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Transform Fresno: 2023 Progress Report on Implementation of the Transformative Climate Communities Program Grant

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# TRANSFORM FRESNO

2023 PROGRESS REPORT ON IMPLEMENTATION OF THE  
TRANSFORMATIVE CLIMATE COMMUNITIES PROGRAM GRANT



**UCLA**

Luskin Center  
for Innovation

## Prepared by the UCLA Luskin Center for Innovation

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Transform Fresno award date (January 2018) through the end of month 39 of implementation (June 2022)

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## Disclaimer

The UCLA Luskin Center for Innovation appreciates the contributions of the aforementioned agencies. This report, however, does not necessarily reflect their views nor does it serve as an endorsement of findings. Any errors are those of the authors.

## For More Information

[www.innovation.luskin.ucla.edu](http://www.innovation.luskin.ucla.edu)

Cover image: Job trainee in the Gladiator Welding Program, a component of the Transform Fresno Workforce Development Plan (Photo credit: Gladiator Welding).

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# EXECUTIVE SUMMARY

## THE TRANSFORMATIVE CLIMATE COMMUNITIES PROGRAM

(TCC) is an innovative investment in community-scale climate action, with potentially broad implications. Launched in 2017 by the California State Legislature, TCC funds the implementation of neighborhood-level transformative plans that include multiple coordinated projects to reduce greenhouse gas (GHG) emissions. The program is also designed to provide an array of local economic, environmental, and health benefits to disadvantaged communities, while minimizing the risk of displacement. TCC empowers the communities most impacted by pollution to choose their own goals, strategies, and projects to enact transformational change — all with data-driven milestones and measurable outcomes.

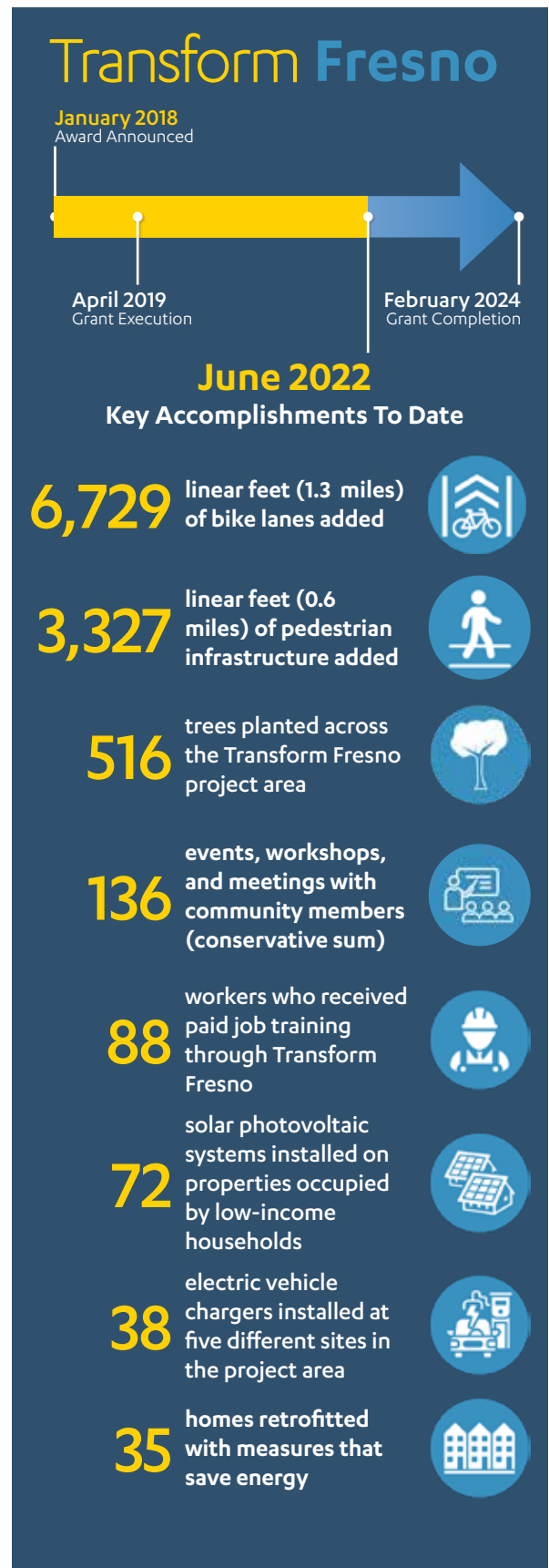
The California Strategic Growth Council (SGC) serves as the lead administrator of TCC. At the time of this report, SGC has awarded 11 TCC implementation grants to 11 communities across the state (ranging from \$9.1 million to \$66.5 million per site). Additionally, SGC has awarded 25 TCC planning grants to communities that are in the early stages of forming a coalition to address local climate action goals (ranging from \$94,000 to \$300,000 per site). The state legislature has allocated funding to distribute two additional rounds of TCC grants.<sup>1</sup>

The UCLA Luskin Center for Innovation (LCI) serves as the lead evaluator for five communities that have received TCC implementation grants: all three Round 1 sites (Fresno, Ontario, and Watts), one Round 2 site (Northeast San Fernando Valley), and one Round 3 site (Stockton). LCI researchers are working with these communities to document their progress and evaluate the impacts of TCC investments.

This progress report is the fourth in a series of five that will provide an overview of the key accomplishments and estimated benefits of TCC-funded activities in the City of Fresno, collectively referred to as Transform Fresno.<sup>2</sup> This report documents progress through the end of fiscal year (FY) 2021-2022, which overlaps with about 15 months of post-award planning (January 2018 to April 2019), and 39 months of grant implementation (April 2019 through June 2022). The majority of implementation has occurred during the COVID-19 pandemic, so project partners' responses to the pandemic are also highlighted throughout.

<sup>1</sup>For the most current information about TCC rounds, both current and future, visit: <https://sgc.ca.gov/programs/tcc/>

<sup>2</sup>For annual reports that LCI has produced for other TCC sites, visit: <https://innovation.luskin.ucla.edu/tracking-groundbreaking-climate-action/>





**Holiday parade along the edge of Mariposa Plaza, a site in Fresno's TCC project area that will be transformed through TCC dollars (taken December, 11 2021). Photo credit: Transform Fresno**

## Fresno Today

The City of Fresno is California's fifth-largest city and the largest inland city. Downtown Fresno is the main employment center in the region, with nearly 35,000 workers commuting into the area daily. Fresno has a culturally and ethnically diverse population and is home to many diaspora, immigrant, and refugee communities. The city has long struggled with environmental, health, and economic disparities, including high concentrations of poverty, air pollution, toxin and pesticide exposure, and health conditions such as diabetes, asthma, and cardiovascular disease.

Located near the geographic center of California and in the San Joaquin Valley, Fresno will increasingly experience the effects of extreme heat as the climate continues to warm. The community continues to need improved access to parks, tree cover, affordable housing, transportation options, and job training and opportunities. To address these and other community needs and goals, residents and other stakeholders from Downtown, Chinatown and Southwest Fresno came together and formed the Fresno Transformative Climate Communities Collaborative.

## Transform Fresno

The Collaborative employed a participatory process to identify projects with significant environmental, economic, public health, and social equity benefits for Downtown, Chinatown, and Southwest Fresno (the project area).

Anyone who lived, worked, or owned property in these neighborhoods was encouraged to participate. The Collaborative met regularly in 2017 and resulted in an active and engaged 164-member Community Steering Committee. During these meetings, participants were encouraged to propose projects, and eligible projects were then gathered into five packages that were presented for a community vote. At the final Community Steering Committee public meeting, voting members overwhelmingly approved a project package designed by residents of Southwest Fresno.

These engagement efforts resulted in Transform Fresno, a community-driven initiative to transform the 4.9-square-mile project area through a suite of projects and plans that will reduce GHG emissions while also providing local environmental, health, and economic and social equity benefits. In early 2018, SGC awarded Transform Fresno a TCC grant of \$66.5 million to bring its vision to fruition. Transform Fresno will also leverage \$117.3 million in other funding toward this vision. Along with the City of Ontario and the Watts neighborhood of Los Angeles – two other sites awarded Round 1 TCC funding – Fresno is one of the first communities in the country to pilot a community-led, multibenefit, and place-based climate change mitigation program that specifically targets the needs of low-income households.

## Projects

Transform Fresno includes 21 projects, 17 of which are funded by TCC dollars and four of which are funded solely by leveraged dollars. The TCC-funded and leveraged projects work synergistically to achieve the broad goals of

TCC. The TCC-funded projects and leveraged projects are consolidated into 11 distinct project types below and are mapped in Figure 1 (where applicable):

### TCC-Funded Projects



**Active Transportation** — Funds the installation of more than 1,154 linear feet of new sidewalk, nearly 1,200 linear feet of Class II bicycle lanes, and signage for more than 1,000 linear feet of Class III bicycle lanes. This project aims to reduce car travel by making alternative mobility options safer and more convenient.



**Affordable Housing and Sustainable Communities** — Funds the construction of a 57-unit affordable housing development with ground floor retail space, as well as free transit passes for residents and pedestrian improvements (e.g., improving 0.5 miles of sidewalk, installing LED street lighting, planting 26 trees, constructing a permeable green alley, and installing traffic-calming measures). Together these investments are aimed at improving transit ridership and active transportation, reducing vehicle miles traveled (VMT), and lowering housing and travel costs for Fresno residents.



**Food Waste Prevention and Rescue** — Funds the rescue, processing, and distribution of edible food waste and food donations to pantries, kitchens, and community organizations to improve access to local fresh and healthy foods. The edible food rescue process will help reduce the amount of organic material sent to landfills, where it decomposes in the absence of oxygen and releases methane, a potent GHG.



**Low-Carbon Transportation** — Funds an electric vehicle (EV) and electric bicycle sharing mobility network of 34 cars, eight vans, 200 bicycles, along with vehicle charging infrastructure. The low-carbon transportation project fills a critical mobility gap and will increase residents' access to services and amenities without producing GHG from tailpipe emissions.



**Rooftop Solar and Energy Efficiency** — Funds three distinct projects aimed at installing no-cost rooftop solar systems and energy efficiency measures on residential properties. Together the projects will install rooftop solar PV on nearly 200 low-income single-family homes and five multi-family dwelling units, and install energy efficiency measures in 170 single-family homes. These three projects will enhance local generation of renewable energy and lower electricity and utility costs for property owners.



**Urban and Community Forestry** — Funds the planting of over 500 trees to increase urban tree canopy and the building of three new community gardens and orchards to increase access to fresh and healthy produce. As the trees mature, they will sequester carbon and shade nearby buildings, which should reduce the demand for electricity for cooling purposes. The additional tree coverage will also reduce the urban heat island effect on hot days and absorb stormwater on rainy days.



**Urban Greening** — Funds the planting of over 950 trees to increase urban tree canopy, the installation of two miles of bicycle lanes, and the construction of a new 9.5-acre public park. Similar to the urban and community forestry projects, the planted trees will sequester carbon, cut electricity demand, and reduce the urban heat island effect as they mature. The bicycle lanes will encourage more active forms of travel, thereby reducing VMT.

## Leveraged Projects



**Chinatown Property-Based Improvement District (PBID)** — Leverages the local and small business community in Chinatown to develop a PBID with the main goal of retaining, growing, and attracting businesses to the neighborhood. The PBID will support local job creation and economic growth.



**EFMP Plus-Up Vehicle Replacement and Incentives** — Leverages relationships between project partners and nonprofit organizations to target individuals who receive TCC-funded rooftop solar and energy efficiency upgrades with additional rebates and incentives. These will help residents purchase or install an electric or hybrid vehicle, a home charging station, or electric service panel upgrades through the Enhanced Fleet Modernization Program (EFMP) Plus-Up.



**Southwest Off-Site Improvements** — Funds the installation of new trails, sidewalks, and Class II and III bicycle lanes on and around the new West Fresno Satellite Campus. The improvements will support multimodal travel in the neighborhood and access to the new community college campus, thereby reducing VMT.



**TCC Connector** — Expands the frequency of bus service along a central corridor through the project area and couples this service expansion with the purchase of an electric bus and installation of electric charging stations. Similar to the affordable housing project, the TCC Connector will improve transit ridership and reduce VMT.



TCC-funded garden boxes at the Inside Out Community Garden, investments that fall under Transform Fresno's Urban and Community Forestry projects (taken in October of 2019). Photo credit: Mayor Lee Brand



## Transformative Plans

TCC is unique from other state-funded GHG reduction programs because it requires grantees to develop three transformative plans to maximize the benefits of the previously described projects and to minimize unintended harms. Specifically, grantees were required to develop a community engagement plan (CEP), workforce development plan (WDP), and displacement avoidance plan (DAP).

Respectively, these three plans are designed to ensure that TCC investments reflect the community’s vision and goals, bring economic opportunities to low-income households, and minimize the risk of gentrification and displacement of existing residents and businesses. In the case of Transform Fresno, these three plans have been adapted in the following ways:



### Community Engagement Plan

- » **Formalize** community participation in TCC grant governance through the establishment of a collaborative stakeholder structure that includes:
  - City of Fresno (the lead TCC grantee)
  - 12 project and plan partners
  - 16 members of the Outreach and Oversight (O&O) Committee, an advisory body composed of local residents and business owners
- » **Communicate** ways for the community of Southwest Fresno to benefit from and participate in the implementation of TCC investments, through the following means:
  - Central website
  - Social media
  - Newsletters
  - Text messages
  - Door-to-door canvassing
  - Flyers and meeting notices
- » **Create** opportunities for the community to actively participate in the implementation process, including:
  - Public meetings of the O&O committee
  - Annual Transform Fresno Summits
  - Project-specific charrettes or workshops
  - Youth Leadership Development programming
  - Neighborhood project update meetings
  - Preference and opinion surveys
  - Arts and culture events (e.g., mural paintings)
- » **Document** the outcomes, successes, and lessons learned through Transform Fresno by a variety of media, including:
  - Video history
  - Community narrative documentation
  - Online participation dashboard
  - Annual and final engagement reports



### Workforce Development Plan

- » **Connect** residents with training and employment opportunities that provide them with new skills in the following sectors:
  - Construction
  - Welding
  - Solar PV system installation and maintenance
  - Home weatherization
  - Advanced technology trucking
  - Agriculture
  - Waste management
- » **Establish** an electronic database that tracks economic data pertaining to the workforce ecosystem



### Displacement Avoidance Plan

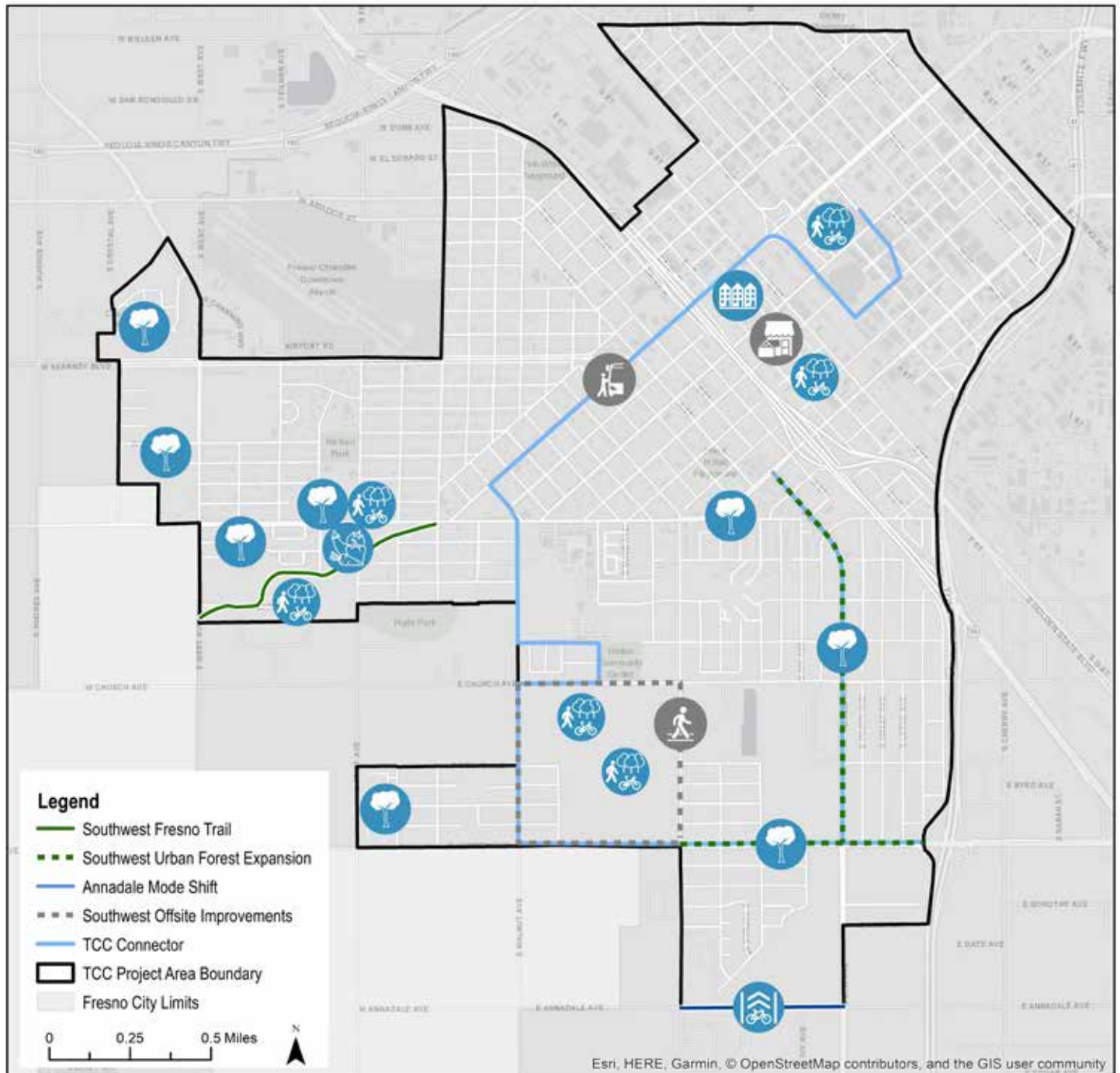
- » **Protect** tenure of existing residents by adopting anti-harassment policies, establishing rent controls, and providing legal services
- » **Incentivize** affordable housing production through density bonus ordinances; funding affordable housing production; and allowing the development of accessory dwelling units
- » **Retain** local small business community by creating a Small Business Alliance, requiring local purchasing, and providing low- and no-cost technical assistance
- » **Empower** residents and businesses to take advantage of local economic opportunities by offering:
  - Homebuyer and financial literacy education summits
  - Coaching sessions and technical assistance opportunities about small business development

## Project Area

The Transform Fresno project area was configured to bring investment to some of the state's most disadvantaged neighborhoods. All census tracts within the project boundary area are defined as disadvantaged according to CalEnviroScreen 3.0 (100% of the project area ranks within

the top 5%). The project area boundary was also drawn to connect key assets, bus routes, and cultural centers within those census tracts. **Figure 1** shows where TCC-funded projects and leveraged projects are located within the project area.

**Figure 1. Project Area Map With Locations of Projects\***

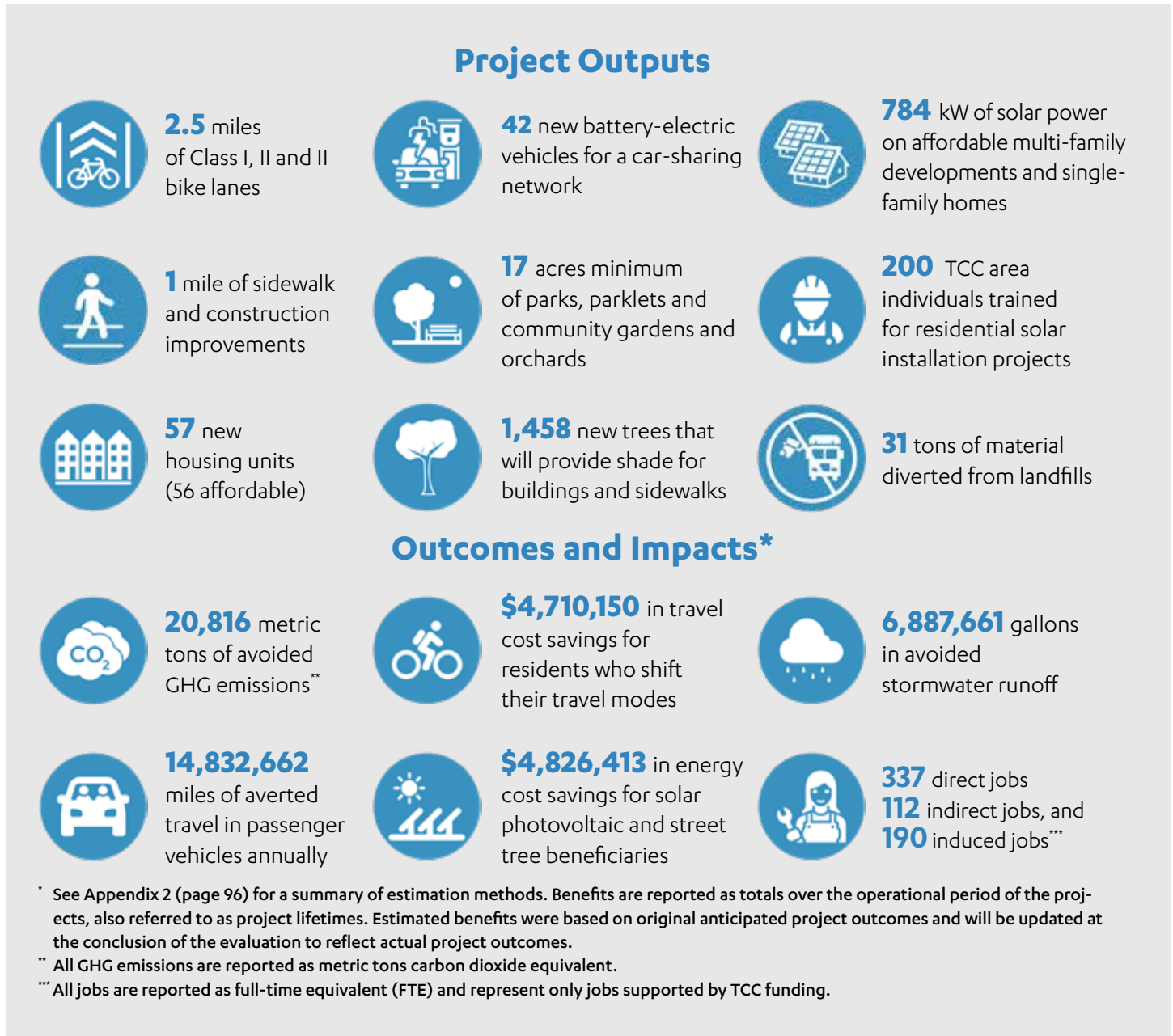


\*See pages 6-7 for information about what each project icon represents. This map does not include projects or plans that are sitewide (e.g., community engagement) or projects for which locations have not been determined (e.g., rooftop solar installations). Figure credit: UCLA Luskin Center for Innovation

## Anticipated Benefits

Transform Fresno is slated to bring a number of benefits to residents of the TCC project area. The infographic below highlights a nonexhaustive list of these benefits, grouped by indicator type. This list includes only outputs, outcomes, and impacts from TCC-funded projects and does not include those from leveraged projects. Project outputs refer to the tangible goods and services that Transform

Fresno will deliver by the end of project implementation. These outputs are expected to result in many positive outcomes and impacts. Outcomes refer to changes in stakeholder knowledge, attitudes, skills, behaviors, practices, or decisions, while impacts refer to changes in the environmental or human conditions that align with the objectives and goals of TCC.



Harder to quantify, but nevertheless important, is the leadership and collaboration capacity that will be created in Fresno over the course of the TCC implementation process. This capacity could lay the foundation for other funding and action-oriented opportunities that leverage

the TCC projects and plans to bring additional environmental, health, and economic benefits. Moreover, the best practices and lessons learned from Transform Fresno could inform local climate action and investments well beyond the project area.

## Cumulative Accomplishments



Construction of The Monarch @ Chinatown, a TCC-funded affordable housing development. Photo credit: Fresno Housing

Much has happened after SGC's announcement of Fresno's TCC award in January 2018. From then through the close of the 2021-2022 fiscal year (June 30, 2022), a period of four and a half years, project partners have made considerable progress toward implementing an ambitious, unprecedented climate action initiative.

Key accomplishments of Transform Fresno project partners are described in this section according to the period in which they occurred. Specifically, accomplishments are divided between: (a) post-award consultation, a period of planning and preparation between the award announcement and grant execution; and (b) grant implementation, which formally began in April 2019, when the City of Fresno executed its grant agreement with SGC. In light of the challenges of the pandemic, SGC has extended the grant implementation period for Round 1 grantees (from June 2023 to February 2024 in Fresno).

### Post-Award Consultation (January 2018 – March 2019)

#### Formalized Partnerships and Governance Structure

During the post-award consultation phase, Transform Fresno partners participated in a comprehensive review of all projects and transformative plans to ensure that they complied with TCC guidelines and that requisite partnerships were in place for successful implementation. Key deliverables from this process included: an executed grant agreement with clearly defined work plans and roles for each project partner; an evaluation plan to measure the effects of TCC investment in collaboration with LCI; and the establishment of a collaborative stakeholder structure for coordinating grant governance (see **Appendix 3, page 97**, for a list of members).

### Grant Implementation (April 2019 – June 2021)

#### Strengthened Community Capacity

Community capacity is broadly defined as the ability of local communities to develop, implement, and sustain their own solutions to societal challenges, including but not limited to climate change. Through investment in both physical and social capital, TCC has strengthened community capacity in Fresno, as evidenced by several case studies that can be found later in this report. For example, TCC funding for community engagement has helped local project partners build broader networks, gain more leadership experience, and better understand the needs of South-west Fresno residents (see **page 29**) for a case study on one of the project partners who is at the forefront of engaging residents in the TCC project area). Moreover, TCC funding for community gardening and food waste diversion has allowed anchor institutions, such as Fresno Metro Ministry and the Yosemite Village Community Garden, to expand their operations and offer new programs that reduce food insecurity (see **page 31** and **page 33**, respectively, for case studies on the work of each of these institutions).

#### Brought Solar Power to Low-Income Households

Through the end of FY 2021-2022, project partners had installed 72 solar PV systems, thereby reducing local reliance on fossil fuels and energy costs. Of these systems, 70 were installed at single-family properties, benefiting low-income homeowners who make less than 80% of the area median income (all at no-cost to the homeowners). The other two PV systems were installed at two multi-family, affordable housing developments in the TCC project area: (1) Bridges at Florence, affordable senior living apartments; and (2) Sequoia Courts, a public housing complex.

### Retrofitted Homes to Use Less Energy

Since TCC funds were awarded, 35 low-income homes have been retrofitted with weatherization and energy efficiency measures. In the last year, program partners implemented energy-saving measures at seven low-income households to save on electrical utility bills, the energy needed for heating and cooling, and greenhouse gas emissions. All retrofits are done at no cost for low-income households that make less than 80% of the area median income. Project partners have also been hosting workshops and community outreach events (19 and 15, respectively) to promote energy efficiency and consumer behaviors that save money on electricity bills.

### Installed Electric Vehicle Charging Infrastructure

To improve access to low- to no-cost electric transportation options in Southwest Fresno, 38 EV chargers have been installed across five different charging sites throughout the project area. These charging stations will eventually support 34 battery-electric vehicles (Tesla Model 3 or Chevy Bolt) for car sharing, which can be rented by the hour or by the day, with below-market rates for low-income members. Thus far, the EV charging stations have supported 1,333 kilowatt-hours (kWh) of charging activity, displacing about 1,908 miles traveled in a conventional vehicle fueled by gasoline. The investments in electric vehicle infrastructure are also being supported by investments in robust community engagement, particularly with residents who have limited transportation options, so that they feel empowered to use the new infrastructure to meet their transportation needs (see [page 29](#) for a case study on how the engagement process has helped build local buy-in for the car-sharing program).

### Increased Urban Tree Cover

With respect to urban forestry, program partners have planted 525 trees throughout the project area. In addition to planting native and drought-tolerant trees for shade, project partners have also planted citrus, stone fruit, and nut trees that give residents the opportunity to harvest their own food, thereby increasing healthy and nutritious food access. The trees will also increase shade, cut electricity demand, and reduce the urban heat island effect on hot days; absorb stormwater on rainy days; and sequester carbon as they mature. To help build local capacity to manage these newly planted trees, project partners have held workshops about tree maintenance and fruit harvesting.

### Greened Fresno's Built Environment

Transform Fresno's six Urban Greening Projects complement other efforts throughout the neighborhood to increase tree coverage, open green space, and active transportation infrastructure. With respect to green space, project partners have planted a total of 157,910 square feet

## Key Accomplishments Through June 2022

### Partnership Formation

- » An executed grant agreement with clearly defined work plans, partner roles, deliverables, and reporting expectations for each project and plan
- » The development of an evaluation plan, in collaboration with LCI, for tracking the outputs and outcomes from each project and plan
- » Establishment of a collaborative stakeholder structure, an advisory and governance group made up of residents, property owners, and local businesses in the project area

### Renewable Energy Access

- » **70** solar PV systems installed on single-family properties owned by low-income households, totaling 281 kW in capacity
- » **2** solar PV systems installed at multi-family, affordable housing sites, totaling 30 kW in capacity

### Energy Efficiency

- » **35** homes retrofitted with weatherization measures to save on energy needed for heating and cooling
- » **19** energy efficiency workshops held (56 unique stakeholder engaged across workshops)
- » **15** community events that highlighted opportunities for TCC project area residents to reduce their energy bills

### Low Carbon Mobility

- » **1,333** kilowatt-hours (kWh) of energy consumption at EV charging infrastructure, displacing about 1,908 miles traveled in a conventional vehicle fueled by gasoline
- » **38** electric vehicle chargers installed across five different charging sites

### Active Transportation

- » **6,279** linear feet (1.3 miles) of bike lanes added
- » **3,327** linear feet (0.6 miles) of pedestrian pathways added

(3.6 acres), most of which has occurred at the community garden at the Yosemite Village Housing Complex. With respect to active transportation infrastructure, 1.3 miles of bike lanes and 0.6 miles of pedestrian pathways have been added in the project area (split between the satellite west campus of the Fresno City College and a section of East Annadale Avenue).

### Deepened Community Engagement Efforts

Fresno's Community Engagement Plan is well underway, offering residents multiple channels to participate in TCC grant governance, planning, leadership development, and opportunities to reflect on (and celebrate) TCC implementation milestones. With respect to grant governance and planning, Transform Fresno's resident-inclusive Outreach and Oversight Committee met 19 times, during which they discussed project developments and pending implementation decisions. There have also been eight project-specific input sessions and six focus groups. As to leadership development, project partners have trained 23 youth ambassadors to support engagement efforts, with education on the following topics: community organizing, meeting facilitation, public speaking; and local government procedures. And with respect to reflection and celebration, there have been two Transform Fresno Summit events (all-day conferences about various TCC happenings) and one resource fair to showcase pedestrian and bicyclist infrastructure along East Annadale Avenue.

A number of additional project-specific community engagement and outreach events are detailed later in the report (e.g., garden leadership committee meetings, bike to school day events, cooking demonstrations, etc.). In total, there have been at least 136 events, workshops, and meetings to engage the community in some capacity.

## Key Accomplishments Through June 2022

### Urban Forestry and Greening

- » **157,910** square feet (3.6 acres) of vegetation planted
- » **13,016** pounds of produce (211 given away for free to residents)
- » **535** trees planted across the project area
- » **176** garden plots and a hoop house built out for nearby residents to grow produce for their families

### Community Engagement

- » **23** youth ambassadors trained to support engagement efforts
- » **19** meetings of the Outreach and Oversight Committee, a resident-inclusive grant governance body
- » **8** input sessions and six focus groups to gather community feedback about the rollout of specific projects
- » **2** Transform Fresno Summit events (all day conferences about TCC progress and learnings);
- » **1** resource fair (and pumpkin patch event) to celebrate the completion of TCC investments along East Annadale Avenue)



Youth ambassadors hired and trained to help with community engagement. Photo credit: Fresno EOC

### Expanded the Skills of Fresno’s Labor Force

Guided by Transform Fresno’s workforce development plan, project partners are offering a wide range of training opportunities in fields that are needed for climate change mitigation and resilience. Those fields include, but are not limited to: solar photovoltaic system installation and maintenance, home weatherization, welding, construction, waste management, and trucking using advanced vehicle technologies. Thus far, a total of 88 individuals have received paid training in one or more of these fields.

### Coordinated Efforts to Mitigate Displacement

While Fresno’s Displacement Avoidance Plan (DAP) is not funded directly by the Transform Fresno TCC implementation grant, SGC did provide Fresno a separate \$133,333 technical assistance grant to inform the rollout of the policies proposed within the DAP. That work was led by Thrivance Group, which gathered and analyzed data related to displacement vulnerability within the Transform Fresno project area, conducted educational and informational community workshops, and made 48 displacement avoidance policy recommendations in the draft “Here to Stay: A Policy-Based Blueprint for Displacement Avoidance in Fresno” on June 9, 2021.

One major strategy within Fresno’s DAP is mitigating displacement measures by economically empowering residents and businesses to build wealth and financial stability. In service of this strategy, Transform Fresno partners have accomplished the following: (1) executed a project labor agreement with local hiring provisions for construction projects that are at least 75% funded by TCC and have bid amount greater than \$133,000; (2) offered a homebuyer education workshop that covered the homebuying process, necessary qualifications for buyers, and strategies for improving one’s access to credit; and (3) offered a business development workshop for local entrepreneurs.

### Responded to the COVID-19 Pandemic

After the COVID-19 pandemic hit, many of Transform Fresno’s various projects and transformative plans had to halt implementation to mitigate community spread of the virus. Transform Fresno project partners quickly regrouped and identified which project components should be postponed and which could be modified to employ physical distancing protocols. Notable implementation pivots include: moving community engagement programming to a virtual environment (Zoom), much of which was recorded for wider dissemination; modifying site visit procedures for solar installations to minimize client contact; and employing social distancing and masking practices so that construction, gardening, and tree planting activities could continue on.

## Key Accomplishments Through June 2022

### Workforce Development

- » **149** volunteers provided on-the-job training by GRID Alternatives in the rooftop solar sector
- » **36** individuals enrolled in the VOICE Welding Gladiator Program (34 completed all 500 hours of paid training and 18 placed in related jobs)
- » **27** individuals enrolled in WFATT to learn how to drive low- to zero-emission commercial trucks (22 completed all 160 hours of paid training and seven placed in related jobs)
- » **25** individuals provided paid training by Fresno Economic Opportunities Commission on how to install energy efficiency measures and solar PV panels

### Displacement Avoidance

- » **3** business development webinar held
- » **2** homebuyer education webinars held
- » Executed PLA with local hiring provisions for construction projects that are at least 75% funded by TCC and have bid amounts greater than \$133,000

### Pandemic Responses

- » Community engagement programming, including quarterly Outreach and Oversight Committee community meetings, moved to a virtual environment (Zoom) and were recorded for wider dissemination
- » GRID Alternatives and Fresno EOC received applications for rooftop solar virtually or via phone, modified site visit procedures to minimize client contact, and continued installing solar PV with physical distancing and masks among all crew members
- » Construction, volunteer days, and resident planting and gardening continued at the Yosemite Village Permaculture Community Garden & Urban Farm Incubator at limited capacity, with social distancing and masks.



