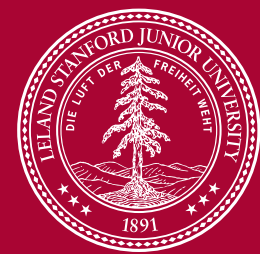




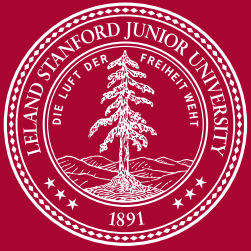
# Pedaling Forward: Bikes at Stanford

**OCTOBER 2022**





Palo Alto Station



## ACKNOWLEDGEMENTS

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# I Introduction





## INTRODUCTION

# Pedaling Forward

Since the early 2000s, Stanford University has pursued the tandem goals of a comprehensive sustainability initiative and a robust Transportation Demand Management (TDM) program.

Transportation by bicycle is arguably one of the most sustainable modes of transportation on the local level. It is an area in which Stanford has led the way for decades and is a key contributor to Stanford's success in decreasing greenhouse gas emissions and meeting TDM targets.

When the university published the "Stanford Bicycle Commuter Access Study" in 2017, the goal of that work was to assess the state of the bicycle commute and promote new infrastructure projects and partnership with other large employers and municipalities. Since then, many bicycle-oriented infrastructure projects have been built, and more are in the planning and development stage.

While efforts to improve conditions and access for bicycle riders have continued, the pandemic and the movement for

racial equity and inclusion in the United States have caused a shift in how we promote transportation choices and whether all choices are available to everyone. The pandemic taught us that our bike mode share is stable, due to Stanford's commitment to education and engineering, while highlighting the need to improve access for Stanford's diverse population.

The intent of this report is to cover the university's on-going sustainability work related to bicycle transportation, partnerships, and to feature new

bike-related infrastructure projects. It highlights Stanford's need to direct attention and resources to diversity, inclusion, and equity to guarantee a resilient bicycle culture. It concludes with profiles of the Stanford Main Campus, Stanford Research Park (SRP), Stanford Medicine, and Stanford Redwood City (SRWC).

# ① Sustainability





*Encina Wheelmen in front of historic Encina Hall, circa early 1890's.*

## CHAPTER 1

# Sustainability

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**Sustainable Stanford** is a university-wide effort to reduce environmental impact, preserve resources, and lead by example across its three pillars: environment, economy, and equity. Dedication to a culture of innovation and outreach has been central to Stanford's mission since its founding in 1891 when Jane and Leland Stanford urged university leaders to "promote the public welfare by exercising an influence on behalf of humanity and civilization." That sense of purpose drives the university's commitment to incorporate

sustainability practices and ethos into every aspect of campus life.

Bicycling and sustainability are natural partners.<sup>1</sup> The entire lifecycle of a bicycle is carbon-neutral.<sup>2</sup> Shifting people from vehicles to bikes reduces congestion, requires less impervious surfaces, reduces greenhouse gas emissions and improves regional air quality.

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<sup>1</sup> <https://sustainable.stanford.edu/>

<sup>2</sup> <https://www.bikeradar.com/features/long-reads/cycling-environmental-impact>

# Moving Toward Net-Zero Emissions

In June 2020, the Board of Trustees passed a resolution calling for the university to eliminate its Scope 1, 2, and 3 greenhouse gas emissions by 2050.

Scope 1 and 2 emissions include those from the university's direct energy, fuel, and refrigerant use and those from some minor sources. Over the past decade, Stanford has reduced these emissions by 80 percent, and it is on track to eliminate them by 100 percent.

In contrast, Scope 3 emissions represent indirect emissions from activities influenced but not directly controlled by university operations, including business travel, student travel, and employee commuting. With the university aiming to reduce emissions from commuters, students, and residents, bike transportation is a logical path to help the university meet its goals.

Stanford Transportation has been tracking staff, faculty, and student commuting patterns since 2003, meaning commute data for Scope 3 emissions is available and can be tracked over time. Stanford Transportation invites all Stanford affiliates to participate in an annual commute survey that regularly achieves a 35-40 percent response rate. While the survey has continuously tracked

transportation choices for commuters, new questions have been added over the years to learn more about the travel habits of Stanford residents, which is important to track all Scope 3 transportation emissions.

Commute survey data is combined with parking permit data to help the university quantify transportation-related emissions. There has been a general downward trend in commute-related emissions over time, driven by Stanford's array of transportation demand management programs, including biking, and more recently by increased remote work.

Efforts to decrease emissions on campus via bicycle transportation include the following:

- There are over 24 shared department bike programs operating throughout the university, with over 160 bikes in use. The "How to Start a Bike Share Guide" was created as a resource for departments to jumpstart a department program
- Our Residential Dining & Enterprises department (RD&E) promotes the benefits of getting around the campus carbon-free in their annual Carbon Free Living Guide. Over 85% of undergraduates own bikes—it's



Campus bike tour makes a stop at the Central Energy Facility.

- one of the best ways to get around the campus! [rde.stanford.edu/studenthousing/carbon-free-living](https://rde.stanford.edu/studenthousing/carbon-free-living)
- Every fall, Stanford Transportation offers special New Student Orientation (NSO) training events to educate new students on biking around campus, with a focus on safety and respect for all road users. The goal is to imprint sustainable, car-free living while at Stanford and beyond graduation

*The percentage of Stanford employees and commuting students who drive alone to the main campus has dropped from 67 percent in 2003 to 39 percent in 2021.*





*"I use this electric trike to service the fountains on campus. If I need to use larger cleaning equipment, I use an electric cart." Danny Zamora, Project Crew Leader for the Architectural Trades Shop.*

- The university has installed new bike cages across the campus, now totaling five, for bike commuters' daily use. This increases capacity for secure bike storage, which makes bike commuting a more attractive option
- Carbon offsets on Bike to Work Day. For the five years pre-COVID, Stanford tracked annual Bike to Work Day event miles traveled by bikes vs a car trip. On average, the 800+ riders that

participate in the annual celebration logged an estimated 8,317 miles with an average ride of 9.6 miles. By riding a bike vs driving a car, these commuters eliminated an estimated 6,171 pounds of CO<sub>2</sub> emissions<sup>1</sup> on Bike to Work Day

- For the past four years, the Stanford bike program has hosted bike tours

<sup>1</sup> The per-mile emissions factor used for automobiles is 0.377 kg CO<sub>2</sub>/mile (or 0.831 lb. CO<sub>2</sub>/mile). This is based on an average passenger vehicle fuel economy per gallon figure from U.S. Bureau of Transportation Statistics



*Sprocket Man, Stanford's bike safety superhero, welcomes bike commuters on Bike-to-Work Day.*

