

Student-Led Driver Intercept Surveys
(500+ respondents)

November 2017

Project Team Sprint

January 2018

Project Team Sprint and Transit Workshop
(40+ participants)

February 2018

Housing Day
(90+ participants)

February - March 2018

Focus Groups
(60+ participants)

April 2018

Project Team Sprint and Project Website

May 2018

Online Survey
(1200+ respondents)

May 2018

Direct Outreach
(TGFS)

June 2018

Project Team Sprint

ENGAGEMENT ANECDOTES

MANY PEOPLE ARE WILLING TO TRY NEW THINGS AND MANY ARE ALREADY MULTIMODAL

Twenty-six percent of those surveyed are multimodal, using at least two different modes of transportation. It is easier to leave the car at home when affiliates have already tried something else.

“ I’m flexible and willing to try different commuting options but UC Davis makes it hard to be flexible. It’s often all or nothing in terms of biking, driving, or taking the bus. There are few in-between options for people that are willing to use the different options. ”

AFFILIATES NEED FLEXIBLE PRICING STRUCTURES TO BE ABLE TO MAKE DIFFERENT CHOICES ON DIFFERENT DAYS

The majority of affiliates who drive to campus choose to buy longer-term permits because the pricing is so much more advantageous compared to the daily rate. This creates an all-or-nothing situation, in which affiliates are incentivized to park all the time or not at all.

MANY AFFILIATES ARE WILLING TO TRY OTHER OPTIONS, BUT WANT IMPROVEMENTS AND SUPPORT

Affiliates are either not aware of the support that they could use, or do not feel that it meets their needs. Coaching, information, flexibility, and supportive engagement would make it easier for them to try out other ways of reaching campus.

TELEWORK CAN WORK

Telework was overwhelmingly the most popular option for reducing drive-alone commute trips, especially among staff.

“ I live on the outskirts of Sacramento, so public transit isn’t effective. A carpool database would be helpful. ”

CARPOOL/VANPOOL

Carpool/vanpool was the most viable transportation mode for the most affiliates not living in Davis.

COST AND CONVENIENCE ARE A BARRIER TO TRANSIT USE.

Expanding transit programs and subsidies to other affiliate groups can increase transit use.

“Graduate students do not have a free bus pass, so transit is not practical.”

EDUCATION IS NEEDED

In some cases, affiliates believe that no viable options exist, even though affordable and convenient transit options are available near their location. Increasing awareness of options and helping affiliates try alternative modes, like Unitrans and biking, might help some affiliates use the options that they have.

NO MATTER HOW THEY TRAVEL, EVERYONE FEELS STRESSED

Affiliates noted that they do not feel safe or enjoy biking, walking, or driving because of overcrowded freeways, roads, and paths, and parking lots. Some do not ride the bus because it is too crowded. Campus infrastructure improvements will be an important part of the solution.

“I could reduce drive-alone trips if it was safer to bike.”

MID-DAY TRAVEL NEEDS ARE A CHALLENGE

Many affiliates have multiple destinations per day and other obligations and believe that a car is the only option to meet these needs.

“As a Department Chair I need to be here for meetings and such and need to move around campus and our outlying facilities and also west Davis.”

PEOPLE IN DIFFERENT GEOGRAPHIES HAVE DIFFERENT NEEDS

Participants in focus groups in Woodland advocated for an express shuttle. Sacramento affiliates would like cheaper train options. A deeper dive into the data, further engagement, and ongoing program development could help meet some of those needs.



Campus Planning, in partnership with Transportation Services and the consultant team, developed *Transportation Tomorrow* as a Transportation Demand Management framework that responds to the feedback from the community and guides the university towards a more sustainable future.



TRANSPORTATION TOMORROW

Transportation Tomorrow is an aspiration of greater mobility and connectivity for the campus community in Davis. It strives to provide people with more mobility choices by connecting people with reliable and sustainable transportation services. *Transportation Tomorrow* builds upon the legacy of Unitrans and the long history of cycling in Davis to reach new audiences and reduce the numbers of campus affiliates driving to campus. It aims to improve the campus transportation network to provide safe passage for motorists, cyclists, and pedestrians. *Transportation Tomorrow* strives to build meaningful and enduring partnerships with local governments and transit agencies to offer more sustainable mobility choices.