Former Governor Jerry Brown in Fresno signs a package of climate change bills in September of 2016, including Assembly Bill 2722, which was authored by Assembly member Autumn R. Burke (at right) and established the Transformative Climate Communities (TCC) Program. Photo credit: The Fresno Bee

## The Vision Behind TCC

**THE TRANSFORMATIVE CLIMATE COMMUNITIES PROGRAM (TCC)** was authorized in 2016 by Assembly Bill 2722 (authored by Assembly member Autumn Burke). The bill's intent is to fund the development and implementation of neighborhood-level transformative climate community plans that include multiple coordinated greenhouse gas (GHG) reduction projects that provide local economic, environmental, and health benefits to disadvantaged communities.<sup>8</sup> The program is part of California's broader suite of programs, referred to as California Climate Investments, that use revenues from the state's Cap-and-Trade Program to fund projects that reduce GHG emissions. TCC is novel because of three signature elements: (1) a place-based and community-driven approach toward transformation; (2) robust, holistic programming via the integration of diverse strategies, and (3) cross-sector partnerships. The authors of this report are not aware of such a comprehensive, community-driven, and place-based climate action program anywhere else in the world.

<sup>8</sup> AB 2722, Transformative Climate Communities. 2016. Web. February 2017. Retrieved from: [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201520160AB2722](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB2722)



As a place-based program, TCC requires that all grant applicants identify a project area that will be the focus of their proposals. Proposals must be borne out of a robust community engagement process that brings together residents and stakeholders toward the development of a shared vision of how to invest TCC funds. The program's emphasis on comprehensive community engagement helps ensure that proposals are based on a deep understanding of a community's needs and assets, thereby maximizing the benefits that TCC dollars bring to existing residents in a selected site.

As a holistic program, TCC integrates a wide variety of GHG-reduction strategies, such as sustainable land use, low-carbon transportation, renewable energy generation, urban greening, and waste diversion. With these strategies in mind, TCC grantees develop site-specific projects, such as transit-oriented affordable housing, expanded bus service, rooftop solar installations, tree planting, and food waste recovery. These GHG-reduction projects are modeled after existing California Climate Investment (CCI) project types, but TCC is novel in that it unifies them into a single, place-based initiative. In addition to integrating various CCI project types, TCC also requires TCC sites to incorporate crosscutting transformative plans, ensuring that TCC investment is underpinned by meaningful community engagement, provides direct economic benefits to existing residents and businesses, and enables these stakeholders to remain in their neighborhoods. Moreover, grant recipients are expected to use TCC dollars in concert with other sources of funding that could complement the TCC investment to implement the community vision.

Last, the program emphasizes cross-sector partnerships by requiring applicants to form a coalition of organizations that would carry out the implementation of the community vision. To assure that the implementation will deliver the community's vision, all applicants are required to have an oversight committee that consists of project partners, community members, and local community-based organizations. The diverse partnerships, robust governance, and aforementioned transformative plans help ensure transparency and accountability for the investments, all while

building the capacity of communities historically underinvested in, thereby helping to reverse that trend.

### **Program Administration**

SGC awards TCC grants and administers the program in partnership with the Department of Conservation (DOC), with collaboration by other state agencies. SGC staff coordinates efforts with partnering state agencies and works with the California Air Resources Board (CARB) and DOC on program guidelines, evaluating applications, preparing agreements, monitoring agreement implementation, and program reporting.

There are currently two types of grants administered through TCC: implementation grants and planning grants. SGC awards implementation grants to sites that have demonstrated a clear, community-led vision for how they can use TCC dollars to achieve program objectives in their communities. SGC also awards planning grants to fund planning activities in disadvantaged communities that may be eligible for future TCC implementation grants and other California Climate Investment programs. The implementation grants are funded through California's Cap-and-Trade auction proceeds, while the planning grants are funded through a mix of Proposition 84 funds and Cap-and-Trade auction proceeds.

### **Program Awards**

Since the launch of the program in 2016, there have been four rounds of awards. During Round 1, which was tied to fiscal year (FY) 2016-2017 funding, a total of \$133 million was allocated to implementation grants and \$1.6 million was allocated to planning grants. For Round 2, which was tied to FY 2018-2019 funding, a total of \$46 million was allocated to implementation grants, and a total of \$800,000 was allocated to planning grants. For Round 3, which was tied to FY 2019-2020 funding, a total of \$48 million was allocated to implementation grants and a total of \$600,000 was allocated to planning grants. Last, for Round 4, which was tied to FY 2021-2022 funding, a total of \$94 million was allocated to implementation grants and a total of \$2 million was allocated to planning grants. Table 1 provides an overview of the implementation and planning grants that have been distributed through FY 2021-2022.

**Table 1: Overview of TCC Implementation and Planning Grants Through FY 2021-2022**

Site Location	Round (Fiscal Year)	Grant Type	Funding Amount
Fresno	Round 1 (FY 2016-2017)	Implementation	\$66.5 million
Ontario	Round 1 (FY 2016-2017)	Implementation	\$33.25 million
Los Angeles - Watts	Round 1 (FY 2016-2017)	Implementation	\$33.25 million
Coachella Valley	Round 1 (FY 2016-2017)	Planning	\$170k
East Los Angeles	Round 1 (FY 2016-2017)	Planning	\$170k
East Oakland	Round 1 (FY 2016-2017)	Planning	\$170k
Gateway Cities	Round 1 (FY 2016-2017)	Planning	\$170k
Moreno Valley	Round 1 (FY 2016-2017)	Planning	\$94k
Richmond	Round 1 (FY 2016-2017)	Planning	\$170k
Riverside	Round 1 (FY 2016-2017)	Planning	\$170k
Sacramento - Franklin	Round 1 (FY 2016-2017)	Planning	\$170k
Stockton	Round 1 (FY 2016-2017)	Planning	\$170k
West Oakland	Round 1 (FY 2016-2017)	Planning	\$170k
Northeast Los Angeles – Pacoima/Sun Valley	Round 2 (FY 2018-2019)	Implementation	\$23 million
Sacramento - River District	Round 2 (FY 2018-2019)	Implementation	\$23 million
Bakersfield	Round 2 (FY 2018-2019)	Planning	\$200k
Indio	Round 2 (FY 2018-2019)	Planning	\$200k
McFarland	Round 2 (FY 2018-2019)	Planning	\$200k
South Los Angeles	Round 2 (FY 2018-2019)	Planning	\$200k
Tulare County	Round 2 (FY 2018-2019)	Planning	\$200k
East Oakland	Round 3 (FY 2019-2020)	Implementation	\$28.2 million
Riverside – Eastside	Round 3 (FY 2019-2020)	Implementation	\$9.1 million
South Stockton	Round 3 (FY 2019-2020)	Implementation	\$10.8 million
Pomona	Round 3 (FY 2019-2020)	Planning	\$200k
Porterville	Round 3 (FY 2019-2020)	Planning	\$200k
San Diego - Barrio Logan/Logan Heights	Round 3 (FY 2019-2020)	Planning	\$200k
Richmond	Round 4 (FY 2021-2022)	Implementation	\$35 million
South Los Angeles	Round 4 (FY 2021-2022)	Implementation	\$35 million
South Stockton	Round 4 (FY 2021-2022)	Implementation	\$24.2 million
San Diego - Spring Valley	Round 4 (FY 2021-2022)	Planning	\$300k
Karuk Tribe	Round 4 (FY 2021-2022)	Planning	\$300k
Monterey - Pájaro Valley	Round 4 (FY 2021-2022)	Planning	\$300k
Chicken Ranch Rancheria and Jamestown	Round 4 (FY 2021-2022)	Planning	\$217k
Tulare County	Round 4 (FY 2021-2022)	Planning	\$300k
Hoop Valley Indian Reservation	Round 4 (FY 2021-2022)	Planning	\$300k
Wiyot Tribe	Round 4 (FY 2021-2022)	Planning	\$300k



Partners at SGC on a tour of Yo’Ville Community Garden and Farm in December of 2021. Photo credit: SGC

## Evaluating the Impacts of TCC

In 2017, SGC contracted with the University of California, Los Angeles and the University of California, Berkeley (UCLA-UCB evaluation team) to draft an evaluation plan for assessing the progress and outcomes of Round 1 TCC implementation grants at the neighborhood level. In November 2018, the UCLA-UCB evaluation team published an evaluation plan to serve as a guide for evaluating the three TCC Round 1 grants.<sup>9</sup>

After the publication of the Round 1 evaluation plan, the UCLA-UCB evaluation team entered a second contract with SGC to serve as the third-party evaluator in all three Round 1 sites. The UCLA Luskin Center for Innovation (LCI) is now the sole contractor in that role, and will continue as such for the first five years of TCC Round 1 grant implementation (2019 through 2024).

For Rounds 2 and 3 of the program, each TCC site selected a third-party evaluator from a list of qualified evaluation technical assistance providers that were preapproved by SGC through an open application process. LCI was selected to serve as the evaluator for the Round 2 grant in Northeast Los Angeles (Pacoima) and the Round 3 grant in Stockton.

LCI’s evaluation plans for Rounds 2 and 3 closely follow the evaluation plan from Round 1, with some site-specific

modifications to reflect each site’s unique set of projects, goals, and priorities for data tracking. These modifications were made in close consultation with the project partners in each TCC site.

### Conceptual Framework for Evaluating TCC

Logic models greatly informed all of the evaluations plans that LCI produced. Logic models illustrate the interim steps that must occur for a project or plan to realize its intended goals. Within the context of TCC, these steps are defined as follows:

- » **Inputs:** The investment dollars and leveraged funds that support TCC
- » **Activities:** The work of TCC grantees and co-applicants
- » **Outputs:** The products and services that TCC projects produce and deliver
- » **Short-term Outcomes:** Changes in stakeholders’ knowledge, attitude, and skills
- » **Intermediate Outcomes:** Changes in stakeholders’ behaviors, practices, or decisions
- » **Impacts:** Changes in environmental or human conditions that align with the objectives of TCC (i.e., GHG reductions; public health and environmental benefits; and economic opportunities and shared prosperity).

<sup>9</sup>The UCLA Luskin Center for Innovation and UC Berkeley Center for Resource Efficient Communities. 2018. *Transformative Climate Communities Evaluation Plan: A Road Map for Assessing Progress and Results of the Round 1 Place-based Initiatives*. Retrieved from: [http://sgc.ca.gov/programs/tcc/docs/20190213-TCC\\_Evaluation\\_Plan\\_November\\_2018.pdf](http://sgc.ca.gov/programs/tcc/docs/20190213-TCC_Evaluation_Plan_November_2018.pdf)

The LCI evaluation team translated the latter four steps in the logic model framework into indicators that could be quantified and tracked for the purposes of program evaluation. The TCC Round 1 evaluation plan summarizes the final list of indicators adopted by SGC for Fresno, Ontario, and Watts.<sup>10</sup> Indicator tracking responsibilities will be partially split among the LCI evaluation team and the grantees. In general, all output-related indicators will be tracked by the grantees, while most outcome- and impact-related indicators will be tracked by the LCI evaluation team.

### Quantitative Methods for Evaluating TCC

To quantitatively assess the effects of TCC, the LCI evaluation team will conduct two different forms of comparison: (1) before-and-after TCC investment; (2) and a with-and-without TCC investment. Together, these two modes of comparison will provide the most reliable assessment of what changes can be attributed to TCC investment.

For the before-and-after comparison, the LCI evaluation team will measure changes in indicators before and after TCC kickoff, which occurred in 2019 for Round 1 grants. When possible, the LCI evaluation team will construct a five-year pre-kickoff trend line (2014-2018 for Round 1) and a five-year post-kickoff trend line (2019-2023 for Round 1).

For the with-and-without comparison, the LCI evaluation team will compare trends in TCC sites to trends in a set of control sites that did not receive TCC investment. This will help isolate the effect of TCC from larger social, economic, and environmental forces that may also be acting on indicators. To support this effort, the LCI evaluation team has identified control sites that are similar to TCC sites along a number of dimensions, including socioeconomic demographics, climate, and pollution burden (as demonstrated by CalEnviroScreen scores).<sup>11</sup>

In addition to measuring changes within TCC sites and control sites, the LCI evaluation team is also measuring changes at the county and state level for indicators that speak to social equity (e.g., income, employment, housing costs, etc.). This will allow the LCI evaluation team to assess whether TCC is reducing socioeconomic disparities between TCC sites and the broader regions where they are located. If, for example, employment slightly increases within TCC sites but a much greater increase is observed regionally, then the economic gap between TCC sites and nearby communities has not been sufficiently addressed.

In summary, the LCI evaluation team will analyze quantitative data at four geographic scales (where possible):

- » **TCC project area:** The neighborhood boundary identified by the TCC grantees in which all TCC investments will be located. In some cases, a cluster of census tracts that have more than 10% area overlap with the TCC project boundary area will be used for indicator tracking purposes instead of the actual project boundary. This is the case for all indicators that rely on American Community Survey (ACS) data, which cannot reliably be apportioned to fit the actual TCC project boundary area. See **Appendix 6, page 101**, for a list of census tracts that will be used as a proxy for Fresno's TCC project boundary area.
- » **TCC control sites:** A cluster of census tracts that match TCC census tracts along a number of dimensions (e.g., demographics, climate, pollution burden, etc.) but that did not receive TCC investment. Collecting before-and-after data for the control sites will help control for external forces that may also be acting on indicators of interest within TCC sites. See **Appendix 7, page 102**, for a list of census tracts that will be used as control sites for evaluating the impacts of TCC investment in Fresno.
- » **County:** The county in which TCC sites are located (San Bernardino County for Fresno). County-scale measurements are helpful for understanding the degree to which TCC investments are addressing social equity concerns at a regional scale.
- » **State:** The state in which TCC sites are located (California). Like county-scale measurements, statewide measurements are helpful for understanding the degree to which TCC investments are addressing social equity concerns, but at a broader scale.

It's important to underscore that not all indicators easily lend themselves to analysis at the latter three scales. Many TCC indicators rely on the collection of primary data, and it may be cost prohibitive or technically infeasible to collect that data for control sites, the county, or the state. This is true for indicators such as trees planted and compost produced, which are reported to the LCI evaluation team directly by project partners. Even when secondary data are readily available at all four scales, it may not be prudent to use limited evaluation resources to analyze the data at all of those scales. This is true for bicyclist and pedestrian collision data, which must be cleaned and geocoded before being analyzed. Furthermore, some indicators must be estimated because they cannot be measured directly (e.g., GHG reductions, indirect jobs, etc.). In these cases, the LCI evaluation team is providing estimates for TCC sites only. Developing estimates for other geographic scales requires making a number of site-specific assumptions that are

<sup>10</sup> Ibid.

<sup>11</sup> See the TCC Round 1 Evaluation Plan (Appendix 3.2) of the TCC Round 1 Evaluation Plan for a summary of the methods used to identify control sites: [http://sgc.ca.gov/programs/tcc/docs/20190213-TCC\\_Evaluation\\_Plan\\_November\\_2018.pdf](http://sgc.ca.gov/programs/tcc/docs/20190213-TCC_Evaluation_Plan_November_2018.pdf)

outside the LCI evaluation team’s scope of work.

It is also important to note that it could take a generation for the transformative impacts of TCC investment to be quantitatively measured. Urban tree canopy, for example, can take 40 years to grow to maturity. Similarly, a career transition can require close to a decade (or more) of education and skill building. Thus, at the end of the relatively short five-year evaluation period, changes in impact indicators may be too small to draw any statistically valid conclusions. Nonetheless, the LCI evaluation team will update impact indicators annually for the sake of maintaining a complete time series. See **Appendix 8, page 103**, for the latest indicator data the LCI has collected.

### Qualitative Methods for Evaluating TCC

Many of the potential benefits of TCC likely will be missed by the quantitative methods previously described. For example, improvements in well-being, community capacity to tackle new challenges, and communication across diverse stakeholder groups are difficult to describe in numerical terms. Thus, to capture some of the nuanced effects that TCC may have at the individual and community level, the LCI evaluation team will analyze qualitative data collected from surveys, interviews, and focus groups.<sup>12</sup>

The LCI evaluation team will prioritize the use of qualitative data collection instruments for examining the aspects of TCC that are particularly novel relative to other grant programs. Specifically, the LCI evaluation team will collect qualitative data about the rollout of the transformative plans and the collaborative stakeholder structure. For Round 1 sites, the LCI evaluation team will also collect qualitative data from residents of TCC-funded affordable housing projects, which concentrate multiple GHG-reduction strategies into a single location and thus serve as a microcosm for the broader TCC program.

### Communicating the Effects of TCC

During Round 1 of TCC grant implementation, the LCI evaluation team will release five annual progress reports that document the early effects of TCC investment. The first four progress reports will primarily highlight findings from the LCI evaluation team’s quantitative data collection. High-level findings from qualitative and quantitative research will be summarized in the fifth annual progress report, once all qualitative data collection efforts have been completed.

To complement LCI’s observations about the effects of TCC, each annual progress report also spotlights the perspectives of TCC project partners and beneficiaries. These perspectives are highlighted in the following chapter, titled “Stories from the Community.” The individuals profiled in this chapter are recruited directly by TCC project partners and are interviewed by the LCI evaluation team. From these interviews, the LCI evaluation team develops two case studies per year about how the effects of TCC are being felt on the ground.

### Evaluation Activities in Fresno Through June 2022

In the months after TCC grantees executed their contracts, the LCI evaluation team worked with the grantees to operationalize a number of indicator tracking protocols. Specifically, the LCI evaluation team developed reporting forms to streamline tracking activities and trained TCC project partners on how to use those forms. On an annual basis, TCC project partners complete and submit these reporting forms to the LCI evaluation team. Each submission reflects project partners’ activities during the previous fiscal year. Many of the key accomplishments described in this document are pulled directly from project partners’ reporting forms.

By the end of 2019, the LCI evaluation team completed baseline data collection for quantitative indicators. Findings from the baseline data collection process are narratively described in the final chapter of Transform Fresno’s first annual report, titled *Transform Fresno: A Baseline and Progress Report on Early Implementation* of the TCC Grant. The underlying data for analyzing baseline trends are also included in **Appendix 8, page 103**, of this report, along with additional data that has been collected and processed within the past year. This appendix will be updated annually through the release of the 2024 progress report.

With respect to qualitative data collection, the LCI evaluation team has disseminated two surveys in all three Round 1 sites: (a) one focused on outcomes from community engagement activities and (b) one focused on outcomes from workforce development activities. The LCI evaluation team substantially revised the survey instruments from the versions posted in the 2018 evaluation plan, improving their legibility and reducing their completion time. The surveys have been made available in both English and Spanish, and in print and online formats.

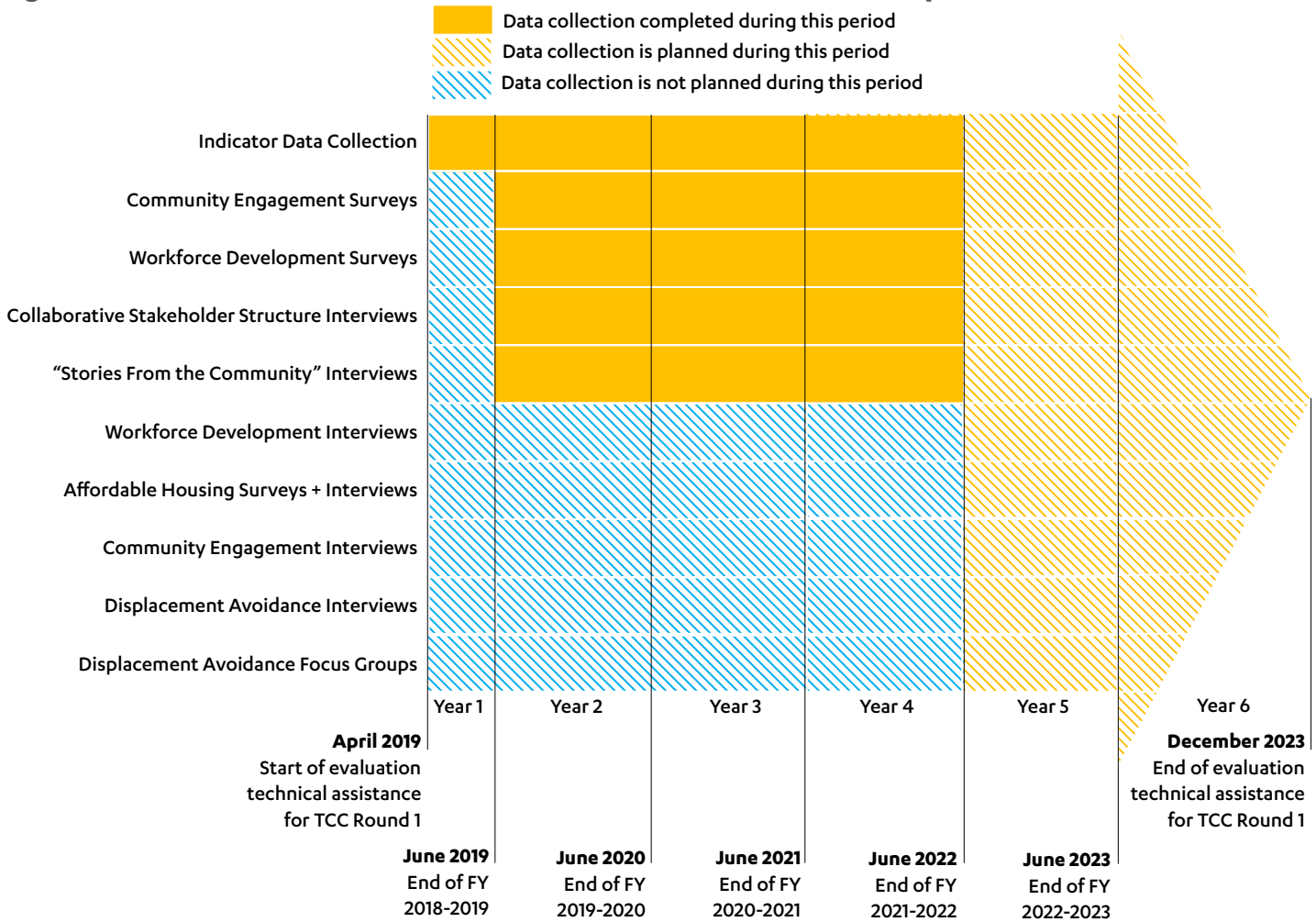
<sup>12</sup> See Section 3.3 of the TCC Round 1 Evaluation Plan for a summary of the timing, intent, and target population associated with each of these data collection instruments: [http://sgc.ca.gov/programs/tcc/docs/20190213-TCC\\_Evaluation\\_Plan\\_November\\_2018.pdf](http://sgc.ca.gov/programs/tcc/docs/20190213-TCC_Evaluation_Plan_November_2018.pdf) (since the publication of the Round 1 evaluation plan, the LCI evaluation team has also committed to interviewing members of each TCC site’s collaborative stakeholder structure on annual basis about implementation successes, challenges, and opportunities to improve TCC).

In Fresno, community engagement surveys were disseminated at quarterly Outreach and Oversight community meetings. Workforce development surveys were disseminated at the beginning and end of the following three job training programs: (a) GRID Alternatives’ solar installation training program; (b) Fresno EOC’s solar installation training program; and (c) the West Fresno Advanced Transportation Technology training program. All survey data will be analyzed toward the end of the five-year evaluation period, when it can be interpreted alongside the data that will be collected from forthcoming interviews and focus groups.

In addition to surveys, the LCI evaluation team has conducted interviews annually with members of the collaborative stakeholder structure to learn more about the process of TCC implementation, including strengths, challenges, and opportunities for improvement. The LCI evaluation team has also conducted interviews on annual basis to inform the case studies in the following chapter, collectively referred to as “Stories from the Community”.

Figure 2 provides a summary timeline of data collection activities for TCC Round 1 implementation grants. The timing of pending activities is subject to change.

**Figure 2. Timeline of Data Collection Activities for TCC Round 1 Implementation Grants\***



\*Each “year” in the figure corresponds to a fiscal year (FY) rather than a calendar year.

Figure credit: UCLA Luskin Center for Innovation



Along Highway 99, which runs through Fresno, air pollution is highly visible. Source: John Walker, The Fresno Bee

## A Brief History of Fresno: The Legacy of Environmental Injustice

TCC grants are reserved for California’s most disadvantaged communities. Understanding how those communities became so disadvantaged is critical for evaluating the efficacy of TCC. If the root causes of pollution, poverty, and other harms are overlooked, then they are likely to continue. This section provides a brief history of Fresno and how environmental injustices from the past affect the lives of Fresno residents today.

### Displacement of Yokuts and Mono People

Located in the San Joaquin Valley, the city of Fresno is California’s fifth most populous city, with over half a million residents. It has a culturally and ethnically diverse population and is home to many diaspora, immigrant, and refugee communities. Fresno has long struggled with environmental, health, and economic disparities, including high concentrations of poverty, air pollution, and toxin and pesticide exposure. Situated near the geographic center of California, it will increasingly experience the effects of extreme heat as the climate continues to warm.

The San Joaquin Valley is the traditional homeland of the

Yokuts people, who lived in the foothills, and Mono peoples, who occupied the upper reaches of Fresno County’s rivers.<sup>8</sup> In 1776, Spanish missionaries disrupted the lives of native peoples by capturing them and exposing them to diseases. By the 1800s, the indigenous population became weakened as more and more outsiders, including gold miners, took their land and displaced them.

### Impact of Anti-immigrant and Anti-Black Policies

After Fresno was established by the Central Pacific Railroad in 1872, it saw a boom in agriculture and demanded an expanded labor force.<sup>9</sup> However, jobs that depended on Asian immigrant laborers fell short due to anti-immigrant policies, such as the Chinese Exclusion Act. In the 1940s, the majority of the agricultural labor force became Mexican workers brought by the Bracero Program, which has contributed to the growth of the Latino population in Fresno today. Although Chinese immigrants helped build the Central Pacific Railroad, they were viewed as outsiders by local white residents and were forced to settle west of the tracks in what is now Chinatown. Many more immigrant groups, including Japanese, Armenians, and Mexicans, were also ostracized and joined Chinese immigrants in an area now commonly referred to as Southwest Fresno.

<sup>8</sup> Fresno County Historical Society. “The People and Communities of the 19<sup>th</sup> Century Central Valley - Native Americans.” Retrieved from: <https://www.valleyhistory.org/native-americans>

<sup>9</sup> City of Fresno. “History of Fresno.” Retrieved from: <https://www.fresno.gov/darm/historic-preservation/history-of-fresno/>

In 1918, Fresno's first general plan was created.<sup>10</sup> It formalized the existing residential segregation by setting aside the southern parts of the city for heavy industrial facilities, air and land pollution, and public housing. After World War II, many Black Americans moved to Fresno but found they were confined to living in the city's southwest due to redlining policies. The legacy of the first general plan instituted a harmful pattern that remains today – Fresno's communities of color are relegated to the most unsafe and polluted neighborhoods in the city.

In the 1970s, the population of Fresno tripled.<sup>11</sup> As more and more immigrants from Latin America came to the city, white flight from central neighborhoods began to occur. Development away from its urban core, such as shopping centers, hospitals, and college campuses, in combination with newly constructed freeways, attracted white residents to the affluent neighborhoods of north Fresno. As resources and wealth shifted to the north, white residents experienced improved health and education outcomes, more green spaces, and increased economic development. Contrastingly, the disinvestment in central, southeast, and west Fresno has resulted in increased poverty, the disproportionate impact of environmental hazards, and lack of access to economic opportunities for residents of color. According to a study published in 2018 by the National Center for Health Statistics, the life expectancy of residents in south and central Fresno is eight years less than residents of north Fresno.<sup>12</sup>

### Coming Together to Address Health Impacts

Today, Fresno is among the top polluted cities in California.<sup>13</sup> Fresno's air quality is affected by several factors, including its role as the region's center for agricultural industry and its location as the intersection of several major state highways. Low elevations in the Central Valley trap emissions from commuter vehicles and logistics vehicles like semi-trucks, along with high levels of pollutants from farming and pesticide use. Until 2004, farmers in the region would routinely burn tons of debris at the end of a growing season, which generated large amounts of particulate matter in the air. While agricultural burning has decreased, it has not been phased out completely. The Central Valley also experiences above average temperatures, especially in the summer, when ozone pollution becomes much worse due to the longer periods of time

ozone can develop in the sunlight. As a result of these conditions, many Fresnoans suffer from respiratory illness and poor health outcomes.

Despite the many challenges they face, residents of Fresno display a strong commitment to creating a better future for their city. Local leadership and community groups are working collaboratively to address the inequities in education, workforce development, and the environment. Adopted in 2014 and 2016, respectively, Fresno's General Plan and Zoning Ordinance call for approximately half of future development to be infill – building on vacant or underused land within an already developed area. This strategy is in contrast to previous plans that have encouraged development farther out into the county. By focusing on inward growth and reducing sprawl, the city is decreasing the distance people need to travel, the conversion of valuable agricultural land, and overall the amount of GHG emissions.

Other investments include the state's first high-speed rail station, bus rapid transit, and the revitalization of Downtown Fresno. Often negatively characterized, Downtown Fresno is now being "oriented toward pedestrian-friendliness, the restoration and use of vacant historic buildings, a high-density mix of uses, and 24-hour activity."<sup>14</sup> Additionally, the city has implemented greater water sustainability by increasing the use of surface water and minimizing groundwater pumping. In 2018, a majority of Fresno voters approved Measure P, an initiative to provide clean, safe neighborhood parks, trails, and recreational and art programs throughout the city. These major land use and infrastructure changes are expected to reduce GHG emissions and transform the community.

While Fresno has begun to tackle some of its most persistent socioeconomic and environmental challenges, these circumstances are a consequence of many decades of discriminatory policies. The community continues to need improved access to parks, tree cover, affordable housing, transit, and transportation, and job training and opportunities. To address these and other community needs and goals, residents and other stakeholders from Downtown, Chinatown and Southwest Fresno came together and formed the Fresno Transformative Climate Communities Collaborative.

<sup>10</sup>Thebault, Reis. 2018. "Fresno's Mason-Dixon Line," *The Atlantic*. Retrieved from: <https://www.theatlantic.com/politics/archive/2018/08/fresno-segregation/567299/>

<sup>11</sup>Pacheco-Werner, T. L., Corona, K., Corona, G., Chan, S., Conley, A., & Dhillon, H. 2018. "Unequal Neighborhoods: Demographics." Central Valley Health Policy Institute. California State University, Fresno. Retrieved from: [https://chhs.fresnostate.edu/cvhpi/documents/introduction\\_25138583.pdf](https://chhs.fresnostate.edu/cvhpi/documents/introduction_25138583.pdf)

<sup>12</sup>Arias E, Escobedo LA, Kennedy J, Fu C, Cisewski J. 2018. U.S. small-area life expectancy estimates project: Methodology and results summary. National Center for Health Statistics. *Vital Health Stat 2(181)*. Retrieved from: [https://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_181.pdf](https://www.cdc.gov/nchs/data/series/sr_02/sr02_181.pdf).

<sup>13</sup>American Lung Association. 2021. *State of the Air 2021*. Retrieved from: <https://www.lung.org/getmedia/17c6cb6c-8a38-42a7-a3b0-6744011da370/sota-2021.pdf>

<sup>14</sup>City of Fresno. "Downtown Revitalization". Retrieved from: <https://www.fresno.gov/mayor/downtown-revitalization/>





Former SGC Executive Director Randall Winston (center, standing) leads a discussion on key goals and priorities of TCC in Fresno on July 20, 2017. Photo credit: Leadership Counsel for Justice and Accountability

## Transform Fresno: Looking Back and Forward

Fresno’s TCC Implementation Grant is the result of years of community engagement, strategic planning, and capacity building. This section provides a brief history of that work.

### Early Place-Based Planning Efforts

Residents, business owners, place-based civic organizations, and other stakeholders in Downtown, Chinatown, and Southwest Fresno have been active participants in shaping the various plans and policies that impact their neighborhoods. Over the past decade, local community groups have addressed issues such as concentrated poverty, brownfields remediation, public safety, advocacy for parks and public spaces, and community, economic, and housing development.

The development of the City of Fresno’s General Plan (2014), the Downtown Neighborhoods Community Plan (2016), the Fulton Corridor Specific Plan (2016), and the Southwest Fresno Specific Plan (2017) was informed through diverse community engagement processes, including stakeholder interviews, neighborhood presentations, public meetings held by advisory and steering committees, participatory design workshops, community workshops, and public comment and questions periods.

The City of Fresno leveraged these existing civic and community engagement structures to ensure that the final TCC project package reflected and directly addressed the needs of the community. The first step was establishing a

Collaborative Stakeholder Structure, which formed in 2017 during the development of Fresno’s TCC application. Over the course of three months, there were five Community Steering Committee meetings, one town hall, two project development workshops, one project review day, and one supplemental information session. Anyone who lived, worked, or owned property in Downtown, Chinatown, or Southwest Fresno was encouraged to participate and to propose and discuss the types of projects that they wanted to see come to fruition. Sixty-two projects were proposed, of which 37 were eligible for funding consideration under TCC guidelines. The eligible projects were then gathered into five packages, each totaling \$75 million to \$77 million, that were presented and voted on in the final meeting.

To be a voting member for the final project package, residents had to prove that they lived in the project area and had attended more than 50% of the Community Steering Committee meetings; workers or property owners had to have attended more than 66% of the meetings. A total of 529 people participated, and of the 164 community members eligible to vote, 126 attended the final meeting and overwhelmingly chose the package of projects designed by residents of Southwest Fresno. This was the largest participatory budgeting process in the city’s history and engaged residents in decision-making processes about projects in their community to an unprecedented extent.

The result of these engagement efforts is Transform

Fresno, a suite of projects and plans aimed at reducing GHGs while also providing local environmental, health, and economic co-benefits for Fresno residents. Per the TCC guidelines for Round 1 applicants, Transform Fresno includes the following elements: (1) TCC-funded projects that have a direct impact on GHG reductions; (2) leveraged projects that further the broad goals of TCC and use only matching funds; and (3) transformative plans to ensure that the suite of projects is bolstered by meaningful community engagement, workforce development, and displacement avoidance activities.

### Transform Fresno Begins

In 2018, Transform Fresno was selected by SGC for a TCC grant of \$66.5 million. Transform Fresno will also leverage \$122.3 million in outside funds toward this vision. The TCC award not only brings a significant influx of financial resources to the community, but it also reinforces the cross-sector partnerships that were built before and during

the TCC application process. **Table 2** provides a summary of the final set of Transform Fresno projects, plans, and partners involved with implementation. **Appendix 1, page 94**, provides a detailed map of where all of the TCC and leveraged projects are located within the 4.9-square-mile area of the Transform Fresno boundary area.

The next three sections of this report provide summary profiles on the various transformative plans, TCC-funded projects, and leveraged projects that make up Transform Fresno. Each profile includes an overview of the project or plan's goals, the roles of various partners involved with implementation, and key accomplishments that have occurred since the announcement of Fresno's TCC award through the end of FY 2020-2021. This baseline and initial evaluation period overlaps with about 15 months of post-award consultation and 39 months of program implementation.

**Table 2: Summary of Transform Fresno Projects and Plans**

Project/Plan Type	Project/Plan Name	Partners	TCC Funding	Leveraged Funding
Community Engagement Plan	Transform Fresno Community Engagement Plan	City of Fresno;* Fresno Economic Opportunities Commission (Fresno EOC); Thrivance Group; Youth Leadership Institute	\$891,083	\$0
	Bike Safe Fresno	US Green Building Council – Central California (USGBC-CC);* City of Fresno; Fresno Bicycle Coalition; Urban Diversity Design; West Fresno Family Resource Center; Edison High School; CSU Fresno	\$138,540	\$0
Displacement Avoidance Plan	Transform Fresno Displacement Avoidance Plan	City of Fresno;* , Thrivance Group; Fresno Anti Displacement Task Force; Central Valley Business Diversity Partnership; Fresno4Biz and Precision Home Loans	\$0	\$60,500
Workforce Development Plan	West Fresno Advanced Transportation Technology Training	Fresno Regional Workforce Development Board*	\$1,249,432	\$ 207,665
	Welding Pre-Apprenticeship Training Program	State Center Community College District (SCCCD);* Voice of Including Community Equitably (VOICE); and West Fresno Family Resource Center (WFFRC)	\$1,850,500	\$109,020
	Transform Fresno Workforce Development Plan - City Administration	City of Fresno*	\$110,000	\$0

\* Project lead

\* The City of Fresno also received a technical assistance grant of \$133,333 from SGC and DOC to fund citywide displacement avoidance activities. These citywide activities directly support the implementation, goals, and strategies of the DAP.