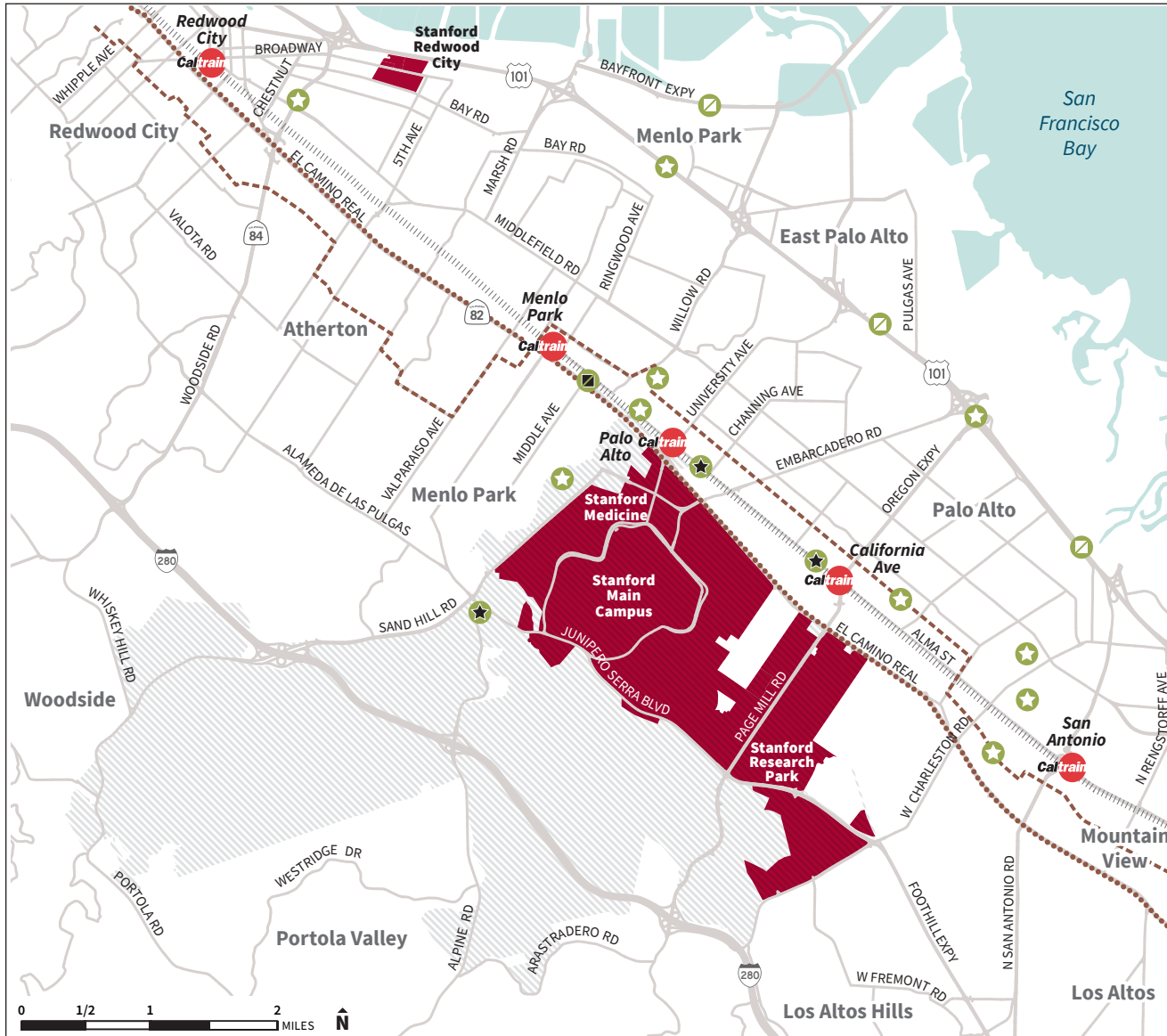
of the campus for multiple classes focusing on energy and environment, including "Understand Energy" taught by Dr. Diana Gragg, Kirsten Stasio and Jane Woodward, as well as Professor Deland Chand's Sustainable Cities and Urban Studies classes. These tours help students grasp the impact of sustainable transportation options—including bikes and the Marguerite shuttle service (all electric)—in contributing to carbon offsets and fostering a more ecological blueprint for the university

- Stanford has been piloting bicycle and scooter prototypes to move facilities

operations to sustainable on-campus travel modes. Land, Buildings and Real Estate (LBRE) staff have been active in developing new mobility modes like specialized electric bikes and stand-up scooters to move between buildings and work centers instead of trucks. This transition has allowed for the reduction of 100+ carbon-emitting vehicles from the maintenance fleet

Stanford is committed to expanding on these sustainability efforts and identifying new pilots to get the university to the 2050 goal of zero-net emissions. This means investing time and resources into innovative TDM approaches that motivate students, faculty, and staff to choose a sustainable mode choice, such as a bike, for their travel needs.

# 2 Partnerships



## KEY REGIONAL BIKEWAY CONNECTIONS

### Ped/Bike Bridge

- Existing
- New

### Ped/Bike Undercrossing

- Existing
- Future

Peninsula Bikeway (interim)

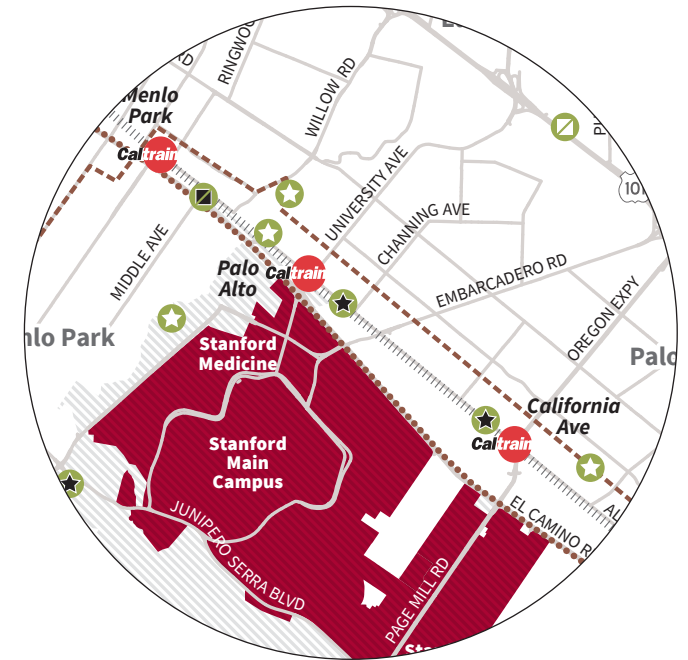
Peninsula Bikeway (future)

Pedaling Forward Study Area

Stanford Lands

The Interim Peninsula Bikeway is the first step in creating a viable north-south bike option for most trips between the cities of Redwood City, Atherton, Menlo Park, Palo Alto, and Mountain View. The temporary bikeway route covers almost 16 miles, and runs from Evelyn Avenue in Mountain View to Warwick Street in Redwood City. The route takes advantage of existing facilities with a focus on including low stress bike streets.

Stanford continues to support the long-term bikeway vision of creating a stress-free network which aligns with the university's sustainability and equity goals. The future long term bikeway is currently planned for El Camino Real. El Camino Real represents the most cohesive, connected, and appropriate opportunity for implementing the long-range vision.



## CHAPTER 2

# Partnerships

The key to unlocking a greater bicycle network beyond the main campus is successful and fruitful partnerships with relevant stakeholders. Recognizing that a regional network needs to cross boundaries, Stanford has made great strides in developing collaborative partnerships with peers in public agencies and the private sector. Multi-jurisdictional projects and broader bicycle education are both a focus of these partnerships.



*Signing of the Managers Mobility Partnership for Redwood City, Menlo Park, Palo Alto, Mountain View, and Stanford.*

## Future of the Peninsula Bikeway

The Managers Mobility Partnership (MMP) is an agreement between the managers of four Silicon Valley cities (Palo Alto, Mountain View, Redwood City, and Menlo Park) and Stanford University. The five partners agreed in May 2016 to work jointly to address transportation challenges facing their communities.

In 2019, the four cities implemented short-term improvements for a connected Peninsula Bikeway and have since been collaborating on identifying a route for a separated bikeway that will connect the corridor. In 2020, Alta Planning + Design produced a [report](#) recommending El Camino Real for the Peninsula Bike Superhighway.<sup>1</sup>

Recently, the MMP has strengthened their collaborative commitment and are working together and leveraging grant opportunities to create corridor connections. In 2021, the cities of Mountain View and Los Altos took the initial steps towards establishing the El Camino Real bicycle corridor by removing on-street parking and making plans to install bicycle facilities on the corridor.

<sup>1</sup> Caltrans has defined a Bike Highway as a high-quality, continuous, long-distance bikeway that reduces barriers to destinations that people want to travel to and from, especially places which may normally be difficult to bike to.

Redwood City has plans to add bike lanes to parts of El Camino Real. The Stanford Perimeter Trail provides protected access along El Camino Real along the university frontage. In addition, Caltrans, which owns El Camino Real, started a [Bay Area Bike Highway Study](#). With Caltrans involvement, corridors such as El Camino Real can start to be viewed as credible locations for bike facilities, especially with local cities and communities on board.

The **Stanford Perimeter Trail** is an example of a partnership between Stanford and the City of Palo Alto to create a set of hiking and biking trails connecting recreational areas in the foothills to those in the Palo Alto Baylands. The Stanford Perimeter Trail is an easily accessible, 3.4 mile-long, multi-use recreation amenity built along Junipero Serra Boulevard, Stanford Avenue, and El Camino Real. Beyond recreation, the Stanford Perimeter Trail has become an important commute and school route for the community.

*Above right: the Perimeter Trail.  
Below right: Main [Stanford] gate entry to the Stanford Dish from the Perimeter Trail.*



## Blake Wilbur Drive Extension

As contemplated in project approvals for the Stanford University Medical Center (SUMC) Facilities Renewal and Replacement project, a new roadway segment between Sand Hill Road and Welch Road will be constructed in fall 2022. The proposed roadway, which would connect Durand Way with Blake Wilbur Drive across the northeastern edge of the 900 Welch Road property, will improve ambulance access to the new adult hospital and would also enhance the local bicycle network. The improvements would connect to Stanford West Apartments at Durand Way and to an existing bike/pedestrian bridge over San Francisquito Creek from San Mateo Drive in Menlo Park.