Transportation Tomorrow will enhance regional connectivity through the intercampus shuttle, connecting the main campus, the UC Davis Health campus, Aggie Square and neighboring communities.

The core vision for *Transportation Tomorrow* is centered on service. In 2025 UC Davis affiliates will be responding to the following mobility ecosystem:

AN ABUNDANCE OF CAMPUS HOUSING

Students, as well as a meaningful number of staff and faculty, will have the option of living on campus. Every bed on campus is well served for car-free living, in that everyday amenities and services are located within a short distance. Campus housing directly connects campus residents with preferred mobility choices in support of our goals.



A WORLD-CLASS CAMPUS TRANSPORTATION NETWORK

Pedestrian walkways and bicycle pathways will have adequate capacity for all, fostering pleasant and low-stress travel experiences throughout campus. Travel lanes for motorists, cyclists, and pedestrians will be more clearly delineated, greatly reducing potential conflicts between these modes. The transportation network will provide direct and convenient access and connectivity.

A ROBUST AND ATTRACTIVE SELECTION OF TRANSPORTATION SERVICES

In 2025, sharing a ride with classmates or colleagues on public transit or in a carpool or vanpool will be convenient and flexible. Telework and other flexible work schedules will be realistic options used often by a large segment of the campus community.

AN ESTABLISHED PRACTICE OF ON-GOING COMMUNITY ENGAGEMENT

A team of transportation ambassadors will help campus affiliates understand transportation options, gather feedback to continually improve transportation services, and offer encouragement and support for making daily transportation choices.

A CONVENIENT AND DYNAMIC PARKING EXPERIENCE

Management of parking will leverage information technology to offer flexible parking options that support sustainability



goals, improve business intelligence, gain efficiencies with regards to sales of parking permits and enforcement of parking policy.

By 2025, Transportation Services will manage a 'transportation marketplace' to streamline access to convenient, flexible, and equitable transportation services, of which driving and parking are only a part. This transportation platform will help affiliates drive less than they do today.

TDM FRAMEWORK

Transportation Tomorrow as an aspiration to greater mobility and connectivity is only obtainable through direct action. It requires a commitment to service based upon a deep understanding of the campus community and affiliates' transportation needs. The actions to make good on that commitment and accomplish greater mobility and connectivity for the campus community are based upon a framework we call 3CBE – Cost, Convenience, Culture and the Built Environment. This framework contains ten recommendations that will help the university accomplish our sustainable transportation goals.



Cost & Convenience: Level the Playing Field

UC Davis will level the playing field in an effort to make the healthier travel choice the cheaper and more convenient choice. Currently, a private vehicle is the most affordable and convenient transportation choice for many campus affiliates, especially those who live outside of Davis. The following measures aim to level the playing field by making other choices more affordable and convenient.

1

CREATE AN INTEGRATED TRANSPORTATION PLATFORM

A single unified online experience will offer users access to all mobility options, parking payment, and assistance, while offering UC Davis a powerful back end tool to unify all administrative systems into a single system. This tool could leverage the ten thousand people who drive to campus each day and build the greatest ride-sharing network in the world; campus affiliates could then pick up a classmate or colleague and park at a reduced rate.



2 ALIGN PARKING MANAGEMENT
Shifting from a “bulk discount” to an “a la carte” parking permit price will encourage affiliates to make daily decisions about whether driving makes sense. Parking prices will reflect the total cost of providing mobility to the UC Davis community, while avoiding the need to build more structured parking.

3 INCENTIVIZE PREFERRED MODES OF TRANSPORTATION
Enhance real and digital incentives to foster more use of shared and active modes. Develop an incentive structure that will constantly evolve through a system of feedback and goal-setting.