Table continues on next page

Project/Plan Type	Project/Plan Name	Partners	TCC Funding	Leveraged Funding
Active Transportation Program	Annadale Mode Shift	Self-Help Enterprises;* City of Fresno	\$343,000	\$150,000
Affordable Housing and Sustainable Communities	The Monarch @ Chinatown	Fresno Housing Authority*; City of Fresno; California Housing Finance Agency; and US Bank	\$11,785,221	\$25,736,978
Food Waste Prevention and Rescue	St. Rest + Food to Share Hub: Healthy Food Rescue and Redistribution Hub	Fresno Metro Ministry;* Saint Rest Baptist Church	\$1,488,280	\$3,571,913
Low-Carbon Transportation	Clean Shared Mobility Network	Fresno Metro Black Chamber of Commerce;* Bethel Temple Church of God in Christ; Drop Mobility; Fresno Career Development Institute; Green Commuter; Latino Equity, Advocacy, & Policy (LEAP) Institute; Shared-Use Mobility Center	\$7,717,014	\$2,292,900
Rooftop Solar and Energy Efficiency	EOC Partnership for Energy Savings and GHG Reductions in SW Fresno	Fresno EOC;* Fresno Local Conservation Corps (LCC); GHS Govans; SunPower	\$3,208,377	\$0
	GRID Solar Collaborative Single-Family Partnership	GRID Alternatives;* The Fresno Center; Stone Soup Fresno	\$883,826	\$535,808
	GRID Solar Collaborative Multi-Family Partnership	GRID Alternatives;* The Fresno Center; Stone Soup Fresno	\$352,549	\$110,000
Urban and Community Forestry	Southwest Urban Forest Expansion	City of Fresno;* Tree Fresno	\$212,199	\$0
	Yosemite Village Permaculture Community Garden and Urban Farm Incubator	Fresno Metro Ministry;* Youth Leadership Institute; Fresno Housing Authority	\$367,500	\$415,944
	Inside Out Community Garden	Fresno EOC;* Another Level Training Academy; The City of Fresno	\$98,000	\$0
	Yosemite Village Community Orchard	Fresno Metro Ministry;* Fresno Housing Authority	\$262,500	\$0

\*Project lead

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Project/Plan Type	Project/Plan Name	Partners	TCC Funding	Leveraged Funding
Urban Greening	Southwest Fresno Trail	City of Fresno;* USGBC-CC; Urban Diversity Design	\$1,978,959	\$0
	Chinatown Urban Greening	City of Fresno;* USGBC-CC; Urban Diversity Design	\$6,965,696	\$0
	Mariposa Plaza	City of Fresno*	\$3,859,000	\$0
	Park at MLK Magnet Core	City of Fresno*	\$5,489,606	\$1,500,000
	St. Rest + Food to Share Hub: Urban Heat Island Mitigation	Fresno Metro Ministry;* Saint Rest Baptist Church	\$62,220	\$
	Fresno City College: West Fresno Satellite Campus	State Center Community College District (SCCCD)*	\$16,542,746	\$70,000,000
Leveraged Projects	Chinatown Property Based Improvement District	City of Fresno*	\$0	\$75,000
	EFMP Plus-Up Vehicle Replacement and Incentives	Fresno EOC;* Valley Clean Air Now (Vally CAN)	\$0	\$530,000
	Southwest Offsite Improvements	City of Fresno*	\$0	\$15,732,648
	TCC Connector	City of Fresno Department of Transportation*	\$0	\$3,532,774
<b>Total**</b>			<b>\$65,856,250</b>	<b>\$122,316,200</b>

\* Project lead

\*\*TCC funding subtotal shown here does not include additional grant money provided for grant administration and other related activities.



Members of the Yosemite Village Permaculture Community Garden & Urban Farm Incubator complete a mural on the garden's storage container. Photo credit: Chris De León, Fresno Metro Ministry

**AS A COMMUNITY-LED INITIATIVE,** Transform Fresno engages a wide variety of stakeholders.

Residents, local business owners, workers, and others help implement projects to advance community-defined goals for climate action, economic development, and more. This chapter provides a series of case studies of how these stakeholders have contributed to the rollout of Transform Fresno and/or benefited from the initiative's suite of projects and plans. The case studies are presented in reverse chronological order to spotlight more recent additions to this annual report. It's important to note that these stakeholders represent only a small sample of the many individuals who have shaped — or been shaped by — the implementation of Transform Fresno. Thus, their purpose is to be illustrative, but not exhaustive, of the ways in which Transform Fresno has touched the lives of community stakeholders.

# Community engagement builds capacity and buy-in for shared electric bikes and cars



## BACKGROUND

This case study explores how TCC funding for community engagement can develop local leadership and support for infrastructure projects. Specifically, the story highlights the community engagement strategy for Fresno’s Clean Shared Mobility Network through the lens of two Fresnans who have been empowered in different ways through the process. For more on the network, see [page 64](#). For more on Transform Fresno’s Community Engagement Plan, see [page 42](#).

*Interviews for this story were held in August 2022 and January 2023.*

**Keshia Thomas celebrates new electric vehicle charging infrastructure installed at an affordable housing site in southwest Fresno.** Photo credit: Fresno Housing.

**KESHIA THOMAS** is a Fresno native. Her educational journey began with Fresno Unified School District and continued on to California State University, Fresno. Now, she represents her community as an elected member of the school board.

Thomas also heads the Fresno Career Development Institute, a nonprofit targeting low-income West Frenans. The institute leads community outreach for the Clean Shared Mobility Network. As the project prepares to launch the first wave of rentable electric vehicles — 200 bicycles and 40 cars — Thomas and her team are advertising what’s coming and how it can help Fresno residents, while gathering feedback to ensure the project is based on the actual needs of the community.

At first, Thomas said, people thought the program was a sales pitch for pricey electric cars. But when it became clear that Transform Fresno was providing vehicles to borrow for prices as low as 15 cents a mile, people began to get excited.

One way that Thomas’ team builds support for the project is through community events, where the electric cars and bikes are on display for residents to see. These events not only help people to learn about the Clean Shared Mobility Network, but also provide opportunities for community members to come together, have fun and enjoy free food.

“We do events where we put the bikes and cars on display, and we have people come out from the community. We might have a backpack drive or an Easter party in the park — but this is all centered around the project and building community,” she said.

Thomas emphasizes the importance of listening to those who know the community well — who both understand community needs and can represent people’s honest feedback on the project. When people have concerns, she said, “it’s my job to have a conversation with them and find out why so that their voice can be heard. People give us their honest input.”

Working with TCC and Transform Fresno has brought new professional opportunities to Thomas, from the influx of funds to her organization to personal networking and development. She has developed new relationships that help her understand her community even better.

**“Everything that I do, live, and breathe is Fresno. Being a part of this has expanded my knowledge of how other community members feel about what Fresno needs to thrive — and it’s also expanded my Rolodex.”**

KESHIA THOMAS

Conducting outreach for the Clean Shared Mobility Network has expanded Thomas' professional toolkit by enabling her to test new engagement strategies. She has piloted several innovative modalities to reach members of her community, from a youth ambassador program that hires local students

to support engagement activities to an electric bike club that will launch in the fall. And she has more ideas, including a school program to train students for the jobs the program could create, from managing the cars and bikes to conducting community outreach.

**GERALDINE EZENWUGO** was born and raised in Fresno and has always been an active member of her community. From age 12, she has been a part of a local church where she now serves as a minister and teacher. Beyond the church, Ezenwugo volunteers to help unhoused Fresnoans get back on their feet, and she is a trustee for the neighborhood watch.

Ezenwugo first heard about TCC and Transform Fresno from Keshia Thomas, through her team's outreach efforts. Thomas brought the Clean Shared Mobility Network to Ezenwugo's apartment building in the form of food and fellowship: She hosted a community meeting to help residents learn about the electric vehicles that would soon be available near the building.

Although the meeting was on Zoom, Thomas arranged for the residents attending the meeting to join together in their building's community room, providing a full spread of fried chicken, potato salad, rolls and more. For Ezenwugo, having the gathering in her building was very helpful — at the time, her car was out of commission, and she couldn't easily attend meetings in other locations. While she could have joined on Zoom, the physical gathering provided food and connection to neighbors.

Going into the meeting, Ezenwugo knew nothing about electric cars. "I've never been in one of them. I thought they were too expensive for me," she said. But by the end of the meeting, she was excited. "I'm gonna drive this. I'm gonna be the first one. I can't wait to get behind the wheel."

Thomas' devotion to the community was clear in her efforts to make the meeting participants comfortable in their own space, provide food and listen closely to their concerns. Ezenwugo knew Thomas from her work with the neighborhood watch, and the presentation confirmed that Thomas cared deeply about the Fresno community. "It was good to have somebody care so much about Fresno. And I enjoyed it — she did a wonderful job making the presentation interesting and answering our questions."

What concerns she had — such as how the cars would be cleaned and what would happen if someone returned a car late — she shared with Thomas in the meeting. But her doubts were few and far between by the end of the meeting, after Thomas listened to community members' feedback



**Geraldine Ezenwugo in her Fresno home.** Photo courtesy of Geraldine Ezenwugo.

and reassured them that her team was figuring out how to manage these issues.

Thomas' outreach also gave Ezenwugo reasons to be excited about the electric car-share program. For one thing, Ezenwugo estimates that she spends as much as \$80 per week on gas, so using the cheaper electric cars has the potential to save her hundreds of dollars each month.

**“Driving on electricity will cost much less than gas. That’s the main reason I’ll use them.”**

**GERALDINE EZENWUGO**

The program will also provide another option for Ezenwugo to get around if her car isn't running properly. And Ezenwugo also values the health benefits of the project, which will be realized through reduced tailpipe pollution from fewer gas cars on the road. "I was drawn in because I'm an asthmatic. I see that we need to clean up our air. So, I want to help ensure that organizations are keeping our air clean."

Looking forward, Ezenwugo says she will also use the cars to get around town to interview people for a new book she is writing. Knowing that her car could break down and that she can save money on gas, the easy, low-cost electric rental cars will allow her to pursue her goals uninterrupted.

# Meeting community needs through healthy food rescue and redistribution



## BACKGROUND

This case study spotlights how TCC funding is supporting the expansion of community projects and partnerships like the Saint Rest and Food to Share food distribution program. For additional information about the Southwest Fresno Community Food Hub, see [page 62](#).

*Interviews for this story were conducted in December 2021.*

Initial renderings of the Saint Rest Food to Share Hub. Photo credit: Paul Halajian Architects

**BERNICE WILEY**, the director of food ministries at Saint Rest Baptist Church, grew up in “The Garden” neighborhood of Fresno. Her idyllic childhood inspires her work with Saint Rest because she wants others to grow up in a family-oriented, healthy place as she did. But the area has changed and today has high levels of homelessness, poverty, and hopelessness. Yet Wiley says: “I have such hope in my heart for this city.... As long as we can find the tools and the inroads and the means to do it, I know we have the will to do it.”

Wiley took over Saint Rest’s 40-year-old food distribution program in 2009. In 2016, when the need for food outpaced their supply, she forged a partnership with Food to Share, a program run by Fresno Metro Ministry. Food to Share rescues nutritious food that would otherwise be wasted and delivers it to partners, like Saint Rest to distribute to families facing daunting food hardship and lacking the financial means to purchase healthy food.

Wiley is committed to serving the 100 to 200 people who come to each food giveaway, which take place three times a month. “Our motto is rain, sleet, or snow, we’ll be there” she says. One man has been picking up food for years and reported to Wiley that the food he received was critical to his health and nourishment through several lean periods in his life. The impact of the food hub on the community extends beyond the individuals who show up. Wiley noted that residents share food with neighbors who are not able to stand in line for food.

**“Our motto is rain, sleet, or snow, we’ll be there.”**  
BERNICE WILEY



Bernice Wiley speaks at a groundbreaking event for the Saint Rest + Food to Share Hub in July 2021. Photo credit: Edward Smith, The Business Journal

Driven by an interest in the connection between food waste prevention and pollution, Wiley is excited about the benefits of the food waste prevention project funded by TCC. She hopes the project will help improve the air quality and ultimately rectify the fact that life expectancy in Southwest Fresno is lower than other parts of the county.

She isn’t stopping with this project, however. Wiley has other dreams for cultivating a healthy community through food. TCC funding will support the reconstruction and expansion of the current Saint Rest warehouse and add a commercial kitchen to the site. Wiley looks forward to teaching people how to make meals with unfamiliar ingredients and establishing a central location where vulnerable populations can be connected to resources.



**KEITH BERGTHOLD**, the executive director at Fresno Metro Ministry, was born in Central Fresno and has a long history of serving the community. He works with many churches in Southwest Fresno, including Saint Rest, because of their commitment to food distribution. Bergthold shares their dedication to addressing the contradiction that the Fresno region is a major center of both food production and food insecurity.

To help Saint Rest achieve its vision for expansion, Bergthold submitted a TCC proposal to support repairs and improvements on an aged and underutilized 6,000-square-foot warehouse. The team was awarded \$1.5 million from TCC to transform the existing building into a food recovery, storage, office, and distribution center that serves the entire Fresno metro area.

After the project began, the Saint Rest and Food to Share team found it necessary to expand the project with an additional new building to safely execute their plans for a commercial community kitchen and training area. They have raised nearly \$3.7 million to do so.

**"Transformative Climate Communities is a total game changer for Southwest Fresno – it's unlike anything else that's happened before."**

KEITH BERGTHOLD



**Keith Bergthold (right) presents visuals of a separate project that will be constructed adjacent to the Food Hub.**

Photo credit: Build Healthy Places Network

Bergthold hopes to complete all warehouse renovations by August 2022, and new building construction by May 2023, and to initiate youth education programs to teach more than 600 students about food security leadership, cooking and gardening. Always seeking to do more for his community, Bergthold would also like to open four or five more food hubs throughout Fresno with expanded offerings.

Bergthold enthusiastically believes "Transformative Climate Communities is a total game changer for Southwest Fresno – it's unlike anything else that's happened before."

**RON WILEY**, a deacon at Saint Rest Baptist Church, moved to Fresno to attend California State University, Fresno in 1971 and has been deeply engaged with the community ever since. Wiley, a big city kid from San Bernardino, first thought Fresno was too country, but he soon fell in love with the community and the people he met. Now retired, Wiley has remained an active member of Saint Rest and is a highly engaged volunteer with the food ministry.



**Ron Wiley and Bernice Wiley distribute food outside the warehouse used for the Saint Rest Food Distribution program.** Photo courtesy of Bernice Wiley

Fresno has experienced many changes since the 1970s: The population size more than tripled, rural areas turned into urban sprawl, red-lined portions of the city fell further into neglect, and high levels of poverty and food insecurity plagued the Southwest Fresno community. To counteract the hopelessness many Fresno residents feel, Wiley has turned to food distribution, where he helps engage 25 volunteers to, as the Bible says, "feed the hungry, clothe the naked, visit the sick."

Wiley follows his wife Bernice's lead – working with food banks and other partners to build community visibility and capacity. He is optimistic about the investments from TCC, "I think it is a catalyst to improve the overall quality of life in Southwest Fresno, a catalyst to bridge the gap and close inequities in the system."

**"[TCC] is a catalyst to improve the overall quality of life in Southwest Fresno, a catalyst to bridge the gap and close inequities in the system."**

RON WILEY

# Strengthening Fresno's roots through soil



## BACKGROUND

This case study spotlights how the Yosemite Village Community Garden and Urban Farm Incubator is using TCC funding to increase resident access to tree coverage, healthy food, and open green space. For additional information about the Yosemite Village Community Garden, as well as Transform Fresno's other Urban and Community Forestry projects, see [page 71](#).

*Interviews for this story were conducted in April and June 2021.*

Member of the Yosemite Village Permaculture Community Garden and Urban Farm Incubator waters corn, sunflowers, and zinnias in 2020. Photo credit: Chris De León, Fresno Metro Ministry

**PATRICIA HUBBARD** was born and raised in Riverdale, a little town just outside Fresno and has lived in the city itself since 1996. Solidifying her roots here, Hubbard's three children and siblings also live in Fresno. But her feeling of connection to the place has grown since getting involved with the Yosemite Village Community Garden and Urban Farm Incubator (Yo'Ville Community Garden).

**“The people that I garden with, the volunteers, staff and other gardeners, are like a family or community.”**

PATRICIA HUBBARD

Hubbard first heard about the garden after someone knocked on her door and handed her a flyer. Already familiar with gardening in her backyard, Hubbard signed on to volunteer. While she expected to help grow the garden, she has been pleasantly surprised by the relationships she's developed. For her, the community connection is the most rewarding part of being involved with the garden.

After having a successful first year with a garden plot, Hubbard expanded in her second year. She joined the Yo'Ville Urban Farm Incubator program, giving her a half acre of land to tend. She has also gained new skills. “There's an ongoing process of learning,” she says proudly, as she



Patricia Hubbard at the Yosemite Village Permaculture Community Garden and Urban Farm Incubator

Photo credit: Jesse Martindale, Fresno Metro Ministry

describes how she has become familiar with planting new species of plants. She also credits TCC's investment in the Yo'Ville Community Garden as allowing her to learn the business and financial side of running a farm.

Looking ahead, Hubbard is proud that the produce grown in the garden will benefit more neighbors via the new Farmer's Market. “In a community like ours, with limited options for fresh vegetables, healthy food, this is so important.” Hubbard added.



**Chris De León at the Yosemite Village Permaculture Community Garden & Urban Farm Incubator.**

Photo credit: Jesse Martindale, Fresno Metro Ministry

**CHRIS DE LEÓN** is the Community Garden Manager and a staff member at Fresno Metro Ministry, the lead project partner at the Yo’Ville Community Garden and Farm. Having moved to Fresno when he was 4 years old, his love for Fresno runs deep. But he also recognizes the health disparities stemming from the lack of access to healthy food and healthy green spaces, and a concentration of environmental pollution in Southwest Fresno.

**MIGUEL AVENDAÑO** is one of the community members that Chris De León recruited to start a half-acre urban farm at the Yo’Ville site. Avendaño has years of experience growing food. He moved to Fresno in 2003 for agricultural jobs and has worked throughout the Central Valley since. He appreciates the abundance of work opportunities, and he, his wife, and two children have established a solid foundation in Fresno.

In 2021, Avendaño joined Yo’Ville’s Urban Farm Incubator program. The farm incubator provides the land, shared tools, access to water, and learning opportunities for new small farmers wanting to grow in ecologically sustainable ways. Avendaño shares, “I am producing organic vegetables, using methods that won’t damage the environment and our health.”

**“In five to 10 years, my goal is to have many acres planted, to have employees, to be growing and selling fresh, organic produce wholesale. It will give my family a more comfortable and stable life.”**

MIGUEL AVENDAÑO

For De León, who had wanted to be involved in a community garden since he was in high school, the Yo’Ville Community Garden is a dream come true. Like Hubbard, De León feels that the most rewarding part of working in the garden is that it brings the community together. When COVID hit, he reports, “we saw a surge in residents applying to the garden because more people wanted outdoor space, a place to be outside of their homes. I think the garden helped a lot of the residents who live nearby to have an outlet and somewhere they can go to be together that is safer.”

The garden has also generated communitywide benefits that specifically address food insecurity in Southwest Fresno. “The Yo’Ville Community Garden is creating a local food system,” De León explains. “Fresno residents are able to buy fresh produce that’s organically grown on-site. They can walk over to the back of the site and meet the farmer that’s growing the food, see the practices they’re utilizing. Ultimately, it’s about caring for the land, our fellow community members, and our bodies,” he stated.

**“The garden provides much needed green space and space for residents to grow their own food and learn how to start a small-scale urban growing operation.”**

CHRIS DE LEÓN



**Miguel Avendaño and son at the Yo’Ville Farm Stand.**

Photo credit: Chris De León, Fresno Metro Ministry

Avendaño is producing enough to sell and supplement his income with the produce he grows at the community farm. He partners with other farmers from the farm incubator to run a farm stand, where they sell their produce every first and third Saturday of the month. “My primary goal is to grow my farm in three years,” Avendaño says. “It would not be possible to start from zero without support from the incubator.”

# Women shape displacement avoidance efforts



## BACKGROUND

This case study highlights how Transform Fresno is committed to advancing equitable community development. Specifically, the study looks at the work of three individuals: Sabrina Kelley, Dr. Kathryn Forbes, and Dr. Destiny Thomas, who lead the displacement avoidance efforts in Fresno. For additional information about the Displacement Avoidance Plan, see page 47.

*Interviews for this story were conducted in July & August 2020.*

**“I’m involved because I want equitable, affordable housing and improvements for quality of life throughout the City of Fresno”:** Sabrina Kelley at the groundbreaking of the Almy Street. Photo credit: The Fresno Bee

**SABRINA KELLEY** has deep roots in Fresno. Her family has a long history of community service and advocacy in Southwest Fresno, where she went to high school. Now, when Kelley is at Transform Fresno community meetings, she feels the presence of her grandparents, aunts and uncles.

**“I feel like I’m picking up the family baton to advocate for affordable housing and for neighborhoods that are walkable and safe.”**

SABRINA KELLEY

As the Community Relations Consultant and foundation manager for Wells Fargo, Kelley guides philanthropic investments for the Central Valley. She has led collaborative efforts to raise money for affordable housing, improved pedestrian infrastructure, and expanded public spaces, including the Almy Street Playground in Southwest Fresno. Her role also involves small business support for ethnic minority groups, as well as financial health and literacy for low- and moderate-income families and individuals.

Kelley got involved with Transform Fresno because of her personal and family commitment to advancing equitable community development, affordable housing, and livable

neighborhoods. She now serves as a member of the O&O Committee for Transform Fresno.

She became involved with the Displacement Avoidance Plan (DAP) as a member of the hiring committee for the DAP consultant. She focused on ensuring that applicants have demonstrated an understanding of equity, inclusion, and culturally appropriate community development strategies.

Kelley hopes the DAP will create opportunities for marginalized residents to share their ideas and have their voices heard. An example of why this is important can be found in the older neighborhoods south of Herndon Avenue, where residents continue to grapple with long-standing inequities that stem from historical issues like red lining that kept people of color living in low-opportunity neighborhoods.

**“I’d like to see residents in the TCC footprint empowered to create the changes they want to see in their neighborhoods.”**

SABRINA KELLEY

**DR. KATHRYN FORBES** is a professor at California State University, Fresno, and the program coordinator for the Women's, Gender and Sexuality Studies Department. Dr. Forbes is a member of the city's Anti-Displacement Task Force (ADTF), where she helps identify current and future areas of displacement, and the metrics and data the city needs to track to prevent displacement.

**“The introduction of all the [anti-displacement] policy alternatives that residents could choose from was completely eye-opening for this region, both for city leaders, for advocates, and for residents ... to realize there are a bunch of different tools to address displacement.”**

DR. KATHRYN FORBES



Photo credit: Fresno State Women's, Gender and Sexuality Studies

Dr. Forbes believes that the process for developing the plan and the community engagement efforts for TCC have had an immediate impact on how the local government functions in Fresno. For example, the city started to consider anti-eviction and tenant protection policies after community advocacy around housing issues in the Transform Fresno project area.



Photo credit: Thrivance Group

**DR. DESTINY THOMAS** called Fresno home for six years after she graduated from college. She considers it a special place, saying it was easy for her to build community, relationships, and kinships. Dr. Thomas is the founder and CEO of Thrivance Group, the consultant leading the design and implementation of the DAP.

Dr. Thomas brings a wealth of experience and knowledge to Fresno's anti-displacement efforts. She has worked professionally in the environmental and transportation planning fields, and as a community organizer, social worker, artist, and creative. In every role she stays heavily rooted in a racial justice framework.

Dr. Thomas developed a method for interviewing and engaging with people experiencing gender-based violence and homelessness in Los Angeles, called Thrivance Project. Using this method, Thrivance Group is conducting a range of participatory civic engagement activities to inform the DAP. These activities include interviews with community stakeholders and local government officials and an oral history project to bring visibility and cultural recognition to historically marginalized groups in the project area.

**“Through the strategies that we're offering, and through the collective engagement work across the project itself, the elected officials will see that the community actually knows what's best and that they don't lose any political will or power by listening to and honoring those needs.”**

DR. DESTINY THOMAS

Thrivance Group has recommended a set of implementable anti-displacement policies to the Fresno City Council that reflect community needs and contribute to healing past institutional harms. These recommendations are summarized in a report titled, *Here to Stay: Policy-Based Blueprint for Displacement Avoidance in Fresno*, published in June 2021.

# Training a clean energy workforce in Fresno



## BACKGROUND

This case study explores how TCC-funded solar installation training and installation programs have financially benefited both workers and low-income homeowners in Fresno. The case study does so through the lens of Luther Mays, who has completed several trainings with GRID Alternatives and now sees how families can benefit financially from new solar systems. For more on Fresno’s free solar program, see page 66.

*The interview for this story were conducted in December 2019.*

A GRID Alternatives crew installing solar panels on the Bridges at Florence affordable senior living apartments in the Transform Fresno project area. Photo credit: Fresno Housing Authority

**LUTHER MAYS** moved to Fresno this past summer to help a family member. Mays is a longtime California resident who grew up and spent most of his life in the Sacramento area. When he moved to Fresno, he immediately began looking for a new job but faced several obstacles. Mays doesn’t own or have access to a vehicle, and relies heavily on the Fresno Area Express public transportation system and his bicycle to get around the Fresno and Clovis areas. He decided to start volunteering with GRID Alternatives a few weeks after relocating — often biking up to 12 miles round trip to get to and from GRID Alternatives’ Central Valley offices.

After volunteering on a few solar installations, he learned he could become more formally trained by joining GRID Alternatives Installation Basics Training-200 (IBT-200) program. The IBT-200 is a five-week course that includes 40 hours of classroom learning and 96 hours of on-the-job training in rooftop solar PV system installation and maintenance. Enrolled participants also become certified in basic workplace safety with the Occupational Safety and Health Standards 10-hour (OSHA 10) training, and receive a cardiopulmonary resuscitation (CPR) credential.

Mays says his motivation for joining the training program came from wanting to learn a useful skill and to help himself and other people. He now knows how to safely install



Luther Mays, a GRID Alternatives solar installation trainee. Photo credit: GRID Alternatives

**“You mean I can keep doing this?  
Sign me up!”**

LUTHER MAYS

and configure a solar array and has logged over 100 hours of installation experience.

Continues on next page



Luther Mays (right above and center below) working at an installation project job site. Photo credit: GRID Alternatives

**“The most rewarding part of my solar installation training is how excited and kind the families are as our crew is setting up their solar PV system.”**

LUTHER MAYS

The most rewarding part of his training was how excited and kind the families were as the crews were setting up their solar PV system. He also enjoys being able to help relieve families of the financial burden of their electricity bills, which can have a big impact. Mays graduated from the IBT-200 program in September 2019 and is inspired to keep working toward a career in the solar field.

GRID Alternatives now offers a shortened version of the IBT-200 training specifically to residents and workers who live in the project area, namely Downtown, Chinatown, and Southwest Fresno. The TCC solar training course will include 12 hours of classroom learning and 38 hours of on-the-job training, along with a CPR credential. GRID Alternatives' goal is to train 200 Transform Fresno residents. Trainees who graduate from the TCC solar program can

continue on to the full IBT-200 course and gain additional credentials and installation experience.

Mays was not familiar with the TCC program before his first day volunteering on a solar installation. GRID Alternatives staff told him about Transform Fresno and the types of projects coming to the area. Mays is optimistic about how the TCC solar projects will benefit the community, primarily by lowering the cost of household utilities and by equipping residents with skills that will help them find employment in the solar field. He thinks that when California's solar mandate takes effect in 2020 — which will require all new homes to come with solar attached — the Transform Fresno project area will be uniquely positioned by having a trained and qualified solar workforce.

**“[A solar system from] GRID Alternatives can take care of 80% of a families' electric bill, which for a lot of people, is a big expense.”**

LUTHER MAYS

# Residents come together in participatory budgeting process



## BACKGROUND

This case study spotlights how TCC funding has supported deep community engagement work in Fresno. Specifically, the study looks at the work of three individuals who serve as members of the Outreach and Oversight (O&O) Committee: Artie Padilla, Jordan Gustafson, and Barbara Wilson have helped implement the Community Engagement Plan, detailed on page 42.

*Interviews for this story were conducted in December 2019.*

The consultant Raimi + Associates presents the findings from five pop-up community engagement workshops at an O&O Committee quarterly meeting on June 12, 2019. Photo credit: UCLA Luskin Center for Innovation

**ARTIE PADILLA**, born and raised in Fresno, is a member of the O&O Committee representing Southwest Fresno. In 2008, Padilla founded the Every Neighborhood Partnership (ENP), a nonprofit that runs youth, community, and economic development programs in over half of Fresno’s 92 public elementary school districts. The initiatives he helps run at ENP have allowed him to get a deeper understanding of the community’s strengths, social needs, and disparities. He says becoming more involved with TCC was a no-brainer given how the program’s goals naturally fit in with the work his organization does.

Padilla took part in shaping the investment priorities for the Transform Fresno initiative. For him, one of the most rewarding parts of this participatory budgeting process was the civic involvement of residents attending the early TCC meetings.

“One of the ripple effects [of the community engagement process] is that it helped spark more civic engagement throughout the area, especially among folks that normally don’t attend community meetings,” said Padilla.

He believes that the TCC program presents a great opportunity to continue building civic infrastructure and integrating other important neighborhood information into the public meeting format of Transform Fresno quarterly meetings.



Photo credit: UCLA Luskin Center for Innovation

**“To me, community engagement anchors our TCC initiative and is building that civic infrastructure of community through involvement on a weekly, monthly basis ... not just a hodgepodge of a meeting here or a meeting there.”**

ARTIE PADILLA





Photo credit: UCLA Luskin Center for Innovation

**“It wasn’t behind closed doors. The projects were out in the open in these community meetings. There was no one else deciding except the community.”**

JORDAN GUSTAFSON

**JORDAN GUSTAFSON** grew up in Clovis, the neighboring city of Fresno. She refers to herself as a “boomerang” resident — she moved back to Downtown about four years ago after living in New York City. In addition to being a small business owner and startup founder, Gustafson works at Bitwise Industries — an incubator for tech-related companies and jobs in Fresno. She also chairs the Downtown Fresno Foundation, which is dedicated to economic development and revitalization within the city’s central business district. She is a member of the O&O Committee.

The potential of the TCC funds for Downtown revitalization sparked Gustafson’s curiosity and motivated her to attend the first TCC community meeting. Once there, she realized that the projects being discussed were an opportunity to uplift community voices and reinvest in areas that have been overlooked or underserved in the past.

“The way the community put together the budget and project package was invaluable to creating a sense of trust, and the participatory budgeting was extremely successful in bringing people together to agree on the direction of TCC funding,” Gustafson said.

**BARBARA WILSON** has decades-long ties to the Fresno community. Her father, a preacher and church elder, moved her family to Fresno in the early 1960s. After graduating from Edison High School, her career moved her to the Bay Area, where she raised her two daughters. In 2008, Wilson retired from a nationally known financial institution, as well as the City and County of San Francisco’s tax collector’s office, to return to Fresno to care for her mother. She took on new roles in the community and regularly attends neighborhood meetings. Wilson owns properties in Chinatown, serves as a member of the O&O Committee, and is the secretary for the Chinatown Empowerment Center, a nonprofit formed by local property and business owners to support the improvement of the social, physical, and cultural environment of Historic Chinatown.

Wilson was reading a newspaper when she came across an announcement for the first TCC Community Steering Committee meeting. She called friends to ask if they had heard about it and told them they should check it out. She hasn’t missed a TCC-related meeting since.

She says her motivation to get involved, and to stay involved, comes from her love and connection to Fresno as her home. The opportunity to see redevelopment in her own community excites her. The most rewarding part of the participatory budgeting process for her was the transparency of information and the belief that the insight she brought to the discussions as a longtime resident was truly valued and incorporated.



Photo credit: UCLA Luskin Center for Innovation

**“Most urban development projects happen to the community as opposed to happening for the community.... I want to ensure the community engagement is thoughtful and intentional and those who live and work here today will still call it home after the redevelopment is complete.”**

BARBARA WILSON



Fresno youth participating in a Leadership Development Summer Workshop Series hosted by Fresno EOC and the Youth Leadership Institute during summer 2020. Photo credit: Fresno EOC

**THE COUPLING OF TRANSFORMATIVE PLANS** alongside GHG-reduction projects is one of the central elements of TCC that separates it from all other California Climate Investments. For Round 1 of TCC, applicants were required to develop three transformative plans: a community engagement plan, a displacement avoidance plan, and a workforce development plan. Together, these three plans are designed to ensure that TCC investments reflect the community’s vision and goals, bring economic opportunities to disadvantaged and low-income communities, and minimize the risk of gentrification and displacement of existing residents and businesses. Applicants were provided a menu of strategies for developing their plans and encouraged to choose those that spoke to the site’s priorities and strengths. The following section provides an overview of how Transform Fresno structured its three transformative plans and the progress that has been made toward plan implementation.

# Community Engagement Plan



2020 Youth Leadership Development Summer Workshop. Photo credit: Fresno EOC

## TRANSFORM FRESNO'S COMMUNITY ENGAGEMENT PLAN (CEP)

leverages the many partnerships formed throughout the TCC application and project implementation process. Together, those partners will implement the CEP to accomplish the following objectives: (a) provide clear, consistent, and accessible communication to residents, businesses, and other community stakeholders; (b) build trust through transparency; (c) utilize local knowledge and expertise; (d) develop civic capacity; (e) foster the next generation of community leaders; (f) enable active participation in project implementation; (g) create opportunities to provide input on pending implementation decisions; (h) document the implementation process; and (i) celebrate accomplishments.

In addition to the overarching CEP for the entire Transform Fresno initiative, there is a more narrowly focused plan to engage residents around the design of a bike trail in the project area located along Fanning Ditch. This effort is known as the Southwest Green Trails Project.

The City of Fresno leads the CEP, with support from the following partners: Fresno Economic Opportunities Commission (Fresno EOC); Kelli McIntyre Strategic Solutions; and the Youth Leadership Institute (see **Appendix 4, page 98**, for a summary of each partner's role). Meanwhile, the US Green Building Council – Central California (USGBC-CC) leads the Southwest Green Trails Project, with support from the following partners: The City of Fresno; Fresno Bicycle Coalition; Urban Diversity Design; West Fresno Family Resource Center; Edison High School; California State University, Fresno.

## Recent Accomplishments\*

- » 72 outreach events about specific TCC projects and plans (also counted later in this report under those projects' and plans' accomplishments)
- » 4 resident-inclusive grant governance meetings (known as Outreach and Oversight Committee meetings)
- » 3 meetings with stakeholders of the Southwest Green Trails project (15 stakeholders engaged at each meeting)
- » 1 Bike to School Day event (200 stakeholders engaged)
- » 1 resource fair and pumpkin patch event to celebrate the completion of TCC investments along East Annadale Avenue
- » 1 annual summit that spotlight various Transform Fresno projects and plans

\* Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

## CEP Development Process

The final narrative for the Transform Fresno CEP was prepared by Raimi + Associates and released on Sept. 6, 2019. The plan was informed by a Sampling Plan that highlighted demographic and economic characteristics of hard-to-reach population segments in the project area. Outcomes from that process include:

- » Thirty stakeholder surveys evaluating the CEP Framework and identifying preferences for frequency of communication and methods of community engagement;
- » One-on-one conversations with the 12 project partners;
- » Five pop-up workshops with participation by 120 community members and stakeholders at high-traffic locations throughout the project area;
- » Meetings with the Transform Fresno Outreach & Oversight Committee (a governance body established during the TCC proposal process); and
- » Other comments and feedback received from City of Fresno staff and community stakeholders through other means, such as emails and comment letters.