## Page Mill Road and Hanover Street Intersection

Stanford University collaborated with the City of Palo Alto and Santa Clara County to identify solutions for intersection improvements on Page Mill Road and Hanover Street.

These changes provide important operational and safety improvements that will benefit bicycle and pedestrian connections through the Stanford Research Park that support both commuter and school access.

## Junipero Serra Boulevard Traffic Calming

Stanford worked with Santa Clara County Roads and Airports to design and install a traffic calming project along Junipero Serra Boulevard (JSB) in fall 2018. The project slows vehicles traveling through the residential portion of JSB, allows for vehicles to do two-part turns in and out of driveways and creates a more visible corridor for bicyclists. Before and after speed surveys found that vehicles reduced speeds by an average of 10 to 15 miles per hour after project installation, which reduces stress levels for bicyclists along this corridor.



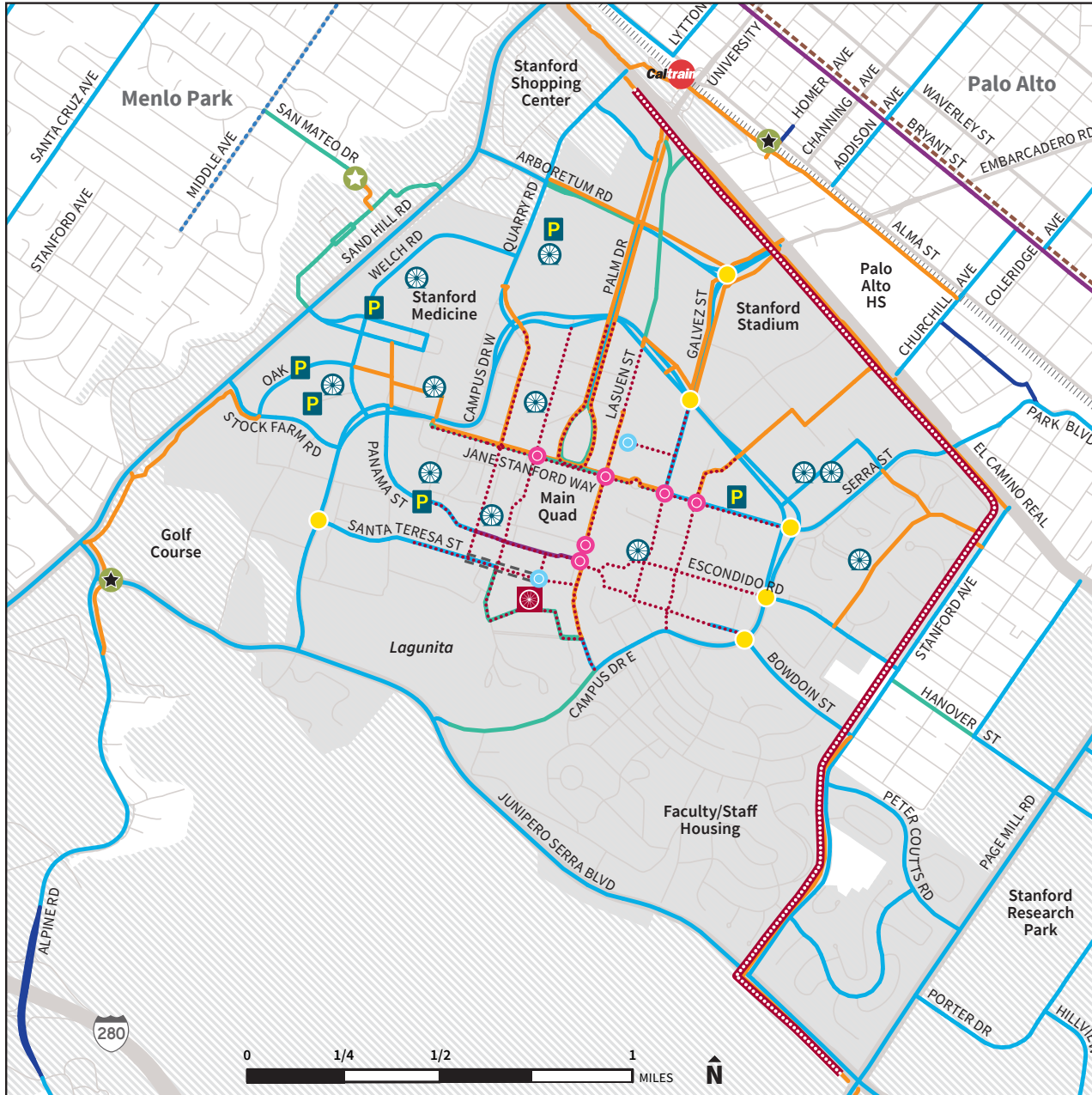
2018 Traffic Calming Project on Junipero Serra Boulevard (JSB).

## Looking Forward

Moving forward, Stanford will continue to collaborate with municipal partners through relationships with city and agency staff, the MMP, and other like-minded organizations. This includes improvements to infrastructure such as

projects on El Camino Real with Caltrans, Palo Alto's Pedestrian and Bicycle Plan Update, and San Mateo County's mobility project on Alameda de las Pulgas, among many others.

# 3 Profile of Stanford Main Campus



## BIKE FACILITIES

*Dotted represents a future enhancement*

- Paved Trail
- Bike Boulevard
- Enhanced Bike Lane
- Bike Lane
- Shared Lane Markings

## OTHER FACILITIES

- · - · - Suggested Campus Route
- · - · - Stanford Perimeter Trail
- - - - - Peninsula Bikeway (interim)
- - - - - Santa Teresa Separated Bike Lanes
- ★ Ped/Bike Bridge
- ★ Ped/Bike Undercrossing
- Bike Circle
- Roundabout
- Turnaround
- P Bike Cage
- ⚙ Bike Repair Stand
- ⚙ Campus Bike Shop
- Caltrain Caltrain Station
- Stanford Main Campus
- Stanford Lands



*Stanford is a Platinum Level Bicycle Friendly University three times over and was the first university to receive this award. The bicycle-friendly infrastructure and programming has caused its share of commuters bicycling to work or school to double over the last 20 years.*

### CHAPTER 3

# Profile of Stanford Main Campus

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The League of American Bicyclists (LAB) has been a leader in bicycling advocacy in the United States since the 1880s. It started the “Bicycle Friendly Community” program in 2003 to inspire and encourage municipalities to become better places to bike.

Stanford was the first university to be recognized at the highest level (platinum) when the university program launched in 2011, making Stanford the

only university to receive three Platinum designations in a row since 2011. Stanford’s current Platinum designation extends through 2023.

The LAB uses the “5 Es” approach to rate universities. The 5 Es include:

- 1. Equity, Diversity & Inclusion (EDI):** A Bicycle Friendly America for everyone
- 2. Engineering:** Creating safe and convenient places to ride and park

- 3. Education:** Giving people of all ages and abilities the skills and confidence to ride
- 4. Encouragement:** Creating a strong bike culture that welcomes and celebrates bicycling
- 5. Evaluation & Planning:** Planning for bicycling as a safe and viable transportation option

# Diversity, Equity and Inclusion

*“At Stanford, we strive to ensure that a diversity of cultures, races and ethnicities, genders, political and religious beliefs, physical and learning differences, sexual orientations and identities is thriving on our campus. Such diversity will inspire new angles of inquiry, new modes of analysis, new discoveries, and new solutions.”*

PROVOST PERSIS DRELL (MAY 2019)

Stanford is focused on diversity, equity, and inclusion in all areas to ensure that diversity is represented across the academic enterprise. Stanford’s IDEAL (Inclusion, Diversity, and Equity in a Learning Environment) initiatives align with League of American Bicyclists’ Equity, Diversity & Inclusion (DEI) goals, in that Stanford strives to ensure that all members of the campus community have broad access to the same opportunities and benefits of Stanford, which includes sustainable commute choices like bicycling.

Stanford uses the Transportation Survey to understand demographic trends in bicycle commuting and to identify areas of focus to ensure that all people have access to safe bicycling, and to further progress actions that promote equity in bicycling.

The survey data revealed that commuters that identified as White or European represented over 64 percent of the bicycle commuter population, while only representing 55 percent of the total population. The probability of a commuter choosing biking as a primary mode share was found to be highly tied to being White, less than 50 years of age, and having higher education. This indicates that Stanford can do better at ensuring that the built environment and bike education create a healthy environment for all races, incomes, and ages.