4 EXPAND CARPOOL / VANPOOL PROGRAMS
There are many parts of the region that are too far for active transportation, and not well served by transit. For affiliates who live in these areas, a carpool and vanpool program that makes it easy to find a match, and makes it easy for participants to split parking costs, will support their mode shift.

5 ENHANCE LOCAL AND REGIONAL TRANSIT PROGRAMS
Today, Unitrans is the lifeline of undergraduate travel. Investments and programs that make Unitrans a better option for graduate students, faculty, and staff will extend its value. Foster partnerships with other transit providers.

6 STRENGTHEN ACTIVE TRANSPORTATION PROGRAMS
Walking, bicycling, and other human-powered modes will always be essential mobility-solutions for the campus community. Programs that help people choose and stick with these modes will keep campus moving, discourage driving trips, and complement transit.

7 LEVERAGE NEW AND EMERGING MOBILITY SERVICES IN SUPPORT OF UNIVERSITY GOALS
UC Davis must monitor emerging mobility options, and proactively partner with those that support mode shift goals, while limiting the potentially negative externalities of some technologies. Leverage ride-hail service providers to offer emergency rides home.



Culture: Engage Community

UC Davis will seek to actively nurture a culture that supports and celebrates healthy travel options. Campus leaders will play a key role when exploring possible shifts in cultural norms. When considering changes to their transportation behavior, stakeholders from the campus community emphasized the importance of campus leadership, and the need for a unified voice with a consistent message. The following measures aim to nurture a culture that supports more sustainable travel options.

- 8 DEVELOP A ROBUST COMMUNITY ENGAGEMENT CAMPAIGN**

Transportation Services staff will engage with all affiliate types on an ongoing basis, at key moments in the academic year. UC Davis will use geography, demography, and modality to target messages effectively, and will use multiple digital and analog channels to reach the right people, at the right time, with the right message.

- 9 LEVERAGE POLICY TOWARDS CULTURE CHANGE**

There are numerous policies that can support the sustainability goals of UC Davis. One of the most important policy shifts pertains to telework and other flexible work schedules; there is tremendous demand and interest among staff for these options. Other priority policy areas to be explored include shifting class schedules, altering recruitment narratives and employee onboarding practices, and considering online learning platforms on rainy days. Developing policies that encourage the use of mobility options for mid-day and on-campus trips will help affiliates leave the car at home.



Built Environment: A World-Class Campus

UC Davis will reinvest in the central campus to greatly improve the safety and connectivity of the transportation network. Regardless of transportation choice, every campus affiliate begins and ends their daily commute as a pedestrian. Currently, there are many parts of the campus circulatory network that are inadequate and outdated; navigating the campus has become quite challenging for all modes. As the amount of campus housing significantly increases over the next ten years, we will need to separate modes of travel, improve safety for motorists, cyclists, and pedestrians, and enhance the circulatory connectivity across campus.

10

IMPROVE THE CAMPUS TRANSPORTATION NETWORK

With more people living on campus, today's bicycle and pedestrian network will not offer adequate capacity or user separation for comfort and safety in the future. Significant improvements to pedestrian promenades and bicycle pathways will be necessary for safe and comfortable passage of people across campus. Upgrading the campus network, separating modes, minimizing conflict points, enhancing wayfinding, and providing end-of-trip facilities will all combine to offer a world-class campus experience.



UCDAVIS

Campus Planning and
Environmental Stewardship

THE FUTURE IS MOBILE

UC Davis has mapped out this *Transportation Tomorrow* framework to take bold steps toward improving mobility and greater regional connectivity. Success will require strong leadership at all levels of the organization, and a consistent focus on implementation of recommendations. Transportation Services will move forward to overcome challenges and realize our next legacy in sustainable transportation, but it will require partnerships with internal and external stakeholders.

By doing what it takes to reduce the number of people driving to campus by ten percent by 2025, UC Davis is rising to the challenge set by the UC Office of the President while investing in its future as the learning, research, and innovation engine for the entire region. Mobility and regional connectivity are important to UC Davis' bright future, and *Transportation Tomorrow* will guide the university to that future.

For more information please visit: campusplanning.ucdavis.edu