Key issues that emerged from this process include: urgency to begin implementation to meet the needs of longtime residents and businesses; a strong desire for displacement avoidance safeguards and connections to workforce development opportunities; and concern for hard-to-reach populations, such as the elderly, those who are linguistically isolated or may have a distrust of local government, being considered and prioritized in development strategies for targeted outreach.

As a result of these issues, the final CEP was designed to be rigorous and flexible — leveraging existing relationships with project partners, while creating space for formal inclusion of new community partners. The CEP was also designed to provide transparency, build trust within the community, and expand and institutionalize civic engagement opportunities. The methods for doing so are described below and are divided into three broad categories: (1) information sharing; (2) community participation; and (3) documentation.

### Methods for Information-sharing and Communication

These methods inform the community and general public about Transform Fresno implementation and ways to actively participate in the process. Specific methods include:

- » **Central website** - hub for all TCC materials and updates;
- » **Social media** - text, image, and video updates on the City of Fresno's Facebook, Twitter, and Instagram accounts;
- » **Newsletters** - email summary of project updates and

- profiles on people contributing to TCC implementation
- » **Text messages** - reminders about upcoming events;
- » **Communications and database** - directory of stakeholder emails and phone numbers that was established during the grant application process and that will be updated throughout implementation;
- » **Door-to-door canvassing** - reserved for strategic times to gather input (especially from hard to reach populations) on pending implementation decisions;
- » **Flyers and meeting notices** - mailed and posted before significant events and key planning and implementation decisions; and
- » **Updates of engagement activities** - In addition to project updates, TCC partners will provide regular updates of engagement activities through a variety of mediums, including: community and partner meetings, email, newsletters, and posts on the Transform Fresno website.

### Methods for Community Participation

These methods allow residents and stakeholders to actively participate in the process and take ownership of the projects. Specific methods include:

- » **Outreach and Oversight (O&O) Committee** - quarterly meetings that provide a regular opportunity to discuss project updates and community issues, and to identify what types of engagement are needed;
- » **Annual Transform Fresno Summit** - event for the community, project partners, and state officials to celebrate progress, recruit future leaders, and prioritize funding needs through presentations, breakout sessions, panel discussions, and activities;
- » **Project specific charrettes or workshops** - opportunities for community members to contribute to the design of new parks and street improvements;
- » **Youth Leadership Development Program** - training program that will cultivate 48 new community leaders from middle and high schools to support engagement efforts and will teach them community organizing, meeting facilitation, public speaking, and local government procedures;
- » **Neighborhood project update meetings** - engagement between TCC partners and community groups such as churches or parent-teacher associations to discuss TCC implementation;
- » **Preference and opinion surveys** - data collection opportunities in online and paper formats to identify existing and emerging needs in the community;
- » **Direct participation in TCC projects** - volunteer opportunities to help carry out TCC implementation (e.g.,

hosting or installing a rooftop solar system, planting trees, gardening at an urban farm, etc.); and

- » **Integration of arts and culture** - place making opportunities such as mural painting, sculptural installations, and other forms of cultural expression.

### Methods for Documentation

These methods document the outcomes, successes, and lessons learned from Transform Fresno through a variety of mediums. Specific methods include:

- » **Video history** - short videos (30–90 seconds) that capture project implementation, interviews with participants, or summaries of community workshops or other events, as well as a longer video (5–10 minutes) that captures the entire five-year Transform Fresno process;
- » **Community narrative documentation** - storytelling opportunities that result in physical documentation of the history of the project area and the community's vision for the future, such as a “story corps” booth at annual summits or a standalone event dedicated to broadcasting community stories.
- » **Participation Dashboard** - an online platform that tracks community participation through the following metrics: (a) number of people at each event; (b) total number of people engaged over the life of the project; (c) geographic distribution of the participants; (d) ethnic distribution of the participants; and (e) number of events or meetings that individuals participate in.
- » **Annual and final engagement reports** - narrative summaries, engagement activities, major outcomes, and the metrics included in the Participation Dashboard.

### Southwest Green Trails Project

USGBC-CC is leading a separate engagement plan to coordinate a bicycle trail design outreach process and a bicycle education program. Given the narrow focus of this work, it was pulled from the broader Transform Fresno CEP.

With respect to outreach, USGBC-CC and Urban Diversity Design will engage residents and stakeholders in the planning of the Southwest Fresno Trail project (see [page 79](#)) along the Fanning Ditch Alignment through a series of workshops and tactical urbanism activities. The outreach process aims to gather input on how best to increase connectivity in Southwest Fresno and between TCC projects, such as the Yosemite Village Permaculture Garden (see [page 75](#)) and the Southwest Fresno Community Food Hub (see [page 76](#)).

With respect to education, USGBC-CC is partnering with the Fresno County Bicycle Coalition and its Smart Cycling trainers to offer six bicycle education workshops. The workshops aim to increase rider safety and use of existing bicycle facilities by promoting safe driving practices, encouraging bicycle use, and sharing information about current and future biking infrastructure (including TCC trail projects).

### Shared Governance Model

Transform Fresno has a resident and business inclusive collaborative stakeholder structure (CSS) for overseeing grant governance. The CSS includes the lead applicant (the City of Fresno), 12 additional project partners, and 16 O&O Committee members. See [Appendix 3, page 97](#), for a summary of the roles and responsibilities the various CSS members.

Within the CSS, the O&O Committee serves as the primary pathway for the community to provide overall guidance on TCC implementation including major budget or programmatic changes. The O&O Committee is composed of residents or business owners from all three neighborhoods of the TCC project area (Chinatown, Downtown, and Southwest). The Committee meets monthly and holds quarterly public meetings in which the community can provide comment.

The O&O Committee formed in December 2017 after the final project package was approved through a participatory budget process by 164 eligible voters. To have been eligible to vote, one was required to live, work or own a business or property in ZIP codes 93706 and 93721. Moreover, residents must have attended 50% of the meetings about the participatory budgeting process; workers and owners of businesses and property must have attended 66% of the meetings. The mayor then appointed 16 of those voting members to serve on the O&O committee. The composition of the committee will evolve over time as members cycle in and out. When a vacancy occurs, nominations from the community are solicited and then committee members are chosen based on recommendations from the current committee, a panel interview, and at the direction of the mayor of Fresno. All new members must have participated in the development of the Transform Fresno projects, be a voting member on the original Community Steering Committee, and either work, live, or own property in the Transform Fresno project area.

## Community Engagement Plan

### Project Details

- » Launch date: September 2019
- » Anticipated completion date: March 2024
- » Project leads: The City of Fresno
- » TCC grant funds: \$891,083
- » Leveraged funds: \$0

### Cumulative Progress Through FY 2021-2022

#### Outputs From the Planning Process for the Final CEP

- » 28 community engagement surveys collected in May and June of 2019
- » 5 workshops run by the consultant Raimi + Associates in May 2019 (120 community members engaged)

#### Outputs From Community Engagement Activities

- » 128 events about specific TCC projects and plans (also counted later in this report under those projects' and plans' accomplishments), which is a conservative estimate (includes only documented events)
- » 79 videos uploaded to the Transform Fresno YouTube channel and posted on social media
- » 23 youth ambassadors hired and trained under the Youth Leadership Development Program
- » 19 O&O Committee quarterly community meetings held (13 after TCC grant execution), with 26-80 stakeholders at each meeting
- » 2 annual Transform Fresno summits (in 2021 and 2022), with sessions live streamed and archived on the Transform Fresno website
- » 1 resource fair and pumpkin patch event to celebrate the completion of TCC investments along East Annadale Avenue and to highlight other opportunities to benefit from Transform Fresno projects and plans
- » City of Fresno awarded the Central Section 2020 Award of Excellence and Achievement in Planning and the California Chapter 2020 Award of Merit in Public Outreach by the American Planning Association for the CEP and the participatory Transform Fresno final project package development and selection process
- » Branding and branding guide created and implemented projectwide
- » Website designed, created, and launched
- » Delivered flyers about the Transform Fresno summits to every door in the project area

### Responses to COVID-19

- » All activities, including quarterly Outreach and Oversight community meetings were conducted virtually, streamed on social media and CMAC TV.
- » City of Fresno has designed outreach events to ensure the health of staff and public. Some hybrid events (both virtual and in-person) may be possible for project milestone events and the Transform Fresno Annual Summit.

## Southwest Green Trails Project

### Project Details

- » **Launch date:** September 2019
- » **Anticipated completion date:** March 2024
- » **Project leads:** U.S. Green Business Council - Central California
- » **TCC grant funds:** \$138,540
- » **Leveraged funds:** \$0

### Cumulative Progress Through FY 2021-2022

- » 6 bicycle education workshops provided (17-77 stakeholders at each workshop). Workshops included: hands-on learning about the usage of bikes in the community, existing infrastructure, and active transportation gaps that will be filled with TCC investments; the demonstration of an electric bus with a bike rack that could be tried out during the event, helping people understand how to integrate biking and transit to increase range and use connectivity opportunities; and a bike rodeo
- » 3 meetings with project stakeholders (15 stakeholders engaged at each meeting) to gather input on the design of the Southwest Fresno Trail
- » 2 videos launched: "Bike to School PSA" and "Bike to School Transportation Challenge"
- » 1 Bike to School Day at Edison High School, including a free helmet-decorating table and a bike rodeo (200 stakeholders engaged)

### Responses to COVID-19

- » USGBC-CC developed a website and moved the Bike Safe Fresno program online by holding virtual bicycle education classes for the community and local students
- » Some community events (e.g., bike to school days) paused until schools in Fresno reopened

# Displacement Avoidance Plan



Cover of the report “Here to Stay: A Policy-Based Blueprint for Displacement Avoidance in Fresno” released in June 2021.  
Photo credit: Thrivance Group

## TRANSFORM FRESNO’S DISPLACEMENT AVOIDANCE PLAN (DAP)

contains programs and potential policies to avoid displacement of existing residents and local businesses. It’s important to note that Transform Fresno will not directly cause displacement, as housing units will be constructed on vacant, underutilized lots and transportation activities will occur within the public right of way. However, there are concerns about the indirect effects of TCC investment, which may lead to displacement by raising the value of residential and commercial land. To address these concerns, the DAP outlines a process to determine displacement vulnerabilities within the Transform Fresno project area, potential policies to mitigate displacement, and resources that economically empower residents and businesses so that they are less vulnerable to displacement pressures.

The City of Fresno has led the implementation of the DAP in consultation with a number of supporting partners, including: Fresno’s Anti-Displacement Task Force (ADTF), the O&O Committee, Thrivance Group, Wells Fargo, the Central Valley Business Diversity Partnership (CVBDP), the Fresno Regional Workforce Development Board Business Service Center (FRWDBBSC), and other community stakeholders. See **Appendix 5, page 99**, for a detailed summary of the partners involved with DAP implementation and their respective roles.

## Recent Accomplishments\*

- » 4 workshops held to present policy bundles in the “Here to Stay” report (18 to 51 stakeholders engaged per session)
- » 3 ADTF meetings held.
- » 1 homebuyer education webinar held

\*Includes only accomplishments during the last fiscal year (July 2020 through June 2021)



### Continued Planning Efforts

The Transform Fresno DAP builds upon previous planning efforts to revitalize Fresno's downtown region while minimizing gentrification and displacement. These efforts have led to several reports that highlight potential actions for balancing those goals, including: the *Downtown Neighborhoods Community Plan* (2016), the *Southwest Fresno Specific Plan* (2017), and the *Fresno General Plan 2015-2023 Housing Element* (2017). The latter document specifically called for the creation of the ATDF to explore ways for low-income residents and merchants to remain in their neighborhoods if displacement is observed.

Fresno's DAP furthers past planning efforts by funding the following research and community engagement tasks:

- » **Release the Downtown Displacement Report**, which highlights data related to displacement vulnerabilities in Downtown Fresno and the surrounding city.
- » **Release the Draft Framework for the DAP**, a working document that highlights existing and proposed displacement avoidance policies in Fresno.
- » **Hold one community workshop**, in which residents can react to the Draft Framework and provide input on the policies to include in the final DAP.
- » **Collect community surveys**, in which residents can anonymously comment on the Draft Framework.
- » **Release final DAP**, which revises the Draft Framework to reflect stakeholder feedback and acts as a living document (despite the "final" nomenclature) that shifts to align with the vulnerabilities and priorities of the community as new information is revealed.
- » **Hire an implementation consultant**, Thrivance Group, that will gather qualitative and quantitative data to inform the rollout of policies proposed in the DAP, conduct community-based workshops to gain additional feedback about those policies, release an analysis of findings in a public report, and present findings to the ATDF and the Fresno City Council.

These activities are funded through a mix of leveraged funds, TCC implementation grant funds, and a supplemental technical assistance grant (\$133,333) from SGC.

### Policies and Programs That Mitigate Displacement

In addition to leveraging previous planning efforts, Fresno's DAP also leverages a number of existing policies and programs aimed at mitigating displacement. However, based on the public comments about the Draft Framework, Fresno's existing policies and programs could go further to protect residents and businesses from displacement pressures. Thus, Fresno's DAP also proposes new actions

for mitigating displacement that are driven by the priorities of community members (see **Table 2** for an overview of existing and proposed policies in the DAP by strategy).

The Fresno City Council will serve as the final authority on whether the policies proposed in the DAP are adopted. To inform the policymaking process, the City Council will work closely with the ATDF and the implementation consultant to review findings from the aforementioned research and community engagement activities.

### Economic Empowerment Opportunities for Residents

To support neighborhood stabilization and wealth building within the TCC project area, the City of Fresno will partner with Wells Fargo to conduct six Homebuyer and Financial Literacy Education Summits. These events will cover the homebuying process, necessary qualifications for buyers, and strategies for improving one's access to credit.

Additionally, the city will also implement a project labor agreement (PLA) that will apply to all city-led construction projects funded by the TCC grant. The PLA will encourage contractors and unions to hire qualified workers from the TCC project area, thereby improving residents' access to high-paying jobs with robust benefits. While PLAs are typically a workforce development strategy, they are included as a displacement avoidance strategy within Fresno's DAP because they help generate wealth for residents and reduce their vulnerability to increasing housing costs.

### Economic Empowerment Opportunities for Businesses

Leveraging the TCC technical assistance grant from SGC, the city is working with the Fresno Metro Black Chamber of Commerce and CVBDP to establish a business development and retention program. The program will provide one-on-one, culturally relevant coaching sessions and technical assistance to 10 small businesses in the Transform Fresno project area. Additionally, the city will partner with FRWDBBSC to hold eight to 10 business development workshops in the project area.

The city will also take some initial steps to help small businesses in Chinatown form a small business alliance, more formally referred to as a Property Based Improvement District (PBID). To support this effort, the city will hire a separate consultant, Willdan Financial Solutions, to do the following: conduct a feasibility study for the creation of a Chinatown PBID, coordinate three community outreach meetings with Chinatown groups to provide information about the potential district, gauge the level of business owner support for a PBID, and provide two Business Owner Education workshops that cover topics such as the PBID formation process, potential leadership roles, and opportunities to improve the consumer experience and economic stability.

**Table 2. Existing and Proposed Policies in the Transform Fresno DAP (by Strategy)**

Strategy	Existing Policies /Programs	Proposed Policies / Programs
<p><b>Preservation of Affordable Housing</b></p>	<ul style="list-style-type: none"> <li>» <b>Rent Control for Mobile Homes</b> - regulates rent increases and evictions for mobile homes.</li> <li>» <b>No-Net Loss of Affordable Housing</b> - the City of Fresno works with public and nonprofit agencies to purchase and manage affordable housing units that are at risk of closing.</li> <li>» <b>Protection of Single Room Occupancy (SRO) Units</b> - the City of Fresno rehabilitates SROs, a low-cost housing option for low-income households and those vulnerable to homelessness.</li> <li>» <b>Condominium Conversion Restrictions</b> - limits the number of apartments and mobile homes that can be converted to condominiums.</li> </ul>	<ul style="list-style-type: none"> <li>» <b>Expanded Rent Controls</b> - would stabilize rents at the city or county level (beyond just mobile homes) through the enactment of a rent control ordinance and the establishment of a rent review board that conducts hearings of tenant and landlord petitions under said ordinance.</li> </ul>
<p><b>Tenant Protections and Support</b></p>	<ul style="list-style-type: none"> <li>» <b>Anti-Harassment Policies</b> - the City of Fresno refers housing discrimination complaints to enforcement bodies, sponsors fair housing workshops, and spreads fair housing information.</li> <li>» <b>Legal Services</b>- the City of Fresno provides funding to the Fair Housing Council of Central California to provide legal services to tenants.</li> </ul>	<ul style="list-style-type: none"> <li>» <b>"Just Cause" Eviction Policies</b> - would prohibit landlords from evicting tenants without proper cause (e.g., owner move-in, removal of the unit from the rental market). Raising the rent is typically not a proper cause under local rent control policies.</li> </ul>
<p><b>Production of Affordable Housing</b></p>	<ul style="list-style-type: none"> <li>» <b>Density Bonus Ordinance</b> - allows the increase of permitted density in exchange for the development of affordable housing;</li> <li>» <b>Funding for affordable housing production</b> - the City of Fresno continues to apply for local, state, and federal programs to fund new housing for low-income renters and homebuyers.</li> <li>» <b>Development of accessory dwelling units (ADUs)</b> - allows the development of ADUs on the same lot as stand-alone single-family homes.</li> </ul>	<p><i>No new policies proposed.</i></p>
<p><b>Protections for Small Business</b></p>	<ul style="list-style-type: none"> <li>» <b>Local Purchasing Requirements</b> - the City of Fresno extends preferences to local businesses for contracts that are bid through the city's competitive bid process pursuant to the application of construction and consultant contracts.</li> </ul>	<ul style="list-style-type: none"> <li>» <b>Creation of a Small Business Alliance</b> - would support small businesses in Chinatown in forming a PBID.</li> <li>» <b>Business Development Programs</b>- would provide no- and low-cost technical assistance to local businesses seeking to expand.</li> </ul>
<p><b>Neighborhood Stabilization and Wealth Building</b></p>	<ul style="list-style-type: none"> <li>» <b>Local Purchasing Requirements</b> - as mentioned above, the City of Fresno extends preference to businesses that competitively bid for construction and consultant contracts.</li> </ul>	<ul style="list-style-type: none"> <li>» <b>First-Time Homeowner Incentives</b> - would provide first-time low-income homebuyers with financial assistance for down payments and low-cost financing options.</li> <li>» <b>Project Labor Agreements</b> - would require TCC-funded capital projects to hire locally.</li> <li>» <b>Commercial Rental Subsidies</b> - would offer rent subsidies to minority owned businesses.</li> <li>» <b>PBID Training</b> - would provide training on how to form a PBID in Chinatown.</li> </ul>

## Displacement Avoidance Plan

### Project Details

- » Launch date: September 2019
- » Anticipated completion date: March 2024
- » Project lead: The City of Fresno
- » TCC grant funds [implementation grant only]: \$0
- » TCC technical assistance funds: \$133,333
- » Leveraged funds: \$60,500

### Cumulative Progress Through FY 2021-2022

#### Outputs From the DAP Planning Process (in chronological order)

- » Established the ATDF in November 2018 under City Council Resolution 2018-2077 (11 ADTF meetings held)
- » Released the *Downtown Displacement Report*, a document published by the City of Fresno in April 2019 that highlighted statistics related to displacement in Downtown Fresno
- » Released the Draft Framework for the DAP, a working document published by the City of Fresno in May 2019 that highlighted existing and proposed displacement avoidance policies within Fresno
- » 32 stakeholders engaged at a workshop in May 2019 to identify and prioritize policies that mitigate displacement in the Transform Fresno project area
- » 23 stakeholder surveys collected from community members evaluating the Draft Framework for the DAP
- » Released the *Transform Fresno Displacement Avoidance Plan Narrative*, a final report published by the City of Fresno in September 2019 that updated the Draft Framework for the DAP to reflect stakeholder feedback
- » Awarded a \$133,333 technical assistance grant from SGC in January 2020 to fund activities that support the development and implementation Transform Fresno's DAP
- » Hired Thrivance Group to serve as the DAP implementation consultant in March 2020
- » 200 hours of one-on-one interactions and 50 in-depth interviews held with community stakeholders in support of Thrivance Group's Social Climate Analysis (a method for ground-truthing assumptions about gentrification and displacement with the TCC project area)
- » 551 surveys collected to inform Thrivance Group's social impact analysis
- » Released *Here to Stay: Policy-Based Blueprint for Displacement Avoidance in Fresno*, a draft report published by Thrivance Group in June 2021 that summarized findings from the Social Climate Analysis and expanded the DAP framework to include 46 anti-displacement policies
- » 4 workshops conducted by Thrivance Group (known locally as Community Study Sessions) that explored policy bundles from the *Here to Stay* report in more detail, and engaged 18 to 51 stakeholders per session

#### Outputs from Displacement Avoidance Activities

- » 3 business development webinars held
- » 2 homebuyer education webinars held
- » Executed PLA with local hiring provisions for construction projects that are at least 75% funded by TCC and have a bid amount greater than \$133,000 (excluding the following projects: housing construction and rehabilitation; residential solar construction or weatherization); thus, the PLA would apply to the following projects: The Monarch @ Chinatown (transportation investments only: street lighting, sidewalks, curbs, etc.), Southwest Fresno Trail, Chinatown Urban Greening, Mariposa Plaza, and the Park at MLK Magnet Core

#### Responses to COVID-19

- » Conducted all outreach, engagement, interviews, and policy analysis either virtually or by phone
- » Moved ADTF meetings to a virtual platform, recorded them, and shared them on social media and CMAC TV

# Workforce Development Plan



Job training participants in the VOICE Gladiator Welding Program. Photo credit: Gladiator Welding

## TRANSFORM FRESNO'S WORKFORCE DEVELOPMENT PLAN (WDP)

funds the creation of two unique training programs: (1) West Fresno Advanced Transportation Technology Training (WFATT); and (2) Voice of Including Community Equitably (VOICE) Gladiator Welding Program. Aside from these two stand-alone programs, a number of training and employment opportunities will also be offered through TCC projects.

The Fresno Regional Workforce Development Board (FRWDB) serves as lead partner for WFATT, providing grant administration and oversight. FRWDB already oversees a suite of workforce development programs in the region that help place Fresno County residents in new jobs or gain new skills.

The State Center Community College District (SCCCD) serves as the lead partner and fiscal agent for the Gladiator Welding Program. VOICE, a community-based organization dedicated to workforce development for the underprivileged and underserved populations of Fresno, will manage the day-to-day operations of the program. The West Fresno Family Resource Center (WFFRC) will provide case management and mentorship services for program participants.

## Recent Accomplishments\*

- » 85 volunteers provided on-the-job training by GRID Alternatives in the rooftop solar sector (also reported on page 66)
- » 36 individuals enrolled in the VOICE Gladiator Welding Program (34 graduated and 24 placed in related work)
- » 27 individuals enrolled in WFATT (22 graduated and seven placed in related work)
- » 4 individuals enrolled in paid training to learn how to install energy efficiency measures and solar panels (also reported on page 66)

\* Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

### **WFATT**

This program will train 200 qualified residents on the operation and maintenance of advanced clean truck technologies. The program will target project area residents, with 80% of enrollment from the 93706 (Southwest Fresno) and 93721 (Downtown and Chinatown) ZIP codes.

Qualified participants complete 160 hours of classroom and field training in commercial truck operation with the Fresno United Truck Driving School. At the end of the training, participants will obtain a California Class A driver's license.

Additional services offered through WFATT include academic and career assessments, case management, job readiness workshops, interview skill building, vocational training, and job placement. Program graduates will be referred to employers that operate zero- and low-emission truck fleets, and that offer competitive wages, benefits, and full-time work.

### **VOICE Gladiator Welding Program**

This welding pre-apprenticeship program will address underemployment challenges by building a workforce in West Fresno that has the skills to successfully enter gainful and sustainable employment and the preparation to complete industry-recognized certifications. The program will train 108 qualified residents, primarily from the target area of the 93706, 93721, and 93727 ZIP codes.

The program is designed to be implemented through a nontraditional holistic approach to complement the whole person. As such, the program will provide ongoing support and career coaching to assist with retention.

### **Job and Training Opportunities on TCC Projects**

Fresno residents will have access to the following employment and training opportunities on TCC projects:

- » Construction jobs (with a local hiring preference) to build an affordable housing development called The Monarch @ Chinatown;
- » Solar PV system installation and maintenance training with GRID Alternatives and Fresno EOC;
- » Home weatherization and energy efficiency measures training with Fresno EOC;
- » Food waste prevention and edible food rescue and distribution jobs at the Saint Rest + Food to Share Hub;
- » Workforce training, technical certificates and degree programs, and employment opportunities, which will be offered at the new West Fresno Satellite Campus; and
- » Agricultural training provided by Yosemite Village Permaculture Community Garden & Urban Farm Incubator.

### **Workforce Development Plan**

The City of Fresno has hired a workforce development consultant to conduct an economic analysis of workforce opportunities, evaluate existing workforce development programs and gaps, and synthesize findings and recommendations into a TCC Workforce Development Strategic Plan. The plan will include executable strategies that incorporate feedback from industry, higher-ed institutions, nonprofits and local government, while strengthening alignment with workforce providers. To align the Plan with TCC's goals and state priorities, the analysis will focus on workforce development opportunities for greenhouse-gas reducing careers and industry sectors.

## Workforce Development Plan - WFATT

### Project Details

- » Launch date: June 2020
- » Anticipated completion date: June 2024
- » Project leads: FRWDB
- » TCC grant funds: \$1,249,432
- » Leveraged funds: \$207,665

### Cumulative Progress Through FY 2021-2022

#### Outputs From Workforce Development Activities

- » 27 participants enrolled in WFATT training programs
- » 22 WFATT participants completed all 160 hours of classroom and field training.
- » 14 WFATT participants obtained a California Class A license.
- » 7 WFATT participants placed in jobs after completing training
- » Purchased a low-emissions truck for the training program (an 80-gallon compressed natural gas truck)
- » Arranged a job placement program with United Truck Driving

#### Outputs From Community Engagement Activities

- » 75 TCC project area residents contacted about WFATT
- » 8 outreach and recruitment events (33 prospective participants engaged)
- » 1 employer education event to demonstrate the low/zero-emission vehicles (10 stakeholders engaged)

### Responses to COVID-19

- » Outreach and recruitment was conducted virtually.



WFATT partners in front of a newly purchased low-emissions commercial truck. Photo credit: FWRDB

## Workforce Development Plan - VOICE Gladiators

### Project Details

- » Launch date: June 2020
- » Anticipated completion date: June 2024
- » Project leads: SCCCD
- » TCC grant funds: \$1,850,000
- » Leveraged funds: \$109,020

### Cumulative Progress Through FY 2021-2022

#### Outputs From Workforce Development Activities

- » 36 individuals enrolled in (and 34 graduated from) the VOICE Gladiators training program.
- » 34 training graduates received Gas Metal Arc Welding (GMAW) plate certification.
- » 24 trainees placed in jobs with partner employers
- » 10 training graduates received Gas Tungsten Arc Welding (GTAW) plate certification.
- » 7 job placement partnerships arranged with employers

#### Outputs From Community Engagement Activities

- » 150 potential trainees contacted about the VOICE Gladiators Program
- » 25 employers contacted about potential job placement opportunities
- » 10 events about job training and placement opportunities through VOICE Gladiators program (34 individuals engaged across events)
- » 9 employer site visits (6 to 12 individuals engaged at each site visit)
- » 2 cohort graduations (60 to 64 individuals engage at each graduation)



VOICE Gladiator trainees on a site visit at Excelsior Metals, a partner employer with the program. Photo credit: Gladiator Welding

## Workforce Development Plan - Job Training on TCC Projects

### Project Details

- » Launch date: June 2020
- » Anticipated completion date: June 2024
- » Project leads: Fresno EOC / GRID Alternatives
- » TCC grant funds: See projects in next chapter
- » Leveraged funds: Ibid.

### Cumulative Progress Through FY 2021-2022

#### Outputs From Workforce Development Activities

- » 149 volunteers provided on-the-job training by GRID Alternatives in the rooftop solar sector (also reported under outputs from Rooftop Solar and Energy Efficiency Projects on **page 66**).
- » 34 individuals provided paid training by Fresno EOC on how to install energy efficiency measures and solar panels (also reported under outputs from Rooftop Solar and Energy Efficiency Projects on **page 66**).

## Workforce Development Plan - Strategic Planning

### Project Details

- » Launch date: June 2020
- » Anticipated completion date: August 2022
- » Project leads: City of Fresno
- » TCC grant funds: \$110,500
- » Leveraged funds: \$0

### Cumulative Progress Through FY 2021-2022

#### Outputs From Planning Process (in chronological order)

- » Economic Development Partners hired as lead consultant
- » Created electronic database and began collecting information regarding workforce data, green jobs, training programs and other relevant documents from the region
- » Performed research on the status of the workforce and employment in Fresno and surrounding region
- » Stakeholders list was prepared and 45 key stakeholders were interviewed that represented training providers, employers, industries and workforce development professionals.
- » A workforce strategic plan document draft was prepared.
- » Over 100 stakeholders contacted to provide feedback on the draft workforce strategic plan





Community members volunteer for the groundbreaking of the Yosemite Village Permaculture Community Garden and Urban Farm Incubator on October 1, 2019. Photo credit: Stan Morita

**TCC APPLICANTS CHOSE FROM A WIDE ARRAY OF PROJECT TYPES** in their effort to achieve the three objectives of TCC, namely: (1) reductions in greenhouse gases (GHG); (2) improvements in public health and environmental benefits, and (3) expanded economic opportunity and shared prosperity. These project types align with the suite of California Climate Investments overseen by various state agencies.<sup>\*</sup> This alignment was built into TCC to streamline the proposal and indicator tracking process. For example, the California Air Resources Board (CARB) has developed GHG-reduction quantification methodologies and co-benefit assessment methodologies for each project type under the existing suite of California Climate Investments. These methodologies can then be used by TCC grantees (and technical assistance providers, such as the UCLA-UCB evaluation team) to estimate the benefits of each project. The following section provides an overview of the Transform Fresno projects, aggregated by project type, that will be using TCC dollars to achieve the aims of the program.

<sup>\*</sup> For more information about California Climate Investments, visits: <http://www.caclimateinvestments.ca.gov/>

# Active Transportation Project



A Class II bicycle lane long Annadale Avenue. Photo credit: Self Help Enterprises

**THE ANNADALE MODE SHIFT** will help make active transportation options safer and convenient for the Transform Fresno community. The project plans to install approximately 1,196 linear feet (0.2 miles) of Class II bicycle lanes, 1,154 linear feet (0.2 miles) of new sidewalk, signage for 1,085 linear feet (0.2 miles) of Class III bike lanes, and street lighting on East Annadale Avenue between South MLK Jr. Boulevard and South Elm Avenue. The project will close a gap of pedestrian path and improve connectivity along a street that links West Fresno Elementary and Middle Schools, the Mary Ella Brown Community Building, the Clinica Sierra Vista Health Center, and current and proposed affordable housing developments, including Annadale Commons. By encouraging alternative modes of travel and shifting more trips out of cars, the project will reduce traditional vehicle miles traveled (VMT), thereby reducing tailpipe GHG emissions.

Self-Help Enterprises serves as the lead partner for this project. Supporting partners include the City of Fresno Department of Public Works, which will provide long-term operations and maintenance of the improvements. Self-Help Enterprises will use leverage funds to conduct public outreach to educate residents and other community members on the transportation options and to connect them with existing subsidy programs such as Taxi Scrip, Handy Ride, and other City of Fresno Transit programs.

## Recent Accomplishments\*

- » Construction completed
- » 1,196 linear feet (0.2 miles) of Class II bicycle lanes added
- » 1,154 linear feet (0.2 miles) of new sidewalk added
- » 1,085 linear feet (0.2 miles) of Class III bike lanes added

\*Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

## Annadale Mode Shift

**The Annadale Mode Shift** will install approximately 14,070 square feet of sidewalk, approximately 1,196 linear feet of Class II bike lanes, and signage for approximately 1,085 linear feet of Class III bike lanes on East Annadale Avenue between South MLK Jr. Boulevard and South Elm Avenue.

### Project Details

- » Launch date: April 2021
- » Completion date: July 2021
- » Project lifetime (post-implementation): 20 years
- » TCC grant funds: \$343,000
- » Leveraged funds: \$150,000
- » Project lead: Self-Help Enterprises

### Estimated Lifetime Benefits

- » GHG emissions reductions: 41 MTCO<sub>2</sub>e
- » VMT reductions: 111,511 miles
- » Travel cost savings: \$62,114
- » Direct jobs from TCC dollars: 2 FTE
- » Indirect jobs from TCC dollars: 1 FTE
- » Induced jobs from TCC dollars: 1 FTE

### Cumulative Progress Through FY 2021-2022

- » Construction completed
- » 1,196 linear feet (0.23 miles) of Class II bicycle lanes added
- » 1,154 linear feet (0.22 miles) of new sidewalk added
- » 1,085 linear feet (0.21 miles) of Class III bike lanes added

### Responses to COVID-19

- » Self-Help Enterprises conducted virtual public outreach to educate residents and community members on active transportation options and to connect them with existing subsidy programs such as Taxi Scrip, Handy Ride, and other City of Fresno transit programs.

# Affordable Housing and Sustainable Communities Project



State partners on a site visit at The Monarch construction site in December 2021. Photo credit: California Strategic Growth Council

**TRANSFORM FRESNO'S AFFORDABLE HOUSING** and sustainable communities augments housing supply and increases density, which should in turn reduce VMT. Specifically, the projects fund the construction of a 57-unit mixed-use development called The Monarch @ Chinatown.<sup>10</sup> The development will include 4,695 square feet of ground floor retail space, as a below-ground parking garage, 56 affordable workforce housing units, and one manager's unit. The project has varying levels of income restrictions: 15 units will be rented to households with incomes at or below 30% of the area median income (AMI); 14 units will be rented to households earning at or below 50% of the AMI; and 27 units will be reserved for households earning at or below 60% of the AMI. Since the project site is on 0.60 acres of vacant land, it will not directly displace Chinatown residents or businesses.

The Monarch @ Chinatown will be constructed by the Fresno Housing Authority, the project's lead partner. GGLO Design and Johnston Contracting serve as architectural and construction subcontractors. Other partners include US Bank, the California Housing Finance Agency, and the Department of Housing and Community Development. The City of Fresno will provide long-term operations and maintenance for the project.

<sup>10</sup> For a definition of affordable, see Appendix A of the FY 2017-2018 AHSC Program Guidelines.

## Recent Accomplishments\*

- » Construction of The Monarch @ Chinatown was 85% complete
- » Plans, specifications, and estimates for active transportation infrastructure was 100% complete

\*Includes only accomplishments during the last fiscal year (July 2021 through June 2022).

The project will also provide a number of on-site amenities for building residents. Material amenities include a computer room, an exercise room, a community room, a tot lot, solar panels, electric vehicle charging stations, and bike storage lockers. Residents will also be supported by a service coordinator, who will organize community building and enrichment activities for tenants (holiday events, tenant councils, etc.) and refer tenants to public resources available in the broader community. Moreover, tenants will have access to educational, health, and skill building classes on-site. The classes will total a minimum of 84 hours of instruction per year, and cover topics such as financial literacy, home buying, resume building, nutrition, exercise, parenting, and smoking cessation.

In addition to the investment in affordable housing stock, this project will offer 56 free transit passes per year for residents (one for each affordable unit) for three years. To further encourage the use of public transit and active transportation, the project plans to complete three sustainable transportation improvements (STI) alongside the affordable housing development.

- » **STI 1** will improve active transportation access to a transit stop located on F and Tulare streets by installing LED streetlights on F Street and making improvements to a half-mile of paved pedestrian facilities surrounding the apartment development
- » **STI 2** will plant 26 trees on F Street from Fresno to Mariposa streets to increase canopy cover in Chinatown. A parklet and irrigation systems will also be installed within these limits.
- » **STI 3** will reconstruct China Alley between Kern and Inyo streets into a permeable green alley and install strand lighting to increase visibility (the remaining part of China Alley will be reconstructed under the “Chinatown Urban Greening” project between Tulare and Kern streets and between Inyo and Ventura streets). Signage and other traffic-calming surface improvements will be included as well.