The built environment is one key to unlocking access to a sustainable and healthy commute for all members of our community. The Stanford 2017 Bike Access Commuter study found that bike commutes from East Palo Alto can be perceived as a five to six miles commute due to the stress of the bike network, when it is within two to three miles of the

main campus. The barrier of U.S. Highway 101 presents an obstacle for residents of East Palo Alto that residents of Palo Alto do not experience, which greatly impacts who views bike commuting as a viable option. New infrastructure such as the Adobe Creek Bike Bridge and Clarke-Newell Bike Bridge are examples of recent investments in the community that help reduce rider stress on crossings of major barriers like U.S. Highway 101.

The first step toward a diverse and inclusive community is awareness, including understanding the hurdles to bicycling. Stanford Transportation staff is committed to reaching our underrepresented population when it comes to bicycle education. Education can go both ways. Learning to ride a bike can be a hurdle to some demographics, while understanding how traffic



enforcement may hamper some from choosing a bicycle commute is just as important (see call out box on page 18). Reaching out to student, faculty, and staff groups to understand their barriers to bicycling, and then educating them on Stanford's existing programs that offer free bike safety information, bike registration, and assistance with bike routes to and from the campus, can help unlock a more diverse and inclusive bicycle community across Stanford.

Supporting investments in our bike infrastructure will go a long way to creating a community where bicycling is an accessible mode for all members of the Stanford community. Expanding bicycle education to underrepresented groups and focusing Stanford's evaluation and planning efforts on identifying where investments can move the needle are commitments that the transportation staff are making. This includes further studying and prioritizing commute routes through a DEI lens, supporting Stanford's neighbors, such as Palo Alto, in updating their bicycle plans,



*Adobe Creek Bike Bridge.*

and creating education programing that can unlock bicycling opportunities for our underrepresented population.

Apart from walking, bicycling is not only the least expensive commute option, but is arguably one of the most sustainable

commute modes. Ensuring that a stress-free network is available to all communities within biking distance will create a more equitable environment for Stanford commuters.



The League of American Bicyclists removed “Enforcement” from the 5 Es in 2020 and replaced it with “Equity.” After careful consideration, they concluded that enforcement does not equal safety for many People of Color, particularly Black Americans. The racial disparity in the over-policing of our streets is a barrier that prevents many from considering biking for transportation or recreation. Enforcement as a stand-alone traffic safety tactic is not particularly effective in achieving long-term safety outcomes for anyone biking or walking.

Understanding this national trend, Stanford has taken a much closer look at institutional racism and the ways law enforcement has treated Stanford community members of different races and ethnicities unequally. The university created a Community Board on Public Safety, which issued its first Annual Progress Report on July 12, 2021.<sup>1</sup>

Department of Public Safety (DPS) has significantly reduced the amount of time dedicated to the enforcement of traffic violations in response to concerns from the community about the potential disparate impact of enforcement on persons of color. DPS has worked with Transportation for several years to continually adjust education efforts to improve bicycle safety. Identifying ways to educate without an enforcement component is the next logical step in that partnership.

<sup>1</sup> <https://news.stanford.edu/report/2021/07/21/community-board-public-safety-issues-first-annual-progress-report/>

*Bike Infrastructure investments over US Highway 101.*

*Above left: Adobe Creek Bike Bridge.*

*Below left: Clarke-Newell Bike Bridge.*

*(photos by Morgan Smith-Boeck)*

# Engineering

The University Architect and Campus Planning office directs the design of the main campus. Their continual challenge is to identify the best way to update roadways and paths to reflect changes in transportation modes while adhering to the historic design and visual character of these facilities. In collaboration with Transportation and Public Safety, Campus Planning observes bike and pedestrian circulation. Design changes are made after careful consideration using observation, user feedback, and data. They value consistency across campus and have piloted traffic roundabouts and bicycle circles with a keen eye for whether the new facility will work in other locations and for all user groups.

Stanford started constructing roundabouts at vehicular intersections in 2006 to manage conflicts between motor vehicles, bikes, and pedestrians. This change eliminated the need for stop signs and significantly reduced speeds and collisions. There are now six roundabouts on the main campus, and more may be designed and built in the future.

Building on the success and learnings from the roundabouts on campus roadways, Campus Planning & Design

began focusing on smaller bicycle circles with heavy bike and pedestrian traffic mixed with some bus and delivery vehicle traffic. They started with a basic design in two locations and observed how users adapted to it. They also interviewed undergraduates and graduate students to develop an updated model. Key issues included understanding how to manage pedestrians cutting through the bicycle circles and surface integrity.

This careful process to get to a final design illustrates Stanford's commitment to understanding all user groups and not replicating a new configuration until all concerns have been addressed.

Designating Jane Stanford Way as a car-free, east-to-west corridor to traverse the campus was completed in 2020. Jane Stanford Way has three upgraded bicycle circles at key student travel routes. The pavement markers are clearly marked, the diameters of the circles are wide, and the pavers are designed to ensure safety when passing through.

Jane Stanford Way is now a critical cross-campus bike arterial tying Escondido Graduate Housing, the central campus, and Stanford Health Care.



Stanford roundabout at Campus Drive and Bowdoin Avenue (photo by Brian Haux).



One of the new and improved bicycle circles on Jane Stanford Way and Lasuen Mall.

# Innovative Bikeways on the Main Campus

## PILOT PROJECT - SEPARATED BIKE LANES ON SANTA TERESA

Campus Planning & Design and the Department of Project Management worked with several Stanford departments to improve travel for bikes and pedestrians on Santa Teresa Street. Santa Teresa Street is the parallel east-west corridor to Jane Stanford Way, on the backside of the academic core, and provides connections to White Plaza and campus residents.

To achieve an improved bicycle corridor, separated bike lanes were painted, the parking alignment was altered, and a vehicle turnaround was added to this widely traveled bike corridor. This temporary installation will be evaluated over the next year.

This pilot aims to increase safety for pedestrians and cyclists, improve traffic circulation and make all who travel along this section of the roadway more visible. Here is what has changed and why:



Above and at right: Images of the pilot project on Santa Teresa Street.

- The new separated bike lanes are exclusively for bicyclists. They are distinct from the sidewalk and physically separated from cars with a painted buffered lane or parked vehicle
- Vehicles no longer back out of parking spaces and interfere with cyclists traveling in the same direction
- Pedestrians and those with mobility impairment have their own dedicated path
- The turnaround keeps traffic flowing; all users have a better view of oncoming bicyclists, vehicles, and pedestrians



## BIKE PARKING ON CAMPUS

With over 18,000 bike rack spaces on the main campus, planners at Stanford are constantly identifying new and better locations to place bike racks.

The “lightning bolt” bike rack was designed by campus staff and a fabricator in the 1990s. They are low-profile, ensure that bikes can only be parked one way, difficult to cut, and allow a u-lock to secure both frame and wheel.

Stanford continues to define best practices to develop more efficient and secure bike parking and transition current bike locker compounds to bike cage spaces.

Two new bike cages were built on the main campus in 2020 at Stock Farm West and the Center for Academic Medicine (CAM) building, which serves the Stanford School of Medicine.

Another bike cage is in the planning and design stage. This will expand bike cage capacity to over 250+ spaces for secure storage.



*Above right: Bike cage for commuters at the Center for Academic Medicine (CAM).*



*Below right: Bicycle parking at the Arrillaga Center for Sports and Recreation.*

# Education

When the COVID-19 pandemic began, Stanford's award-winning bike program had to pivot to hosting online webinars instead of in-person training events.

Between the start of COVID-19 and Fall 2021, over 20 webinars were hosted through the Pedal Together Pilot Program. Stanford Transportation educated and hosted over 450 participants. This outreach also sparked and supplemented the Pedal Together Pilot Program (described under Encouragement below).

This year, Stanford Transportation is launching a campus-wide, Share the Road training webinar to ensure all roadway users—including bicyclists, car drivers, micro-mobility, and mobility device users—have mutual respect when sharing our campus roadways and pathways. To tie to DEI goals, these efforts will specifically reach out to campus community groups that are underrepresented in our bicycle community.