Architectural rendering of the Chinatown apartment complex. Photo credit: GGLO Design

## The Monarch @ Chinatown

**The Monarch @ Chinatown** is a four-story infill housing community that will create 56 units of affordable housing (and one manager's unit), as well as approximately 4,700 square feet of mixed-use commercial space in heart of Chinatown. The new housing development will eliminate a blighted parcel of vacant land to provide much-needed revitalization.

### Project Details

- » Launch date: September 2020
- » Anticipated completion date: Winter 2023
- » Project lifetime (post-implementation): 30 years
- » TCC grant funds: \$11,785,221
- » Leveraged funds: \$25,736,978
- » Project lead: Fresno Housing Authority

### Estimated Lifetime Benefits

- » GHG emissions reductions: 5,345 MTCO<sub>2</sub>e
- » VMT reductions: 14,170,461 miles
- » Travel cost savings: \$5,257,152
- » Direct jobs from TCC dollars: 56 FTE
- » Indirect jobs from TCC dollars: 30 FTE
- » Induced jobs from TCC dollars: 4 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Affordable Housing Development

- » Construction of the Monarch @ Chinatown was 85% complete.

#### Outputs From Sustainable Transportation Investments

- » Plans, specifications, and estimates for active transportation infrastructure were completed.

# Food Waste Prevention and Rescue Project



A volunteer helping with Fresno Metro Ministry's Food to Share program. Photo credit: Fresno Metro Ministry

**FRESNO'S FOOD WASTE PREVENTION AND RESCUE PROJECT**, called the Saint Rest + Food to Share Hub: Healthy Food Rescue and Redistribution, will provide Fresno residents with access to fresh, local, and healthy food at the former Farmer John Meat Co. The warehouse is in the TCC project area and will be renovated and repaired to accommodate modern dry and cold storage facilities, an operations office, and a central food donation and distribution space. A new two-story structure next to the warehouse expands the project and will contain a community commercial kitchen, classrooms, and community service offices. In addition to addressing food insecurity, the Food to Share Hub reduces GHG emissions by diverting edible food from landfills, where the organic materials would release methane as they decomposed.

The project is led by Fresno Metro Ministry, a community-based organization that runs a food program called Food to Share that rescues off-farm edible food waste, collects food donations from businesses, restaurants, schools, and markets, and delivers recovered food to local pantries, kitchens, churches, and hunger-fighting organizations. The Hub project will significantly expand the rescue, sorting, storage, and distribution capacity of the Food to Share program. Saint Rest Baptist Church serves as the project co-lead and will support Fresno Metro Ministry in managing the long-term operations and maintenance of the Food to Share Hub.

## Recent Accomplishments\*

- » Warehouse renovation and construction permitting began
- » Press Conference to announce the Saint Rest + Food to Share Hub expansion project – attended by 60 plus
- » Community Advisory Meeting was conducted at Saint Rest Church – 60 plus attended the meeting

\*Includes only accomplishments during the last fiscal year (July 2021 through June 2022).

Paul Halajian Architects designed the site plans for the Hub renovation. All project components are expected to be operational by May 2023.

In addition to the physical building improvements and expanded food rescue and redistribution capacity, the renovated Food to Share Hub will offer community-focused programming. The commercial kitchen space will be open to the public for cooking skills and nutrition education classes. These classes will cover topics such as food preparation, shopping on a budget, and the connection

between food, health, and wellness using the nationally recognized Cooking Matters curriculum. Saint Rest Baptist Church will also coordinate regular community events and activities that elevate the importance of health, education, exercise, and resilience.

A Community Advisory Committee will also be established in service of the project. The committee will advise this project on all aspects of community engagement, activities programming, event planning, and identifying additional community services that can be provided at the Hub site.

## Saint Rest + Food to Share Hub: Healthy Food Rescue and Redistribution

**The Saint Rest + Food to Share Hub: Healthy Food Resource and Redistribution Hub** will result in an annual recovery of over 1 million pounds of nutritious food, that would otherwise be wasted, and distribute it to families experiencing food hardship.

### Project Details

- » Launch date: March 2021
- » Anticipated completion date: May 2023
- » Project lifetime (post-implementation): 10 years
- » TCC grant funds: \$1,488,280
- » Leveraged funds: \$3,571,913
- » Project lead: Fresno Metro Ministry

### Estimated Lifetime Benefits

- » GHG emissions reductions: 9 MTCO<sub>2</sub>e
- » Material diverted from landfill: 31 tons
- » Direct jobs from TCC dollars: 16 FTE
- » Indirect jobs from TCC dollars: 4 FTE
- » Induced jobs from TCC dollars: 7 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Food Hub Expansion Activities

- » Warehouse renovation and construction permitting began.

#### Outputs From Community Engagement Activities

- » Press Conference to announce the Saint Rest + Food to Share Hub expansion project – attended by 60 plus
- » Community Advisory Meeting was conducted at Saint Rest Church – attended by 60 plus.



# Low-Carbon Transportation Project



Fresno Deputy Mayor, Matthew Grundy, speaking at an event on July 8, 2021, to showcase newly installed electric vehicle charging stations at Sierra Plaza, an affordable housing complex in the TCC project area. Photo credit: City of Fresno

**FRESNO'S LOW-CARBON TRANSPORTATION PROJECT** will reduce tail-pipe emissions from passenger vehicles by establishing new electric vehicle (EV) car-sharing, vanpool, ride-sharing, and bicycle sharing programs. These programs are collectively named the Clean Shared Mobility Network (CSMN), and will provide low- to no-cost mobility services throughout the project area. Specifically, the project will offer vouchers to reduce the economic burden of accessing and using these low-carbon mobility options. As a result, the project will assist residents with limited transportation options in getting to school, work, and health care appointments, while generating new growth for the local business community.

The Fresno Metro Black Chamber Foundation serves as the lead partner for this project, and will develop a long-term operations and maintenance plan for the system during the first year of the grant term. Supporting implementation partners include Bethel Temple Church of God in Christ, Drop Mobility, the Fresno Career Development Institute, Green Commuter, the Latino Equity, Advocacy & Policy (LEAP) Institute, and the Shared Use Mobility Center. A vanpool operator will support the project in future years.

## Recent Accomplishments\*

- » 734 Kilowatt-hours (kWh) of energy consumption at EV charging infrastructure, displacing about 1,908 miles traveled in a conventional vehicle fueled by gasoline\*\*
- » 19 outreach and community engagement events (engaging 10 to 1,000 individuals at each event)

\*Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

\*\*Assumes 2.6 miles per kWh of charge per Emission FACTor (EMFAC), a model developed by the California Air Resources Board that estimates the official emissions inventories of onroad mobile sources in California.

In total, the car-share network will consist of 34 battery-electric vehicles (Tesla Model 3 or Chevy Bolt) that can be rented by the hour or by the day, with below-market rates for low-income members. The project also includes a rural vanpool consisting of eight battery-electric vehicles that will transport residents to and from employment centers. The bike share will consist of 200 electric bicycles and approximately 300 docking stations at hubs across Downtown, Chinatown, and Southwest Fresno.

In addition to the investment in new electric vehicles, bicycles, and vouchers to keep usage rates affordable, TCC dollars will also fund the following activities:

- » Installing EV charging infrastructure for the 42 vehicles. This includes approximately 34 Level 2 electric vehicle supply equipment (EVSE) chargers for the car-share vehicles, and approximately eight Level 3 EVSE chargers for the vanpool vehicles;
- » Creating a physical location for engaging with the program, called the Mobility Hub Customer Service Center. The Mobility Hub will have multimodal trip information displays and refillable trip card machines;
- » Establishing a volunteer driver program who will provide rides to underserved residents; and
- » Developing an integrated services web platform and phone/tablet application.

## Clean Shared Mobility Network

**The Clean Shared Mobility Network** will establish a low-carbon transit system of electric vehicle and bicycle shares to provide low- or no-cost services throughout the Project Area and will include an EV car-share with below-market rates for lower-income members.

### Project Details

- » **Launch date:** September 2020
- » **Anticipated completion date:** April 2024
- » **Project lifetime (post-implementation):** 3 years
- » **TCC grant funds:** \$7,717,014
- » **Leveraged funds:** \$2,292,900
- » **Project lead:** Fresno Metro Black Chamber Foundation

### Estimated Lifetime Benefits

- » **GHG emissions reductions:** 1,446 MTCO<sub>2</sub>e
- » **Direct jobs from TCC dollars:** 37 FTE
- » **Indirect jobs from TCC dollars:** 15 FTE
- » **Induced jobs from TCC dollars:** 23 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Network Implementation Activities

- » 1,333 kilowatt-hours (kWh) of energy consumption at EV charging infrastructure, displacing about 3,466 miles traveled in a conventional vehicle fueled by gasoline (assumes 2.6 miles per kWh of charge per EMFAC, a model developed by the California Air Resources Board that estimates the official emissions inventories of on-road mobile sources in California)
- » 38 EV chargers installed across five different charging sites to support the electric vehicle car-share network

#### Outputs From Community Engagement Activities

- » 31 outreach and community engagement events (8 to 1,000 individuals engaged at each event)

# Rooftop Solar and Energy Efficiency Projects



A Fresno EOC crew installs solar panels on a single-family home. Photo credit: Fresno EOC

## TRANSFORM FRESNO'S SOLAR AND ENERGY EFFICIENCY PROJ-

**ECTS** will reduce energy bills for low-income households while also reducing reliance on fossil fuels to meet local energy needs. These projects include: (1) Economic Opportunities Commission (EOC) Partnership for Energy Savings and GHG Reductions in SW Fresno; (2) GRID Solar Collaborative Single-Family Partnerships; and (3) GRID Solar Collaborative Multi-Family Partnership. Together the projects will install rooftop solar PV on 195 low-income single-family homes and five multi-family dwelling units, and install energy efficiency measures in 170 single-family homes. All of this work will be done at no-cost for low-income households that makes less than 80% of the area median income.

Fresno EOC will lead the energy efficiency installations and a portion of the solar PV installations on single-family homes (135 in total). Fresno EOC is a locally based nonprofit agency (specifically, a Community Action Agency per the U.S. Economic Opportunity Act of 1964). The organization provides programming and services in the areas of youth and adolescent education, housing and shelter, food and nutrition, community health and preventive care, financial literacy, energy conservation, vocational counseling and training, and job placement.

GRID Alternatives will lead the remaining solar PV installations on single-family homes (60 in total) and multi-family properties (five in total). GRID Alternatives is a national nonprofit organization that installs solar power systems and provides job training for underserved communities.

## Recent Accomplishments\*

### *EOC Partnership*

- » 7 homes retrofitted with weatherization measures
- » 6 solar PV systems installed, totaling 28.4 kW in capacity
- » 4 individuals enrolled in paid job training (also reported under accomplishments on page 51)

### *GRID Solar Collaborative Single-Family Partnerships*

- » 85 volunteers provided on-the-job training (also reported on page 51)
- » 13 solar PV systems installed, totaling 68.5 kW in capacity

### *GRID Solar Collaborative Multi-Family Partnerships*

- » 1 solar PV system installed, totaling 9.6 kW in capacity

\*Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

### Training a Solar and Energy Efficiency Workforce

Along with the material benefits of the solar and energy efficiency projects, they will also provide job training and skill building opportunities for TCC project area residents. All training will be targeted to individuals from the TCC project area, but will not be limited to them.

Fresno EOC will provide training to at least six youth (ages 18 to 25). Participants must be enrolled in some kind of educational program beyond Fresno EOC's training program (e.g., high school diploma program, community college, etc.). Each participant will attend a three-day training and certification with SunPower, a company that develops solar power systems and offers trainings to accredit solar installers. Additionally, Fresno EOC will provide on-the-job and classroom training at the Solar Training Lab, located at Fresno EOC's Neighborhood Youth Center.

GRID Alternatives will target 200 individuals for on-the-job and classroom training. The training will provide participants with direct installation skills, as well as job safety and basic electrical skills.

### Community Engagement and Outreach

To generate interest around the no-cost installations and job training opportunities, Fresno EOC and GRID Alternatives will carry out community engagement and outreach activities in the TCC project area. Each partner will also provide technical support to households that end up receiving a solar PV or energy efficiency installation.

With respect to outreach, Fresno EOC will aim to attend a total of 10 community events in the TCC project area. And GRID Alternatives will partner with the Fresno Center for New Americans and Stone Soup Fresno to host monthly energy efficiency workshop classes and community outreach activities on solar qualification, training opportunities, and educating the community on energy efficiency and consumer behaviors that save money on electrical utility bills. Both partners will also be active on social media to promote opportunities to benefit from their projects.



A GRID Alternatives crew installs solar panels on the Bridges at Florence affordable senior living apartments in the Transform Fresno project area. Photo credit: GRID Alternatives

## EOC Partnership for Energy Savings & Greenhouse Gas Reductions in SW Fresno

**EOC Partnership for Energy Savings and GHG Reductions in SW Fresno** will install energy efficiency and solar water-heating measures on 170 single-family homes in Southwest Fresno. The project will also assess, design, and install 510 kW of solar PV systems on 135 single-family homes in the TCC project area. Fresno EOC will provide on-the-job training and Sun Power certification of crews from the target area.

### Project Details

- » **Launch date:** May 2019
- » **Anticipated completion date:** July 2023
- » **Project lifetime:** 30 years
- » **TCC grant fund:** \$3,208,377
- » **Leveraged funds:** \$0
- » **Project lead:** Fresno Economic Opportunities Commission (Fresno EOC)

### Estimated Lifetime Benefits

- » **GHG emissions reductions:** 7,736 MTCO<sub>2</sub>e
- » **Renewable energy generation:** 23,941,080 kWh
- » **Energy cost savings:** \$3,198,528
- » **Direct jobs from TCC dollars:** 17 FTE
- » **Indirect jobs from TCC dollars:** 7 FTE
- » **Induced jobs from TCC dollars:** 12 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Installation Activities

- » 35 homes retrofitted with weatherization measures to save on energy needed for heating and cooling
- » 25 solar PV systems installed on single-homes owned by low-income households, totaling 111.8 kW in renewable energy capacity

#### Outputs From Workforce Development Activities

- » 34 individuals received paid job training to learn how to install energy efficiency measures and solar panels (also reported under outputs from the Transform Fresno Workforce Development Plan on **page 51**).

#### Outputs From Community Engagement Activities

- » 15 community events and outreach events hosted or attended

## GRID Solar Collaborative Single-Family Partnerships

The **GRID Solar Collaborative Multi-Family Partnership** project will install 183 kW of solar PV panels on 60 single-family homes in the project area. GRID Alternatives will also host monthly efficiency workshop classes and community outreach activities on solar qualification, training, opportunities, and educating the community on energy efficiency and consumer behaviors that save money on electricity bills.

### Project Details

- » **Launch date:** April 2019
- » **Anticipated completion date:** December 2023
- » **Project lifetime:** 30 years
- » **TCC grant fund:** \$883,826
- » **Leveraged funds:** \$535,808
- » **Project lead:** GRID Alternatives

### Estimated Lifetime Benefits

- » **GHG emissions reductions:** 2,355 MTCO<sub>2</sub>e
- » **Renewable energy generation:** 8,590,620 kWh
- » **Energy cost savings:** \$1,147,707
- » **Direct jobs from TCC dollars:** 5 FTE
- » **Indirect jobs from TCC dollars:** 2 FTE
- » **Induced jobs from TCC dollars:** 3 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Installation Activities

- » 45 solar PV systems installed on homes owned by low-income households, totaling 169.3 kW in capacity

#### Outputs From Workforce Development Activities

- » 149 volunteers provided on-the-job training in the rooftop solar sector (also reported under outputs from the Transform Fresno Workforce Development Plan on **page 51**).

#### Outputs From Community Engagement Activities

- » 19 energy efficiency workshops held (56 unique stakeholders engaged across workshops)

#### Responses to COVID-19

- » Developed written protocols, incorporated social distancing markers into the facility, implemented sanitation protocols, and limited class sizes to six trainees per cohort

## GRID Solar Collaborative Multi-Family Partnership

The **GRID Solar Collaborative Multi-Family Partnership** project will install 91 kW of solar PV panels on 5 affordable multi-family housing units operated by the Fresno Housing Authority.

### Project Details

- » Launch date: April 2019
- » Anticipated completion date: December 2023
- » Project lifetime: 30 years
- » TCC grant fund: \$352,549
- » Leveraged funds: \$110,000
- » Project lead: GRID Alternatives

### Estimated Lifetime Benefits

- » GHG emissions reductions: 1,048 MTCO<sub>2</sub>e
- » Renewable energy generation: 3,559,475 kWh
- » Energy cost savings: \$475,546
- » Direct jobs from TCC dollars: 2 FTE
- » Indirect jobs from TCC dollars: 1 FTE
- » Induced jobs from TCC dollars: 1 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Installation Activities

- » 2 solar PV systems installed, totaling 30.3 kW in capacity, at the following locations: (1) Bridges at Florence, and affordable senior living apartments; and (2) Sequoia Courts, a public housing complex

#### Responses to COVID-19

- » Followed COVID-19 prevention protocols; established social distancing

# Urban and Community Forestry Projects



Tree planting efforts funded by the Southwest Urban Forest Expansion project along Jensen Avenue in February 2021.  
Photo credit: Beautify Fresno

**FRESNO'S URBAN AND COMMUNITY FORESTRY PROJECTS** will increase resident access to tree coverage, healthy food, and open green space. There are four projects of this type: (1) Southwest Urban Forest Expansion; (2) Inside Out Community Garden; (3) Yosemite Village (Yo'Ville) Permaculture Community Garden & Urban Farm Incubator; and (4) Yo'Ville Community Orchard. Together these projects will plant over 500 trees in or along sidewalks, street medians, park strips, existing parks, and newly constructed community gardens and orchards. As the trees mature, they will reduce GHG by sequestering carbon and cooling nearby buildings, which should reduce the demand for electricity on hot days. Many of these trees will also increase healthy and nutritious food access for residents.

The urban forestry projects will be led by a variety of partners. Fresno Metro Ministry will lead both projects at the Yo'Ville site, with support from the Youth Leadership Institute and Fresno Housing Authority. Fresno EOC will lead the project at the Inside Out Community garden, with support from the City of Fresno and Another Level Training Academy. Finally, the City of Fresno will lead the remaining project to plant trees across Southwest Fresno, with support from Tree Fresno.

## Recent Accomplishments\*

### *Southwest Urban Forest Expansion:*

- » 110 trees planted (above and beyond the 295 trees proposed for the original project)

### *Inside Out Community Garden:*

- » 21 trees planted
- » 4 cooking demonstrations
- » 3 workshops about tree planting, tree maintenance, and/or fruit harvesting

### *Yo'Ville Permaculture Community Garden & Urban Farm Incubator:*

- » 95,123 square feet of vegetation planted
- » 13,016 pounds of produce harvested (211 given away for free to residents)
- » 93 planting workdays
- » 5 Garden Leadership Committee meetings

### *Yo'Ville Community Orchard:*

- » 2 orchard tree and design input sessions

\*Includes only accomplishments during the last fiscal year (July 2021 - June 2022)



### Healthy Food Access

Improving access to healthy food in Southwest Fresno was a major priority for the suite of Transform Fresno projects. Thus, three community garden and orchard projects provide residents the opportunity to garden, grow, and harvest their own fruits and vegetables. Specifically, the Yo'Ville Community Orchard will plant 120 citrus, stone fruit, and nut trees. Meanwhile, the Inside Out Community Garden and Yo'Ville Permaculture Community Garden and Urban Farm Incubator projects will plant predominantly fruit trees. To encourage community use of these trees, the projects will include design elements that invite the community in, such as walking paths, benches, picnic tables, and shade areas.

### Soil Health and Water Conservation

The forestry projects will utilize environmentally and water friendly practices when trees are planted in vegetable and produce plots. The Yo'Ville Community Garden and Community Orchard projects will incorporate organic and permaculture techniques including nonmechanical, no-till, no-spray methods, landscaped bioswales, rainwater capture features, and on-site composting. Similarly, the Inside Out Community Garden will use organic soil, nongenetically modified seeds, drip irrigation and create a composting area.

### Community Engagement and Education

Community engagement, input, partnership, and education are integral parts of project implementation. Below is a summary of what each project partner is doing with respect to community engagement and education:

- » Fresno Metro Ministry will partner with the Youth Leadership Institute and the Fresno Housing Authority to conduct multicultural, multigenerational, and multilingual outreach to residents and community members, encouraging engagement in the community garden and orchard project programming at Yo'Ville; specific programming includes: volunteer planting days, nutrition, and cooking classes, and the establishment of a small farmer incubator for gardeners to sell their produce to the community.
- » Fresno EOC will partner with Another Level Training Academy to hold weekly community harvesting events, monthly outreach and community events, and provide healthy food education through live cooking demonstrations.
- » The City of Fresno will partner with Tree Fresno and other nonprofits to educate volunteers on proper tree planting techniques throughout the Southwest Urban Forest Expansion.

### Long-term Operations and Maintenance

The City of Fresno Department of Public Works will care for trees planted under the Southwest Urban Forest Expansion, and support Fresno EOC with tree care for the Inside Out Community Garden. Meanwhile, a resident-based Garden Leadership Committee will manage the garden operations and maintenance at Yo'Ville, in conjunction with Fresno Metro Ministry.



Hoop house at the Yosemite Village Permaculture Community Garden & Urban Farm Incubator, which was constructed in March 2021 and will be used as a nursery production site. Photo credit: Chris De León

## Southwest Urban Forest Expansion

**The Southwest Urban Forest Expansion** project planted 295 trees along existing sidewalks, in street medians, park strips, and parks in southwest Fresno. The planting locations in the original project plan include: Jensen Median from Highway 41 to MLK (35 trees), Elm Medians from Ventura to Jensen (80 trees), Fruit and Jensen Buffer (150 trees), Tupman Park (15 trees), and Chandler Park (15 trees). Due to cost savings, the project planted 110 additional trees in the project area in 2022 (the benefits of which are not yet reflected in the estimates below). These additional trees were planted on three additional medians along Jensen Avenue between Highway 41 and MLK, and two medians along Elm Avenue south of Jensen Avenue. The City of Fresno Department of Public Works will provide long-term maintenance of all trees and collaborate with the local Urban Forester as needed.

### Project Details

- » **Launch date:** April 2019
- » **Anticipated completion date:** December 2023
- » **Project lifetime (post-implementation):** 40 years
- » **TCC grant funds:** \$212,199
- » **Leveraged funds:** \$0
- » **Project lead:** City of Fresno

### Estimated Lifetime Benefits\*

- » **GHG emissions reductions:** 521 MTCO<sub>2</sub>e
- » **Trees planted:** 295 trees
- » **Avoided stormwater runoff:** 1,328,532 gallons
- » **Direct jobs from TCC dollars:** 2 FTE
- » **Indirect jobs from TCC dollars:** 0.3 FTE
- » **Induced jobs from TCC dollars:** 1 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Planting Activities

- » 405 trees planted (110 above the original project goal)

#### Outputs From Community Engagement Activities

- » 2 volunteer tree planting events at Tupman Park and Chandler Park, with about 20 elementary school children engaged at each event

#### Responses to COVID-19

- » Masking practices were adopted for volunteer tree planting events.

\* Estimated benefits were based on original anticipated project outcomes and will be updated at the conclusion of the evaluation to reflect actual project outcomes.

## Inside Out Community Garden

**The Inside Out Community Garden** project will build a community garden at Sunset Community Center that will include site preparation, garden construction and planing, volunteer recruitment, and community engagement on garden maintenance, harvesting, and cooking demonstrations. The garden will include fruit trees, an ADA accessible planter box, benches, a toolshed, and composting box. Tree Fresno was also able to donate 16 additional trees that were planted along the street in front of the Sunset Community Center (the benefits of which are not yet reflected in the estimates below).

### Project Details

- » Launch date: April 2019
- » Anticipated completion date: March 2024
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$98,000
- » Leveraged funds: \$0
- » Project lead: Fresno EOC

### Estimated Lifetime Benefits\*

- » GHG emissions reductions: 1 MTCO<sub>2</sub>e
- » Trees planted: 5 trees
- » Avoided stormwater runoff: 9,275 gallons
- » Direct jobs from TCC dollars: 1 FTE
- » Indirect jobs from TCC dollars: 0.2 FTE
- » Induced jobs from TCC dollars: 0.4 FTE

## Cumulative Progress Through FY 2021-2022

### Outputs From Planting Activities

- » 150 square feet of paved pathway that connects the sidewalk outside the Sunset Community Center to the newly added garden beds, which are compliant with the Americans with Disabilities Act (ADA)
- » 112.5 square feet of edible plants (e.g., corn, lettuce, thyme, rosemary, peppers, strawberries, eggplant, squash, watermelon, and cantaloupe) in five newly constructed raised beds that are 22.5 square feet each
- » 21 trees planted (five fruit bearing: peach, pomegranates, lime, lemon, and Chinese jujube), thereby surpassing the project goal by 16 additional trees, which were donated through Tree Fresno

### Outputs From Community Engagement Activities

- » 94 children fed through the garden as part of the after school programming at the Sunset Community Center
- » 14 cooking demonstrations with freshly harvested food from the Insight Out Community garden
- » 7 workshops about tree planting, tree maintenance, and/or fruit harvesting

### Responses to COVID-19

- » Cooking demonstrations were conducted virtually.
- » Held food giveaways in May and June 2020

\* Estimated benefits were based on original anticipated project outcomes and will be updated at the conclusion of the evaluation to reflect actual project outcomes.

## Yosemite Village Permaculture Community Garden & Urban Farm Incubator

The **Yosemite Village Permaculture Community Garden & Urban Farm Incubator** project will develop a resident-led community garden and urban green space in Southwest Fresno behind the 69-unit Yosemite Village Housing Complex. The 7-acre site is less than 150 yards from the designated California Avenue BRT corridor.

### Project Details

- » Launch date: April 2019
- » Anticipated completion date: March 2024
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$367,500
- » Leveraged funds: \$434,153
- » Project lead: Fresno Metro Ministry

### Estimated Lifetime Benefits

- » GHG emissions reductions: 254 MTCO<sub>2</sub>e
- » Trees planted: 90 trees
- » Avoided stormwater runoff: 453,576 gallons
- » Direct jobs from TCC dollars: 4 FTE
- » Indirect jobs from TCC dollars: 1 FTE
- » Induced jobs from TCC dollars: 2 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Planting Activities

- » 157,888 square feet (3.6 acres) of vegetation planted
- » 13,016 pounds of produce harvested (211 given away for free to residents)
- » 94 new garden plots and a new hoop house used by nearby residents to grow produce for their family.
- » 90 trees planted
- » 4 local farmers selling produce grown at Yosemite Village at the farm stand and the 93706 farmers' market

#### Outputs From Community Engagement Activities

- » 204 households reached through door knocking
- » 193 planting workdays with volunteers (at least 150 volunteers engaged)
- » 96 individuals reached through phone bank calls about opportunities to become involved with the garden
- » 30 informational presentations about gardening basics, permaculture design, and opportunities to become involved with the garden (7 to 30 stakeholders engaged at each event)
- » 11 tabling events to promote the project and giveaway seeds (10 to 250 stakeholders engaged at each event).
- » 11 Garden Leadership Committee meetings
- » 6 focus groups to gather feedback for developing the site, ways to engage youth, and the impact of the pandemic on the food system in Southwest Fresno (29 to 45 unique stakeholders engaged)
- » 3 community input sessions about farm operations and tree selection (7 to 15 stakeholders engaged at each)
- » 2 group tours held (with an average of 59 stakeholders engaged across tours)
- » 1 Youth Leadership Institute training event (eight youth trained to engage residents around permaculture)

#### Responses to COVID-19

- » The garden has remained open throughout the pandemic.
- » Resident outreach for engagement was conducted remotely through mailers, Zoom presentations, phone bank calls, and social media recruitment.

## Southwest Fresno Community Food Hub: Community Orchard

**The Southwest Fresno Community Food Hub: Community Orchard** project will construct a 0.73-acre community orchard and bioswales at the Yosemite Village Permaculture Garden, expanding their community garden to host a community orchard as well. Fresno Metro Ministry will plant over 120 citrus, stone fruit, and nut trees and manage the orchard using organic and biodynamic practices.

### Project Details

- » Launch date: February 2021
- » Anticipated completion date: March 2024
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$262,500
- » Leveraged funds: \$0
- » Project lead: Fresno Metro Ministry

### Estimated Lifetime Benefits

- » GHG emissions reductions: 23 MTCO<sub>2</sub>e
- » Trees planted: 120 trees
- » Avoided stormwater runoff: 381,033 gallons
- » Direct jobs from TCC dollars: 3 FTE
- » Indirect jobs from TCC dollars: 1 FTE
- » Induced jobs from TCC dollars: 1 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Planting Activities

- » Completed the orchard design and plant list, both of which were approved by an urban forester and a nursery specialist
- » Put in orders with local nurseries for a handful of the trees in the tree list

#### Outputs From Community Engagement Activities

- » 2 orchard tree and design input sessions (eight unique stakeholders engaged) to teach community members about food forests and collaboratively create a tree list and design

#### Responses to COVID-19

- » Resident outreach for engagement was conducted remotely through mailers, Zoom presentations, phone bank calls, and social media recruitment

# Urban Greening Projects



Pop-up event at Mariposa Plaza in December 2021 to showcase plans to redesign the open space. Photo credit: Transform Fresno

**TRANSFORM FRESNO'S URBAN GREENING PROJECTS** will complement other efforts throughout the neighborhood to increase resident access to tree coverage, active transportation infrastructure, and open green space and recreation areas. There are six projects of this type: (1) Southwest Fresno Trail; (2) Chinatown Urban Greening; (3) Mariposa Plaza; (4) Park at MLK Magnet Core; (5) Saint Rest + Food to Share Hub: Urban Heat Island Mitigation Project; and (6) Fresno City College: West Fresno Satellite Campus. Together the projects will plant over 950 trees and install two miles of bicycle lanes. Similar to the urban and community forestry projects, the planted trees will sequester carbon, cut electricity demand, and reduce the urban heat island effect as they mature. The bicycle lanes will encourage more active forms of travel, thereby reducing VMT.

The urban greening projects will be led by a variety of partners. The City of Fresno will serve as the lead for the first four of the aforementioned projects, with support from the U.S. Green Business Council - Central California (USGBC-CC) for the first two of those projects. Fresno Metro Ministry will serve as the lead for the Saint Rest + Food to Share Hub: Urban Heat Island Mitigation project, with support from the Saint Rest Baptist Church. And the State Center Community College District (SCCCD) will serve as the lead for the urban greening efforts at the West Fresno satellite campus of the Fresno City College.

## Recent Accomplishments\*

### **Southwest Fresno Trail:**

- » See community engagement accomplishments on page 46

### **Chinatown Urban Greening:**

- » Developed 60% of project plans, specifications, and estimates
- » 1 community meeting

### **Mariposa Plaza:**

- » 792 informational flyers about the project distributed
- » 1 pop-up event at the plaza

### **Park at MLK Magnet Core:**

- » Developed 60% of project plans, specifications, and estimates
- » 1 community event

### **Saint Rest + Food to Share Hub:**

- » 2 community events (also reported on page 63)

### **Fresno City College:**

- » 50,000 square feet of surfaces devoted to stormwater capture
- » 4,448 linear feet (0.8 miles) of Class I bike lanes added
- » 2,173 linear feet (0.4 miles) of pedestrian pathways added

\*Includes only accomplishments during the last fiscal year (July 2021 - June 2022)

### **Designing for Connectivity**

Transform Fresno's urban greening projects place an emphasis on increasing bicycle and pedestrian connectivity between other TCC-funded projects and neighborhood amenities such as transit stops, schools, parks, hospitals and health clinics, banks, churches, and grocery stores. For example, the Southwest Fresno Trail plans to install a new Class I multiuse trail along the Fanning Ditch alignment. Additionally, the Chinatown Urban Greening and the Park at MLK Magnet Core projects will make improvements to sidewalks and pedestrian facilities. Moreover, the West Fresno Satellite Campus will construct about one mile of walking paths and one mile of Class II bicycle lanes on-site and surrounding the development. Each of the six urban greening projects will also install street, path, and trail lighting to make biking and walking safe and convenient options for the community.

### **Designing for a Sustainable Water Cycle**

Water conservation and stormwater capture are central to many of Transform Fresno's urban green projects. For example, Mariposa Plaza will install permeable paving, a rainwater capture pavilion and irrigation system, and drought-tolerant shrubs and plants. Similarly, the new 9.5-acre Park at MLK Magnet Core will have low-water use plantings, irrigation systems, and an open field layout that reduces flood risks by eliminating stormwater runoff. Likewise, the Saint Rest + Food to Share Hub project will have permeable surfaces, native and drought-tolerant trees, landscaping, and plants, and a rainwater collection basin and cistern system to recharge property wells and be used for irrigation. Finally, the West Fresno Satellite Campus will meet multiobjective stormwater goals through

drought-tolerant landscaping, permeable paving, bioretention basins, and a central water feature with a stormwater capture and conservation function.

### **Community Engagement and Education**

Many of Transform Fresno's Urban Greening projects integrate community engagement and educational components into the implementation process. For example, USGBC-CC is partnering with the City of Fresno to implement a standalone Community Engagement Plan for the Southwest Fresno Trail (see **page 46**). USGBC-CC will conduct a bicycle trail design outreach process and a bicycle education program, designed to raise bicycle safety awareness and encourage a mode shift while gathering input on community needs. Additionally, Fresno City College will host a series of community discussions regarding the West Fresno Satellite Campus to solicit feedback on the proposed project.

### **Long-term Operations and Maintenance**

Transform Fresno's Urban Green projects also leverage community partnerships in long-term tree care and garden maintenance. The City of Fresno Department of Public Works will provide long-term operations and maintenance for tree plantings and trail and park improvements made under the Southwest Fresno Trail, Chinatown Urban Greening, Mariposa Plaza, and Park at MLK Magnet Core projects. The lead project partners for the Saint Rest + Food to Share Hub (Fresno Metro Ministry) and West Fresno Satellite Campus (SCCCD) will manage the long-term operations and maintenance for the landscaping, urban greening, and stormwater reduction improvements made throughout these projects.

## Southwest Fresno Trail

**The Southwest Fresno Trail** project will install a Class I Trail along the Fanning Ditch Alignment, from West to Thorne. The project will also plant 102 trees and landscaping to increase the urban tree canopy and add trail and street lighting facilities.

### Project Details

- » Launch date: April 2019
- » Anticipated completion date: March 2024
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$1,978,959
- » Leveraged funds: \$0
- » Project lead: City of Fresno

### Estimated Lifetime Benefits

- » GHG emissions reductions: 232 MTCO<sub>2</sub>e
- » VMT reduction: 148,180 miles
- » Trees planted: 102 trees
- » Avoided stormwater runoff: 506,992 gallons
- » Travel costs savings: \$80,017
- » Direct jobs from TCC dollars: 7 FTE
- » Indirect jobs from TCC dollars: 3 FTE
- » Induced jobs from TCC dollars: 8 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Greening Activities

- » Selected a design consultant to facilitate the project design

#### Outputs From Community Engagement Activities

- » See outputs reported on **page 45**, under the stand-alone Community Engagement Plan for this project.

#### Responses to COVID-19

- » All meetings with stakeholders and other project partners have been virtual.



## Chinatown Urban Greening

**The Chinatown Urban Greening** project will install improvements to paved pedestrian facilities in Chinatown, improving active transportation and connections to the adjacent planned High Speed Rail Station. Lighting and greening improvements will also be installed. The proposed improvements are located on: F Street from Mariposa to Ventura, Kern from G Street and Mariposa from E Street to G Street. This project achieves several goals of the TCC program including: reducing greenhouse gas emissions through carbon sequestration, installing facilities that encourage active travel, and increasing the urban tree canopy.