Other continuing education efforts include:

- Joint efforts partnering with the Stanford School of Medicine (SOM) and Stanford Health Care Trauma Center to encourage and support helmet use
- New Student Orientation programs that introduce new students to the bike culture at Stanford and educate them on the importance of bike safety
- Bicycle repair stands that enable bicyclists to make minor repairs and inflate their tires for free, making it more convenient for the campus community to maintain safe bicycles
- Bike safety “road shows” to educate students, staff, and faculty



*Above right: Bicyclist using bike Fix-It station on campus.*

*Below right: Bicycle Safety road show at Donner dormitory to promote bike safety on campus.*

# Encouragement

Stanford's Pedal Together Pilot Program launched in April 2021. The program educates, informs, and inspires community engagement and support among peers. Program highlights include:

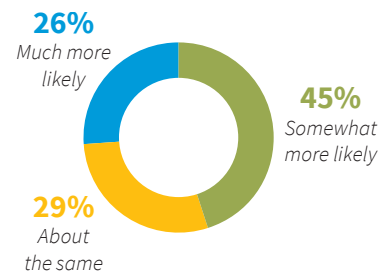
- A three-month pilot to encourage commuters to opt to ride to work instead of drive upon returning to campus post-COVID shutdown
- Monthly activity log and free bike webinars sparked engagement along with a very interactive Slack communication channel to support and offer guidance and recommendation on bike commuting

Compared to before Pedal Together, riders reported how likely they would be to bike at least once a week for fun, errands or commute to work (Figure 1).

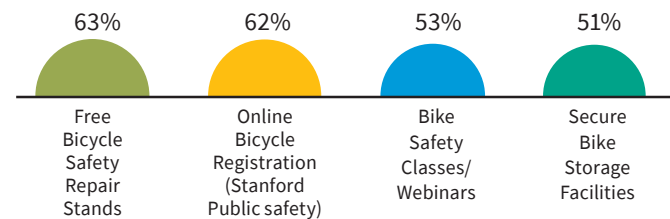


*Bike commuters en route from Palo Alto to Stanford on Bike-to-Work Day.*

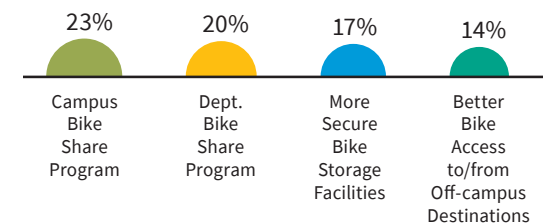
**Figure 1: Likelihood of Bicycling at Least Once a Week**



**Figure 2: Bike Programs Main Campus Commuters Have Heard Of**



**Figure 3: What Would Make a University Commuter Regularly Ride A Bicycle On Main Campus**

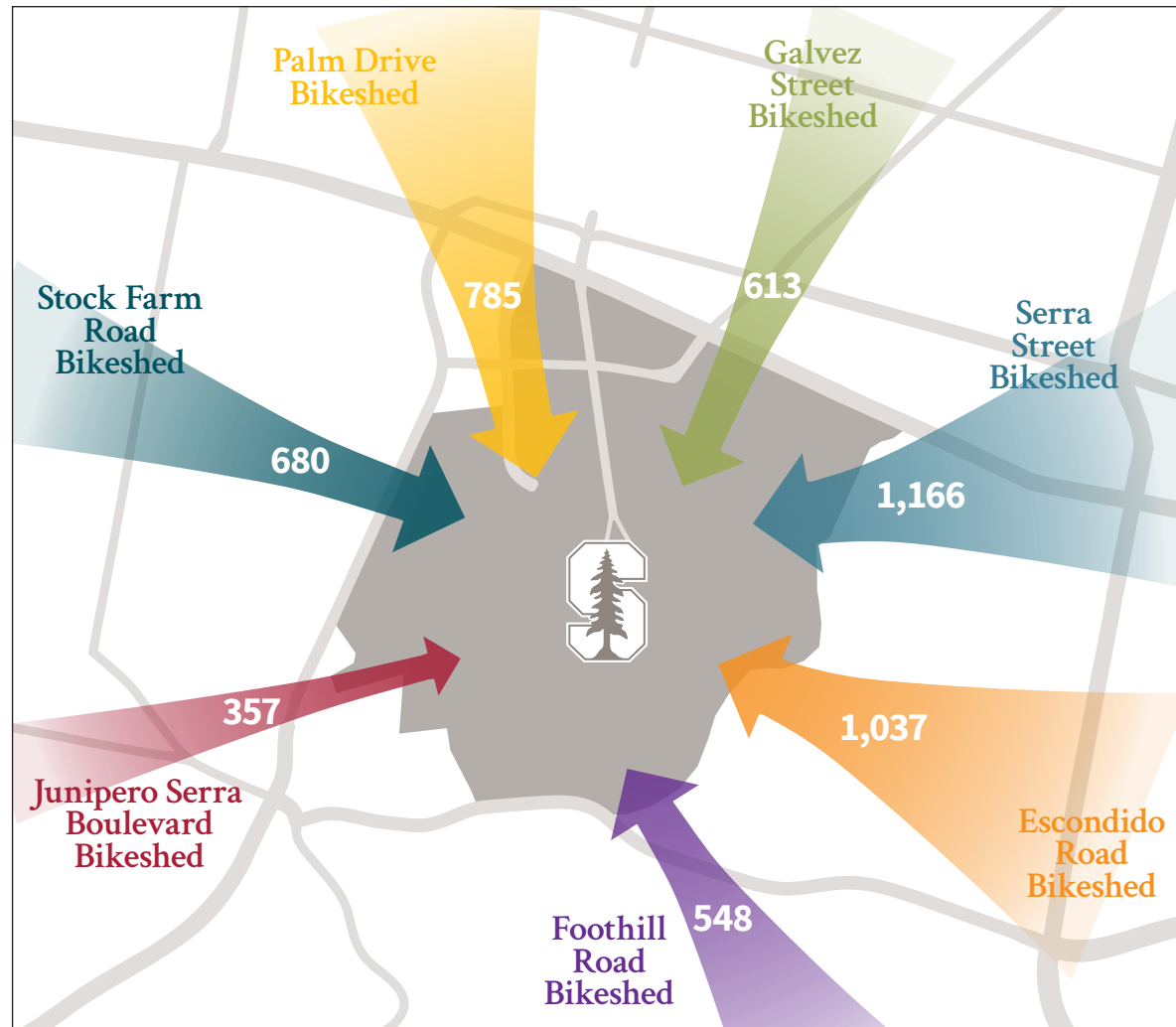


# Evaluation

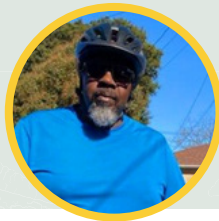
In order to evaluate all transportation programs, including bicycle commuting, Stanford Transportation conducts an annual commute survey.

To better understand how bicycle commuters are getting to campus, and identify structural barriers, Stanford started tracking the “bikeshed” starting with its 2017 Bicycle Commuter Access Study. The infographic on this page shows how many bike commuters utilize each bikeshed. Detailed bikeshed information is on the following page.

Figure 4: Bicycle Commuters by Bikeshed (2017 data)







**Rich Wilkins**, Environmental Health & Safety, Sprinkler Technician  
 Rich commutes from East Palo Alto to Stanford. Working for Environmental Health and Safety (EH&S) for over 30 years, "safety first" is one of his mottos.



**Felipe Esparza**, Stanford LBRE, Department of Buildings and Grounds Maintenance  
 Felipe rides every day from East Palo Alto to the main campus, an estimated 3-mile bike commute to work.



**Ovie Ojeni**, Residential Education, Student Affairs, Residential Director  
 Ovie lives on campus and commutes by bike or scooter to the Sunnyvale/Mountain View area.



**Ken Chang**, Stanford LBRE, Business Intelligence Analyst  
 Ken lives in Menlo Park and works primarily at the Redwood City campus but also rides to the main campus twice a week, riding in on Stock Farm Road.



**Chris Field**, Director, Stanford Woods Institute for the Environment  
 Chris commutes from Portola Valley to Stanford Y2E2 via Alpine Road to Junipero Serra to West Campus.