### Project Details

- » Launch date: July 2019
- » Anticipated completion date: June 2024
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$6,965,696
- » Leveraged funds: \$0
- » Project lead: City of Fresno

### Estimated Lifetime Benefits

- » GHG emissions reductions: 442 MTCO<sub>2</sub>e
- » VMT reduction: 19,080 miles
- » Trees planted: 248 trees
- » Avoided stormwater runoff: 1,231,487 gallons
- » Travel costs savings: \$11,066
- » Direct jobs from TCC dollars: 27 FTE
- » Indirect jobs from TCC dollars: 13 FTE
- » Induced jobs from TCC dollars: 25 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Planting Activities

- » Selected a design consultant to facilitate the project design
- » Developed 60% of project plans, specifications, and estimates (PS&E)

#### Outputs From Community Engagement Activities

- » 1 community engagement event to gather input about PSE
- » 1 stakeholder meeting with Chinatown Foundation to answer their questions and discuss design concerns

#### Responses to COVID-19

- » Projects conducted all community outreach through virtual meetings and social media.

## Mariposa Plaza

**The Mariposa Plaza** project refreshes a significant downtown plaza and enhances its connection to the future high-speed rail station. Renovations will include tree planting, landscaping, installation of permeable paving, and a rainwater capture pavilion. It will maintain its historic use as a place for public speaking and community events. Other improvements such as the addition of public artwork and canopies for shade cement the cultural significance of the area while keeping the plaza flexible for a wide range of public events.

### Project Details

- » Launch date: April 2019
- » Anticipated completion date: Fall 2023
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$3,859,000
- » Leveraged funds: \$0
- » Project lead: City of Fresno

### Estimated Lifetime Benefits

- » GHG emissions reductions: 15 MTCO<sub>2</sub>e
- » Trees planted: 8 trees
- » Avoided stormwater runoff: 34,851 gallons
- » Energy cost savings: \$4,632
- » Direct jobs from TCC dollars: 25 FTE
- » Indirect jobs from TCC dollars: 7 FTE
- » Induced jobs from TCC dollars: 19 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Greening Activities

- » Developed 65% of project PSE.

#### Outputs From Community Engagement Activities

- » 792 informational fliers about the project distributed to community members
- » 4 stakeholders meetings held with Downtown Fresno Partnership and local businesses along Fulton Street Corridor to discuss design concerns with the plaza
- » 2 pop-up events at the plaza to showcase how TCC investments will be spent
- » 1 community meeting to collect community input (15 stakeholders engaged)

#### Responses to COVID-19

- » Conducted community outreach and engagement through virtual meetings and social media

## Park at MLK Magnet Core

**The Park at MLK Magnet Core** project will design and construct a new 9.5-acre public park in the center of a planned residential development adjacent to the new West Fresno Satellite Campus, on the west side of MLK Jr. Boulevard between Church and Jensen avenues. The TCC grant will fund the design phase, property acquisition, and park construction, which will include landscaping of 100 trees, low water use plantings, a walking path, irrigation, restroom, site furnishings, and utilities infrastructure.

### Project Details

- » **Launch date:** April 2019
- » **Anticipated completion date:** March 2024
- » **Project lifetime (post-implementation):** 40 years
- » **TCC grant funds:** \$5,489,606
- » **Leveraged funds:** \$1,500,000
- » **Project lead:** City of Fresno

### Estimated Lifetime Benefits

- » **GHG emissions reductions:** 275 MTCO<sub>2</sub>e
- » **Trees planted:** 100 trees
- » **Avoided stormwater runoff:** 468,206 gallons
- » **Direct jobs from TCC dollars:** 37 FTE
- » **Indirect jobs from TCC dollars:** 9 FTE
- » **Induced jobs from TCC dollars:** 26 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Greening Activities

- » Developed 60% of project PSE

#### Outputs From Community Engagement Activities

- » 1 community meeting event to gather questions and comments about the park redesign

#### Responses to COVID-19

- » Community meeting was held virtually, recorded, and archived on the Transform Fresno website.

## Saint Rest + Food to Share Hub: Urban Heat Island Mitigation Project

**The Saint Rest and Food to Share Hub: Urban Heat Island Mitigation** project will plan, permit, and improve the immediate site surrounding the building to house the Food Hub for the Saint Rest + Food to Share Hub: Healthy Food Rescue and Redistribution Hub with related building enhancements to achieve urban greening goals.

### Project Details

- » Launch date: February 2021
- » Anticipated completion date: March 2024
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$62,220
- » Leveraged funds: \$308,690
- » Project lead: Fresno Metro Ministry

### Estimated Lifetime Benefits

- » GHG emissions reductions: 143 MTCO<sub>2</sub>e
- » Trees planted: 41 trees
- » Avoided stormwater runoff: 248,752 gallons
- » Direct jobs from TCC dollars: 0.4 FTE
- » Indirect jobs from TCC dollars: 0.1 FTE
- » Induced jobs from TCC dollars: 0.3 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Greening Activities

*Implementation pending.*

#### Outputs From Community Engagement Activities

- » Press conference to announce the Saint Rest + Food to Share Hub expansion project – attended by 60 plus (also reported under the Saint Rest + Food to Share Hub project, see **page 63**)
- » Community advisory meeting was conducted at Saint Rest Baptist Church – 60 plus attended the meeting (also reported under the Saint Rest + Food to Share Hub project, see **page 63**)

## Fresno City College: West Fresno Satellite Campus

**The Fresno City College: West Fresno Satellite Campus** project will develop a satellite campus in West Fresno with a park-like setting with large areas of urban greening, new bicycle and pedestrian paths connected to the neighborhood's active transportation plan and planting over 450 trees to maximize shading around buildings and pathways, and landscaping with drought resistant plants, outdoor study spaces, and green infrastructure for stormwater retention and groundwater recharge.

### Project Details

- » Launch date: April 2019
- » Anticipated completion date: March 2024
- » Project lifetime (post-implementation): 40 years
- » TCC grant funds: \$16,542,746
- » Leveraged funds: \$70,000,000
- » Project lead: State Center Community College District

### Estimated Lifetime Benefits

- » GHG emissions reductions: 936 MTCO<sub>2</sub>e
- » VMT reduction: 383,430 miles
- » Trees planted: 450 trees
- » Avoided stormwater runoff: 2,224,959 gallons
- » Travel costs savings: \$212,894
- » Direct jobs from TCC dollars: 119 FTE
- » Indirect jobs from TCC dollars: 26 FTE
- » Induced jobs from TCC dollars: 73 FTE

### Cumulative Progress Through FY 2021-2022

#### Outputs From Greening Activities

- » 50,000 square feet (1.1 acres) of surface area repurposed to capture and infiltrate stormwater
- » 4,448 linear feet (0.8 miles) of Class I bike lanes added
- » 2,173 linear feet (0.4 miles) of pedestrian pathways added
- » Concrete work for the water feature completed and the layout of the pedestrian plaza begun
- » Majority of the site work for the bioretention basins completed
- » Pervious paving for the pedestrian and bicycle pathways begun
- » Steel erection for the gazebos/shade structures completed
- » Majority of the utilities for lighting pedestrian/bicycle pathways and the bioretention basins completed

#### Outputs From Community Engagement Activities

- » Artist Teresa Flores was selected via a request-for-proposal process to design and install artwork on select walls of the water feature, and began planning the community engagement events to inform her artwork.



Historic Chinatown at Kern Street and F Street, where several TCC and leveraged projects will come to fruition.

Photo credit: Fresno Bee

**LEVERAGED PROJECTS** are those that further the goals of TCC investments and use entirely external sources of funding. In addition to the 17 projects receiving TCC funding, the City of Fresno has included the following four leveraged projects as part of its Transform Fresno package: (1) Chinatown Property Based Improvement District; (2) Fresno Economic Opportunities Commission (EOC)'s Partnership for Energy Savings and GHG Reductions in Southwest Fresno: EFMP Plus-Up Vehicle Replacement and Incentives; (3) Southwest Offsite Improvement; and (4) TCC Connector.

These four projects are part of a long-standing effort in Fresno to transform the economic, health, and mobility conditions of residents. By working synergistically with TCC-funded projects, leveraged projects will allow the City of Fresno to augment its existing efforts by funding local business retention and development, providing rebates for electric vehicle and charging infrastructure, increasing transit route frequencies, and installing safer biking and walking paths. The following section provides an overview of the four leveraged projects underway in Fresno.

# Chinatown Property-Based Improvement District



Residents walk through a main intersection in historic Chinatown. Photo credit: Transform Fresno

## THE CHINATOWN PROPERTY-BASED IMPROVEMENT DISTRICT (PBID)

project was funded by the City of Fresno and was intended to work in concert with the TCC-funded infrastructure improvement projects in Chinatown, including urban greening, pedestrian infrastructure, and housing development projects. The PBID project had two main components: (1) a feasibility study and (2) the potential formation of the PBID as determined by the study’s results. The overarching goals for the PBID included job creation, business attraction and retention, economic growth, drawing new investments, and displacement avoidance (through neighborhood stabilization and wealth building). Given these goals, several of the tasks and responsibilities for forming the PBID are also outlined in the Transform Fresno Displacement Avoidance Plan (see **page 47**).

The City of Fresno served as a lead partner for the Chinatown PBID. For the feasibility study, the City of Fresno hired a consultant, Willdan Financial Services, to identify and assess property owners in Chinatown, set up a framework for the PBID formation, and create a draft Management District Plan. Additional efforts by the consultant included assessing service priorities and support levels; conducting outreach to educate property owners and stakeholders regarding the proposed district; and developing a report with recommendations on the feasibility of the PBID.

## Recent Accomplishments\*

- » 2 steering committee meetings held
- » 1 meeting with property owners in Chinatown in fall 2021 to discuss the potential formation of a PBID
- » Consultant completed the feasibility study based on results from the meeting with property owners; results from the study ultimately indicated that a PBID in Chinatown is not feasible at this time

\* Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

The feasibility study was completed in February 2022 and was published to the Transform Fresno website. Results from the study ultimately indicated that a PBID in Chinatown would not be feasible at this time. The report cited a number of challenges to transforming Chinatown into a thriving commercial district, including homelessness, abandoned structures, and a lack of street lightning and

well-maintained sidewalks. Given the cost to properly address these issues, and the decline in economic activity in Chinatown over the years, local property owners were reluctant to financially take on the burden of improving the neighborhood without further support from the City of Fresno.

## Chinatown Property-Based Improvement District

### Project Details

- » Launch date: July 2019
- » Anticipated completion date: February 2022
- » Project lead: City of Fresno
- » TCC grant funds: \$0
- » Leveraged funds: \$75,000

### Cumulative Progress Through FY 2021-2022

- » Held kickoff meeting with 11 attendees (local business owners and Chinatown Fresno Foundation)
- » Hired Willdan Financial Services to conduct a feasibility study to inform the potential formation of a PBID
- » Held 11 steering committee meetings (steering committee included local business owners and Chinatown Fresno Foundation)
- » Held a meeting with property owners in Chinatown in fall 2021 to discuss the potential PBID formation (32 stakeholders engaged)
- » Consultant completed the feasibility study based on results from the meeting with property owners; results from the study ultimately indicated that a PBID in Chinatown is not feasible at this time.



# EFMP Plus-Up Vehicle Replacement and Incentives



A Fresno resident replaced their vehicle with a plug-in hybrid through the incentive program. Photo credit: Valley CAN

## THE ENHANCED FLEET MODERNIZATION PROGRAM (EFMP) PLUS-UP

offers rebates to low- and moderate-income households that voluntarily scrap or retire a working, high-emitting vehicle and replace it with cleaner, alternative fuel option such as a hybrid, plug-in hybrid, battery-electric, or fuel-cell electric vehicle. The total rebate amount available varies depending on household income and the type of replacement vehicle, ranging from a minimum of \$1,500 to a maximum of \$9,500. Since project launch, vouchers totaling \$193,500 have been issued and used to purchase electric vehicles to replace older vehicles. The households that qualify for the program will benefit from reduced vehicle operation and fuel costs. The program also achieves GHG reductions that further the air quality improvement goals for the community.

The Fresno Economic Opportunities Commission (EOC) is partnering with the nonprofit organization Valley Clean Air Now (Valley CAN) to implement the project, which will be carried out in close conjunction with a TCC-funded project led by Fresno EOC, the Fresno EOC Partnership for Energy Savings and GHG Reductions in Southwest Fresno (see [page 68](#)). Through that program, Fresno EOC will identify approximately 135 households that may qualify for the EFMP Plus-Up vehicle replacement and incentives. Valley CAN will assess the qualifications of the households and will provide approximately 50 vehicle replacements, 20 home charging stations, 10 home service panel upgrades, and 40 PG&E Clean Fuel Rebate Program Incentives.

## Recent Accomplishments\*

- » 5 outreach events held in the project area, with a turnout of 1,250 households
- » 2 high-emitting vehicles retired and replaced by electric vehicles (with a \$9,500 incentive put the toward purchase of each replacement vehicle)

\* Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

## Enhanced Fleet Modernization Program (EFMP) Plus-Up Vehicle Replacement and Incentives

### Project Details

- » Launch date: July 2019
- » Anticipated Completion date: December 2021
- » Project lifetime: 40 years
- » Project lead: Fresno EOC
- » TCC grant funds: \$0
- » Leveraged funds: \$530,000

### Cumulative Progress Through FY 2021-2022

- » 26 high-emitting vehicles retired and replaced by lower-emitting vehicles (with 15 battery-electric and plug-in hybrid incentives for \$9,500 distributed; 10 hybrid 35+ mpg vouchers for \$7,000 distributed; and 1 hybrid 25-34 mpg voucher for \$4,000 distributed)
- » 5 outreach events held in the project area, with a turnout of 1,250 households

# Southwest Off-Site Improvements



Architectural rendering by SIM-PBK of the new West Fresno Satellite Campus. Photo credit: State Center Community College District

**THE SOUTHWEST OFFSITE IMPROVEMENTS** project will install active transportation infrastructure including trails, sidewalks, and bike lanes surrounding the new Fresno City College: West Fresno satellite campus. The project also plans to install underground power lines and make water utility and roadway improvements around the campus. The boundaries of the project are South MLK Jr. Boulevard, and East Church, East Jensen, and South Walnut avenues.

The project, which is funded entirely by external sources, supports the active transportation components of the TCC-funded Fresno City College: West Fresno Satellite Campus project, which broke ground in October 2020 (see the Urban Greening chapter on **page 77** for more information on the TCC-funded project). The improvements will support multimodal travel in the neighborhood and access to the new community college campus.

The City of Fresno serves as the lead partner for the Southwest Offsite Improvements project, which is expected to be operational in 2023.

## Recent Accomplishments\*

» Completed 90% of the design plans for the project

\*Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

## Southwest Off-Site Improvements

### Project Details

- » Launch date: January 2018
- » Anticipated completion date: March 2023
- » Project lead: City of Fresno
- » TCC grant funds: \$0
- » Leveraged funds: \$15,732,648

### Cumulative Progress Through FY 2021-2022

- » Executed agreement with architectural and engineering services firm in June 2020
- » Completed 90% of the design plans for the project

# TCC Connector



A FAX bus stopping along Route 38. Photo credit: City of Fresno Department of Transportation

**THE TCC CONNECTOR** project increases transit frequencies for the Fresno Area Express (FAX) along the portion of Route 38 that runs between the Downtown Transit Center (L Shelter at Courthouse Park) and the bus stop at the intersection of South Cedar and East Jensen avenues — effectively doubling the number of buses serving bus stops in the Transform Fresno project area. This portion of Route 38 impacted by the improvement previously ran on 30-minute intervals. The TCC Connector adds buses and operators to run at 15-minute intervals from 6 a.m. to 6 p.m. on weekdays. In addition to recruiting, hiring, and training additional bus drivers, the leveraged funds will be used to purchase two 40-foot electric buses and construct a charging station for the zero-emission vehicles.

The City of Fresno Department of Transportation serves as the lead partner for the TCC Connector project, which launched in January 2021. The project will directly benefit residents by providing greater reliability and faster service times, making it more convenient to catch the bus at one of the 28 stops between the Downtown Transit Center and Cedar/Jensen. While near-zero compressed natural gas (CNG) buses will initially be deployed to address the transit service improvement, they will be replaced by electric buses once procured.

## Recent Accomplishments\*

- » Construction began for charging infrastructure, which will be able to charge 46 buses and 23 relief vehicles in the FAX electric vehicle fleet

\*Includes only accomplishments during the last fiscal year (July 2021 through June 2022)

## TCC Connector

### Project Details

- » Launch date: January 2021
- » Anticipated completion date: March 2023
- » Project lead: City of Fresno
- » TCC grant funds: \$0
- » Leveraged funds: \$3,532,774

### Cumulative Progress Through FY 2021-2022

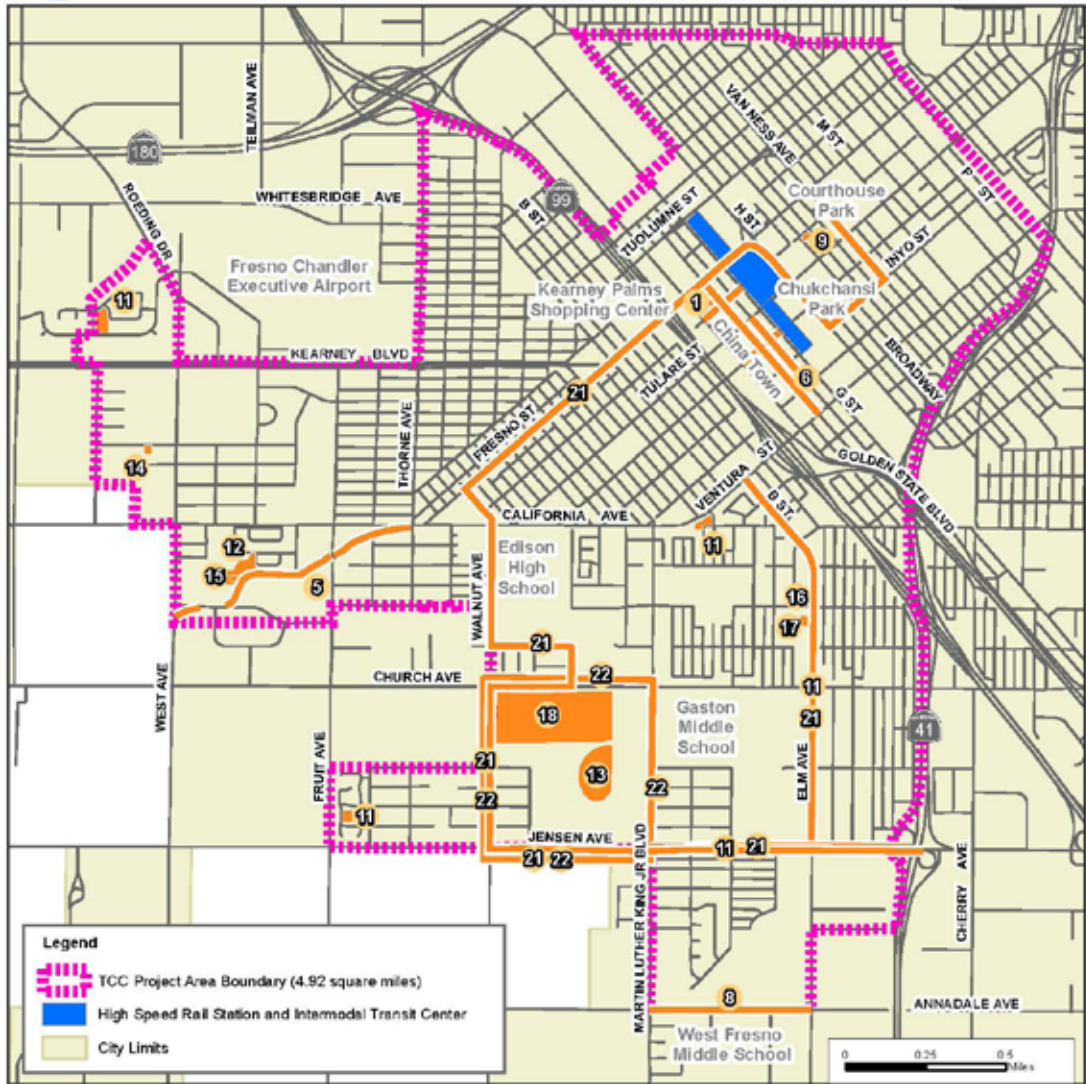
- » Bus stop frequency doubled at 40 stops in the TCC project area along Route 38, from 6 a.m. to 6 p.m. on weekdays, starting January 4, 2021
- » Procurement completed for the purchase of two 40-foot electric buses
- » Construction began in fall 2021 for charging infrastructure. The system will be able to charge 46 buses and 23 relief vehicles to accommodate future growth in the FAX electric vehicle fleet.

# APPENDICES

## Appendix 1: Supplemental Maps



### Transform Fresno Plan Projects November 2020



Disclaimer: This map is believed to be an accurate representation of the City of Fresno GIS data, however we make no warranties either expressed or implied for correctness of this data.

- 01 - Chinatown Housing Project
- 05 - Southwest Fresno Trail
- 06 - Chinatown Urban Greening- Pedestrian Pathways, Lighting and Tree Planting
- 08 - Annadale Mode Shift
- 09 - Mariposa Plaza
- 11 - Southwest Urban Forest Expansion-Tree Planting
- 12 - Yosemite Village Permaculture Community Garden and Urban Farm
- 13 - Park at MLK Magnet Core
- 14 - Inside Out Community Garden
- 15 - Yo 'Ville Community Orchard
- 16 & 17 - St. Rest and Food to Share Hub
- 18 - Fresno City College: West Fresno Satellite
- 21 - TCC Connector - Enhanced Bus Service
- 22 - Southwest Offsite Improvements

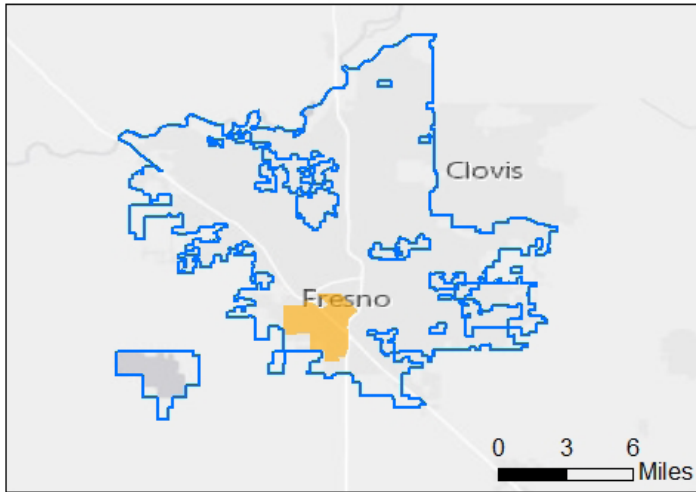
The projects below do not have a specific location and are not depicted on the map.

- 02 - EOC Partnership for Energy Savings and GHG Reductions in SW Fresno
- 03 - GRID Solar Collaborative Single-Family Partnership
- 04 - GRID Solar Collaborative Multi-Family Partnership
- 07 - Clean Shared Mobility Network
- 19 - Chinatown Property Based Improvement District
- 20 - EOC Partnership for Energy Savings and GHG Reductions in SW Fresno: EFMP Plus-Up Vehicle Replacement and Incentives
- WDP - Workforce Development: Welding Program
- WDP - Workforce Development: Low/Zero Emission Truck Driver Training

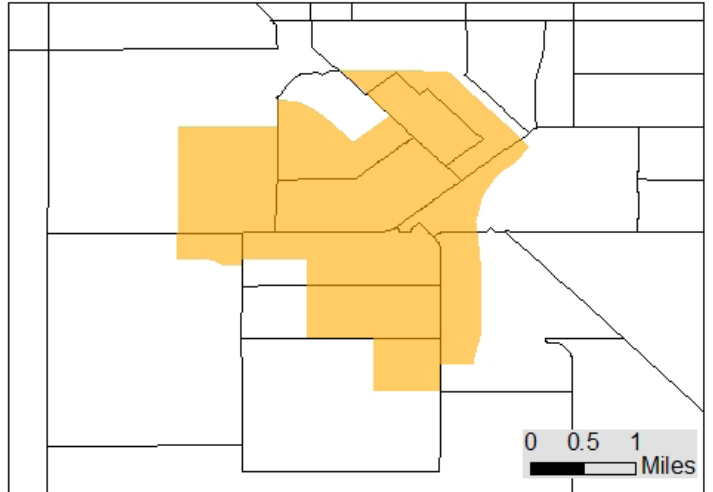
Detailed project map. Figure credit: City of Fresno.

## Fresno TCC Project Area Overlay Maps

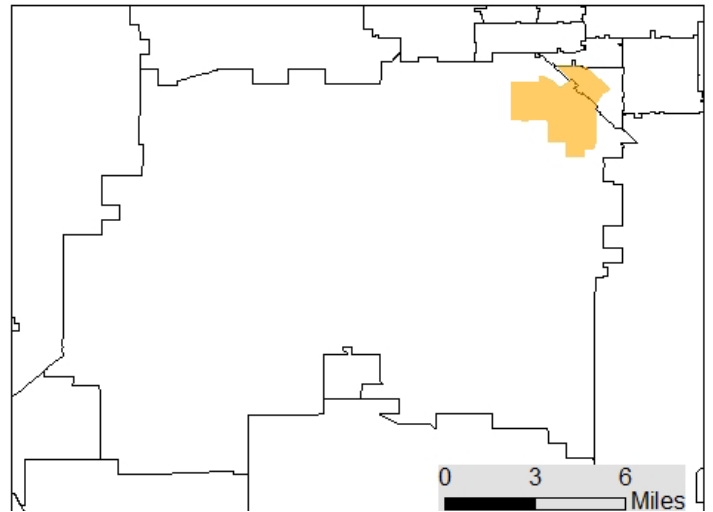
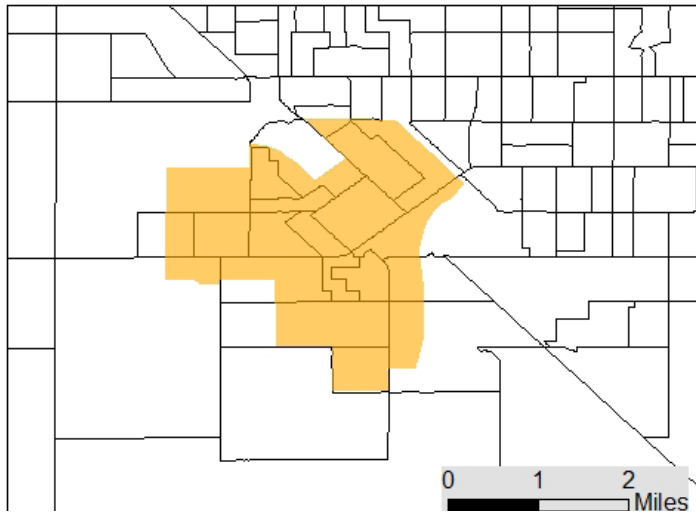
(#) = number of geographic units that intersect with TCC project area (excluding units with less than 2% of total area under TCC project area)  
 Census tract, block group, and zip code maps from US Census Bureau (2016)



City of Fresno (blue) and TCC Project Area (orange)



Census Tracts (11)



Maps depicting the scale of the TCC project area. Figure credit: UCLA Luskin Center for Innovation



## Appendix 2: Summary of Methods for Estimating Project Benefits

Benefit	Methodology	Version
Avoided stormwater runoff	iTree Planting	1.2.0
Energy cost savings	California Air Resources Board (CARB) Co-benefit Assessment Methodology for Energy and Fuel Cost Savings*	September 13, 2019
Greenhouse gas (GHG) reductions	CARB GHG Quantification Methodologies by Project Type	FY 2016-17
Jobs (direct, indirect, induced)	CARB Job Co-benefit Assessment Methodology	April 2019
Travel cost savings	CARB Co-benefit Assessment Methodology for Travel Cost Savings**	October 18, 2019
Vehicle miles traveled (VMT) reductions	CARB GHG Quantification Methodologies by Project Type	FY 2016-17

\* CARB’s energy and fuel cost savings methodology does not provide an explicit example of how to calculate cost savings from urban forestry and greening projects. Nonetheless, CARB’s methodology does provide a basic framework for estimating cost savings from any project that achieves energy use reductions: (energy cost savings = net decline in energy use X per unit cost of energy). Thus, for urban forestry and urban greening projects, the UCLA-UCB evaluation team estimated energy cost savings by taking two outputs from iTree (annual electricity savings and annual natural gas savings) and multiplying these outputs by their per unit cost (as based on cost assumptions from Appendix A of CARB’s energy cost savings methodology). The evaluation team then scaled up these costs by 40 years and prorated them according to the percentage of trees that actually shade buildings (and therefore have a meaningful impact on electricity and gas use).

\*\* To calculate travel cost savings, CARB’s travel cost savings methodology relies on estimates about changes in transit ridership. For Affordable Housing and Sustainable Communities (AHSC) projects, subsequent changes in ridership are unknown, and CARB’s methodology does not provide a method for calculating travel cost savings because of that unknown. Thus, the UCLA-UCB evaluation team expanded upon CARB’s methodology by estimating travel cost savings from AHSC projects without ridership estimates. To do so, the evaluation team conservatively assumes the following: (1) VMT reductions associated with the AHSC projects are achieved by drivers who switch to the most expensive alternative mode (which, between transit, biking, and walking, would be transit); (2) all individuals in the apartment complex will take transit so often that they buy a monthly transit pass because that is the most economical thing to do at high levels of transit ridership; and (3) that all individuals in the apartment complex buy a pass for the duration of the project lifetime (less the number of months for which they receive a free pass). The evaluation team estimated the number of individuals in the apartment complex by multiplying the number of units by the average household size for the TCC census tracts.

## Appendix 3: Transform Fresno Collaborative Stakeholder Structure

### Governance Structure of Transform Fresno Project Implementation

Name	Established Roles and Responsibilities
City of Fresno	As the Lead Agency, the City of Fresno is tasked with the responsibility of implementing the Master Grant Agreement with the Strategic Growth Council; including compiling and submitting invoices and reporting documents, serving as the primary fiscal agent, implementing the 3 transformative plans, and ensuring a fair, transparent, accountable, participatory, and public implementation process.
Project Partners	The 12 Project Partners are responsible for project implementation, monitoring transformative requirements, indicator tracking and reporting, and ensuring delivery of the projects in accordance with TCC Program Guidelines and the Master Grant Agreement.
Outreach and Oversight Committee	The O&O Committee is the advisory committee that will be a resource for community collaboration and feedback, providing overall guidance on project and transformative plan implementation, and making material changes to projects (such as budget or programmatic changes). For a list of current O&O Members, see the table below.

### Transform Fresno Outreach & Oversight Committee Members

Chair	Neighborhood / Members			
	Chinatown	Downtown	Southwest	
Miguel Arias	Ofelia Hemme Morgan Doizaki Jan Minami Barbara Wilson	Amy Arambula Jordan Gustafson Sabrina Kelly Chris Rocha	Mary Curry Chris Finley Sandra Flores B.T. Lewis	Kimberly McCoy Artie Padilla Margarita Rocha Ivanka Saunders Hunt

# Appendix 4: Community Engagement Plan Partners and Roles

## Transform Fresno Community Engagement Plan (CEP) Partners and Roles

Partner	Role	Engagement Methods	Deliverables
<b>City of Fresno</b>	Program Implementation Manger	Coordination with the Outreach and Oversight Committee; Community Partners; and other stakeholders	Quarterly Community Meeting documentation
<b>Fresno EOC</b>	<b>Prime Community Partner</b>	Translation Services; Annual Summit; Community Engagement Updates; Community Meetings; Quarterly Newsletters; Text, Email and Direct Outreach; Coordination with other Community Partners; Update the Outreach and Oversight Committee	Coordination with Lead Agency, other Community Partners, and Project Partners; Expense Reports; Annual Summit Documentation; Community Meeting Videos and Agendas; Coordination of Community Engagement; Quarterly Newsletters; Coordinated communications activities
	<b>Direct Outreach Community Partner</b>	Print Materials for Distribution; Distribute Transform Fresno Flyers; Distribute Transform Fresno Mailers; Maintain a Volunteer Interest Database; Maintain Online Community Engagement Calendar; Administer Surveys	Coordination with Lead Agency, other Community Partners, and Project Partners; Materials for Distribution; Flyers; Mailers; Database for Volunteers; Calendar of Community Engagement; Surveys
	<b>Media and Communications Community Partner</b>	Create Branding; Update and Maintain Website; Share Informational Videos; Share Media for Transform Fresno and Project Progress; Coordinate Radio Updates; Coordinate with Partners for Project-Wide Style Guide	Coordination with Lead Agency, other Community Partners, and Project Partners; Logo Design; Branding Style Guide; Website Redesign and Update; Videos and Social Media; Documentation Sessions; Public Service Announcements; Presentations to Partners
	<b>Event Coordination Community Partner</b>	Coordinate 1-2 Cultural or Arts Specific Community Events; Coordinate Project Milestone Events	Coordination with Lead Agency, other Community Partners, and Project Partners; Project Milestone Events; Cultural or Arts Specific Events
<b>Kelli McIntyre Strategic Solutions</b>	<b>Data and Reporting Community Partner</b>	Coordinate with Project Partners; Consolidate and Analyze Survey Data; General Reporting; Coordinate with Evaluation Team; Semiannual Metric Reports; Produce Annual Reports; Produce Final Engagement Summary Report	Coordination with Other Partners; Coordinated Community Engagement Activities; Database of Community Engagement; Coordination with Evaluation Team; Semiannual Reports; Annual Reports, Final Engagement Summary Report
<b>The Youth Leadership Institute</b>	<b>Leadership Development Community Partner</b>	Coordinate Transform Fresno Youth Leadership Development Program	Coordination with Lead Agency, other Community Partners, and Project Partners; One cohort of up to 12 students trained per year

## Appendix 5: Displacement Avoidance Plan Partners and Roles

### Transform Fresno Displacement Avoidance Plan (DAP) Partners and Roles

Partner	Role
<b>Anti-Displacement Task Force (ADTF)</b>	Will serve as subject matter experts and will help determine what datasets will be used to conduct the research. Members of the committee will also participate in the procurement process to hire the DAP Implementation Consultant. The ADTF was proposed in the <i>Fresno General Plan 2015-2023 Housing Element (2017)</i> , underscored in the <i>Southwest Fresno Specific Plan (2017)</i> , and established under City Council Resolution 2018-277. All members of the ADTF are appointed by the Mayor of Fresno and serve four-year terms (see following table for a list of members).
<b>Fresno City Council</b>	Will be the final authority on whether the policies proposed are adopted. The City Council ratifies through a vote on all policy brought before them. City Council, along with the Mayor, has an opportunity to author policy and present it to Council for adoption. The DAP does not dictate whether the City Council will or will not approve the proposed policies.
<b>City of Fresno Staff</b>	Will be responsible for ensuring the DAP consultant is hired and completes their contract along with providing continuous oversight of progress related to policy development.
<b>DAP Implementation Consultant: Thrivance Group</b>	Will conduct quantitative and qualitative data-driven research pertaining to displacement within the TCC project area. A final analysis report and subsequent workshops will be led by the DAP consultant and delivered to the ADTF, Fresno City Council and other stakeholders.
<b>O&amp;O Committee</b>	Will continue to serve as the Transform Fresno advisory committee and will be updated as various stages of the DAP are completed. This committee will also provide direction for policy development and any issues that may arise throughout DAP implementation.
<b>Wells Fargo</b>	Will produce biannual education workshops for potential first-time homebuyers.
<b>Central Valley Business Diversity Partnership (CVBDP)</b>	Will provide one-on-one coaching sessions, technical assistance, and mentorship to business owners in the TCC project area. The CVBDP consists of the Minority Business Development Agency, Fresno Metro Black Chamber of Commerce, Fresno Area Hispanic Foundation, Central California Hispanic Chamber of Commerce, and the Asian Business Institute & Resource Center.
<b>Fresno Regional Workforce Development Board Business Service Center (FRWDBBSC)</b>	Will host two business workshops per year and educate local businesses about resources available to grow their business. Resources include: marketing and strategic business plan assistance, recruitment of job candidates, human resources assistance, and business incubation support for startup and early stage companies.
<b>Community Stakeholders</b>	Will provide general feedback and information regarding displacement concerns in the TCC project area. Community members will be essential for qualitative data collection in the community.
<b>TCC Project Partners</b>	Will provide data and reporting to the DAP Consultant regarding project specific information.

### Anti-Displacement Task Force Members

Member Type	Specific Requirements	Member Name
Residential Tenants	Fulton Corridor Specific Plan Area	Robert Fuentes
	Downtown Neighborhoods Community Plan Area	Hilda Lopez
	Southwest Fresno Specific Plan Area	Debbie Darden
Commercial Tenants	Downtown	Ana Li De Alba
	Chinatown or Southwest Fresno	Morgan Doizaki
Developers	Affordable Housing Developer	Preston Prince
	Market Rate Developer	Sal Gonzales
	Community Development Corporation	Eric Payne
	Community Development Corporation	Cherella Nicholson
Advocates	Nonprofit	Grecia Elenes
	Neighborhood	Patience Milrod
	Individual/non-affiliate	Kathryn Forbes
	Individual/non-affiliate	Artie Padilla

## Appendix 6: Transform Fresno TCC Census Tracts

Census Tract GeoID Number	City	Population (ACS 2011- 2016 estimate)	Area (sq. mi.)	Population Density (pop./ sq.mi.)	Overlap with TCC Project Area (%)
14000US06019000700	Fresno / Unincorporated	3,758	3.20	1,175	18%
14000US06019001100	Fresno	2,728	1.45	1,883	27%
14000US06019001000	Fresno / Unincorporated	3,955	1.89	2,093	14%
14000US06019000901	Fresno / Unincorporated	2,979	0.75	3,947	83%
14000US06019000200	Fresno	3,147	0.77	4,100	68%
14000US06019000300	Fresno	3,270	0.73	4,487	100%
14000US06019000400	Fresno	6,016	1.31	4,578	22%
14000US06019000600	Fresno	5,351	0.95	5,624	44%
14000US06019000902	Fresno	5,082	0.76	6,680	83%
14000US06019000100	Fresno	3,036	0.33	9,323	100%

## Appendix 7: Transform Fresno Control Census Tracts

Census Tract GeoID Number	City	Population (ACS 2011- 2016 estimate)	Area (sq. mi.)	Population Density (pop./ sq.mi.)
14000US06019001202	Fresno / Unincorporated	4,828	1.31	3,676
14000US06019001304	Fresno	5,528	0.50	1,0948
14000US06019001407	Fresno	4,530	0.50	9,078
14000US06019002800	Fresno	4,458	1.02	4,372
14000US06019003202	Fresno / Unincorporated	5,352	0.62	8,630
14000US06019003807	Fresno / Unincorporated	3,144	1.75	1,780
14000US06019004704	Fresno	4,772	0.49	9,820
14000US06019004802	Fresno	4,871	0.56	8,674
14000US06019005100	Fresno	6,276	1.00	6,281
14000US06019005403	Fresno	4,267	0.50	8,521

# Appendix 8: Indicator Data

## Appendix 8.1: Demographics

**Table A8.1.1: American Community Survey (ACS) Demographic Indicators\***

	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Total Population (B01003)</b>	2017-2021	32,347	1,883	49,836	2,449	1,003,150	0.0	39,455,353	0.0
	2016-2020	32,449	1,960	48,623	2,453	990,204	0.0	39,346,023	0
	2015-2019	39,487	1,536	49,882	1,608	984,521	0.0	39,283,497	0.0
	2014-2018	39,860	1,494	50,165	1,633	978,130	0.0	39,148,760	0.0
	2013-2017	38,699	1,501	48,598	1,796	971,616	0.0	38,982,847	0.0
	2012-2016	39,322	1,412	48,026	1,572	963,160	0.0	38,654,206	0.0
	2011-2015	38,854	1,349	48,698	1,598	956,749	0.0	38,421,464	0.0
	2010-2014	39,389	1,499	49,190	1,716	948,844	0.0	38,066,920	0.0
	2009-2013	39,140	1,647	48,862	1,786	939,605	0.0	37,659,181	0.0
<b>Percent Hispanic, all races (B03002)</b>	2017-2021	67.8%	2.3%	59.8 %	2.8%	54.0%	0.0%	39.5%	0.0%
	2016-2020	67.5%	2.5%	57.5%	3.1%	53.4%	0.0%	39.1%	0.0%
	2015-2019	68.2%	2.3%	60.8%	2.7%	53.1%	0.0%	39.0%	0.0%
	2014-2018	67.8%	2.3%	59.3%	2.5%	52.7%	0.0%	38.9%	0.0%
	2013-2017	65.5%	2.8%	59.1%	2.8%	52.4%	0.0%	38.8%	0.0%
	2012-2016	65.7%	2.6%	56.2%	3.0%	52.0%	0.0%	38.6%	0.0%
	2011-2015	65.0%	2.4%	57.3%	2.8%	51.6%	0.0%	38.4%	0.0%
	2010-2014	63.5%	2.6%	55.6%	2.9%	51.2%	0.0%	38.2%	0.0%
	2009-2013	61.5%	2.9%	58.2%	3.3%	50.8%	0.0%	37.9%	0.0%
<b>Percent White, non-Hispanic (B03002)</b>	2017-2021	9.3%	2.4%	17.3%	2.8%	27.9%	0.1%	35.8%	0.0%
	2016-2020	8.8%	2.3%	17.6%	2.8%	28.7%	0.0%	36.5%	0.0%
	2015-2019	7.1%	1.3%	16.2%	2.3%	29.4%	0.0%	37.2%	0.0%
	2014-2018	7.2%	1.1%	15.8%	2.1%	29.8%	0.1%	37.5%	0.0%
	2013-2017	7.2%	1.4%	15.3%	2.0%	30.2%	0.1%	37.9%	0.0%
	2012-2016	6.5%	1.0%	15.1%	1.5%	30.8%	0.0%	38.4%	0.0%
	2011-2015	6.2%	1.0%	15.3%	1.4%	31.2%	0.1%	38.7%	0.0%
	2010-2014	6.8%	1.1%	16.6%	1.6%	31.6%	0.1%	39.2%	0.0%
	2009-2013	6.4%	1.0%	17.5%	1.8%	32.2%	0.1%	39.7%	0.0%

\*MOEs for the county and the state are obtained directly from the U.S. Census Bureau. MOEs for TCC and control census tracts are derived by the UCLA Luskin Center for Innovation in accordance with the methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018). All MOEs are reported at the 90% confidence.

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent communities of color, non-Hispanic: Black, Asian, Pacific Islander, American Indian, other, and two or more races (B03002)</b>	2017-2021	23.0%	2.7%	23.0%	2.3%	18.1%	0.3%	24.7%	0.1%
	2016-2020	23.7%	2.7%	24.8%	2.6%	18.0%	0.3%	24.1%	0.1%
	2015-2019	24.7%	2.1%	23.0%	2.1%	17.5%	0.2%	23.8%	0.0%
	2014-2018	25.0%	2.0%	24.8%	2.1%	17.5%	0.2%	23.6%	0.0%
	2013-2017	27.4%	2.0%	25.6%	2.0%	17.3%	0.2%	23.3%	0.0%
	2012-2016	27.9%	2.1%	28.7%	2.8%	17.2%	0.2%	23.1%	0.0%
	2011-2015	28.8%	2.2%	27.3%	2.4%	17.2%	0.2%	22.9%	0.0%
	2010-2014	29.7%	2.6%	27.8%	2.3%	17.1%	0.2%	22.7%	0.0%
	2009-2013	32.1%	2.8%	24.2%	2.3%	17.1%	0.2%	22.4%	0.0%
<b>Percent other communities of color, non-Hispanic: Pacific Islander, American Indian, other, two or, more races</b>	2017-2021	2.7%	1.0%	3.0%	0.9%	3.5%	0.2%	4.6%	0.0%
	2016-2020	2.5%	0.9%	2.3%	0.7%	3.1%	0.2%	4.4%	0.0%
	2015-2019	1.8%	0.5%	2.1%	0.6%	2.9%	0.2%	4.0%	0.0%
	2014-2018	2.4%	0.8%	2.2%	0.7%	2.9%	0.2%	3.9%	0.0%
	2013-2017	1.8%	0.5%	2.2%	0.7%	2.8%	0.2%	3.9%	0.0%
	2012-2016	2.4%	0.7%	1.9%	0.5%	2.7%	0.2%	3.8%	0.0%
	2011-2015	2.1%	0.6%	2.1%	0.6%	2.9%	0.1%	3.7%	0.0%
	2010-2014	2.1%	0.8%	2.5%	0.9%	2.8%	0.2%	3.7%	0.0%
	2009-2013	1.7%	0.6%	2.1%	0.7%	2.8%	0.2%	3.6%	0.0%
<b>Percent Black, non-Hispanic (B03002)</b>	2017-2021	12.3%	2.0%	7.9%	1.4%	4.2%	0.1%	5.4%	0.0%
	2016-2020	13.6%	2.1%	9.8%	1.7%	4.4%	0.1%	5.4%	0.0%
	2015-2019	14.4%	1.7%	8.6%	1.2%	4.5%	0.1%	5.5%	0.0%
	2014-2018	14.6%	1.5%	10.0%	1.3%	4.5%	0.1%	5.5%	0.0%
	2013-2017	17.4%	1.8%	10.3%	1.2%	4.7%	0.1%	5.5%	0.0%
	2012-2016	17.0%	1.6%	12.9%	1.9%	4.7%	0.1%	5.6%	0.0%
	2011-2015	16.5%	1.7%	11.7%	1.6%	4.7%	0.1%	5.6%	0.0%
	2010-2014	17.9%	1.9%	12.4%	1.5%	4.8%	0.1%	5.7%	0.0%
	2009-2013	20.1%	2.0%	10.8%	1.6%	4.8%	0.1%	5.7%	0.0%
<b>Percent Asian, non-Hispanic (B03002)</b>	2017-2021	8.0%	1.8%	12.1%	1.8%	10.4%	0.1%	14.7%	0.0%
	2016-2020	7.6%	1.8%	12.7%	2.0%	10.4%	0.1%	14.6%	0.0%
	2015-2019	8.4%	1.3%	12.3%	1.7%	10.1%	0.1%	14.3%	0.0%
	2014-2018	8.0%	1.2%	12.6%	1.6%	10.0%	0.1%	14.1%	0.0%
	2013-2017	8.2%	1.1%	13.1%	1.7%	9.9%	0.1%	13.9%	0.0%
	2012-2016	8.5%	1.3%	13.9%	2.1%	9.7%	0.1%	13.7%	0.0%
	2011-2015	10.2%	1.4%	13.6%	1.8%	9.6%	0.1%	13.5%	0.0%
	2010-2014	9.8%	1.7%	12.8%	1.7%	9.5%	0.1%	13.3%	0.0%
	2009-2013	10.3%	2.1%	11.4%	1.6%	9.4%	0.1%	13.1%	0.0%

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent Pacific Islanders, non-Hispanic (B03002)</b>	2017-2021	0.1%	0.3%	0.1%	0.1%	0.2%	0.0%	0.3%	0.0%
	2016-2020	0.3%	0.5%	0.1%	0.1%	0.1%	0.0%	0.3%	0.0%
	2015-2019	0.1%	0.2%	0.1%	0.1%	0.1%	0.0%	0.4%	0.0%
	2014-2018	0.1%	0.2%	0.0%	0.0%	0.1%	0.0%	0.4%	0.9%
	2013-2017	0.1%	0.1%	0.1%	0.1%	0.1%	0.9%	0.4%	0.0%
	2012-2016	0.3%	0.4%	0.1%	0.1%	0.1%	0.0%	0.4%	0.0%
	2011-2015	0.3%	0.3%	0.1%	0.1%	0.1%	0.0%	0.4%	0.0%
	2010-2014	0.2%	0.3%	0.3%	0.3%	0.1%	0.0%	0.4%	0.0%
	2009-2013	0.2%	0.3%	0.2%	0.2%	0.1%	0.0%	0.4%	0.0%
<b>Percent American Indian, non-Hispanic (B03002)</b>	2017-2021	0.6%	0.5%	0.7%	0.4%	0.4%	0.1%	0.3%	0.0%
	2016-2020	0.6%	0.5%	0.5%	0.3%	0.5%	0.0%	0.3%	0.0%
	2015-2019	0.3%	0.1%	0.4%	0.3%	0.5%	0.1%	0.4%	0.0%
	2014-2018	0.3%	0.2%	0.4%	0.2%	0.5%	0.0%	0.4%	0.0%
	2013-2017	0.3%	0.2%	0.4%	0.3%	0.4%	0.1%	0.4%	0.0%
	2012-2016	0.3%	0.2%	0.2%	0.1%	0.5%	0.0%	0.4%	0.0%
	2011-2015	0.4%	0.2%	0.3%	0.3%	0.5%	0.0%	0.4%	0.0%
	2010-2014	0.4%	0.2%	0.5%	0.5%	0.5%	0.0%	0.4%	0.0%
	2009-2013	0.5%	0.2%	0.4%	0.4%	0.5%	0.1%	0.4%	0.0%
<b>Percent two or more races, non-Hispanic (B03002)</b>	2017-2021	1.7%	0.7%	2.1%	0.8%	2.6%	0.2%	3.6%	0.0%
	2016-2020	1.4%	0.6%	1.7%	0.6%	2.4%	0.2%	3.4%	0.0%
	2015-2019	1.5%	0.4%	1.5%	0.5%	2.2%	0.2%	3.0%	0.0%
	2014-2018	1.9%	0.7%	1.7%	0.6%	2.1%	0.2%	3.0%	0.0%
	2013-2017	1.4%	0.5%	1.7%	0.6%	2.0%	0.1%	2.9%	0.0%
	2012-2016	1.7%	0.6%	1.5%	0.5%	2.0%	0.1%	2.9%	0.0%
	2011-2015	1.4%	0.5%	1.6%	0.5%	2.0%	0.1%	2.8%	0.0%
	2010-2014	1.4%	0.7%	1.7%	0.7%	2.0%	0.1%	2.7%	0.0%
	2009-2013	1.0%	0.5%	1.4%	0.6%	2.0%	0.1%	2.6%	0.0%
<b>Percent other, non-Hispanic (B03002)</b>	2017-2021	0.3%	0.3%	0.1%	0.2%	0.3%	0.1%	0.4%	0.0%
	2016-2020	0.2%	0.2%	0.1%	0.1%	0.2%	0.1%	0.3%	0.0%
	2015-2019	0.0%	0.1%	0.1%	0.1%	0.2%	0.1%	0.3%	0.0%
	2014-2018	0.0%	0.1%	0.1%	0.2%	0.2%	0.1%	0.2%	0.0%
	2013-2017	0.0%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.0%
	2012-2016	0.0%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.0%
	2011-2015	0.0%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.0%
	2010-2014	0.0%	0.1%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%
	2009-2013	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent foreign-born population (B05006)</b>	2017-2021	22.0%	1.8%	22.2%	2.3%	19.9%	0.4%	26.5%	0.1%
	2016-2020	22.3%	1.7%	22.4%	2.2%	20.4%	0.4%	26.6%	0.1%
	2015-2019	24.5%	1.6%	23.0%	1.9%	21.2%	0.4%	26.8%	0.1%
	2014-2018	24.9%	1.6%	22.2%	1.7%	21.3%	0.4%	26.9%	0.1%
	2013-2017	25.6%	1.8%	22.8%	1.7%	21.0%	0.3%	27.0%	0.1%
	2012-2016	26.0%	1.8%	22.5%	1.8%	21.4%	0.3%	27.0%	0.1%
	2011-2015	26.2%	1.9%	23.8%	2.1%	21.4%	0.3%	27.0%	0.1%
	2010-2014	27.2%	2.3%	23.5%	2.2%	21.7%	0.3%	27.0%	0.1%
	2009-2013	27.4%	2.5%	25.0%	2.7%	21.9%	0.3%	27.0%	0.1%
<b>Percent born in Asia (B05006)</b>	2017-2021	3.6%	0.7%	7.4%	1.8%	5.8%	0.2%	10.6%	0.0%
	2016-2020	3.4%	0.7%	7.4%	1.7%	5.9%		10.6%	0.0%
	2015-2019	3.9%	0.7%	6.5%	1.2%	5.8%	0.2%	10.6%	0.0%
	2014-2018	4.0%	0.7%	6.1%	1.1%	5.9%	0.2%	10.5%	0.0%
	2013-2017	4.0%	0.7%	6.1%	1.0%	5.8%	0.2%	10.4%	0.0%
	2012-2016	3.9%	0.8%	6.6%	1.2%	5.8%	0.2%	10.2%	0.0%
	2011-2015	4.4%	0.8%	7.0%	1.1%	5.8%	0.2%	10.1%	0.0%
	2010-2014	4.6%	1.0%	6.4%	1.0%	5.8%	0.2%	10.0%	0.0%
	2009-2013	4.4%	1.0%	5.7%	0.9%	5.6%	0.2%	9.8%	0.0%
<b>Percent born in Africa (B05006)</b>	2017-2021	0.1%	0.2%	0.2%	0.2%	0.3%	0.1%	0.5%	0.0%
	2016-2020	0.1%	0.1%	0.3%	0.3%	0.2%	0.1%	0.5%	0.0%
	2015-2019	0.0%	0.1%	0.3%	0.3%	0.2%	0.1%	0.5%	0.0%
	2014-2018	0.1%	0.1%	0.3%	0.3%	0.2%	0.1%	0.5%	0.0%
	2013-2017	0.0%	0.1%	0.3%	0.3%	0.2%	0.0%	0.5%	0.0%
	2012-2016	0.0%	0.1%	0.3%	0.3%	0.2%	0.0%	0.5%	0.0%
	2011-2015	0.0%	0.1%	0.2%	0.2%	0.2%	0.0%	0.4%	0.0%
	2010-2014	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.4%	0.0%
	2009-2013	0.0%	0.1%	0.0%	0.1%	0.2%	0.0%	0.4%	0.0%
<b>Percent born in Latin America (B05006)</b>	2017-2021	18.2%	1.8%	14.3%	1.5%	13.1%	0.3%	13.1%	0.1%
	2016-2020	18.7%	1.7%	14.2%	1.6%	13.4%	0.3%	13.2%	0.1%
	2015-2019	20.4%	1.5%	15.7%	1.5%	14.3%	0.3%	13.5%	0.1%
	2014-2018	20.7%	1.6%	15.2%	1.5%	14.4%	0.3%	13.7%	0.1%
	2013-2017	21.3%	1.8%	15.7%	1.5%	14.2%	0.3%	13.8%	0.1%
	2012-2016	21.8%	1.7%	14.8%	1.6%	14.5%	0.3%	14.0%	0.0%
	2011-2015	21.5%	1.9%	16.0%	1.9%	14.6%	0.3%	14.2%	0.1%
	2010-2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2009-2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## Appendix 8.2: Economy

**Table A8.2.1: American Community Survey (ACS) Economic Indicators\***

	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Median household income (B19001)</b>	2017-2021	\$28,285	N/A	\$33,335	N/A	\$61,276	\$1031	\$84,097	\$236
	2016-2020	\$27,686	N/A	\$30,559	N/A	\$57,109	\$929	\$78,672	\$270
	2015-2019	\$24,688	N/A	\$28,011	N/A	\$53,969	\$794	\$75,235	\$232
	2014-2018	\$24,171	N/A	\$27,223	N/A	\$51,261	\$808	\$71,228	\$217
	2013-2017	\$23,405	N/A	\$26,905	N/A	\$48,730	\$655	\$67,169	\$192
	2012-2016	\$23,075	N/A	\$24,848	N/A	\$45,963	\$661	\$63,783	\$188
	2011-2015	\$22,148	N/A	\$26,502	N/A	\$45,233	\$692	\$61,818	\$156
	2010-2014	\$22,332	N/A	\$26,387	N/A	\$45,201	\$713	\$61,489	\$154
	2009-2013	\$22,843	N/A	\$25,319	N/A	\$45,563	\$638	\$61,094	\$157
<b>Percent of individuals living below poverty (B17001)</b>	2017-2021	46.5%	4.4%	37.2%	4.0%	20.2%	0.7%	12.3%	0.1%
	2016-2020	48.0%	4.7%	38.2%	3.6%	20.8%	0.7%	12.6%	0.1%
	2015-2019	47.3%	3.8%	41.9%	3.2%	22.5%	0.7%	13.4%	0.1%
	2014-2018	50.1%	4.2%	42.0%	3.1%	24.1%	0.6%	14.3%	0.1%
	2013-2017	50.3%	3.6%	43.0%	3.4%	25.4%	0.6%	15.1%	0.1%
	2012-2016	52.2%	3.4%	46.6%	3.4%	26.9%	0.6%	15.8%	0.1%
	2011-2015	52.7%	3.2%	42.0%	3.1%	26.8%	0.7%	16.3%	0.1%
	2010-2014	52.7%	3.7%	41.7%	3.1%	27.4%	0.6%	16.4%	0.1%
	2009-2013	50.5%	3.7%	41.9%	3.6%	26.0%	0.6%	15.9%	0.1%
<b>Percent high income (\$125k +) (B19001)</b>	2017-2021	3.2%	1.2%	6.3%	1.7%	19.9%	0.6%	32.6%	0.1%
	2016-2020	2.0%	1.0%	4.8%	1.4%	17.2%	0.6%	29.8%	0.1%
	2015-2019	2.7%	0.9%	3.8%	1.2%	15.8%	0.5%	28.0%	0.1%
	2014-2018	1.9%	0.8%	3.2%	1.0%	14.6%	0.5%	26.1%	0.1%
	2013-2017	2.3%	0.9%	3.0%	1.1%	13.3%	0.4%	23.9%	0.1%
	2012-2016	1.9%	0.7%	1.7%	0.8%	12.0%	0.4%	22.1%	0.1%
	2011-2015	2.2%	0.8%	2.1%	0.9%	11.3%	0.4%	20.9%	0.1%
	2010-2014	1.7%	0.9%	1.6%	0.8%	11.1%	0.4%	20.4%	0.1%
	2009-2013	2.4%	1.1%	1.7%	0.8%	11.1%	0.4%	19.9%	0.1%

\*MOEs for the county and the state are obtained directly from the U.S. Census Bureau. MOEs for TCC and control census tracts are derived by the UCLA Luskin Center for Innovation in accordance with the methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018). All MOEs are reported at the 90% confidence.

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent with less than high school education (S1501)</b>	2017-2021	40.9%	3.1%	34.4%	2.8%	22.1%	0.5%	15.8%	0.1%
	2016-2020	40.5%	2.9%	33.4%	2.8%	22.7%	0.5%	16.1%	0.1%
	2015-2019	42.0%	2.6%	35.1%	2.8%	24.0%	0.4%	16.7%	0.1%
	2014-2018	43.1%	2.5%	36.7%	2.8%	24.7%	0.5%	17.1%	0.1%
	2013-2017	45.3%	3.0%	36.0%	2.7%	25.3%	0.5%	17.5%	0.1%
	2012-2016	44.2%	2.5%	37.0%	2.8%	26.2%	0.5%	17.9%	0.1%
	2011-2015	46.4%	2.8%	37.8%	2.7%	26.5%	0.5%	18.2%	0.1%
	2010-2014	47.9%	2.8%	37.9%	2.6%	26.8%	0.5%	18.5%	0.1%
	2009-2013	48.5%	3.0%	38.9%	3.6%	26.9%	0.5%	18.8%	0.1%
<b>Percent with bachelor's degree or higher (S1501)</b>	2017-2021	7.2%	1.4%	8.7%	1.7%	22.6%	0.5%	35.3%	0.1%
	2016-2020	6.8%	1.4%	9.1%	1.8%	22.0%	0.5%	34.7%	0.1%
	2015-2019	7.8%	1.4%	8.0%	1.6%	21.2%	0.4%	33.9%	0.1%
	2014-2018	7.6%	1.3%	8.0%	1.4%	20.7%	0.4%	33.3%	0.1%
	2013-2017	6.1%	1.1%	7.9%	1.3%	20.1%	0.4%	32.6%	0.1%
	2012-2016	6.5%	1.0%	8.4%	1.3%	19.7%	0.4%	32.0%	0.1%
	2011-2015	5.8%	1.0%	8.4%	1.3%	19.4%	0.4%	31.4%	0.1%
	2010-2014	6.9%	1.1%	7.8%	1.3%	19.5%	0.4%	31.0%	0.1%
	2009-2013	6.5%	1.1%	6.7%	1.0%	19.6%	0.4%	30.7%	0.1%

## Appendix 8.3: Energy

**Table A8.3.1: American Community Survey (ACS) Energy Indicators\***

	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent employed for the population 16 years and over (B23025)</b>	2017-2021	38.8%	2.7%	50.4%	2.6%	55.5%	0.4%	59.3%	0.1%
	2016-2020	39.5%	2.2%	49.9%	2.6%	55.3%	0.4%	59.4%	0.1%
	2015-2019	40.3%	1.9%	48.4%	2.1%	55.6%	0.4%	59.4%	0.1%
	2014-2018	40.1%	2.0%	46.5%	2.2%	55.0%	0.4%	58.9%	0.1%
	2013-2017	39.6%	2.2%	45.6%	2.1%	54.3%	0.3%	58.2%	0.1%
	2012-2016	38.4%	2.3%	42.7%	2.0%	53.3%	0.4%	57.5%	0.1%
	2011-2015	36.5%	2.2%	42.5	2.0%	52.8%	0.5%	56.9%	0.1%
	2010-2014	36.6%	2.3%	43.3%	2.1%	52.3%	0.4%	56.4%	0.1%
	2009-2013	36.2%	2.5%	42.6%	1.7%	52.4%	0.4%	56.4%	0.1%
<b>Percent of households heating home with electricity (B25040)</b>	2017-2021	49.5%	5.6%	42.7%	3.1%	35.1%	0.7%	27.7%	0.1
	2016-2020	47.3%	5.4%	42.5%	3.0%	34.4%	0.7%	27.1%	0.1%
	2015-2019	37.5%	3.2%	42.3%	3.1%	33.8%	0.6%	26.6%	0.1%
	2014-2018	32.3%	2.9%	42.0%	2.8%	34.5%	0.5%	26.4%	0.1%
	2013-2017	30.5%	2.8%	43.2%	3.0%	35.4%	0.5%	26.5%	0.1%
	2012-2016	27.3%	2.7%	43.2%	2.9%	35.7%	0.5%	26.4%	0.1%
	2011-2015	26.4%	2.5%	44.4%	3.0%	36.1%	0.6%	26.2%	0.1%
	2010-2014	25.7%	2.3%	43.1%	2.8%	36.0%	0.7%	25.8%	0.1%
	2009-2013	27.0%	2.6%	42.0%	3.0%	35.5%	0.7%	25.5%	0.1%
<b>Percent of households heating home with other non-fossil fuels (B25040)</b>	2017-2021	0.9%	0.6%	2.0%	0.8%	3.3%	0.2%	2.2%	0.0%
	2016-2020	0.6%	0.5%	1.0%	0.6%	3.1%	0.2%	2.2%	0.0%
	2015-2019	0.6%	0.4%	1.1%	0.6%	3.1%	0.2%	2.1%	0.0%
	2014-2018	0.4%	0.4%	0.9%	0.6%	2.7%	0.2%	2.1%	0.0%
	2013-2017	0.3%	0.3%	0.6%	0.5%	2.5%	0.2%	2.0%	0.0%
	2012-2016	0.3%	0.3%	0.4%	0.3%	2.1%	0.2%	1.9%	0.0%
	2011-2015	0.2%	0.3%	0.3%	0.3%	2.1%	0.2%	1.9%	0.0%
	2010-2014	0.0%	0.2%	0.3%	0.3%	2.0%	0.2%	1.9%	0.0%
	2009-2013	0.0%	0.2%	0.3%	0.3%	2.0%	0.2%	1.8%	0.0%

\*MOEs for the county and the state are obtained directly from the U.S. Census Bureau. MOEs for TCC and control census tracts are derived by the UCLA Luskin Center for Innovation in accordance with the methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018). All MOEs are reported at the 90% confidence.

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
Percent of households heating home with utility gas (B25040)	2017-2020	46.5%	2.5%	53.0%	3.6%	55.0%	0.7%	63.0%	0.1%
	2016-2020	49.6%	2.6%	53.5%	3.6%	55.8%	0.7%	63.6%	0.1%
	2015-2019	59.8%	3.1%	53.8%	3.0%	56.5%	0.5%	64.1%	0.0%
	2014-2018	63.9%	2.8%	54.1%	2.8%	56.0%	0.5%	64.3%	0.1%
	2013-2017	66.7%	2.7%	53.4%	2.9%	55.4%	0.7%	64.4%	0.1%
	2012-2016	69.8%	2.6%	53.6%	2.9%	55.2%	0.6%	64.6%	0.1%
	2011-2015	70.5%	2.6%	53.0%	2.9%	54.9%	0.7%	65.0%	0.1%
	2010-2014	71.5%	2.4%	54.3%	2.8%	55.1%	0.6%	65.6%	0.1%
	2009-2013	70.3%	2.7%	55.7%	2.8%	55.5%	0.6%	66.0%	0.1%

**Table A8.3.2: Solar PV Systems per 1,000 Households\***

Indicator	Dataset Year	Fresno TCC Census Tracts	Control Census Tracts	Fresno County	California
Solar PV Systems for All Building Types	2018	33.5	20.6	82.9	49.4

\* Solar PV system data were sourced from *The DeepSolar Project*, a product of Stanford Engineering. For TCC census tracts and control tracts, a weighted average was applied, as based on the number of households within each census tract (using 2011-2015 ACS data).

## Appendix 8.4: Environment

**Table A8.4.1: Land-Cover Indicators\***

Indicator	Dataset Year	Percent area for TCC Project Area	Square Miles
Impervious / buildings	2016	39.1%	2.0
Dry vegetation / barren	2016	29.7%	1.5
Green vegetation	2016	12.0%	0.6
Shadow	2016	9.9%	0.5
Unclassified	2016	9.0%	0.5
Water	2016	0.3%	<0.1

\* Land-cover indicators were derived from satellite imagery maintained by the National Agriculture Imagery Program (NAIP).



## Appendix 8.5: Health

**Table A8.5.1: American Community Survey (ACS) Health Indicators\***

	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent of households heating home with other fossil fuels (B25040)</b>	2017-2021	0.6%	0.5%	1.4%	0.7%	5.1%	0.2%	3.6%	0.0%
	2016-2020	0.4%	0.4%	1.2%	0.6%	4.9%	0.3%	3.6%	0.0%
	2015-2019	0.4%	0.4%	1.3%	0.6%	4.8%	0.2%	3.5%	0.0%
	2014-2018	0.4%	0.4%	1.6%	0.7%	4.8%	0.2%	3.5%	0.0%
	2013-2017	0.4%	0.4%	1.2%	0.6%	4.7%	0.2%	3.5%	0.0%
	2012-2016	0.6%	0.4%	1.4%	0.6%	5.0%	0.2%	3.4%	0.0%
	2011-2015	0.7%	0.4%	1.6%	0.7%	4.9%	0.2%	3.4%	0.0%
	2010-2014	0.7%	0.4%	1.6%	0.6%	5.0%	0.2%	3.4%	0.0%
2009-2013	0.7%	0.5%	1.3%	0.6%	5.2%	0.3%	3.5%	0.0%	
<b>Percent of houses with no fuel used (B25040)</b>	2017-2021	1.1%	0.8%	0.1%	0.2%	0.9%	0.1%	3.1%	0.0%
	2016-2020	0.9%	0.6%	0.7%	0.5%	0.9%	0.2%	3.2%	0.0%
	2015-2019	1.7%	0.9%	0.9%	0.5%	0.9%	0.1%	3.3%	0.0%
	2014-2018	2.8%	1.3%	1.4%	0.7%	1.0%	0.1%	3.4%	0.0%
	2013-2017	2.0%	0.9%	1.4%	0.6%	1.0%	0.1%	3.4%	0.0%
	2012-2016	2.0%	0.9%	1.3%	0.6%	1.1%	0.1%	3.3%	0.0%
	2011-2015	2.2%	1.0%	0.7%	0.4%	1.0%	0.1%	3.2%	0.0%
	2010-2014	2.0%	0.9%	0.6%	0.4%	1.0%	0.1%	3.0%	0.0%
2009-2013	1.9%	0.8%	0.5%	0.3%	0.9%	0.1%	2.9%	0.0%	
<b>Percent with health insurance coverage (B27001)</b>	2017-2021	88.4%	1.3%	93.1%	1.2%	92.7%	0.3%	92.8%	0.1%
	2016-2020	88.1%	0.7%	92.2%	1.2%	92.2%	0.3%	92.8%	0.1%
	2015-2019	88.4%	1.4%	91.0%	1.1%	91.7%	0.3%	92.5%	0.1%
	2014-2018	86.9%	1.7%	89.2%	1.0%	90.5%	0.3%	91.5%	0.1%
	2013-2017	83.8%	1.7%	86.3%	1.1%	88.3%	0.4%	89.5%	0.1%
	2012-2016	81.0%	2.0%	83.7%	1.3%	85.8%	0.4%	87.4%	0.1%
	2011-2015	78.4%	1.8%	81.7%	1.6%	83.6%	0.4%	85.3%	0.1%
	2010-2014	75.3%	2.3%	79.2%	1.8%	81.5%	0.4%	83.3%	0.1%
2009-2013	74.4%	1.8%	77.6%	1.6%	80.4%	0.4%	82.2%	0.1%	

\*MOEs for the county and the state are obtained directly from the U.S. Census Bureau. MOEs for TCC and control census tracts are derived by the UCLA Luskin Center for Innovation in accordance with the methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018). All MOEs are reported at the 90% confidence.