**Junipero Serra Boulevard Bikeshed**

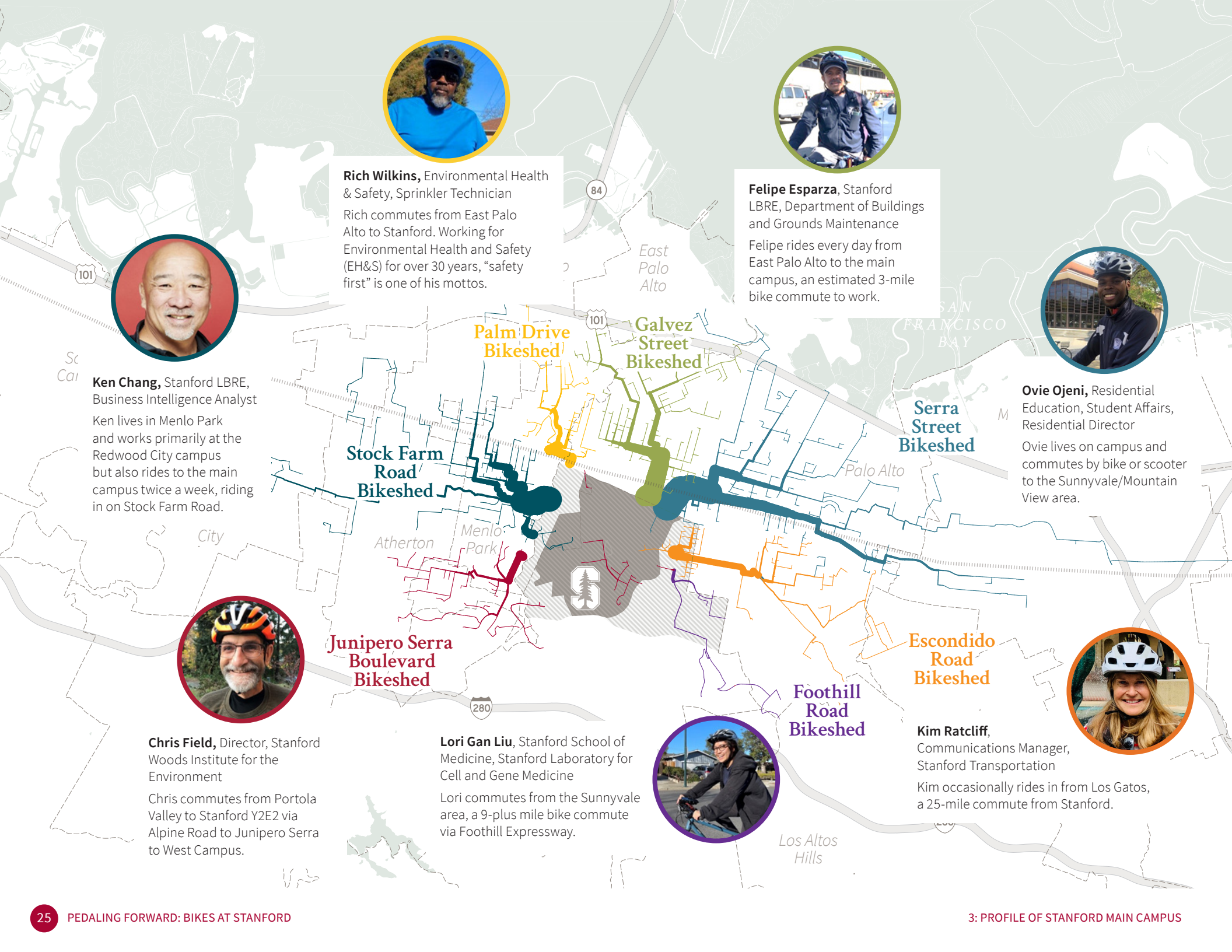
**Lori Gan Liu**, Stanford School of Medicine, Stanford Laboratory for Cell and Gene Medicine  
 Lori commutes from the Sunnyvale area, a 9-plus mile bike commute via Foothill Expressway.



**Foothill Road Bikeshed**

**Escondido Road Bikeshed**

**Kim Ratcliff**, Communications Manager, Stanford Transportation  
 Kim occasionally rides in from Los Gatos, a 25-mile commute from Stanford.

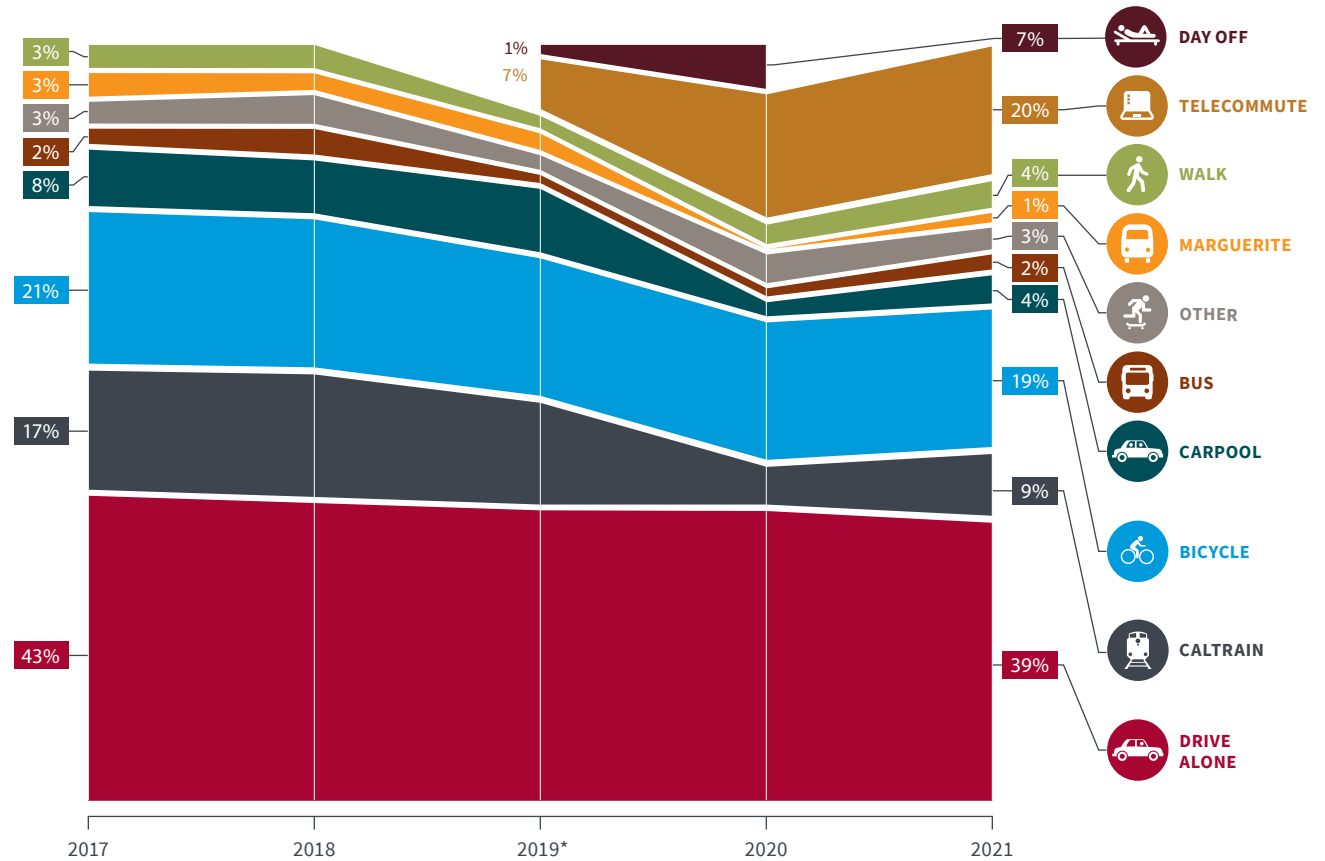


Stanford Transportation continued to survey commuters throughout COVID-19, and this chart illustrates the shift to telecommuting. Unlike transit and carpooling, the bike mode share proved resilient.

At the national level, recreational cycling increased during COVID, and as commuters adjust to hybrid work models, bicycling levels may continue to rise.

Nearly 40 percent of Stanford affiliates live with in a five-mile ride of the campus. That's a 30-minute bike ride. That's competitive with a car when parking and then walking to the building are accounted for because a bicyclist can ride up to the front door to park. From the Stanford Commute Survey, bicyclists note that stress reduction, health, and lifestyle reasons are their main reasons for choosing to bike as their primary mode choice.

Figure 5: Campus Commuter Mode Split



\*Prior to 2019, "Other" included motorcycle, telecommute, personal mobility devices, ridehailing, and other. New mode split methodology uses commute diary responses; telecommute is now its own separate category.

2020 survey replaced "Day off" with "N/A"

2021 survey removed "Day off" option from responses

# ④ Profiles: Stanford Medicine, Stanford Redwood City, and Stanford Research Park





#### CHAPTER 4

## Profiles: Stanford Medicine, Stanford Redwood City, and Stanford Research Park

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Stanford Medicine, Stanford Redwood City, and Stanford Research Park are all major developments on Stanford land that house large numbers of employees. Each of these entities has a TDM Program that is tailored to their site(s) and they work collaboratively with Stanford Transportation. The next three pages detail these three areas and their programs.

# Stanford Medicine

Located adjacent to Stanford University in Palo Alto, Stanford Hospital, Lucile Packard Children's Hospital (LPCH), and several other medical care facilities are under the umbrella of Stanford Medicine.

Approximately 10,000 employees work in this complex. Stanford Medicine manages its own transportation program with substantial TDM offerings, including programs for bicycle commuters. With the construction of new buildings, Stanford Medicine has added and updated bicycle parking, including newly designed bike cages.

The City of Palo Alto and Stanford Medicine have worked together to greatly improve the bike facilities on the streets adjacent to the medical complex. Green lanes, bike boxes, and other innovative strategies have improved the biking experience adjacent to the medical campus.


More information regarding medical center transportation is available here: [stanfordmedicinetransportation.org](http://stanfordmedicinetransportation.org)

## Bicycle Parking + Amenities

 **1,300** bike racks

 **2** bike rooms/cages

 **4** shower + lockers

 **7** bike repair stations



**Jessica Asay**, Stanford School of Medicine, Radiology

*Jessica commutes from the Ventura Neighborhood in Palo Alto, and rides three miles one way, picking up her daughter from an after school program on the way home.*



*Green bike lanes on streets that serve the Medical Center.*

# Stanford Redwood City

Stanford Redwood City (SRWC) is a 35-acre administrative campus located 1.5 miles from downtown Redwood City and the Redwood City Caltrain Station. Approximately 2,700 Stanford staff members are based at this location which opened in 2019. The campus is located across the street from Stanford Medicine outpatient buildings that accommodates approximately 1,000 employees. The university and Stanford Medicine provide shuttle services from the Redwood City Caltrain Station. Due to the proximity of the Stanford Medicine facilities to SRWC, improvements to bicycle routes in the surrounding area will help a large user group of the Stanford community. SRWC is managed by a Facilities and Operations team, with support from Stanford Transportation. The university has worked closely with the City of Redwood City since before constructing the campus to develop safer bike routes. As part of the Development Agreement between the city and the university, \$450,000 was provided for bicycle projects.

After completing the “Redwood City Moves Transportation Master Plan” in 2018, the City embarked on the *RWC Walk Bike Thrive* plan, an initiative to create a Citywide Pedestrian and Bicycle Master Plan and a Vision Zero Action Plan. These planning efforts were approved by city council in June 2022.

More information regarding SRWC campus transportation is available here: [transportation.stanford.edu/srwc-transportation](https://transportation.stanford.edu/srwc-transportation)



**Aisha Wahab, Stanford Libraries**

*Aisha relearned how to ride a bike after a 20-year hiatus and now rides two days a week, a three-mile ride from the west side of Redwood City to the SRWC campus.*

## Bicycle Parking + Amenities

 **300+** bike racks

 **18** bike lockers

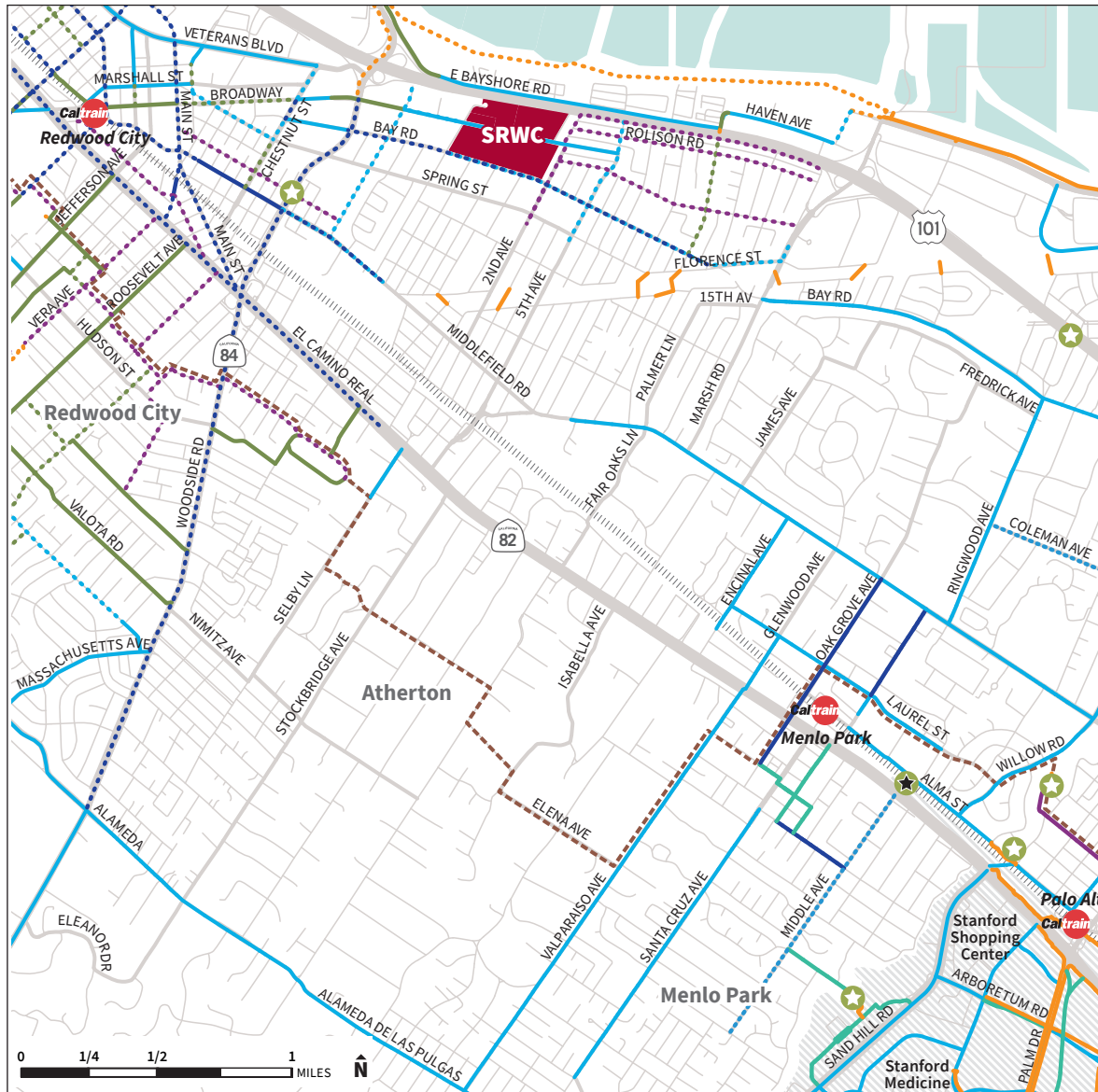
 **2** bike cages

 **showers** in all buildings & the wellness center

 **bike fixit stations**

 visits by **Summit Mobile**

# Stanford Redwood City



## BIKE FACILITIES

(dotted: represents a future enhancement)

- Paved Trail
- Bike Boulevard
- Enhanced Bike Lane
- Bike Lane
- Shared Lane Markings
- Bike Route
- Peninsula Bikeway (interim)
- Ped/Bike Bridge
- Ped/Bike Undercrossing
- Caltrain Station
- Stanford Redwood City
- Stanford Lands

# Stanford Research Park

Stanford Research Park (SRP) is a business park formed in 1951 as a partnership between Stanford University and the City of Palo Alto. Located two miles from the heart of the Stanford University campus, more than 150 companies lease 10 million square feet of office and lab space on the Research Park's 700 acres. In 2015, Stanford University formed the Stanford Research Park Transportation Management Association (TMA), a consortium of SRP employers working together to privately fund and offer transportation programs tailored to the needs of the approximately 29,000 employees working within SRP.

This TMA, known as "SRPGO," promotes and supports bicycle commuting in several ways, including on-site tune-up and repair days, bicycling education workshops, demo days, group social rides, and one-on-one personalized assistance. Mike's Bikes at The Hub is a full-service bike repair facility serving the SRP community. Many of the long-standing companies in SRP have a

tradition of bicycle clubs that promote lunchtime rides and bike commuting. The closest Caltrain station to SRP is the California Avenue Station. The Palo Alto Station is only two miles further north and can be a better fit for commuters depending on the Caltrain schedule.