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent with private health insurance coverage (B27002)</b>	2017-2021	24.3%	2.8%	32.9%	2.5%	53.7%	0.7%	64.3%	0.2%
	2016-2020	22.7%	3.0%	34.0%	2.5%	53.7%	0.6%	64.3%	0.2%
	2015-2019	22.8%	1.9%	32.1%	2.5%	52.4%	0.6%	63.8%	0.2%
	2014-2018	22.4%	1.9%	32.4%	2.3%	51.7%	0.5%	63.4%	0.2%
	2013-2017	23.0%	2.1%	32.6%	2.3%	51.3%	0.6%	62.6%	0.2%
	2012-2016	21.7%	2.2%	30.0%	2.3%	49.9%	0.6%	61.8%	0.2%
	2011-2015	21.6%	2.0%	30.1%	2.3%	49.4%	0.6%	61.2%	0.2%
	2010-2014	20.5%	2.1%	29.4%	2.0%	49.0%	0.6%	60.8%	0.2%
	2009-2013	19.5%	1.9%	28.7%	1.8%	48.9%	0.6%	61.0%	0.2%
<b>Percent with public health insurance coverage (B27003)</b>	2017-2021	70.2%	52.8	68.3%	3.2%	49.2%	0.7%	38.0%	0.1%
	2016-2020	71.7%	2.4%	66.8%	3.2%	49.0%	0.6%	38.0%	0.1%
	2015-2019	71.8%	2.3%	67.1%	2.6%	49.5%	0.6%	38.0%	0.1%
	2014-2018	70.1%	2.8%	64.7%	2.6%	48.7%	0.5%	37.2%	0.1%
	2013-2017	66.5%	2.4%	61.2%	2.8%	46.9%	0.5%	35.8%	0.1%
	2012-2016	64.5%	2.6%	60.7%	2.4%	45.2%	0.6%	34.3%	0.1%
	2011-2015	61.8%	2.5%	58.3%	2.7%	43.1%	0.5%	32.6%	0.1%
	2010-2014	59.9%	2.9%	55.7%	2.8%	41.3%	0.4%	30.8%	0.1%
	2009-2013	60.5%	2.7%	54.2%	2.9%	40.2%	0.5%	29.5%	0.1%

**Table A8.5.2: Vehicle Collisions Involving Bicyclists and Pedestrians\***

Indicator	Dataset Year	Gross Number of Collisions				Normalized per 1,000 Street Miles			
		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size	
		0ft	50 ft	0ft	50 ft	0ft	50ft	0ft	50ft
<b>Bicycle Collision at Injury Level 1: Fatal</b>	2021	0	0	0	1	0	0	0	7.6
	2020	0	0	1	1	0	0	7.6	7.6
	2019	1	1	1	1	9.4	9.4	7.6	7.6
	2018	0	0	0	0	0	0	0	0
	2017	1	1	1	1	9.4	9.4	7.6	7.6
	2016	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	2013	1	1	0	2	9.4	9.4	0	15.1
<b>Bicycle Collision at Injury Level 2: Severe Injury</b>	2021	0	0	0	0	0	0	0	0
	2020	0	1	2	3	0	9.4	15.1	22.7
	2019	0	0	0	0	0	0	0	0
	2018	0	0	0	0	0	0	0	0
	2017	0	0	0	0	0	0	0	0
	2016	0	0	0	0	0	0	0	0
	2015	1	1	0	0	9.4	9.4	0	0
	2014	1	1	1	1	9.4	9.4	7.6	7.6
	2013	0	0	0	0	0	0	0	0
<b>Bicycle Collision at Injury Level 3: Visible Injury</b>	2021	2	2	3	4	18.8	18.8	22.7	30.3
	2020	2	3	0	1	18.8	28.2	0	7.6
	2019	2	2	1	1	18.8	18.8	7.6	7.6
	2018	0	0	0	0	0	0	0	0
	2017	0	0	1	2	0	0	7.6	15.1
	2016	1	1	2	2	9.4	9.4	15.1	15.1
	2015	3	3	5	8	28.2	28.2	37.8	60.6
	2014	2	2	2	6	18.8	18.8	15.1	45.4
	2013	2	2	0	0	18.8	18.8	0	0

\*Collision data were obtained from the Transportation Injury Mapping System (TIMS). The numbers presented here are conservative in that they do not include collisions that were missing geographic coordinates in TIMS. Street mileage was obtained from OpenStreets-Map (OSM) and totaled 129 miles for the project area and 470 miles for the control tracts. Vehicle collisions involving bicycles and pedestrians are not mutually exclusive because some accidents may involve both modes.

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Indicator	Dataset Year	Gross Number of Collisions				Normalized per 1,000 Street Miles			
		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size	
		0ft	50 ft	0ft	50 ft	0ft	50ft	0ft	50ft
Bicycle Collision at Injury Level 4: Complaint of Pain	2021	2	2	2	5	18.8	18.8	15.1	37.8
	2020	0	0	1	3	0	0	7.6	22.7
	2019	0	0	2	2	0	0	15.1	15.1
	2018	0	0	0	1	0	0	0	7.6
	2017	0	0	1	2	0	0	7.6	15.1
	2016	2	2	0	0	18.8	18.8	0	0
	2015	3	3	4	8	28.2	28.2	30.3	60.6
	2014	5	5	9	13	47.0	47.0	68.1	98.4
	2013	1	1	2	3	9.4	9.4	15.1	22.7
Pedestrian Collision at Injury Level 1: Fatal	2021	1	1	1	1	9.4	9.4	7.6	7.6
	2020	2	2	2	4	18.8	18.8	15.1	30.3
	2019	2	2	3	5	18.8	18.8	22.7	37.8
	2018	1	1	4	5	9.4	9.4	30.3	37.8
	2017	3	3	2	4	28.2	28.2	15.1	30.3
	2016	0	0	2	2	0	0	15.1	15.1
	2015	0	0	0	1	0	0	0	7.6
	2014	1	2	1	2	9.4	18.8	7.6	15.1
	2013	2	3	1	1	18.8	28.2	7.6	7.6
Pedestrian Collision at Injury Level 2: Severe Injury	2021	3	3	4	12	28.2	28.2	30.3	90.8
	2020	2	2	2	5	18.8	18.8	15.1	37.8
	2019	0	0	1	1	0.0	0.0	7.6	7.6
	2018	0	0	0	1	0.0	0.0	0.0	7.6
	2017	0	0	0	0	0.0	0.0	0.0	0.0
	2016	1	1	1	1	9.4	9.4	7.6	7.6
	2015	0	0	4	4	0.0	0.0	30.3	30.3
	2014	1	1	4	7	9.4	9.4	30.3	53.0
	2013	1	2	1	3	9.4	18.8	7.6	22.7

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Indicator	Dataset Year	Gross Number of Collisions				Normalized per 1,000 Street Miles			
		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size	
		0ft	50 ft	0ft	50 ft	0ft	50ft	0ft	50ft
<b>Pedestrian Collision at Injury Level 3: Complaint of Visible Injury</b>	2021	5	5	5	12	47.0	47.0	37.8	90.8
	2020	3	3	3	10	28.2	28.2	22.7	75.7
	2019	2	2	2	2	18.8	18.8	15.1	15.1
	2018	0	0	1	2	0	0	7.6	15.1
	2017	0	0	1	1	0	0	7.6	7.6
	2016	1	1	3	4	9.4	9.4	22.7	30.3
	2015	3	3	1	2	28.2	28.2	7.6	15.1
	2014	15	16	0	0	140.9	150.3	0	0
	2013	1	1	3	3	9.4	9.4	22.7	22.7
<b>Pedestrian Collision at Injury Level 4: Complaint of Pain</b>	2021	4	4	3	4	37.6	37.6	22.7	30.3
	2020	3	3	2	4	28.2	28.2	15.1	30.3
	2019	3	3	1	3	28.2	28.2	7.6	22.7
	2018	0	0	0	0	0.0	0.0	0.0	0.0
	2017	0	0	1	1	0.0	0.0	7.6	7.6
	2016	2	2	0	3	18.8	18.8	0.0	22.7
	2015	4	4	5	9	37.6	37.6	37.8	68.1
	2014	9	10	5	9	84.5	93.9	37.8	68.1
	2013	2	2	2	2	18.8	18.8	15.1	15.1
<b>Combined Bicycle and Pedestrian Collision at Injury Level 1: Fatal</b>	2021	0	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0	0
	2019	0	0	0	0	0	0	0	0
	2018	0	0	0	0	0	0	0	0
	2017	0	0	0	0	0	0	0	0
	2016	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	2013	0	0	0	0	0	0	0	0

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Indicator	Dataset Year	Gross Number of Collisions				Normalized per 1,000 Street Miles			
		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size		Value for TCC Site by Buffer Size		Value for Controls by Buffer Size	
		0ft	50 ft	0ft	50 ft	0ft	50ft	0ft	50ft
Combined Bicycle and Pedestrian Collision at Injury Level 2: Severe Injury	2021	0	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0	0
	2019	0	0	0	0	0	0	0	0
	2018	0	0	0	0	0	0	0	0
	2017	0	0	0	0	0	0	0	0
	2016	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	2013	0	0	0	0	0	0	0	0
Combined Bicycle and Pedestrian at Injury Level 3: Visible Injury	2021	0	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0	0
	2019	0	0	0	0	0	0	0	0
	2018	0	0	0	0	0	0	0	0
	2017	0	0	0	0	0	0	0	0
	2016	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	1
	2013	0	0	0	0	0	0	0	0
Combined Bicycle and Pedestrian at Injury Level 4: Complaint of Pain	2021	0	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0	0
	2019	0	0	0	0	0	0	0	0
	2018	0	0	0	0	0	0	0	0
	2017	0	0	0	0	0	0	0	0
	2016	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	2013	0	0	0	0	0	0	0	0

## Appendix 8.6: Housing

**Table A8.6.1: American Community Survey (ACS) Housing Indicators\***

	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent renters (B25003)</b>	2017-2021	71.7%	4.6%	66.1%	2.8%	45.9%	0.7%	44.5%	0.1%
	2016-2020	70.7%	4.2%	67.2%	3.1	46.3%	0.7%	44.7%	0.1%
	2015-2019	71.0%	2.7%	70.7%	2.6%	46.7%	0.6%	45.2%	0.1%
	2014-2018	69.9%	2.7%	70.4%	2.6%	47.2%	0.5%	45.4%	0.1%
	2013-2017	69.2%	2.8%	72.2%	2.5%	47.0%	0.6%	45.5%	0.1%
	2012-2016	70.5%	2.7%	71.3%	2.6%	47.5%	0.6%	45.9%	0.2%
	2011-2015	70.6%	2.8%	69.8%	2.4%	47.2%	0.6%	45.7%	0.1%
	2010-2014	71.0%	2.6%	69.1%	2.5%	46.9%	0.7%	45.2%	0.1%
	2009-2013	71.6%	2.7%	68.0%	2.7%	46.2%	0.5%	44.7%	0.1%
<b>Percent homeowners (B25003)</b>	2017-2021	28.3%	3.2%	33.9%	2.9%	54.1%	0.6%	55.5%	0.3%
	2016-2020	29.3%	3.1%	32.8%	2.8%	53.7%	0.6%	55.3%	0.3%
	2015-2019	29.0%	2.2%	29.3%	2.4%	53.3%	0.5%	54.8%	0.3%
	2014-2018	30.1%	2.4%	29.6%	2.3%	52.8%	0.5%	54.6%	0.3%
	2013-2017	30.8%	2.3%	27.8%	2.2%	53.0%	0.6%	54.4%	0.3%
	2012-2016	29.5%	2.4%	28.7%	2.3%	52.5%	0.6%	54.1%	0.3%
	2011-2015	29.3%	2.3%	30.2%	2.4%	52.8%	0.5%	54.3%	0.3%
	2010-2014	29.0%	2.5%	30.9%	2.2%	53.1%	0.7%	54.8%	0.3%
	2009-2013	28.4%	2.5%	32.0%	2.4%	53.8%	0.5%	55.3%	0.3%
<b>Percent of households paying ≥30% of income on rent (B25070)</b>	2017-2021	57.9%	7.1%	63.5%	5.4%	51.0%	1.5%	51.5%	0.2%
	2016-2020	61.7%	6.6%	64.6%	5.1%	52.5%	1.4%	51.5%	0.2%
	2015-2019	54.9%	4.7%	65.6%	4.7%	53.0%	1.1%	52.1%	0.2%
	2014-2018	58.0%	4.7%	65.8%	4.6%	53.6%	1.2%	52.6%	0.2%
	2013-2017	59.7%	4.8%	64.0%	4.7%	54.1%	1.1%	53.1%	0.1%
	2012-2016	60.4%	4.7%	68.1%	4.4%	55.5%	1.3%	53.6%	0.1%
	2011-2015	59.7%	4.6%	67.5%	4.8%	55.0%	1.1%	54.0%	0.1%
	2010-2014	60.1%	4.6%	66.1%	4.7%	55.1%	1.1%	54.2%	0.1%
	2009-2013	58.4%	4.8%	66.2%	4.8%	54.5%	1.2%	54.1%	0.2%

\*MOEs for the county and the state are obtained directly from the U.S. Census Bureau. MOEs for TCC and control census tracts are derived by the UCLA Luskin Center for Innovation in accordance with the methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018). All MOEs are reported at the 90% confidence.

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent of households paying ≥50% of income on rent (B25070)</b>	2017-2021	35.2%	6.6%	32.0%	3.5%	26.1%	1.1%	26.3%	0.2%
	2016-2020	34.9%	4.7%	35.1%	3.4%	27.0%	1.1%	26.2%	0.2%
	2015-2019	32.4%	3.6%	40.8%	3.5%	28.4%	0.7%	26.6%	0.2%
	2014-2018	34.0%	3.5%	42.8%	3.7%	29.3%	0.9%	27.0%	0.2%
	2013-2017	33.5%	3.8%	42.0%	3.8%	29.8%	0.9%	27.4%	0.1%
	2012-2016	33.6%	3.6%	44.0%	3.4%	30.6%	1.1%	27.9%	0.1%
	2011-2015	34.6%	3.8%	41.3%	3.5%	29.8%	0.9%	28.2%	0.2%
	2010-2014	36.1%	3.5%	40.2%	3.5%	30.5%	0.9%	28.5%	0.1%
	2009-2013	35.2%	3.9%	39.9%	3.7%	29.7%	0.9%	28.3%	0.1%
<b>Percent of households paying ≥30% of income on mortgage (B25091)</b>	2017-2021	19.4%	5.3%	28.0%	5.0%	12.6%	0.7%	15.1%	0.1%
	2016-2020	22.3%	6.0%	25.9%	5.0%	12.9%	0.7%	15.4%	0.1%
	2015-2019	21.2%	5.4%	25.7%	5.1%	22.0%	0.8%	24.4%	0.0%
	2014-2018	23.9%	5.4%	23.1%	4.9%	22.0%	0.7%	24.7%	0.0%
	2013-2017	21.3%	4.4%	20.3%	4.5%	22.8%	0.7%	25.3%	0.0%
	2012-2016	22.3%	4.5%	20.5%	4.2%	24.0%	0.7%	26.2%	0.2%
	2011-2015	24.2%	5.3%	25.1%	4.8%	25.4%	0.8%	27.4%	0.2%
	2010-2014	23.5%	5.2%	24.0%	4.6%	26.5%	0.8%	28.5%	0.0%
	2009-2013	26.2%	5.6%	29.7%	5.0%	27.9%	0.8%	29.7%	0.1%
<b>Percent of households paying ≥50% of income on mortgage (B25091)</b>	2017-2021	2.9%	2.1%	3.1%	1.9%	4.1%	0.4%	5.1%	0.1%
	2016-2020	3.7%	2.6%	3.0%	1.5%	4.4%	0.4%	5.2%	0.1%
	2015-2019	7.2%	3.3%	4.7%	2.1%	4.7%	0.3%	5.3%	0.0%
	2014-2018	8.3%	3.6%	4.4%	1.9%	4.5%	0.3%	5.4%	0.1%
	2013-2017	7.6%	3.0%	6.2%	2.4%	4.8%	0.3%	5.5%	0.1%
	2012-2016	6.3%	2.5%	7.2%	2.7%	5.1%	0.4%	5.8%	0.1%
	2011-2015	5.0%	2.3%	8.5%	3.2%	5.3%	0.4%	6.2%	0.0%
	2010-2014	3.1%	1.7%	8.3%	3.2%	5.6%	0.4%	6.7%	0.0%
	2009-2013	4.9%	2.6%	9.9%	3.4%	5.9%	0.4%	7.2%	0.1%
<b>Percent of households with more than one occupant per room (B25014)</b>	2017-2021	17.0%	3.1%	20.4%	3.3%	10.0%	0.5%	8.2%	0.1%
	2016-2020	18.6%	3.3%	18.6%	3.4%	9.6%	0.5%	8.2%	0.1%
	2015-2019	15.6%	2.5%	16.5%	2.6%	9.4%	0.4%	8.2%	0.1%
	2014-2018	14.7%	2.3%	16.6%	2.5%	9.3%	0.4%	8.2%	0.1%
	2013-2017	13.9%	2.2%	14.6%	2.2%	9.4%	0.4%	8.2%	0.1%
	2012-2016	15.2%	2.2%	12.5%	2.0%	9.5%	0.3%	8.2%	0.1%
	2011-2015	15.9%	2.3%	13.1%	2.0%	9.7%	0.4%	8.2%	0.1%
	2010-2014	16.4%	2.4%	14.4%	2.2%	10.0%	0.4%	8.2%	0.1%
	2009-2013	16.8%	2.5%	16.2%	2.5%	10.2%	0.4%	8.2%	0.1%

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent of households with more than one occupant per room (renters) (B25014)</b>	2017-2021	13.3%	2.8%	17.3%	3.1%	7.1%	0.4%	5.9%	0.1%
	2016-2020	13.5%	2.8%	15.2%	3.2%	6.9%	0.4%	5.9%	0.1%
	2015-2019	11.7%	2.3%	13.4%	2.4%	6.6%	0.3%	6.0%	0.1%
	2014-2018	11.0%	2.0%	13.5%	2.3%	6.6%	0.3%	6.0%	0.0%
	2013-2017	10.3%	1.9%	12.0%	2.1%	6.6%	0.3%	6.0%	0.1%
	2012-2016	11.8%	2.0%	10.5%	1.8%	6.7%	0.3%	6.1%	0.0%
	2011-2015	12.4%	2.0%	10.9%	1.8%	6.9%	0.3%	6.0%	0.1%
	2010-2014	13.2%	2.2%	11.7%	2.0%	7.2%	0.4%	6.0%	0.0%
	2009-2013	13.7%	2.3%	13.2%	2.4%	7.3%	0.3%	6.0%	0.0%
<b>Percent of households with more than one occupant per room (homeowners) (B25014)</b>	2017-2021	3.7%	1.5%	3.2%	1.0%	2.9%	0.2%	2.4%	0.0%
	2016-2020	5.1%	1.8%	3.4%	1.2%	2.8%	0.2%	2.3%	0.0%
	2015-2019	3.9%	1.2%	3.1%	1.0%	2.8%	0.2%	2.2%	0.0%
	2014-2018	3.7%	1.0%	3.1%	1.1%	2.7%	0.2%	2.2%	0.0%
	2013-2017	3.7%	1.1%	2.6%	0.9%	2.8%	0.2%	2.2%	0.0%
	2012-2016	3.4%	1.0%	2.0%	0.9%	2.7%	0.2%	2.1%	0.0%
	2011-2015	3.6%	1.0%	2.2%	0.9%	2.7%	0.2%	2.2%	0.0%
	2010-2014	3.1%	1.0%	2.7%	1.0%	2.8%	0.2%	2.2%	0.0%
	2009-2013	3.2%	1.0%	3.0%	0.9%	2.9%	0.2%	2.3%	0.0%
<b>Percent of households in same house 1 year ago (renters) (B07013)</b>	2017-2021	61.6%	4.7%	56.9%	3.6%	38.0%	0.8%	35.6%	0.2%
	2016-2020	57.7%	4.6%	54.0%	4.0%	37.5%	0.8%	35.6%	0.2%
	2015-2019	54.9%	3.7%	52.1%	3.3%	37.1%	0.6%	35.9%	0.2%
	2014-2018	53.1%	3.7%	53.0%	3.2%	37.0%	0.7%	35.8%	0.2%
	2013-2017	52.0%	3.3%	53.6%	3.3%	36.6%	0.7%	35.6%	0.2%
	2012-2016	52.4%	3.4%	51.5%	3.2%	36.8%	0.5%	35.4%	0.2%
	2011-2015	52.5%	3.3%	51.8%	3.2%	36.3%	0.6%	34.7%	0.2%
	2010-2014	54.0%	3.4%	54.0%	3.2%	36.0%	0.7%	33.7%	0.2%
	2009-2013	56.4%	3.8%	52.5%	3.9%	35.5%	0.6%	32.7%	0.2%
<b>Percent of households in same house 1 year ago (homeowners) (B070103)</b>	2017-2021	29.3%	4.4%	31.2%	3.2%	50.7%	0.8%	53.1%	0.2%
	2016-2020	31.5%	4.0%	31%	3.1%	50.2%	0.8%	52.7%	0.2%
	2015-2019	31.6%	3.1%	28.4%	3.0%	49.3%	0.7%	52.0%	0.3%
	2014-2018	31.6%	2.8%	28.1%	2.6%	48.7%	0.7%	51.6%	0.2%
	2013-2017	32.0%	2.7%	25.0%	2.4%	48.5%	0.7%	51.4%	0.2%
	2012-2016	29.8%	2.7%	25.1%	2.6%	47.7%	0.6%	51.0%	0.3%
	2011-2015	29.1%	2.8%	26.6%	2.6%	47.9%	0.6%	51.3%	0.3%
	2010-2014	28.2%	2.8%	27.3%	2.5%	48.2%	0.8%	51.7%	0.3%
	2009-2013	27.1%	2.7%	28.5%	2.4%	48.7%	0.6%	52.3%	0.3%

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	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent of households in same house 1 year ago (w/ income of \$75k) (B07010)</b>	2017-2021	2.2%	0.7%	4.3%	1.2%	11.6%	0.3%	18.3%	0.1%
	2016-2020	1.6%	0.6%	3.5%	1.0%	10.5%	0.3%	16.8%	0.1%
	2015-2019	1.7%	0.5%	2.7%	0.7%	9.7%	0.2%	16.0%	0.1%
	2014-2018	1.2%	0.4%	2.7%	0.7%	8.8%	0.2%	14.8%	0.1%
	2013-2017	1.0%	0.3%	2.5%	0.7%	8.1%	0.2%	13.8%	0.1%
	2012-2016	1.2%	0.4%	1.8%	0.5%	7.4%	0.2%	13.0%	0.1%
	2011-2015	1.0%	0.4%	1.7%	0.5%	7.0%	0.2%	12.4%	0.1%
	2010-2014	0.8%	0.3%	1.6%	0.5%	6.9%	0.2%	12.3%	0.1%
	2009-2013	0.7%	0.3%	1.6%	0.5%	7.0%	0.2%	12.1%	0.1%
<b>Percent of households in same house 1 year ago (w/ income of &lt;\$75k) (B07010)</b>	2017-2021	82.6%	7.4%	83.4%	0.2%	76.8%	0.8%	69.6%	0.1%
	2016-2020	81.7%	7.3%	81.8%	0.4%	76.8%	0.8%	70.6%	0.1%
	2015-2019	78.7%	2.2%	78.8%	2.6%	76.4%	0.7%	71.0%	0.1%
	2014-2018	76.7%	2.1%	78.9%	2.3%	76.5%	NA	71.8%	0.1%
	2013-2017	76.2%	1.8%	76.6%	2.3%	76.7%	0.7%	72.4%	0.1%
	2012-2016	74.1%	2.2%	75.7%	2.5%	76.9%	0.7%	72.8%	0.1%
	2011-2015	74.9%	2.2%	76.9%	2.4%	77.2%	0.7%	72.9%	0.1%
	2010-2014	76.7%	2.2%	79.7%	2.5%	77.5%	0.7%	72.5%	0.1%
	2009-2013	77.5%	2.0%	80.0%	2.1%	77.4%	0.7%	72.2%	0.1%
<b>Percent of housing units for rent that are vacant (B25002 and B25004)</b>	2017-2021	2.1%	1.1%	1.3%	0.7%	1.4%	0.2%	1.7%	0.0%
	2016-2020	1.8%	1.0%	1.3%	0.7%	1.5%	0.2%	1.6%	0.0%
	2015-2019	4.7%	1.6%	1.4%	0.6%	1.5%	0.2%	1.6%	0.0%
	2014-2018	4.8%	1.4%	2.2%	0.8%	1.6%	0.2%	1.5%	0.0%
	2013-2017	5.3%	1.4%	3.0%	0.9%	1.8%	0.2%	1.6%	0.0%
	2012-2016	5.6%	1.3%	4.0%	1.1%	2.1%	0.2%	1.7%	0.0%
	2011-2015	6.1%	1.5%	4.4%	1.2%	2.4%	0.2%	1.8%	0.0%
	2010-2014	5.6%	1.5%	5.7%	1.4%	2.8%	0.2%	2.0%	0.0%
	2009-2013	5.8%	1.4%	5.5%	1.4%	2.9%	0.3%	2.1%	0.0%
<b>Percent of housing units for sale that are vacant (B25002 and B25004)</b>	2017-2021	0.4%	0.5%	0.1%	0.2%	0.7%	0.2%	0.5%	0.0%
	2016-2020	0.9%	0.8%	0.1%	0.2%	0.7%	0.1%	0.5%	0.0%
	2015-2019	0.8%	0.6%	0.1%	0.2%	0.6%	0.1%	0.6%	0.0%
	2014-2018	0.8%	0.6%	0.0%	0.1%	0.6%	0.1%	0.6%	0.0%
	2013-2017	0.7%	0.5%	0.0%	0.1%	0.6%	0.1%	0.6%	0.0%
	2012-2016	0.8%	0.6%	0.0%	0.1%	0.6%	0.1%	0.6%	0.0%
	2011-2015	1.0%	0.6%	0.0%	0.1%	0.7%	0.1%	0.7%	0.0%
	2010-2014	1.0%	0.7%	0.3%	0.4%	0.8%	0.2%	0.8%	0.0%
	2009-2013	1.0%	0.6%	0.3%	0.4%	1.0%	0.2%	0.9%	0.0%

## Appendix 8.7: Transportation

**Table A8.7.1: American Community Survey (ACS) Transportation Indicators\***

	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent of households with a vehicle available (B08201)</b>	2017-2021	N/A	N/A	N/A	N/A	92.6%	1.2%	93.1%	0.2%
	2016-2020	N/A	N/A	N/A	N/A	92.1%	1.1%	93.0%	0.1%
	2015-2019	N/A	N/A	N/A	N/A	91.7%	0.9%	92.9%	0.1%
	2014-2018	N/A	N/A	N/A	N/A	91.5%	1.0%	92.8%	0.1%
	2013-2017	N/A	N/A	N/A	N/A	91.3%	0.9%	92.6%	0.1%
	2012-2016	N/A	N/A	N/A	N/A	90.9%	0.9%	92.4%	0.1%
	2011-2015	N/A	N/A	N/A	N/A	91.0%	0.9%	92.3%	0.1%
	2010-2014	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	2009-2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Percent of workers commuting to work alone by car (B08301)</b>	2017-2021	65.3%	4.3%	77.1%	2.0%	77.5%	0.7%	70.1%	0.1%
	2016-2020	65.0%	3.9%	76.1%	2.4%	78.3%	0.6%	72.1%	0.1%
	2015-2019	67.5%	3.7%	73.0%	2.7%	78.5%	0.6%	73.7%	0.0%
	2014-2018	65.8%	2.9%	71.9%	2.7%	78.5%	0.7%	73.7%	0.0%
	2013-2017	64.8%	2.9%	69.8%	2.1%	78.1%	0.7%	73.6%	0.1%
	2012-2016	65.7%	3.0%	68.8%	2.0%	77.0%	0.6%	73.5%	0.0%
	2011-2015	64.1%	2.7%	71.0%	2.4%	76.9%	0.4%	73.4%	0.1%
	2010-2014	62.7%	2.6%	71.1%	1.6%	77.0%	0.4%	73.2%	0.1%
	2009-2013	61.1%	2.5%	70.2%	2.5%	77.0%	0.6%	73.2%	0.1%
<b>Percent of workers commuting to work by carpool (B08301)</b>	2017-2021	18.8%	4.3%	10.2%	2.2%	11.5%	0.5%	9.6%	0.1%
	2016-2020	21.3%	4.1%	11.5%	2.5%	11.9%	0.6%	10.0%	0.1%
	2015-2019	17.8%	2.9%	13.2%	2.5%	12.2%	0.5%	10.1%	0.1%
	2014-2018	16.7%	2.9%	13.4%	2.7%	12.0%	0.5%	10.3%	0.1%
	2013-2017	17.4%	3.2%	15.2%	3.1%	12.2%	0.6%	10.4%	0.1%
	2012-2016	15.1%	3.3%	16.8%	3.4%	12.8%	0.5%	10.6%	0.1%
	2011-2015	15.6%	3.4%	14.8%	2.7%	12.8%	0.6%	10.8%	0.1%
	2010-2014	14.9%	3.4%	11.9%	2.3%	12.5%	0.5%	11.1%	0.1%
	2009-2013	15.8%	3.5%	12.8%	2.7%	12.2%	0.5%	11.3%	0.1%

\* MOEs for the county and the state are obtained directly from the U.S. Census Bureau. MOEs for TCC and control census tracts are derived by the UCLA Luskin Center for Innovation in accordance with the methods described by the U.S. Census Bureau in *Understanding and Using American Community Survey Data: What All Data Users Need to Know* (2018). All MOEs are reported at the 90% confidence.

Table continues on next page

	Time Period (ACS 5-year sample)	Estimate for TCC Tracts	MOE	Estimate for Control Tracts	MOE	Estimate for Fresno County	MOE	Estimate for California	MOE
<b>Percent of workers commuting to work by public transit (B08301)</b>	2017-2021	2.5%	1.5%	3.1%	1.1%	0.9%	0.1%	4.1%	0.0%
	2016-2020	1.9%	1.2%	3.2%	1.1%	0.9%	0.1%	4.6%	0.0%
	2015-2019	3.2%	1.4%	3.5%	1.3%	1.1%	0.1%	5.1%	0.0%
	2014-2018	3.2%	1.6%	4.8%	1.5%	1.2%	0.1%	5.1%	0.0%
	2013-2017	4.0%	1.8%	5.0%	1.8%	1.2%	0.1%	5.2%	0.0%
	2012-2016	3.5%	1.6%	4.9%	1.7%	1.3%	0.1%	5.2%	0.0%
	2011-2015	4.2%	2.1%	4.5%	1.5%	1.3%	0.2%	5.2%	0.0%
	2010-2014	3.5%	1.1%	4.2%	1.3%	1.3%	0.2%	5.2%	0.0%
	2009-2013	4.4%	1.4%	3.4%	1.2%	1.2%	0.1%	5.2%	0.0%
<b>Percent of workers commuting to work by foot (B08301)</b>	2017-2021	2.5%	1.7%	2.4%	1.0%	1.5%	0.2%	2.4%	0.0%
	2016-2020	2.3%	1.4%	2.3%	0.8%	1.5%	0.1%	2.5%	0.0%
	2015-2019	1.3%	0.7%	2.8%	1.0%	1.6%	0.2%	2.6%	0.0%
	2014-2018	2.0%	0.8%	2.7%	0.9%	1.7%	0.2%	2.7%	0.0%
	2013-2017	2.1%	0.9%	2.5%	1.0%	1.6%	0.2%	2.7%	0.0%
	2012-2016	1.8%	0.8%	2.0%	0.8%	1.7%	0.1%	2.7%	0.0%
	2011-2015	1.9%	0.9%	1.8%	0.7%	1.9%	0.2%	2.7%	0.0%
	2010-2014	2.8%	1.3%	2.1%	1.0%	2.1%	0.2%	2.7%	0.0%
	2009-2013	2.9%	1.3%	2.8%	1.4%	2.1%	0.2%	2.7%	0.0%
<b>Percent of workers commuting to work by bike (B08301)</b>	2017-2021	0.9%	0.6%	0.4%	0.4%	0.4%	0.1%	0.8%	0.0%
	2016-2020	1.1%	0.8%	0.3%	0.3%	0.4%	0.1%	0.8%	0.0%
	2015-2019	1.4%	0.9%	0.5%	0.4%	0.5%	0.1%	1.0%	0.0%
	2014-2018	1.6%	0.9%	0.3%	0.4%	0.6%	0.1%	1.0%	0.0%
	2013-2017	1.5%	0.9%	0.5%	0.4%	0.7%	0.1%	1.1%	0.0%
	2012-2016	1.5%	0.9%	0.8%	0.5%	0.9%	0.1%	1.1%	0.0%
	2011-2015	1.6%	0.8%	1.3%	0.6%	0.9%	0.1%	1.1%	0.0%
	2010-2014	1.4%	0.8%	2.2%	0.9%	0.8%	0.1%	1.1%	0.0%
	2009-2013	0.9%	0.7%	2.5%	1.0%	0.8%	0.1%	1.1%	0.0%
<b>Percent of workers commuting to work by other modes: taxicab, motorcycle, and other (B08301)</b>	2017-2021	4.9%	2.0%	1.6%	0.7%	1.3%	0.2%	1.6%	0.0%
	2016-2020	2.4%	1.5%	1.4%	0.7%	1.2%	0.2%	1.6%	0.0%
	2015-2019	2.6%	1.1%	2.2%	0.9%	1.5%	0.2%	1.6%	0.0%
	2014-2018	5.0%	1.6%	2.2%	0.9%	1.7%	0.2%	1.6%	0.0%
	2013-2017	5.9%	1.6%	2.4%	1.0%	1.8%	0.2%	1.5%	0.0%
	2012-2016	7.8%	2.1%	2.6%	1.2%	2.0%	0.2%	1.4%	0.0%
	2011-2015	9.4%	2.4%	3.3%	1.4%	2.0%	0.2%	1.4%	0.0%
	2010-2014	10.7%	3.3%	4.7%	2.3%	2.4%	0.2%	1.3%	0.0%
	2009-2013	9.5%	4.5%	5.3%	2.3%	2.7%	0.3%	1.3%	0.0%

**Table A8.7.2: Plug-in Electric Vehicle (PEV) Registrations <sup>14</sup>**

Indicator	Dataset Year	Gross Number			Normalized per 10,000 Residents		
		TCC Census Tracts	Control Census Tracts	Fresno County	TCC Census Tracts	Control Census Tracts	Fresno County
Battery-electric vehicle (BEV)	2021	69	49	3,992	21.3	TBD	TBD
	2020	61	31	2,934	18.8	6.4	29.6
	2019	48	27	2,577	12.1	5.4	26.2
	2018	31	27	2,218	7.7	5.3	22.7
	2017	28	25	1,919	7.2	5.1	19.8
	2016	23	16	1,361	5.8	3.3	14.1
	2015	16	6	870	4.1	1.2	9.1
Plug-in hybrid electric vehicle (PHEV)	2021	35	53	2,702	10.8	10.6	26.9
	2020	48	41	2,112	14.8	8.4	21.3
	2019	28	36	1,638	7.0	7.2	16.6
	2018	18	20	1,168	4.5	3.9	11.9
	2017	7	14	535	1.8	2.9	5.5
	2016	8	7	450	2.0	1.5	4.7
	2015	7	6	317	1.8	1.2	3.3
Fuel-cell electric vehicle (FCEV)	2021	0	0	0	0	0	0
	2020	0	0	0	0	0	0
	2019	0	0	0	0	0	0
	2018	0	0	0	0	0	0
	2017	0	0	0	0	0	0
	2016	0	0	0	0	0	0
	2015	0	0	0	0	0	0
Total electric vehicle (EV) registration	2021	104	102	6,694	32.2	20.5	66.7
	2020	109	72	5,046	33.6	14.8	51.0
	2019	76	63	4,215	19.2	12.6	42.8
	2018	49	47	3,386	12.2	9.3	34.6
	2017	35	39	2,454	9.0	8.0	25.2
	2016	31	23	1,811	7.9	4.8	18.8
	2015	23	12	1,187	5.9	2.5	12.4

<sup>14</sup> EV registration data were obtained by request from the California Air Resources Boards (CARB) Online Fleet Database. The EV registration data were normalized with 2017 and 2015 five-year ACS data.

**Table A8.7.3: Publicly Available Charging Infrastructure<sup>15</sup>**

Indicator	Dataset Year	Gross Number			Normalized per 10,000 Residents		
		TCC Census Tracts	Control Census Tracts	Fresno County	TCC Census Tracts	Control Census Tracts	Fresno County
Level 2 stations	2022	20	4	231	6.2	0.8	2.3
	2021	27	6	272	8.4	1.2	2.7
	2020	6	2	94	1.9	0.4	1.0
	2019	2	1	51	0.5	0.2	0.5
	2018	3	1	41	0.8	0.2	0.4
	2017	3	0	42	0.8	0	0.4
	2016	2	0	15	0.5	0	0.2
	2015	1	0	8	0.3	0	0.1
DC fast-charging stations	2022	5	0	41	1.5	0	0.4
	2021	5	0	42	1.6	0	0.4
	2020	1	0	20	0.3	0	0.2
	2019	1	0	13	0.3	0	0.1
	2018	0	0	11	0	0	0.1
	2017	0	0	10	0	0	0.1
	2016	0	0	10	0	0	0.1
	2015	0	0	4	0	0	<0.1

<sup>15</sup>Charging station data were obtained by request from the Alternative Fuels Data Center (AFDC), a resource administered by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy's Vehicle Technologies Office. Each dataset includes active stations and does not include stations that have previously opened and closed. In other words, each dataset is a snapshot of currently active stations in that year (taken during fall of each year). The charging station data were normalized with five-year ACS data for the respective year.

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