More information regarding SRP transportation is available here: [stanfordresearchpark.com/transportation](https://stanfordresearchpark.com/transportation)



**Isabella Chu**, Stanford School of Medicine, Population of Health Sciences  
*Isabella commutes from Redwood City to Stanford Research Park on Page Mill Road and occasionally also works on the main campus. She is a dedicated advocate for bike safety wherever she rides.*

## Bicycle Parking + Amenities



**bike racks**



**bike cages**



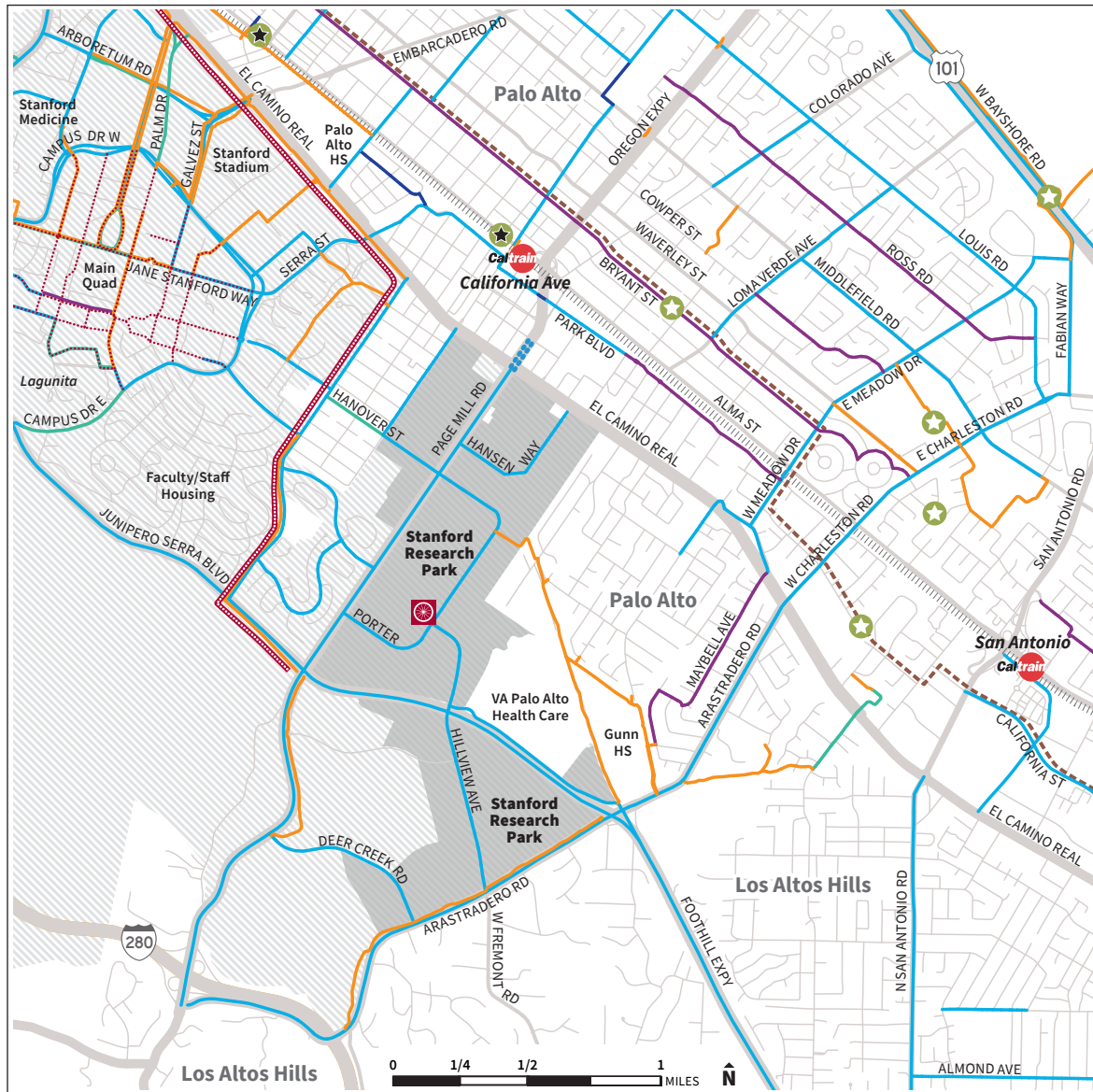
**showers**



**bike fixit stations**



# Stanford Research Park



## BIKE FACILITIES

(dotted: represents a future enhancement)

- Paved Trail
- Bike Boulevard
- Enhanced Bike Lane
- Bike Lane
- Shared Lane Markings
- Bike Route
- Suggested Campus Route
- Stanford Perimeter Trail
- Peninsula Bikeway (interim)
- ★ Ped/Bike Bridge
- ★ Ped/Bike Undercrossing
- ★ The Hub at Stanford Research Park
- Caltrain Station
- Stanford Research Park
- Stanford Lands



*The Hub at Stanford Research Park opened in April, 2022. Mike's Bikes at The Hub is a full-service bike repair facility serving the SRP community. The Hub also features transit services and Zipcar.*

# 5 Conclusion



*“At Stanford, we acknowledge that in order to continue the success of the TDM program and continue to be a leader in bicycle mode share, we need to ensure that diversity and inclusion are reflected in our work.”*

BRIAN SHAW, EXECUTIVE  
DIRECTOR, STANFORD  
TRANSPORTATION

## CHAPTER 5

# Conclusion

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Since the publication of the 2017 Stanford Bicycle Commuter Access Study, the world has changed, shaped specifically by an unforeseen pandemic that brought into focus inequities and a chance to pivot on how projects are approached. Communities took the opportunity to pilot street closures, such as University Avenue in Palo Alto and Castro Street in Mountain View. Redwood City seized the moment to create a Citywide Pedestrian and Bicycle Master Plan and a Vision Zero Action Plan with strong online community engagement. The City Managers Mobility Partnership continue efforts to identify a

north-south corridor and infrastructure projects that like the Adobe Creek Bridge came online. Although the pandemic gave the world time to reflect, the bicycle community leveraged the surge in recreational bicycling to access how we move forward.

Stanford, as part of the bicycle community, brought new bicyclists into the community through online education programs and investment in on- and off-campus infrastructure. Partnership work continued, such as Stanford’s contributions to the Santa

Clara County Roads and Airports project to improve the crossing of Page Mill Road at Hanover Street, which is a big win for bike commuters of all ages as it is a school route corridor. Stanford education programming for bicyclists went online with the Pedal Together pilot to encourage more riders, and Stanford Research Park opened a Hub with a full-service bike shop. These efforts demonstrate Stanford’s commitment to sustainability, DEI, and our local community.

# Filling In the Gaps so We Can Pedal Forward

The Commuter Access Study represented a step forward in the university's evolution as a leader in bicycle commuting: identifying physical gaps in the network that needed a solution to create a future where bicycling is easy, comfortable, safe, and direct. Stanford is still committed to filling those gaps; however, the intervening years have taught us that we have more than physical disparities to overcome. Pedaling Forward is about ensuring a resilient bicycle program that can keep Stanford at the forefront as a forward-thinking leader. The pandemic taught us that our bike mode share is resilient because of Stanford's commitment to education and good engineering, but it also taught us that we have challenges to overcome when it comes to equity. We have imbalances in who chooses to bike not only because of physical gaps in infrastructure, but because of gaps

in who we are reaching. These gaps are important to address- to get to our goal of an easy, comfortable, safe and direct experience for everyone.

The League of American Bicyclists, in their report [Reconnecting to the New Majority](#), found that there has been an underinvestment in bicycle infrastructure when it comes to creating an equitable, diverse and inclusive bicycle community. Stanford is committed to focusing on partnerships internal and external to renew the commitment to a strong bicycle culture that is focused on improving the safety and comfort of bicyclists from all geographic areas, income levels, ethnic groups and of all skill levels. This commitment stretches beyond the Stanford campus and requires collaboration with our partners across agencies, boundaries, and jurisdictions.

Bicycling will continue to be a central pillar of Stanford's steadfast commitment to promoting sustainable and equitable commuting. Stanford is committed to broadening that commitment, by looking through the equity lens at infrastructure both on the campus and in our surrounding communities and understanding both physical and social barriers to bicycling is important. This is how Stanford continues to be a leader in transportation, sustainability and building community.

For more information, visit [transportation.stanford.edu/bicycle](https://transportation.stanford.edu/bicycle)

Stanford University

